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DETS Report No: 18-78605

Site Reference: Eastergate Development Site

Project / Job Ref: None Supplied

Order No: None Supplied

Sample Receipt Date: 12/07/2018

Sample Scheduled Date: 12/07/2018

Report Issue Number: 1

Reporting Date: 18/07/2018

Authorised by:

Kevin Old
Associate Director of Laboratory

Authorised by:

Russell Jarvis
Associate Director of Client Services



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Tel : 01622 850410



Soil Analysis Certificate

DETS Report No: 18-78605	Date Sampled	None Supplied			
Wilson Bailey Geotechnical & Environmental Ltd	Time Sampled	None Supplied			
Site Reference: Eastergate Development Site	TP / BH No	TS/BS			
Project / Job Ref: None Supplied	Additional Refs	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied			
Reporting Date: 18/07/2018	QTSE Sample No	346736			

Determinand	Unit	RL	Accreditation			
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected		
pH	pH Units	N/a	MCERTS	7.1		
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	1.2		
Arsenic (As)	mg/kg	< 2	MCERTS	10		
W/S Boron	mg/kg	< 1	NONE	< 1		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.3		
Chromium (Cr)	mg/kg	< 2	MCERTS	17		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	14		
Lead (Pb)	mg/kg	< 3	MCERTS	35		
Mercury (Hg)	mg/kg	< 1	NONE	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	13		
Selenium (Se)	mg/kg	< 3	NONE	< 3		
Zinc (Zn)	mg/kg	< 3	MCERTS	136		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2		

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

Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs

DETS Report No: 18-78605	Date Sampled	None Supplied			
Wilson Bailey Geotechnical & Environmental L	Time Sampled	None Supplied			
Site Reference: Eastergate Development Site	TP / BH No	TS/BS			
Project / Job Ref: None Supplied	Additional Refs	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied			
Reporting Date: 18/07/2018	QTSE Sample No	346736			

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

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 18-78605	Date Sampled	None Supplied				
Wilson Bailey Geotechnical & Environmental L	Time Sampled	None Supplied				
Site Reference: Eastergate Development Site	TP / BH No	TS/BS				
Project / Job Ref: None Supplied	Additional Refs	None Supplied				
Order No: None Supplied	Depth (m)	None Supplied				
Reporting Date: 18/07/2018	QTSE Sample No	346736				

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01			
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05			
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10			
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21			
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01			
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05			
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2			
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2			
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2			
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3			
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10			
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21			
Total >C5 - C35	mg/kg	< 42	NONE	< 42			

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 18-78605	Date Sampled	None Supplied				
Wilson Bailey Geotechnical & Environmental L	Time Sampled	None Supplied				
Site Reference: Eastergate Development Site	TP / BH No	TS/BS				
Project / Job Ref: None Supplied	Additional Refs	None Supplied				
Order No: None Supplied	Depth (m)	None Supplied				
Reporting Date: 18/07/2018	QTSE Sample No	346736				

Determinand	Unit	RL	Accreditation				
Benzene	ug/kg	< 2	MCERTS	< 2			
Toluene	ug/kg	< 5	MCERTS	< 5			
Ethylbenzene	ug/kg	< 2	MCERTS	< 2			
p & m-xylene	ug/kg	< 2	MCERTS	10			
o-xylene	ug/kg	< 2	MCERTS	4			
MTBE	ug/kg	< 5	MCERTS	< 5			

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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 18-78605
Wilson Bailey Geotechnical & Environmental Ltd
Site Reference: Eastergate Development Site
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 18/07/2018

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 346736	TS/BS	None Supplied	None Supplied	5.3	Brown sandy clay with stones and vegetation

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

Insufficient Sample ^{1/5}

& samples received in inappropriate containers for hydrocarbon analysis

^ no sampling date provided; unable to confirm if samples are within acceptable holding times



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 18-78605

Wilson Bailey Geotechnical & Environmental Ltd

Site Reference: Eastergate Development Site

Project / Job Ref: None Supplied

Order No: None Supplied

Reporting Date: 18/07/2018

Matrix	Analysed On	Determinand	Brief Method Description
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazine followed by colorimetry
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge
Soil	AR	Moisture Content	Moisture content; determined gravimetrically
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with use of surrogate and internal standards
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS



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DETS Report No: 18-78606

Site Reference: Eastergate Development Site

Project / Job Ref: None Supplied

Order No: None Supplied

Sample Receipt Date: 12/07/2018

Sample Scheduled Date: 12/07/2018

Report Issue Number: 1

Reporting Date: 20/07/2018

Authorised by:

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Associate Director of Laboratory

Authorised by:

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BS3882 Topsoil Suite							
DETS Report No: 18-78606		Date Sampled	None Supplied	Compliance with Range			
Wilson Bailey Geotechnical & Environmental Ltd		Time Sampled	None Supplied				
Site Reference: Eastergate Development Site		TP / BH No	TS/BS				
Project / Job Ref: None Supplied		Additional Refs	None Supplied				
Order No: None Supplied		Depth (m)	None Supplied				
Reporting Date: 20/07/2018		QTSE Sample No	346737				
Determinand	Reporting Unit	RL		Multipurpose	Acidic	Low Fertility	Calcareous
Soil Texture							
Clay Content ^(S)	%	N/a	21.8	5 - 35			
Silt Content ^(S)	%	N/a	58.9	0 - 65			
Sand Content ^(S)	%	N/a	19.3	30 - 85			
Textural Class ^(S)	N/a	N/a	Clay Loam	-			
Loss on Ignition	%	< 0.01	3.50	Clay Content 5 - 20%			
				3 - 20	3 - 30	2 - 20	3 - 20
				Clay Content 20 - 35%			
				5 - 20	5 - 30	2 - 20	5 - 20
Coarse Fragment Content							
>2mm ^(S)	%	N/a	3.2	0 - 30	0 - 30	0 - 30	0 - 30
>20mm ^(S)	%	N/a	0.0	0 - 10	0 - 10	0 - 10	0 - 10
>50mm ^(S)	%	N/a	0.0	0	0	0	0
pH ^{MU}	pH Units	N/a	7.3	5.5 - 8.5	3.5 - 5.5	3.5 - 9.0	7.5 - 9.0
Carbonate	%	< 0.1	< 0.1				> 1
Available Plant Nutrients							
Total Nitrogen ^(S)	%	< 0.01	0.14	≥ 0.15	≥ 0.15		≥ 0.15
Phosphorus (Extractable) ^(S)	mg/l	< 3	31	16 - 140	16 - 140	≤ 15	16 - 140
Potassium (Extractable) ^(S)	mg/l	< 20	236	121 - 1500	121 - 1500		121 - 1500
Magnesium (Extractable) ^(S)	mg/l	< 1	78	51 - 600	51 - 600		51 - 600
Carbon / Nitrogen Ratio ^(S)	:1	< 0.1	10.4	< 20 : 1	< 20 : 1	< 20 : 1	< 20 : 1
Exchangeable Sodium ^(S)	%	< 0.1	1.0				
Phytotoxic Elements (by soil pH)				Multipurpose & Specific Purpose Topsoils at pH range			
				< 6.0	6.0 - 7.0	> 7.0	
Zinc ^{MU}	mg/kg	< 3	126	< 200	< 200	< 300	
Copper ^{MU}	mg/kg	< 4	13	< 100	< 135	< 200	
Nickel ^{MU}	mg/kg	< 3	12	< 60	< 75	< 110	
Visible Contaminants (Air Dried Soil)							
>2mm	%	N/a	0.0	< 0.5			
Plastics	%	N/a	0.00	< 0.25			
Sharps	%	N/a	0.0	0			
Additional Analytes							
Available Sodium ^(S)	mg/l	< 1	18				
Available Calcium ^(S)	mg/l	< 1	1310				
Electrical Conductivity	uS/cm	< 5	1938	3300			
OVERALL COMPLIANCY				N	N	N	N
Results are expressed on a dry weight basis, after correction for moisture content where applicable							
Stated limits are for guidance only and QTS Environmental cannot be held responsible for any discrepancies with current legislation							
M Denotes MCERTS accredited test							
U Denotes ISO17025 accredited test							



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 18-78606
Wilson Bailey Geotechnical & Environmental Ltd
Site Reference: Eastergate Development Site
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 20/07/2018

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 346737	TS/BS	None Supplied	None Supplied	5.3	Brown sandy clay with stones and vegetation

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

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}

^ no sampling date provided; unable to confirm if samples are within acceptable holding times



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 18-78606

Wilson Bailey Geotechnical & Environmental Ltd

Site Reference: Eastergate Development Site

Project / Job Ref: None Supplied

Order No: None Supplied

Reporting Date: 20/07/2018

Matrix	Analysed On	Determinand	Brief Method Description
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazide followed by colorimetry
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge
Soil	AR	Moisture Content	Moisture content; determined gravimetrically
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with use of surrogate and internal standards
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS



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DETS Report No: 18-78859

Site Reference: Eastergate Development Site

Project / Job Ref: None Supplied

Order No: None Supplied

Sample Receipt Date: 12/07/2018

Sample Scheduled Date: 16/07/2018

Report Issue Number: 1

Reporting Date: 20/07/2018

Authorised by:

Kevin Old
Associate Director of Laboratory

Authorised by:

Russell Jarvis
Associate Director of Client Services



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Soil Analysis Certificate - Organochlorine Pesticides

DETS Report No: 18-78859	Date Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Eastergate Development Site	TP / BH No	BH14	BH15	BH17	BH18
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.50	0.25	0.25	0.50
Reporting Date: 20/07/2018	QTSE Sample No	347623	347624	347625	347626

Determinand	Unit	RL	Accreditation				
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02

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



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

Soil Analysis Certificate - Organophosphorus Pesticides

DETS Report No: 18-78859	Date Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Eastergate Development Site	TP / BH No	BH14	BH15	BH17	BH18
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.50	0.25	0.25	0.50
Reporting Date: 20/07/2018	QTSE Sample No	347623	347624	347625	347626

Determinand	Unit	RL	Accreditation				
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Chlorpyriphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, €	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1

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



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Tel : 01622 850410

Soil Analysis Certificate - Sample Descriptions

DETS Report No: 18-78859
Wilson Bailey Geotechnical & Environmental Ltd
Site Reference: Eastergate Development Site
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 20/07/2018

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 347623	BH14	None Supplied	0.50	12.7	Brown sandy clay
^ 347624	BH15	None Supplied	0.25	8.7	Brown sandy clay
^ 347625	BH17	None Supplied	0.25	8.4	Brown sandy clay
^ 347626	BH18	None Supplied	0.50	13.4	Brown sandy clay

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

Insufficient Sample ^{1/S}

Unsuitable Sample ^{U/S}

^ no sampling date provided; unable to confirm if samples are within acceptable holding times



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Tel : 01622 850410

Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 18-78859

Wilson Bailey Geotechnical & Environmental Ltd

Site Reference: Eastergate Development Site

Project / Job Ref: None Supplied

Order No: None Supplied

Reporting Date: 20/07/2018

Matrix	Analysed On	Determinand	Brief Method Description
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazine followed by colorimetry
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge
Soil	AR	Moisture Content	Moisture content; determined gravimetrically
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with use of surrogate and internal standards
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS

[REDACTED]

From: [REDACTED] <[REDACTED]@wilson-bailey.co.uk>
Sent: 06 January 2020 13:12
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: *EXTERNAL: Eastergate Winter Water Level Monitoring 2018-2019

Filed: -1
Filed Location: \\uk.wspgroup.com\central data\Projects\700607xx\70060779 - WSCC - A29 Phase 1 Planning Application\03 WIP\EI EIA and Flood Risk\07 Other Docs\01 Groundwater\200106 131208 - [REDACTED] - RE EXTERNAL Eastergate Winter Water Level Monit.msg
Filed Location Folder: \\uk.wspgroup.com\central data\Projects\700607xx\70060779 - WSCC - A29 Phase 1 Planning Application\03 WIP\EI EIA and Flood Risk\07 Other Docs\01 Groundwater

Confirmed – location 4 was updated and corrected on the plan excerpt that you sent over
Regards

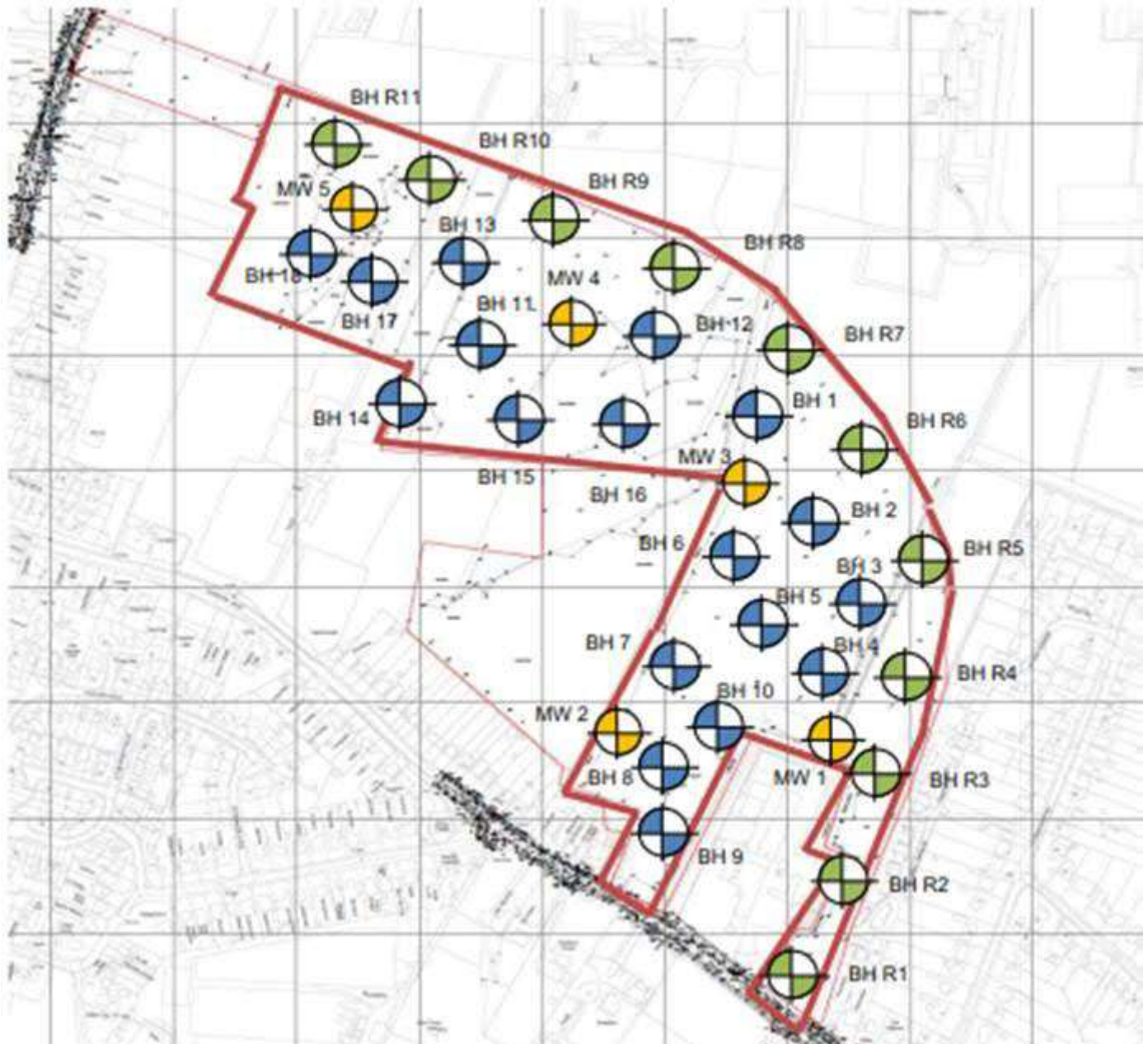
[REDACTED]

[REDACTED]
WILSON BAILEY PARTNERSHIP - GEOTECHNICAL & ENVIRONMENTAL
DD: [REDACTED]
MOB: [REDACTED]

From: S [REDACTED] <[REDACTED]@wsp.com>
Sent: 06 January 2020 12:57
To: [REDACTED] <[REDACTED]@wilson-bailey.co.uk>
Cc: [REDACTED] <[REDACTED]@wsp.com>; [REDACTED] <[REDACTED]@wsp.com>; [REDACTED] <[REDACTED]@westsussex.gov.uk>; [REDACTED] <[REDACTED]@barratthomes.co.uk>
Subject: RE: *EXTERNAL: Eastergate Winter Water Level Monitoring 2018-2019

Hi [REDACTED],

Thank you very much for the groundwater monitoring data. Please could you confirm if the borehole locations BH1 to BH5 are the same as MW1 to MW5 in the plan below?



Kind regards,

[Redacted signature]

Engineer - Water



T+ [Redacted phone number]

Mountbatten House, Basing View
 Basingstoke, Hampshire
 RG21 4HJ

wsp.com

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From: [REDACTED]
Sent: 03 January 2020 11:49
To: [REDACTED] <[REDACTED]@wsp.com>
Subject: Fwd: *EXTERNAL: Eastergate Winter Water Level Monitoring 2018-2019

Begin forwarded message:

From: [REDACTED] <[REDACTED]@westsussex.gov.uk>
Date: 3 January 2020 at 11:21:30 GMT
To: "[REDACTED]" <[REDACTED]h@wsp.com>
Cc: "[REDACTED]" <[REDACTED]t@wsp.com>, [REDACTED] <[REDACTED]@jackson-civils.co.uk>
Subject: FW: *EXTERNAL: Eastergate Winter Water Level Monitoring 2018-2019

fyi

[REDACTED]
Engineering Project Manager - Major Projects
Highways, Transport and Planning
Highways and Transport
West Sussex County Council

 CALL  IM  EMAIL

Location: 1st Floor Northleigh, County Hall, Chichester, West Sussex PO19 1RH

C [REDACTED]

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Follow us at  [@WSHighways](#)

From: [REDACTED] [mailto:[REDACTED]@barratthomes.co.uk]
Sent: 18 December 2019 15:02
To: [REDACTED]
Subject: FW: *EXTERNAL: Eastergate Winter Water Level Monitoring 2018-2019

Hi [REDACTED]

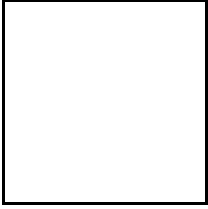
Please see below – scroll down for the results. Will get formal version over as soon as Dominic is not on site

Kind regards

[REDACTED]

From: [REDACTED] <[REDACTED]@wilson-bailey.co.uk>
Sent: 18 December 2019 10:40
To: [REDACTED] <[REDACTED]@barratthomes.co.uk>
Cc: [REDACTED] <[REDACTED]@wilson-bailey.co.uk>
Subject: *EXTERNAL: Eastergate Winter Water Level Monitoring 2018-2019

EXTERNAL EMAIL WARNING



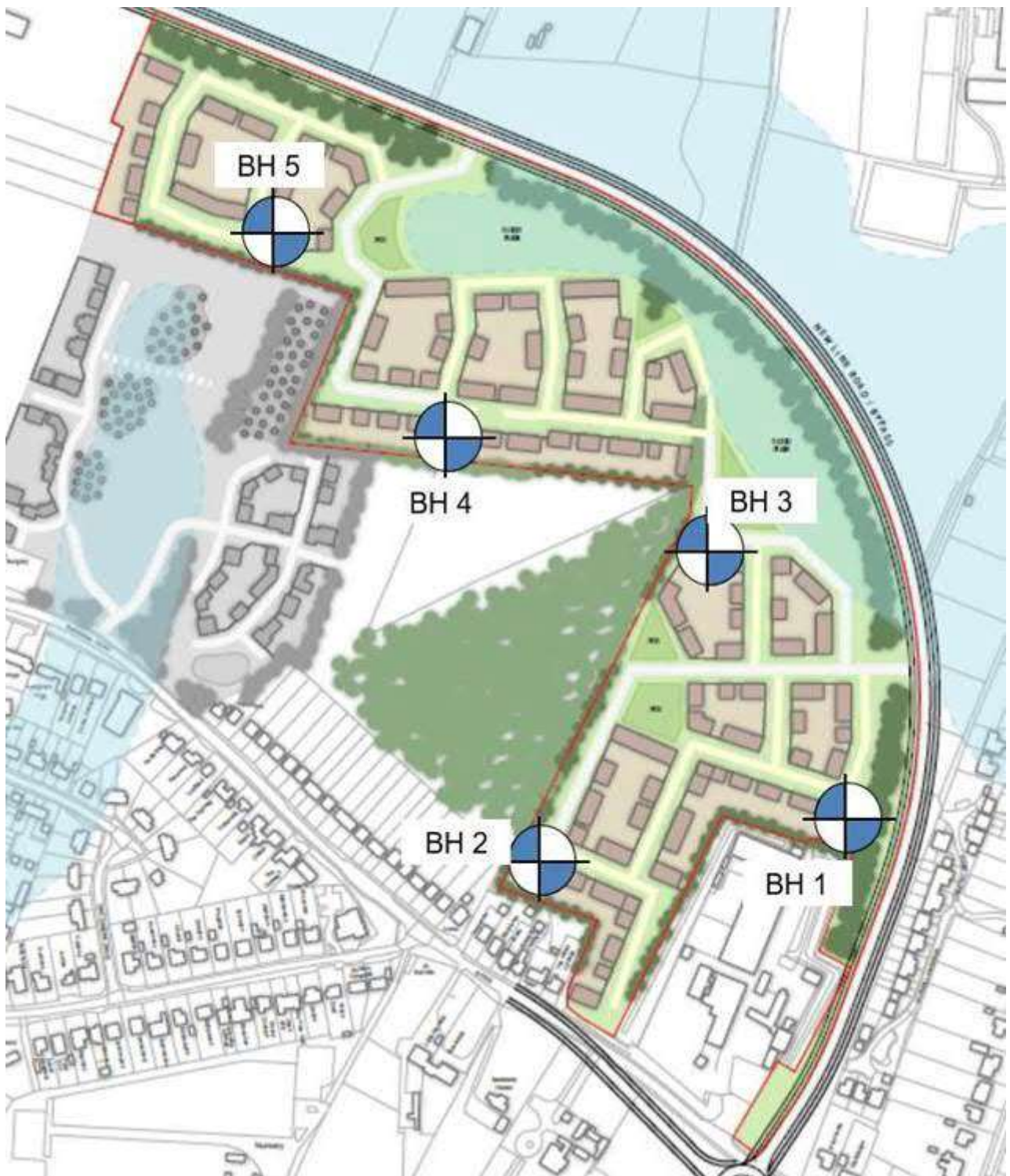
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Apologies for the delay.

Update as follows – I will incorporate into formal letter and re-issue.

These are taken from site notes



Nov 2018

- BH 1 – 1.72m bgl
- BH 2 – 1.92m bgl
- BH 3 – 2.12 m bgl
- BH 4 – 2.64 m bgl
- BH 5 – 3.05 m bgl

Dec 2018

- BH 1 – 1.52m bgl
- BH 2 – 1.64m bgl
- BH 3 – 1.92 m bgl
- BH 4 – 2.44 m bgl
- BH 5 – 2.95 m bgl

Jan 2019

BH 1 – 1.36m bgl
BH 2 – 1.42m bgl
BH 3 – 1.87 m bgl
BH 4 – 2.46 m bgl
BH 5 – 3.65 m bgl

Feb 2019

BH 1 – 2.09m bgl
BH 2 – 2.11m bgl
BH 3 – 2.22 m bgl
BH 4 – 3.32 m bgl
BH 5 – 3.55 m bgl

March 2019

BH 1 – 1.72m bgl
BH 2 – 1.92m bgl
BH 3 – 2.12 m bgl
BH 4 – 2.64 m bgl
BH 5 – 3.05 m bgl

[REDACTED]
BSC MSc DIC FGS CGEOL ARSM

DIRECTOR
WILSON BAILEY PARTNERSHIP - GEOTECHNICAL & ENVIRONMENTAL
[REDACTED]@WILSON-BAILEY.CO.UK
WEB: WWW.WILSON-BAILEY.CO.UK
DD: [REDACTED]
MOB: [REDACTED]

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Site Mrs Smiths Land East of A29, Eastergate, Chichester, West Sussex

Client BDW Southampton



Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 09/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30		TOPSOIL		
		0.50	D				Firm pale brown silty CLAY	0.5	
		1.00	D					1.0	
		1.50	D		1.30		Firm brown silty CLAY with occasional becoming abundant fine to medium flint gravel	1.5	
		2.00	D		1.70		Pale brown silty locally slightly sandy very clayey fine to medium flint GRAVEL	2.0	
		2.50	D					2.5	
		3.00	D					3.0	
		3.50	D					3.5	
					4.00		End of Borehole at 4.00m	4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 4.00m.

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

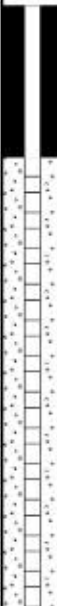
Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 10/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25		MADE GROUND (reworked topsoil with gravel)		
					0.50		Firm brown silty CLAY	0.5	
					1.00			1.0	
					1.50			1.5	
					1.80				
					2.00		Brown silty sandy clayey fine to medium flint GRAVEL	2.0	
					2.50		Pale yellowish brown silty locally clayey chalk derived fine to medium flint GRAVEL	2.5	
					3.00			3.0	
					3.50			3.5	
					4.00			4.0	
							End of Borehole at 4.00m	4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 4.00m.

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 10/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20		TOPSOIL		
		0.50	D				Firm brown silty CLAY		0.5
		1.00	D		1.00		Firm brown silty CLAY With abundant fine to medium flint gravel		1.0
		1.50	D		1.50		Pale yellowish brown and off white chalk derived fine to medium flint GRAVEL		1.5
		2.00	D						2.0
		2.50	D						2.5
					3.00			End of Borehole at 3.00m	3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0
									7.5
									8.0
									8.5
									9.0
									9.5
									10

Remarks

Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 4.00m.

Borehole Log

Borehole No.

BH2

Sheet 1 of 1

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 09/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30		TOPSOIL		
		0.50	D				Firm brown silty CLAY	0.5	
		1.00	D		1.20		Brown CLAY with abundant fine to medium flint gravel	1.0	
		1.50	D					1.5	
		2.00	D		1.70		Off white chalk derived silty sandy locally clayey fine to medium flint GRAVEL	2.0	
		2.50	D					2.5	
	▼	3.00	D					3.0	
		3.50	D					3.5	
					4.00		End of Borehole at 4.00m	4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater encountered at 3.00m.

Borehole Log

Borehole No.

BH3

Sheet 1 of 1

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 09/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20		TOPSOIL		
		0.50	D				Firm brown silty CLAY with scattered fine to medium flint gravel	0.5	
		1.00	D					1.0	
					1.20		Firm brown silty locally sandy clay with fine to medium flint GRAVEL		
		1.50	D					1.5	
					1.70		Pale yellowish brown and off white chalk derived silty sandy locally clayey fine to medium flint GRAVEL		
		2.00	D					2.0	
		2.50	D					2.5	
		3.00	D					3.0	
					3.45		End of Borehole at 3.45m	3.5	
								4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater not encountered.

Borehole Log

Borehole No.

BH4

Sheet 1 of 1

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 09/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.35		MADE GROUND (reworked topsoil with occasional fine brick fragments)		
		0.50	D				Firm brown silty CLAY	0.5	
		1.00	D					1.0	
		1.50	D					1.5	
		1.70			1.70				
		2.00	D		1.80		Brown silty sandy very clayey fine to medium flint GRAVEL	2.0	
		2.50	D				Pale yellowish brown and off white chalk derived silty sandy locally clayey fine to medium flint GRAVEL	2.5	
					3.00			3.0	
							End of Borehole at 3.00m	3.5	
								4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater not encountered.

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 09/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20		TOPSOIL		
		0.50	D				Firm pale brown and brown silty CLAY	0.5	
		1.00	D					1.0	
		1.45	D		1.20		Brown silty sandy clayey fine to medium flint GRAVEL	1.5	
		2.00	D		2.00		Pale yellowish brown and off white silty sandy locally clayey fine to medium flint GRAVEL	2.0	
		2.50	D					2.5	
		3.00	D					3.0	
					3.45		End of Borehole at 3.45m	3.5	
								4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater not encountered. Poor recovery 1.00m to 2.00m.

Borehole Log

Borehole No.

BH6

Sheet 1 of 1

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 09/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25		TOPSOIL		
		0.50	D				Firm brown silty CLAY	0.5	
		1.00	D					1.0	
		1.50	D		1.40		Brown silty very clayey fine to medium flint GRAVEL	1.5	
		2.00	D		1.80		Pale yellowish brown and off white chalk derived silty sandy locally clayey fine to medium flint GRAVEL	2.0	
		2.50	D					2.5	
		3.00	D					3.0	
					3.45		End of Borehole at 3.45m	3.5	
								4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater not encountered

Borehole Log

Borehole No.

BH7

Sheet 1 of 1

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 10/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20		TOPSOIL		
		0.50	D				Firm brown silty CLAY		0.5
		1.00	D						1.0
		1.50	D		1.50		Brown silty locally slightly sandy very clayey fine to medium flint GRAVEL		1.5
		2.00	D		2.00		Pale yellowish brown and off white silty sandy locally clayey fine to medium flint GRAVEL		2.0
		2.50	D						2.5
		3.00	D						3.0
					3.45			End of Borehole at 3.45m	3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0
									7.5
									8.0
									8.5
									9.0
									9.5
									10

Remarks

Groundwater not encountered.



Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 10/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20		TOPSOIL		
		0.50					Firm brown silty CLAY		0.5
		1.00	D						1.0
		1.50	D						1.5
		2.00	D		1.80 1.90		Firm brown silty CLAY with abundant fine to medium flint gravel		2.0
		2.50	D				Pale yellowish brown and off white chalk derived silty sandy locally clayey fine to medium flint GRAVEL		2.5
					3.00			End of Borehole at 3.00m	3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0
									7.5
									8.0
									8.5
									9.0
									9.5
									10

Remarks

Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 3.00m.

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 10/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	D		0.45		MADE GROUND (reworked topsoil with gravel and brick)	0.5	
		1.00	D				Firm brown silty CLAY	1.0	
		1.50	D		1.60		Firm brown silty CLAY with abundant fine to medium flint gravel	1.5	
		2.00	D		1.80		Pale yellowish brown and off white chalk derived silty sandy locally clayey fine to medium flint GRAVEL	2.0	
		2.50	D					2.5	
		3.00	D					3.0	
					3.45		End of Borehole at 3.45m	3.5	
								4.0	
								4.5	
								5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater not encountered

Project Name: Roy Smith's Land

 Project No.
 J20201

Co-ords:

 Hole Type
 WLS

Location: Eastergate

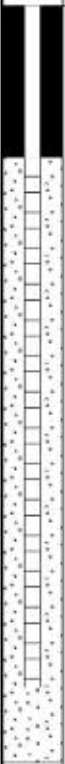
Level:

 Scale
 1:50

Client: BDW Southampton

Dates: 09/01/2020

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20		TOPSOIL		
		0.50	D				Firm brown and dark orange-brown slightly silty CLAY	0.5	
		1.00	D					1.0	
		1.20			1.20		Dark brown very clayey silty slightly sandy fine to medium flint GRAVEL	1.5	
		1.50	D					1.5	
		1.80			1.80		Off white and pale yellowish brown chalk derived silty sandy fine to medium flint GRAVEL with occasional flint cobbles	2.0	
		2.00	D					2.0	
		2.50	D					2.5	
		3.00	D					3.0	
		3.50	D					3.5	
	4.00	D					4.0		
	4.50	D					4.5		
					5.00		End of Borehole at 5.00m	5.0	
								5.5	
								6.0	
								6.5	
								7.0	
								7.5	
								8.0	
								8.5	
								9.0	
								9.5	
								10	

Remarks

Groundwater seepage at 3.00m. Standpipe installed with a response zone from 1.00m to 4.50m.





Trial Pit Log

Trialpit No

TP1

Sheet 1 of 1

Project Name: Roy Smith's Land	Project No. J20201	Co-ords: - Level:	Date 10/01/2020
Location: Eastergate	Dimensions (m): Depth 2.00		Scale 1:25 Logged
Client: BDW Southampton			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.40			MADE GROUND (reworked topsoil with flint gravel, glass and concrete)
	0.50	D					Firm brown silty CLAY
	1.00	D		1.20			Firm brown silty CLAY with scattered fine to medium flint gravel
	1.50	D		1.40			Off white and pale yellowish brown chalk derived silty sandy locally clayey fine to medium flint GRAVEL
	2.00	D		2.00			End of pit at 2.00 m

Remarks: Groundwater not encountered. Trial pit used for soakage testing - result presented separately.

Stability:






Trial Pit Log

Trialpit No

TP2

Sheet 1 of 1

Project Name: Roy Smith's Land	Project No. J20201	Co-ords: - Level:	Date 10/01/2020
Location: Eastergate	Dimensions (m): Depth 2.20		Scale 1:25 Logged
Client: BDW Southampton			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			TOPSOIL
	0.50	D					Firm brown silty CLAY with scattered fine to medium flint gravel
	1.00	D					
	1.50	D		1.60			Off white and pale yellowish brown chalk derived silty sandy locally clayey fine to medium flint GRAVEL
	2.00	D		2.20			End of pit at 2.20 m

Remarks: Groundwater not encountered. Trial pit used for soakage testing - result presented separately.

Stability:






Trial Pit Log

Trialpit No

TPR

Sheet 1 of 1

Project Name: Roy Smith's Land	Project No. J20201	Co-ords: - Level:	Date 10/01/2020
Location: Eastergate	Dimensions (m): Depth 2.00		Scale 1:25 Logged
Client: BDW Southampton			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.30			MADE GROUND (reworked topsoil with occasional gravel and tile)
	0.50	D					Firm brown silty CLAY with scattered and locally abundant fine to medium flint gravel
	1.00	D		0.90			Pale yellowish brown and off white silty, sandy chalk derived GRAVEL
	1.50	D					
	2.00	D		2.00			End of pit at 2.00 m

Remarks: Groundwater not encountered. Trial pit used for soakage testing - result presented separately.

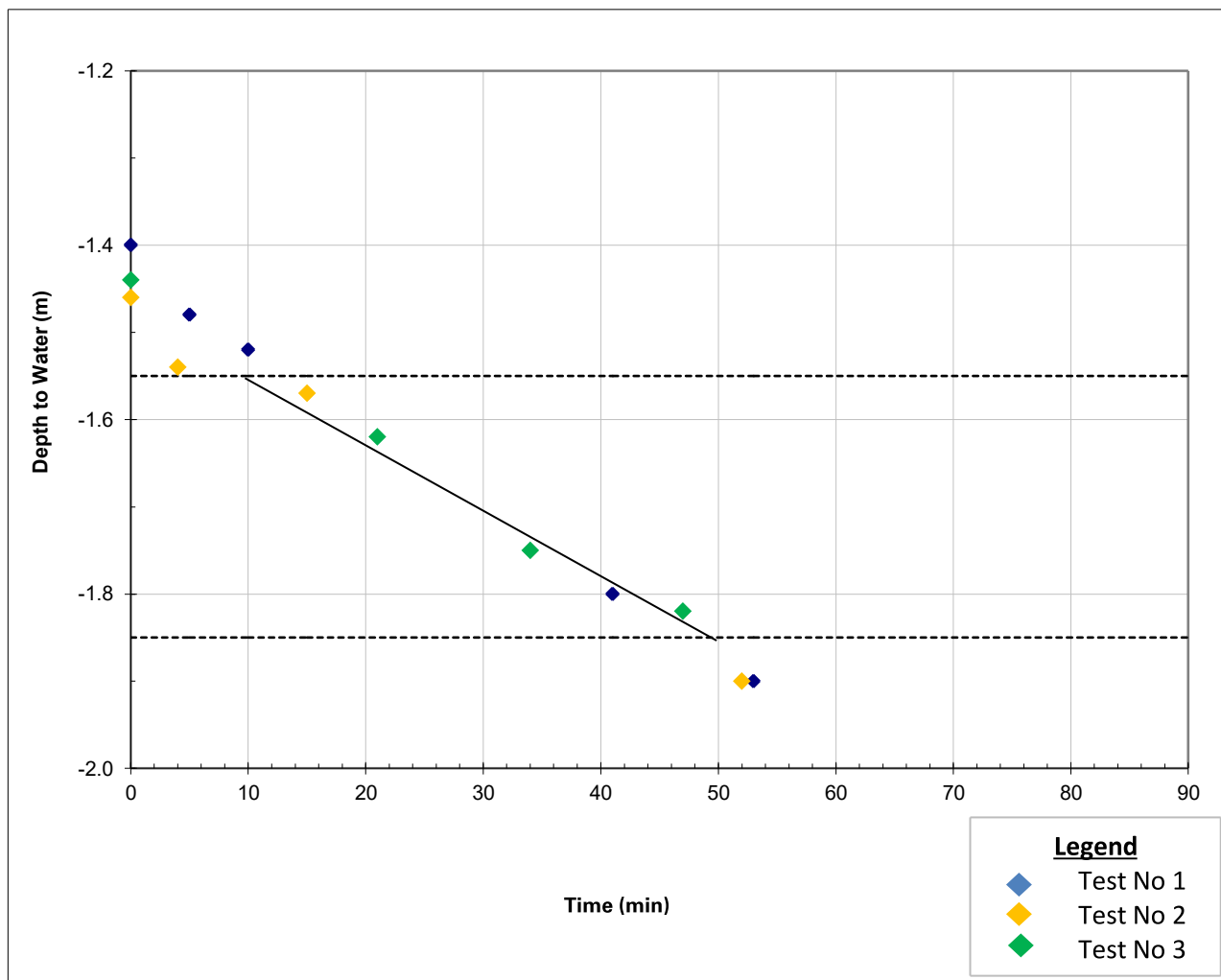
Stability:



Site Mr Smiths Land, Fontwell Avenue, Eastergate

Client BDW Southampton

Trial Pit No.	TP1	Pit Length (m)	1.8
		Pit Width (m)	0.5
		Pit Depth (m)	1.8



Design Soakage Rate 4.8E-05 m/s (based on linear portion of graph as shown)
 4.15 m/day

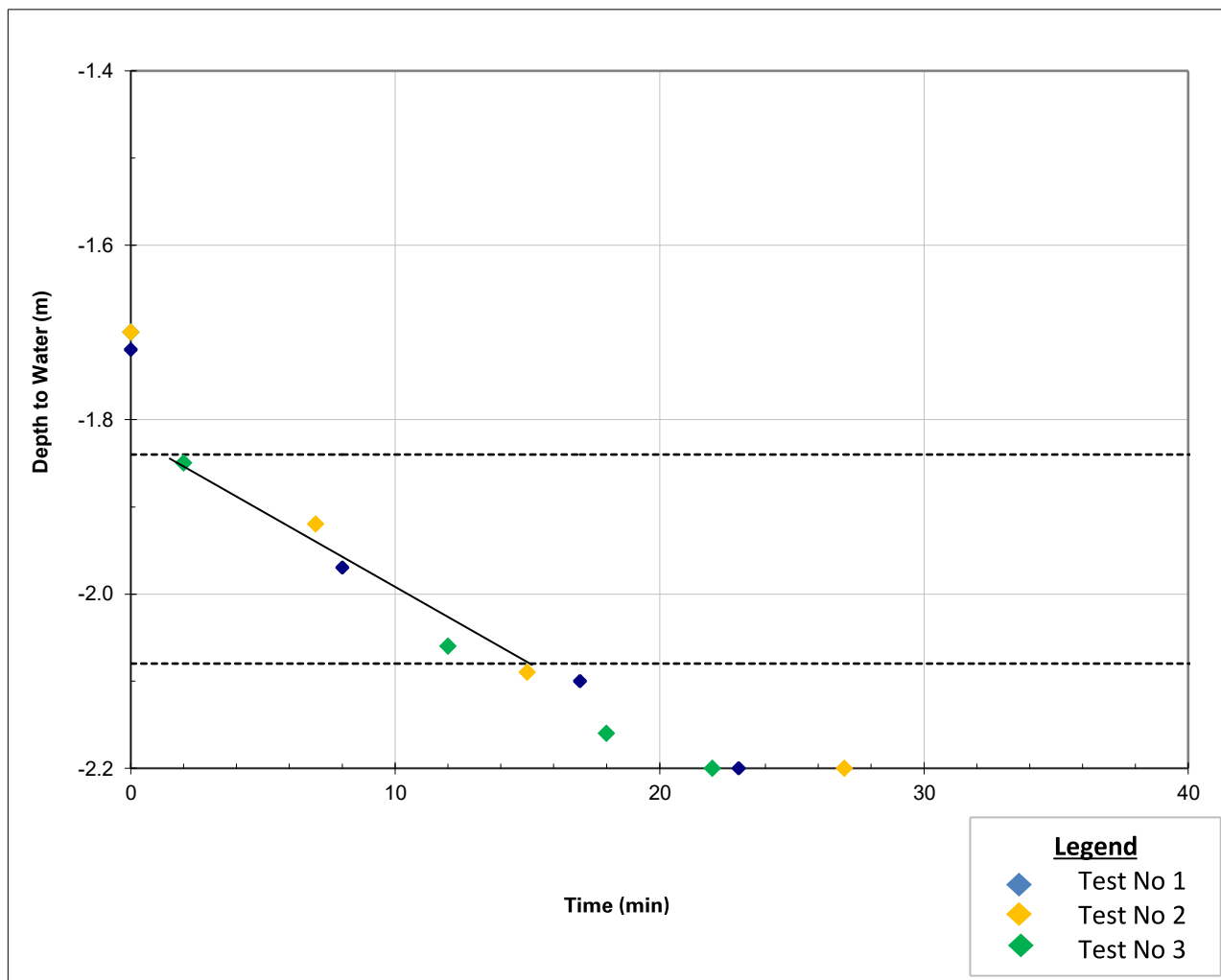
Notes

Soakage test carried out in accordance with requirements of BRE365 with three completed fills
 Trial Pit Log presented separately
 Groundwater not encountered

Site Mr Smiths Land, Fontwell Avenue, Eastergate

Client BDW Southampton

Trial Pit No.	TP2	Pit Length (m)	1.8
		Pit Width (m)	0.5
		Pit Depth (m)	1.8



Design Soakage Rate 1.3E-04 m/s (based on linear portion of graph as shown)
 11.66 m/day

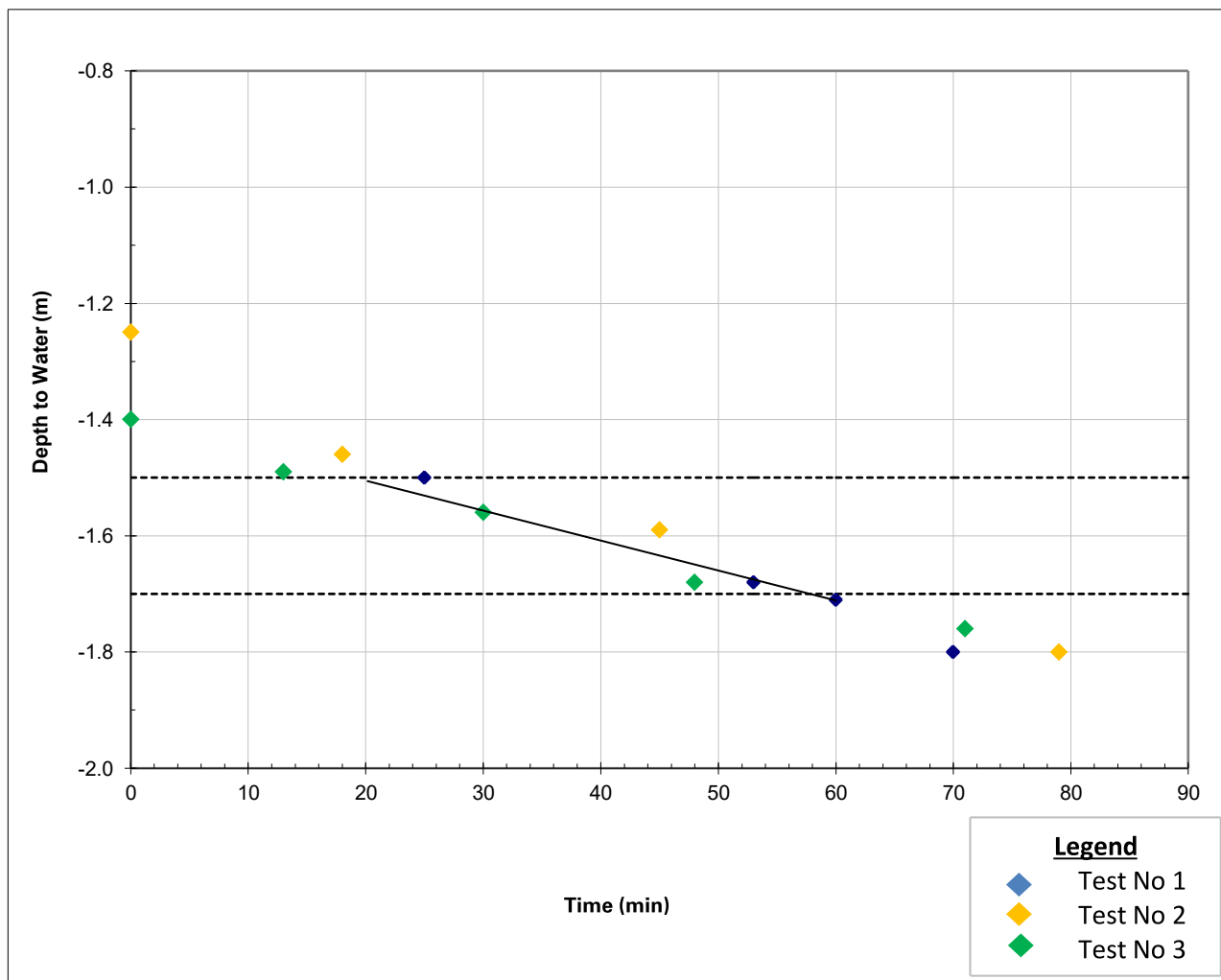
Notes

Soakage test carried out in accordance with requirements of BRE365 with three completed fills
 Trial Pit Log presented separately
 Groundwater not encountered

Site Mr Smiths Land, Fontwell Avenue, Eastergate

Client BDW Southampton

Trial Pit No.	R	Pit Length (m)	1.8
		Pit Width (m)	0.5
		Pit Depth (m)	1.8



Design Soakage Rate 4.0E-05 m/s (based on linear portion of graph as shown)
 3.48 m/day

Notes

Soakage test carried out in accordance with requirements of BRE365 with three completed fills
Trial Pit Log presented separately
Groundwater not encountered