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QTS Environmental Report No: 14-18771

Site Reference: Copseys
Project / Job Ref: None Supplied
Order No: None Supplied
Sample Receipt Date: 17/01/2014
Sample Scheduled Date: 17/01/2014
Report Issue Number: 1
Reporting Date: 23/01/2014

Authorised by:

Russell Jarvis
Director

On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director

On behalf of QTS Environmental Ltd



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Soil Analysis Certificate					
QTS Environmental Report No: 14-18771	Date Sampled	15/01/14	15/01/14	15/01/14	15/01/14
Wilson Bailey Geotechnical & Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Copseys	TP / BH No	Tank Area E	Tank Area N	Tank Area S	Tank Area W
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 23/01/2014	QTSE Sample No	90620	90621	90622	90623

Determinand	Unit	RL	Accreditation					
Asbestos Screen ¹	N/g	N/g	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	8.1	8.3	7.8	7.8	9.5
Total Organic Carbon (TOC)	%	< 0.1	NONE	0.4	0.4	0.4	0.5	1.1

Analytical results are expressed on a dry weight basis where samples are dried at less than 30°C.
 Analysis carried out on the dried sample is corrected for the stone content.

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique for In-house Procedures QTS600 Determination of Asbestos in Bulk Materials, Asbestos in Soils/Sediments (fibre screening and identification).

This report refers to samples as received, and QTS Environmental Ltd. takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analysis: Jezevel Mafic

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis: ²



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Soil Analysis Certificate - TPH CWG Banded

QTS Environmental Report No: 14-18771	Date Sampled	15/01/14	15/01/14	15/01/14	15/01/14	15/01/14
Wilson Bailey Geotechnical & Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Copseys	TP / BH No	Tank Area E	Tank Area N	Tank Area S	Tank Area W	Waste
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 23/01/2014	QTS Sample No	90620	90621	90622	90623	90624

Determinand	Unit	RL	Accreditation						
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatic >C10 - C12	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatic >C12 - C16	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatic >C16 - C21	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatic >C21 - C34	mg/kg	< 6	NONE	< 6	< 6	< 6	< 6	< 6	< 6
Aliphatic (C5 - C34)	mg/kg	< 12	NONE	< 12	< 12	< 12	< 12	< 12	< 12
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aromatic >C10 - C12	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aromatic >C12 - C16	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aromatic >C16 - C21	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1	< 1
Aromatic >C21 - C35	mg/kg	< 6	NONE	< 6	< 6	< 6	< 6	< 6	< 6
Aromatic (C5 - C35)	mg/kg	< 12	NONE	< 12	< 12	< 12	< 12	< 12	< 12
Total >C5 - C35	mg/kg	< 24	NONE	< 24	< 24	< 24	< 24	< 24	< 24

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Soil Analysis Certificate - BTEX / MTBE						
QTS Environmental Report No: 14-18771	Date Sampled	15/03/14	15/01/14	15/01/14	15/01/14	15/01/14
Wilson Bailey Geotechnical & Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Copseys	TP / BH No	Tank Area E	Tank Area N	Tank Area S	Tank Area W	Waste
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 23/01/2014	QTSE Sample No	90620	90621	90622	90623	90624

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

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Soil Analysis Certificate - Sample Descriptions

QTS Environmental Report No: 14-18771

Wilson Bailey Geotechnical & Environmental Ltd

Site Reference: Copseys

Project / Job Ref: None Supplied

Order No: None Supplied

Reporting Date: 23/01/2014

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
90620	Tank Area E	None Supplied	None Supplied	18.2	Light brown loamy clay
90621	Tank Area N	None Supplied	None Supplied	19.1	Light brown loamy clay
90622	Tank Area S	None Supplied	None Supplied	18.3	Light brown loamy clay
90623	Tank Area W	None Supplied	None Supplied	17.7	Light brown loamy clay
90624	Waste	None Supplied	None Supplied	16.9	Grey loamy clay with rubble

Insufficient sample ¹⁷⁷

Unsuitable Sample ¹⁷⁸



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Soil Analysis Certificate - Methodology & Miscellaneous Information

QTS Environmental Report No: 14-18771

Wilson Bailey Geotechnical & Environmental Ltd

Site Reference: Copseys

Project / Job Ref: None Supplied

Order No: None Supplied

Reporting Date: 23/01/2014

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oc	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E006
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
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	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	TPH LQM	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6 - C10)	Determination of hydrocarbons C6-C10 by headspace GC-MS	E001

D Dried
AR As Received