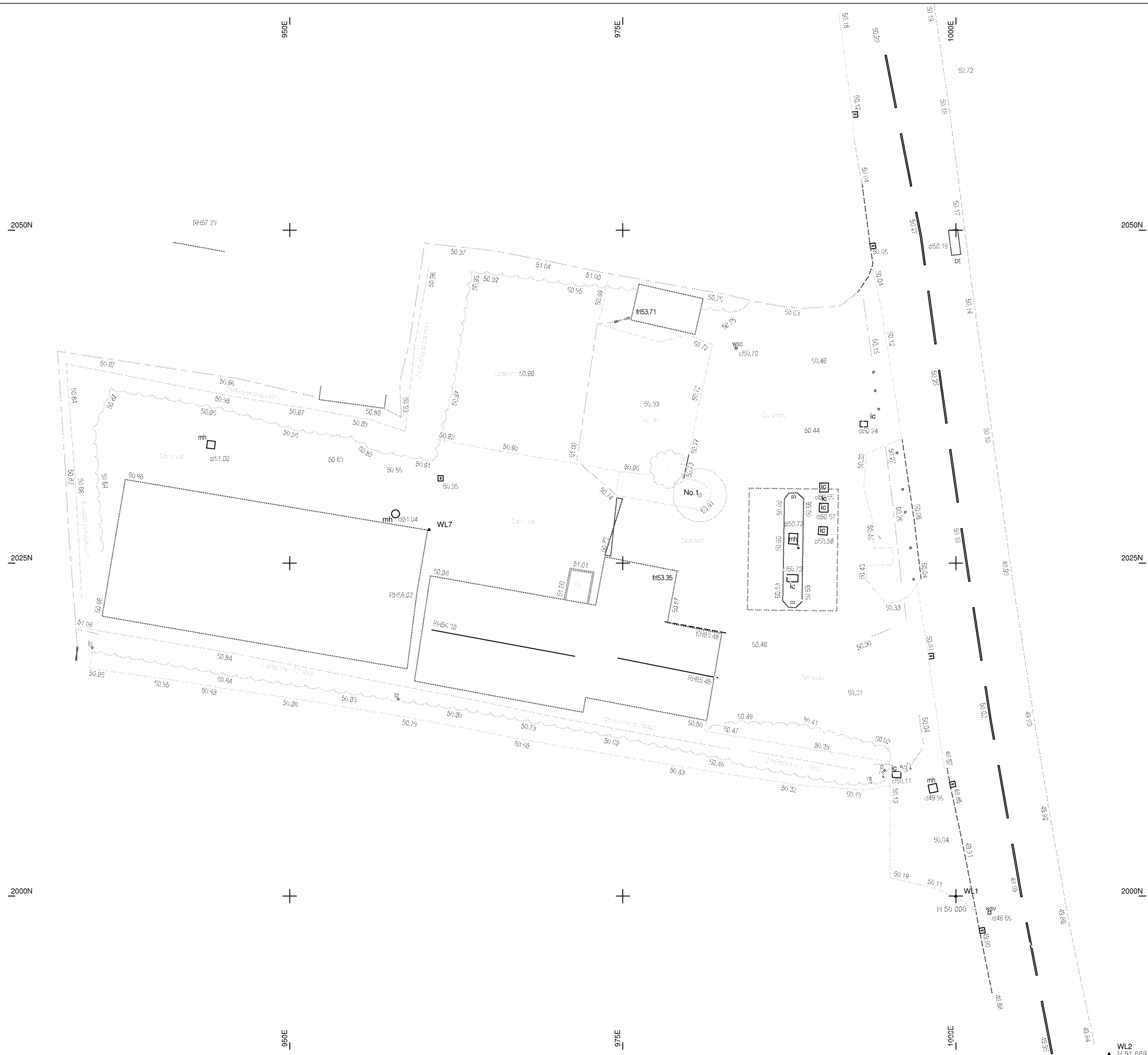


APPENDIX A: Site Location Plan





Abbreviations

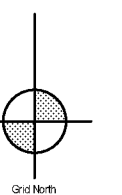
vi	brick wall	re	rodding eye
vo	bolard	rp	road name plate
bs	bus stop	nwp	rainwater pipe
bs	bat inspection chamber	rs	road sign
ctv	cable tv cover	▲ Sln	survey station
cl	drainage channel	sc	stop cock
dk	dropped kerb	st	stop
d	diameter	sv	stop valve
ep	electricity pole	g	traffic light
ea	earth rod	to	telegraph pole
fb	flower bed	wp	water pipe
fh	fish hatchery	wn	water meter
g	gully	wsp	water stop valve
gsc	gas stop cock		
gv	gas stop valve		
gvh	hydrant		
ic	inspection chamber		
jbx	junction box		
kb	kerb		
lbc	letter box		
lp	lamp post		
mr	manhole		
mkr	manhole		
h	height		
p	post		
pb	post box		
lp	lamp post		

Line types

Diagram illustrating the measurement of tree canopy area and structure. The diagram shows a tree canopy with various measurement lines and labels. A legend on the right lists the symbols: Fences, Kerb, Walls, Stairs, Change of Surface, Footpath, Bank Top, Bank Bottom, Building, Building Overhead, Roof heights, Flower Bed, Overhead Cable, Road Edge, Hedge Row, Canopy, Edge of vegetation. The main diagram includes labels: Multi directional tree canopy, Trunk position at ground level, Edge of canopy, No. 38, Multi bole, and Tree number.

Notes

Tree species should be confirmed by a arboricultural consultant if critical
Trunk sizes are measured at 1.5m above ground level
Eaves heights (where shown) are taken at the end of the tile / top of guttering.
Ridge heights are taken at the top of the ridge tile.
Service covers indicated where visible at time of survey



J. Brotherton & Partners
Land Surveyors & Engineers

Firdown, 113 Frogmore Lane
Waterlooville, Hampshire PO8 9RD
Tel: 023 9259 1979
Email: enquiries@jbsurveys.co.uk
Web: www.jbsurveys.co.uk

Client	Ed Rees
--------	---------

Drawing Title Topographic Land Survey

Location	Walberton Garage
Revisions / Status / Notes	

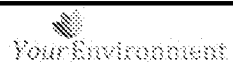
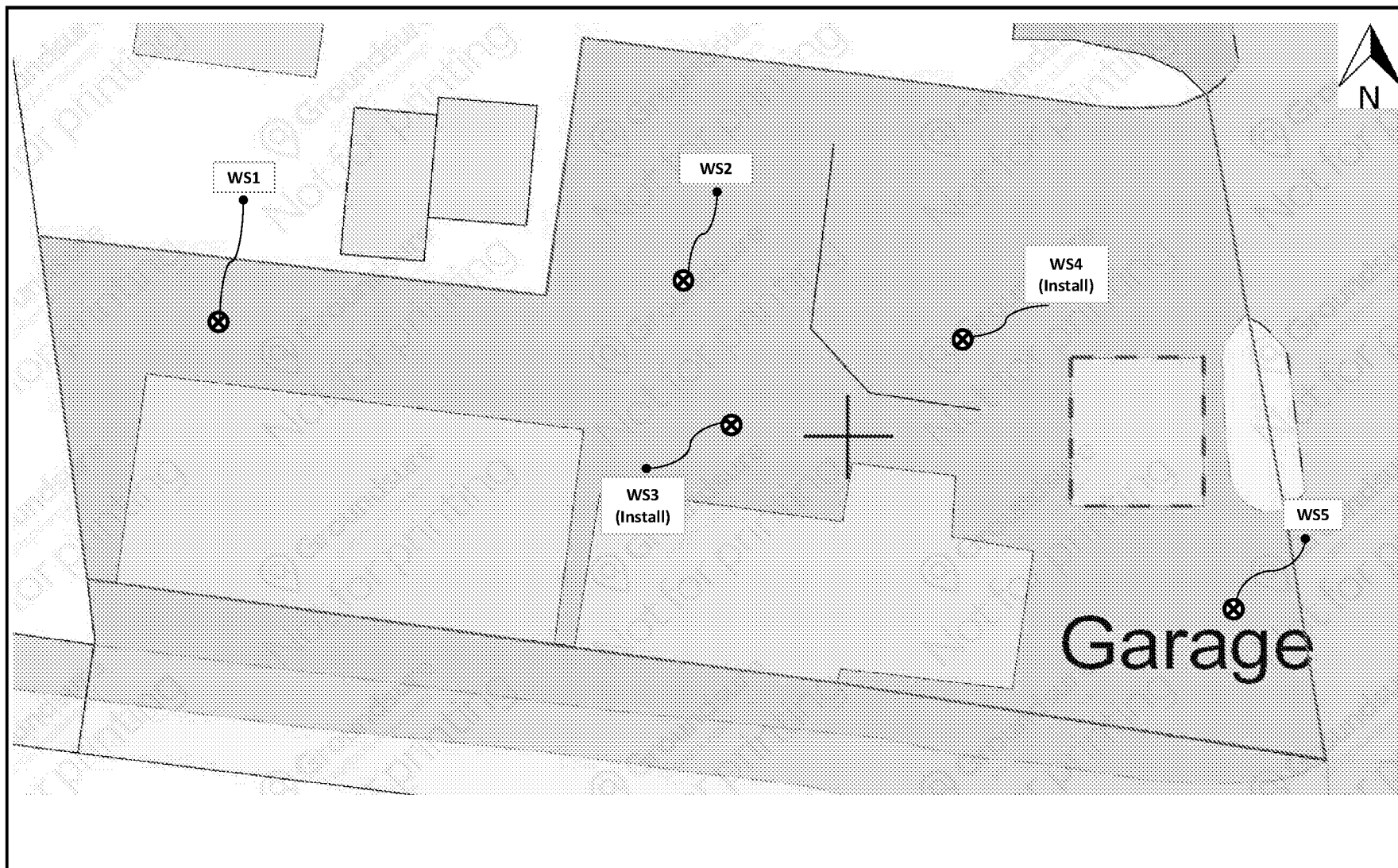
LEVELS BASED ON Local Grid		Surveyor:- SB		Assistant:- RKL	
GRID BASED ON		Drawn By:- SB		Checked By:- JB	
Drawing & CAD Ref. 16219			REVISIONS		
SCALE (when printed) 1:200 @ A1			Date 31st October 2016		PROJECT OF 
Removal of this book also removes all warranties. This drawing has been created for use at a scale of 1:200 All critical dimensions, positions and levels to be checked on site					

APPENDIX B: Feedback from ADC



APPENDIX C: Site Investigation Plan





Site Investigation Location Plan - Not to Scale

YourEnvironment

Chilgrove Business Centre, Chilgrove, Nr Chichester, PO18 9HU
Tel: 01243 787150
Email: info@yourenvironment.org

Site Name:

Progress Garage, Walberton

Client:

Domusea Developments

Date:

May-17

Job No:

YE2996

APPENDIX D: Windowless Sampler Logs



PM SAMPLING LOG SHEET

LOCATION	Station	LINE	Point	LOG TYPE & NO.	Geoplot Date	BORERHOLE NO.
DATE				DRIER		BORERHOLE DIA.
				Facing	SPIN	CASING DIA.
						SHEET No. 13

		SPT - OPT BLOW - FEET										STRATA		DESCRIPTION
DEPTH	FEET	1	2	3	4	5	6	7	8	9	10	DEPTH	FEET	
0.0	0.0											0.0	0.0	CONCRETE
0.5	0.5											0.5	0.5	NATURAL CLAY
1.0	1.0											1.0	1.0	GRAVEL WITH GLASS VERY DENSE
1.5	1.5											1.5	1.5	WATER
2.0	2.0											2.0	2.0	REFUSE
1 CORE & VALUE 0.50 - 0.50 0.50 - 0.50 1m - 0.50 1m - 0.50 1m - 0.50														
2.5	2.5											2.5	2.5	CONCRETE
3.0	3.0											3.0	3.0	NATURAL CLAY
3.5	3.5											3.5	3.5	VERY DENSE GRAVEL
4.0	4.0											4.0	4.0	REFUSE
1 CORE & VALUE 0.50 - 0.50 0.50 - 0.50 1m - 0.50 1m - 0.50 1m - 0.50														

WATER STRESS		TOTAL SPT NO. LOG	
DEPTH - CORRECTION		DEPTH - CORRECTION	
DEPTH - CORRECTION		DEPTH - CORRECTION	
DEPTH - CORRECTION		DEPTH - CORRECTION	
DEPTH - CORRECTION		DEPTH - CORRECTION	

REMARKS, COMMENTS AND DELAYS

[illegible]

[illegible]

APPENDIX E: Soil Contamination Laboratory Results





Colin Hiscock
Your Environment
Chilgrove Business Centre
Chilgrove Park Road
Chilgrove
Chichester
West Sussex
PO18 9HU

QTS Environmental Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2TN



QTS Environmental Report No: 17-57192

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Sample Receipt Date: 03/04/2017

Sample Scheduled Date: 03/04/2017

Report Issue Number: 1

Reporting Date: 07/04/2017

Authorised by:



Kevin Old
Associate Director of Laboratory

Authorised by:



Russell Jarvis
Associate Director of Client Services

QTSE is the trading name of DETS Ltd, company registration number 03705645



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Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate						
QTS Environmental Report No: 17-57192	Date Sampled	30/03/17	30/03/17	30/03/17	30/03/17	30/03/17
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Progress Garage	TP / BH No	WS1	WS2	WS3	WS4	WS5
Project / Job Ref: YE2996	Additional Refs	Nat	Nat	MG	Nat	Nat
Order No: None Supplied	Depth (m)	0.20	2.00	0.20	0.20	0.50
Reporting Date: 07/04/2017	QTSE Sample No	261297	261299	261300	261302	261304

Determinand	Unit	RL	Accreditation					
Asbestos Screen	N/a	N/a	ISO 17025			Not Detected		
pH	pH Units	N/a	MCERTS	10.2	8.7	8.5	8.1	8.0
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	414	115	137	47	28
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.41	0.12	0.14	0.05	0.03
Organic Matter	%	< 0.1	MCERTS	0.4	0.1	0.3	0.6	0.1
Arsenic (As)	mg/kg	< 2	MCERTS	9	4	9	7	10
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	25	17	26	22	30
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	19	5	17	12	14
Lead (Pb)	mg/kg	< 3	MCERTS	41	8	30	19	16
Mercury (Hg)	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	18	13	18	14	20
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	94	32	84	52	56
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-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 to In-House Procedures QTSE600 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 Analyst: Graham Revell

RL: Reporting Limit

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

Subcontracted analysis ⁽⁵⁾



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Rose Lane
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Maidstone
Kent ME17 2JN



Soil Analysis Certificate

QTS Environmental Report No: 17-57192	Date Sampled	30/03/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS5				
Project / Job Ref: YE2996	Additional Refs	Nat				
Order No: None Supplied	Depth (m)	2.00				
Reporting Date: 07/04/2017	QTS Sample No	261305				

Determinand	Unit	RL	Accreditation				
Asbestos Screen	N/a	N/a	ISO 17025				
pH	pH Units	N/a	MCERTS	8.0			
Total Cyanide	mg/kg	< 2	NONE	< 2			
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	15			
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.01			
Organic Matter	%	< 0.1	MCERTS	0.2			
Arsenic (As)	mg/kg	< 2	MCERTS	6			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	1.7			
Chromium (Cr)	mg/kg	< 2	MCERTS	19			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	9			
Lead (Pb)	mg/kg	< 3	MCERTS	10			
Mercury (Hg)	mg/kg	< 1	NONE	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	34			
Selenium (Se)	mg/kg	< 3	NONE	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	41			
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

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 to In-House Procedures QTSE600 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 Analyst: Graham Revell

RL: Reporting Limit

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

Subcontracted analysis ⁽⁵⁾



QTS Environmental Ltd
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Rose Lane
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Maidstone
Kent ME17 2JN



Soil Analysis Certificate - Speciated PAHs						
QTS Environmental Report No: 17-57192	Date Sampled	30/03/17	30/03/17	30/03/17	30/03/17	30/03/17
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Progress Garage	TP / BH No	WS1	WS2	WS3	WS4	WS5
Project / Job Ref: YE2996	Additional Refs	Nat	Nat	MG	Nat	Nat
Order No: None Supplied	Depth (m)	0.20	2.00	0.20	0.20	0.50
Reporting Date: 07/04/2017	QTSE Sample No	261297	261299	261300	261302	261304

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	1.57	< 0.1	0.13	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	0.39	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	4.47	< 0.1	0.50	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	4.55	< 0.1	0.43	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	3.23	< 0.1	0.22	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	2.79	< 0.1	0.23	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	5.04	< 0.1	0.41	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	1.57	< 0.1	0.17	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	3.80	< 0.1	0.28	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	2.05	< 0.1	0.17	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.29	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	1.64	< 0.1	0.16	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	31.4	< 1.6	2.7	< 1.6	< 1.6

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



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Soil Analysis Certificate - Speciated PAHs

QTS Environmental Report No: 17-57192	Date Sampled	30/03/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS5				
Project / Job Ref: YE2996	Additional Refs	Nat				
Order No: None Supplied	Depth (m)	2.00				
Reporting Date: 07/04/2017	QTSE Sample No	261305				

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	< 0.1			
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	< 0.1			
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			

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



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Soil Analysis Certificate - TPH CWG Banded

QTS Environmental Report No: 17-57192	Date Sampled	30/03/17	30/03/17	30/03/17	30/03/17	30/03/17
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Progress Garage	TP / BH No	WS1	WS2	WS3	WS4	WS5
Project / Job Ref: YE2996	Additional Refs	Nat	Nat	MG	Nat	Nat
Order No: None Supplied	Depth (m)	0.20	2.00	0.20	0.20	0.50
Reporting Date: 07/04/2017	QTSE Sample No	261297	261299	261300	261302	261304

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 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
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	117	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	117	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 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
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	8	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	27	< 10	36	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	36	< 21	36	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	153	< 42	< 42

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



QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate - TPH CWG Banded

QTS Environmental Report No: 17-57192	Date Sampled	30/03/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS5				
Project / Job Ref: YE2996	Additional Refs	Nat				
Order No: None Supplied	Depth (m)	2.00				
Reporting Date: 07/04/2017	QTSE Sample No	261305				

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			

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



QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate - BTEX / MTBE						
QTS Environmental Report No: 17-57192	Date Sampled	30/03/17	30/03/17	30/03/17	30/03/17	30/03/17
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Progress Garage	TP / BH No	WS1	WS2	WS3	WS4	WS5
Project / Job Ref: YE2996	Additional Refs	Nat	Nat	MG	Nat	Nat
Order No: None Supplied	Depth (m)	0.20	2.00	0.20	0.20	0.50
Reporting Date: 07/04/2017	QTSE Sample No	261297	261299	261300	261302	261304

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	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

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



QTSE Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate - BTEX / MTBE

QTS Environmental Report No: 17-57192	Date Sampled	30/03/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS5				
Project / Job Ref: YE2996	Additional Refs	Nat				
Order No: None Supplied	Depth (m)	2.00				
Reporting Date: 07/04/2017	QTSE Sample No	261305				

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	< 2			
o-xylene	ug/kg	< 2	MCERTS	< 2			
MTBE	ug/kg	< 5	MCERTS	< 5			

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



QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate - Sample Descriptions

QTS Environmental Report No: 17-57192

Your Environment

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Reporting Date: 07/04/2017

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
261297	WS1	Nat	0.20	13.3	Brown sandy clay with concrete
261299	WS2	Nat	2.00	10.9	Brown sandy clay with stones
261300	WS3	MG	0.20	13.6	Brown sandy clay with brick
261302	WS4	Nat	0.20	16.6	Brown clay
261304	WS5	Nat	0.50	17.4	Brown clay
261305	WS5	Nat	2.00	11.4	Brown sandy gravel with stones

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

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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Maidstone
Kent ME17 2JN



Soil Analysis Certificate - Methodology & Miscellaneous Information

QTS Environmental Report No: 17-57192

Your Environment

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Reporting Date: 07/04/2017

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 dphenylcarbazine 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 (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	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	E008
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 (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	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried

AR As Received



Colin Hiscock
Your Environment
Chilgrove Business Centre
Chilgrove Park Road
Chilgrove
Chichester
West Sussex
PO18 9HU



QTS Environmental Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN



QTS Environmental Report No: 17-57255

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Sample Receipt Date: 03/04/2017

Sample Scheduled Date: 04/04/2017

Report Issue Number: 1

Reporting Date: 07/04/2017

Authorised by:



Kevin Old
Associate Director of Laboratory

Authorised by:



Russell Jarvis
Associate Director of Client Services

QTSE is the trading name of DETS Ltd, company registration number 03705645



QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
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Maidstone
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Soil Analysis Certificate						
QTS Environmental Report No: 17-57255	Date Sampled	30/03/17	30/03/17	30/03/17		
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Progress Garage	TP / BH No	WS2	WS3	WS4		
Project / Job Ref: YE2996	Additional Refs	MG	Nat	Nat		
Order No: None Supplied	Depth (m)	0.20	2.00	2.00		
Reporting Date: 07/04/2017	QTSE Sample No	261540	261541	261542		

Determinand	Unit	RL	Accreditation				
Asbestos Screen	N/a	N/a	ISO 17025	Not Detected			
pH	pH Units	N/a	MCERTS	7.6	7.5	7.3	
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	31	32	15	
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.03	0.03	0.01	
Organic Matter	%	< 0.1	MCERTS	0.6	1.2	< 0.1	
Arsenic (As)	mg/kg	< 2	MCERTS	8	6	6	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.2	0.3	1.3	
Chromium (Cr)	mg/kg	< 2	MCERTS	19	18	16	
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	
Copper (Cu)	mg/kg	< 4	MCERTS	31	15	8	
Lead (Pb)	mg/kg	< 3	MCERTS	18	58	11	
Mercury (Hg)	mg/kg	< 1	NONE	< 1	< 1	< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS	12	11	26	
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3	< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS	76	49	34	
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	

Analytical results are expressed on a dry weight basis where samples are assisted-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 to In-House Procedures QTSE600 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 Analyst: Javeed Malik

RL: Reporting Limit

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

Subcontracted analysis ⁽⁵⁾



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Soil Analysis Certificate - Speciated PAHs						
QTS Environmental Report No: 17-57255	Date Sampled	30/03/17	30/03/17	30/03/17		
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Progress Garage	TP / BH No	WS2	WS3	WS4		
Project / Job Ref: YE2996	Additional Refs	MG	Nat	Nat		
Order No: None Supplied	Depth (m)	0.20	2.00	2.00		
Reporting Date: 07/04/2017	QTSE Sample No	261540	261541	261542		

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

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



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Soil Analysis Certificate - TPH CWG Banded

QTS Environmental Report No: 17-57255	Date Sampled	30/03/17	30/03/17	30/03/17		
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Progress Garage	TP / BH No	WS2	WS3	WS4		
Project / Job Ref: YE2996	Additional Refs	MG	Nat	Nat		
Order No: None Supplied	Depth (m)	0.20	2.00	2.00		
Reporting Date: 07/04/2017	QTSE Sample No	261540	261541	261542		

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

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Soil Analysis Certificate - BTEX / MTBE						
QTS Environmental Report No: 17-57255	Date Sampled	30/03/17	30/03/17	30/03/17		
Your Environment	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Progress Garage	TP / BH No	WS2	WS3	WS4		
Project / Job Ref: YE2996	Additional Refs	MG	Nat	Nat		
Order No: None Supplied	Depth (m)	0.20	2.00	2.00		
Reporting Date: 07/04/2017	QTSE Sample No	261540	261541	261542		

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

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Soil Analysis Certificate - Sample Descriptions

QTS Environmental Report No: 17-57255

Your Environment

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Reporting Date: 07/04/2017

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
261540	WS2	MG	0.20	14.2	Brown sandy clay with brick and concrete
261541	WS3	Nat	2.00	17.8	Brown sandy clay
261542	WS4	Nat	2.00	13.1	Brown sandy clay with stones

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

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous

QTS Environmental Report No: 17-57255

Your Environment

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Reporting Date: 07/04/2017

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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 diphénylcarbazine 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
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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
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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 (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	E004
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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
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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 (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	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried

AR As Received

APPENDIX F: Monitoring Results



JOB DETAILS:	0
Client:	0
Site:	Progress Garage, Walberton
Date:	21.4.17

Job No:	YE2996
Visit No:	2 of 3
Operator:	MG/TLB
Project Manager:	0

Monitoring Point	GAS CONCENTRATIONS												VOLATILES		FLOW DATA				Worst-credible GSVs		WELL AND WATER DATA					Comments
	Methane (%v/v)		%LEL		Carbon dioxide (%v/v)		Carbon monoxide (ppmv)		Hydrogen sulphide (ppmv)		Oxygen (%v/v)		PID Peak (ppm)	Product Thickness (mm)	Flow rate (lit/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Methane (lit/hr)	CO2 (lit/hr)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Response Zone	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min	Steady			Peak	Steady										
WS3	0.0	0.0	0.0	0.0	1.2	1.2	4	4	0	0	16.5	16.5	NR	NR	0.1	0.0	7.46	10	0	0.00012	dry	1.93				
WS4	0.0	0.0	0.0	0.0	1.3	0.5	3	3	0	0	20.1	20.5	NR	NR	0.4	0.4	8.10	10	0	0.002	1.78	1.90				
																			0	0						
																			0	0						
																			0	0						
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Max	0.0	0.0	0.0	0.0	1.3	1.3	4	4	0	0	20.1	20.5	NR	NR	0.4	0.4	8.1	10	0.0003	0.0003	1.75	1.91	NR	NR		
Min	0.0	0.0	0.0	0.0	1.2	0.5	3	3	0	0	16.5	16.5	0.0	0.0	0.1	0.0	7.5	10	0.0000	0.0000	DRY	1.90	0.00	0.00		

G - Granular

NB: Where no flow (ND) recorded, GSVs are calculated using equipment limit of detection (0.1l/hr). Where negative flows recorded, these are converted to positive values for calculation of GSVs.

(Select correct box with X or enter data, as applicable)

State of ground:	☒ Dry	☐ Moist	☐ Wet	☐ Snow	☐ Frozen
Wind:	☒ Calm	☐ Light	☐ Moderate	☐ Strong	
Cloud cover:	☐ None	☐ Slight	☐ Cloudy	☒ Overcast	
Precipitation:	☒ None	☐ Slight	☐ Moderate	☐ Heavy	
Time monitoring performed:		03:36		09:36	End
Barometric pressure (mbar):		1030	Start	1030	End
Pressure trend (Daily):		Falling	☒ Steady		Rising
Source:					
Air Temperature (Deg. C):		14 Before		14 After	

Ground gas meter:	GA5000					
Gas Range:	CH₄	0 - 100%	CO₂	0 - 100%	O₂	0 - 25%
Gas Flow range:						
Differential Pressure:	+/- 500mbar					
Date of last calibration:						
Date of next calibration:						

Project Manager:

MG - Made ground
NAT - Natural
C - Cohesive
G - Granular

ARUN DISTRICT COUNCIL WA/11/18/DOC

APPENDIX G: Groundwater Contamination Laboratory Results





Tristan Le Butt
Your Environment
Chilgrove Business Centre
Chilgrove Park Road
Chilgrove
Chichester
West Sussex
PO18 9HU

QTS Environmental Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN



QTS Environmental Report No: 17-57526

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Sample Receipt Date: 10/04/2017

Sample Scheduled Date: 10/04/2017

Report Issue Number: 1

Reporting Date: 18/04/2017

Authorised by:



Kevin Old
Associate Director of Laboratory

Authorised by:



Deputy Quality Manager

QTSE is the trading name of DETS Ltd, company registration number 03705645



QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Water Analysis Certificate

QTS Environmental Report No: 17-57526	Date Sampled	07/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon1				
Order No: None Supplied	Depth (m)	1.62				
Reporting Date: 18/04/2017	QTSE Sample No	262661				

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025	7.3			
Total Cyanide	ug/l	< 5	NONE	< 5			
Free Cyanide	ug/l	< 5	NONE	< 5			
Sulphate as SO ₄	mg/l	< 1	ISO17025	28			
Chloride	mg/l	< 1	ISO17025	52			
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5			
Barium (dissolved)	ug/l	< 5	ISO17025	51			
Beryllium (dissolved)	ug/l	< 3	ISO17025	< 3			
Boron (dissolved)	ug/l	< 5	ISO17025	68			
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4			
Chromium (dissolved)	ug/l	< 5	ISO17025	6			
Copper (dissolved)	ug/l	< 5	ISO17025	< 5			
Lead (dissolved)	ug/l	< 5	ISO17025	< 5			
Mercury (dissolved)	ug/l	< 0.05	ISO17025	< 0.05			
Nickel (dissolved)	ug/l	< 5	ISO17025	< 5			
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5			
Vanadium (dissolved)	ug/l	< 5	ISO17025	< 5			
Zinc (dissolved)	ug/l	< 2	ISO17025	< 2			
Total Phenols (monohydric)	ug/l	< 10	NONE	< 10			

Subcontracted analysis ⁽⁵⁾
Insufficient sample ^{1/5}
Unsuitable Sample ^{4/5}



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Maidstone
Kent ME17 3TN

Water Analysis Certificate - Speciated PAH

QTS Environmental Report No: 17-57526	Date Sampled	07/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon1				
Order No: None Supplied	Depth (m)	1.62				
Reporting Date: 18/04/2017	QTSE Sample No	262661				

Determinand	Unit	RL	Accreditation				
Naphthalene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	< 0.01			
Fluorene	ug/l	< 0.01	NONE	< 0.01			
Phenanthrene	ug/l	< 0.01	NONE	0.02			
Anthracene	ug/l	< 0.01	NONE	< 0.01			
Fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Pyrene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01			
Chrysene	ug/l	< 0.01	NONE	< 0.01			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01			
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008			
Total EPA-16 PAHs	ug/l	< 0.01	NONE	0.02			



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Rose Lane
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Maidstone
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Water Analysis Certificate - TPH CWG Banded

QTS Environmental Report No: 17-57526	Date Sampled	07/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon1				
Order No: None Supplied	Depth (m)	1.62				
Reporting Date: 18/04/2017	QTSE Sample No	262661				

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	ug/l	< 10	NONE	< 10			
Aliphatic >C6 - C8	ug/l	< 10	NONE	< 10			
Aliphatic >C8 - C10	ug/l	< 10	NONE	< 10			
Aliphatic >C10 - C12	ug/l	< 10	NONE	< 10			
Aliphatic >C12 - C16	ug/l	< 10	NONE	< 10			
Aliphatic >C16 - C21	ug/l	< 10	NONE	< 10			
Aliphatic >C21 - C34	ug/l	< 10	NONE	< 10			
Aliphatic (C5 - C34)	ug/l	< 70	NONE	< 70			
Aromatic >C5 - C7	ug/l	< 10	NONE	< 10			
Aromatic >C7 - C8	ug/l	< 10	NONE	< 10			
Aromatic >C8 - C10	ug/l	< 10	NONE	< 10			
Aromatic >C10 - C12	ug/l	< 10	NONE	< 10			
Aromatic >C12 - C16	ug/l	< 10	NONE	< 10			
Aromatic >C16 - C21	ug/l	< 10	NONE	< 10			
Aromatic >C21 - C35	ug/l	< 10	NONE	< 10			
Aromatic (C5 - C35)	ug/l	< 70	NONE	< 70			
Total >C5 - C35	ug/l	< 140	NONE	< 140			



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Rose Lane
Lenham Heath
Maidstone



Water Analysis Certificate - BTEX / MTBE

QTS Environmental Report No: 17-57526	Date Sampled	07/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon1				
Order No: None Supplied	Depth (m)	1.62				
Reporting Date: 18/04/2017	QTSE Sample No	262661				

Determinand	Unit	RL	Accreditation				
Benzene	ug/l	< 1	ISO17025	< 1			
Toluene	ug/l	< 5	ISO17025	< 5			
Ethylbenzene	ug/l	< 5	ISO17025	< 5			
p & m-xylene	ug/l	< 10	ISO17025	< 10			
o-xylene	ug/l	< 5	ISO17025	< 5			
MTBE	ug/l	< 10	ISO17025	< 10			



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Rose Lane
Lenham Heath
Maidstone
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Water Analysis Certificate - Volatile Organic Compounds (VOC)

QTS Environmental Report No: 17-57526	Date Sampled	07/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon1				
Order No: None Supplied	Depth (m)	1.62				
Reporting Date: 18/04/2017	QTSE Sample No	262661				

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/l	< 5	ISO17025	< 5			
Vinyl Chloride	ug/l	< 5	ISO17025	< 5			
Chloromethane	ug/l	< 5	ISO17025	< 5			
Chloroethane	ug/l	< 5	ISO17025	< 5			
Bromomethane	ug/l	< 5	ISO17025	< 5			
Trichlorofluoromethane	ug/l	< 5	ISO17025	< 5			
1,1-Dichloroethene	ug/l	< 5	ISO17025	< 5			
MTBE	ug/l	< 10	ISO17025	< 10			
trans-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5			
1,1-Dichloroethane	ug/l	< 5	ISO17025	< 5			
cis-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5			
2,2-Dichloropropane	ug/l	< 5	ISO17025	< 5			
Chloroform	ug/l	< 5	ISO17025	< 5			
Bromochloromethane	ug/l	< 10	ISO17025	< 10			
1,1,1-Trichloroethane	ug/l	< 5	ISO17025	< 5			
1,1-Dichloropropene	ug/l	< 5	ISO17025	< 5			
Carbon Tetrachloride	ug/l	< 5	ISO17025	< 5			
1,2-Dichloroethane	ug/l	< 10	ISO17025	< 10			
Benzene	ug/l	< 1	ISO17025	< 1			
1,2-Dichloropropane	ug/l	< 5	ISO17025	< 5			
Trichloroethene	ug/l	< 5	ISO17025	< 5			
Bromodichloromethane	ug/l	< 5	ISO17025	< 5			
Dibromomethane	ug/l	< 5	ISO17025	< 5			
TAME	ug/l	< 5	ISO17025	< 5			
cis-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5			
Toluene	ug/l	< 5	ISO17025	< 5			
trans-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5			
1,1,2-Trichloroethane	ug/l	< 10	ISO17025	< 10			
1,3-Dichloropropane	ug/l	< 5	ISO17025	< 5			
Tetrachloroethene	ug/l	< 5	ISO17025	< 5			
Dibromochloromethane	ug/l	< 5	ISO17025	< 5			
1,2-Dibromoethane	ug/l	< 5	ISO17025	< 5			
Chlorobenzene	ug/l	< 5	ISO17025	< 5			
1,1,1,2-Tetrachloroethane	ug/l	< 5	ISO17025	< 5			
Ethyl Benzene	ug/l	< 5	ISO17025	< 5			
m,p-Xylene	ug/l	< 10	ISO17025	< 10			
o-Xylene	ug/l	< 5	ISO17025	< 5			
Styrene	ug/l	< 5	ISO17025	< 5			
Bromoform	ug/l	< 10	ISO17025	< 10			
Isopropylbenzene	ug/l	< 5	ISO17025	< 5			
1,1,2,2-Tetrachloroethane	ug/l	< 10	ISO17025	< 10			
1,2,3-Trichloropropane	ug/l	< 5	ISO17025	< 5			
n-Propylbenzene	ug/l	< 5	ISO17025	< 5			
Bromobenzene	ug/l	< 5	ISO17025	< 5			
2-Chlorotoluene	ug/l	< 5	ISO17025	< 5			
1,3,5-Trimethylbenzene	ug/l	< 5	ISO17025	< 5			
4-Chlorotoluene	ug/l	< 5	ISO17025	< 5			
tert-Butylbenzene	ug/l	< 5	ISO17025	< 5			
1,2,4-Trimethylbenzene	ug/l	< 5	ISO17025	< 5			
sec-Butylbenzene	ug/l	< 5	ISO17025	< 5			
p-Isopropyltoluene	ug/l	< 5	ISO17025	< 5			
1,3-Dichlorobenzene	ug/l	< 5	ISO17025	< 5			
1,4-Dichlorobenzene	ug/l	< 5	ISO17025	< 5			
n-Butylbenzene	ug/l	< 5	ISO17025	< 5			
1,2-Dichlorobenzene	ug/l	< 5	ISO17025	< 5			
1,2-Dibromo-3-chloropropane	ug/l	< 10	ISO17025	< 10			
Hexachlorobutadiene	ug/l	< 5	ISO17025	< 5			



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Lenham Heath
Maidstone
Kent ME17 2JN

T

Water Analysis Certificate - Semi Volatile Organic Compounds (SVOC)

QTS Environmental Report No: 17-57526	Date Sampled	07/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon1				
Order No: None Supplied	Depth (m)	1.62				
Reporting Date: 18/04/2017	QTSE Sample No	262661				

Determinand	Unit	RL	Accreditation				
Phenol	ug/l	< 0.1	NONE	< 0.1			
1,2,4-Trichlorobenzene	ug/l	< 0.1	NONE	< 0.1			
2-Nitrophenol	ug/l	< 0.1	NONE	< 0.1			
Nitrobenzene	ug/l	< 0.1	NONE	< 0.1			
0-Cresol	ug/l	< 0.1	NONE	< 0.1			
bis(2-chloroethoxy)methane	ug/l	< 0.1	NONE	< 0.1			
bis(2-chloroethyl)ether	ug/l	< 0.1	NONE	< 0.1			
2,4-Dichlorophenol	ug/l	< 0.1	NONE	< 0.1			
2-Chlorophenol	ug/l	< 0.1	NONE	< 0.1			
1,3-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1			
1,4-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1			
1,2-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1			
2,4-Dimethylphenol	ug/l	< 0.1	NONE	< 0.1			
Isophorone	ug/l	< 0.1	NONE	< 0.1			
Hexachloroethane	ug/l	< 0.1	NONE	< 0.1			
p-Cresol	ug/l	< 0.1	NONE	< 0.1			
2,4,6-Trichlorophenol	ug/l	< 0.1	NONE	< 0.1			
2,4,5-Trichlorophenol	ug/l	< 0.1	NONE	< 0.1			
2-Nitroaniline	ug/l	< 0.1	NONE	< 0.1			
4-Chloro-3-methylphenol	ug/l	< 0.1	NONE	< 0.1			
2-Methylnaphthalene	ug/l	< 0.1	NONE	< 0.1			
Hexachlorocyclopentadiene	ug/l	< 0.1	NONE	< 0.1			
Hexachlorobutadiene	ug/l	< 0.1	NONE	< 0.1			
2,6-Dinitrotoluene	ug/l	< 0.1	NONE	< 0.1			
Dimethyl phthalate	ug/l	< 0.1	NONE	< 0.1			
2-Chloronaphthalene	ug/l	< 0.1	NONE	< 0.1			
4-Chloroaniline	ug/l	< 0.1	NONE	< 0.1			
4-Nitrophenol	ug/l	< 0.1	NONE	< 0.1			
4-Chlorophenyl phenyl ether	ug/l	< 0.1	NONE	< 0.1			
3-Nitroaniline	ug/l	< 0.1	NONE	< 0.1			
4-Nitroaniline	ug/l	< 0.1	NONE	< 0.1			
4-Bromophenyl phenyl ether	ug/l	< 0.1	NONE	< 0.1			
Hexachlorobenzene	ug/l	< 0.1	NONE	< 0.1			
2,4-Dinitrotoluene	ug/l	< 0.1	NONE	< 0.1			
Diethyl phthalate	ug/l	< 0.1	NONE	< 0.1			
Dibenzofuran	ug/l	< 0.1	NONE	< 0.1			
Azobenzene	ug/l	< 0.1	NONE	< 0.1			
Dibutyl phthalate	ug/l	< 0.1	NONE	< 0.1			
Carbazole	ug/l	< 0.1	NONE	< 0.1			
bis(2-ethylhexyl)phthalate	ug/l	< 0.1	NONE	< 0.1			
Benzyl butyl phthalate	ug/l	< 0.1	NONE	< 0.1			
Di-n-octyl phthalate	ug/l	< 0.1	NONE	< 0.1			



QTS Environmental Ltd
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Rose Lane
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Maidstone
Kent ME17 2JN



Soil Analysis Certificate - Methodology & Miscellaneous Information

QTS Environmental Report No: 17-57526

Your Environment

Site Reference: Progress Garage

Project / Job Ref: YE2996

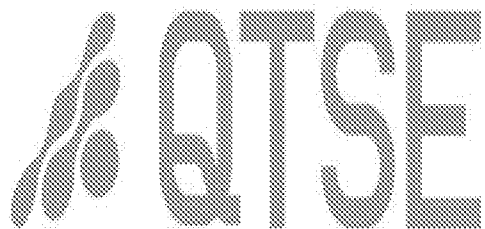
Order No: None Supplied

Reporting Date: 18/04/2017

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	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 liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



Tristan Le Butt
Your Environment
Chilgrove Business Centre
Chilgrove Park Road
Chilgrove
Chichester
West Sussex
PO18 9HU

QTS Environmental Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN



QTS Environmental Report No: 17-58047

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Sample Receipt Date: 24/04/2017

Sample Scheduled Date: 24/04/2017

Report Issue Number: 2

Reporting Date: 04/05/2017

Authorised by:



Kevin Old
Associate Director of Laboratory

Authorised by:



Russell Jarvis
Associate Director of Client Services

QTSE is the trading name of DETS Ltd, company registration number 03705645



QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Water Analysis Certificate						
QTS Environmental Report No: 17-58047	Date Sampled	21/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon2				
Order No: None Supplied	Depth (m)	1.78				
Reporting Date: 04/05/2017	QTSE Sample No	264633				

Determinand	Unit	RL	Accreditation	(hs)			
pH	pH Units	N/a	ISO17025	7.5			
Electrical Conductivity	uS/cm	< 5	NONE	754			
Total Cyanide	ug/l	< 5	NONE	< 5			
Sulphate as SO ₄	mg/l	< 1	ISO17025	25			
Total Organic Carbon (TOC)	mg/l	< 0.1	NONE	2.5			
Hardness - Total	mgCaCO ₃ /l	< 1	NONE	296			
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5			
Barium (dissolved)	ug/l	< 5	ISO17025	50			
Beryllium (dissolved)	ug/l	< 3	ISO17025	< 3			
Boron (dissolved)	ug/l	< 5	ISO17025	54			
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4			
Chromium (dissolved)	ug/l	< 5	ISO17025	8			
Copper (dissolved)	ug/l	< 5	ISO17025	< 5			
Lead (dissolved)	ug/l	< 5	ISO17025	< 5			
Mercury (dissolved)	ug/l	< 0.05	ISO17025	< 0.05			
Nickel (dissolved)	ug/l	< 5	ISO17025	< 5			
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5			
Vanadium (dissolved)	ug/l	< 5	ISO17025	< 5			
Zinc (dissolved)	ug/l	< 2	ISO17025	< 2			
Total Phenols (monohydric)	ug/l	< 10	NONE	< 10			

Subcontracted analysis ^(S)
Insufficient sample ^{I/S}
Unsuitable Sample ^{U/S}
(hs) Please note deviating sample due to head space in container



QTS Environmental Ltd
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 Rose Lane
 Lenham Heath
 Maidstone
 Kent ME17 2JN



Water Analysis Certificate - Speciated PAH						
QTS Environmental Report No: 17-58047	Date Sampled	21/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon2				
Order No: None Supplied	Depth (m)	1.78				
Reporting Date: 04/05/2017	QTSE Sample No	264633				

Determinand	Unit	RL	Accreditation	(hs)				
Naphthalene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthene	ug/l	< 0.01	NONE	< 0.01				
Fluorene	ug/l	< 0.01	NONE	< 0.01				
Phenanthrene	ug/l	< 0.01	NONE	0.02				
Anthracene	ug/l	< 0.01	NONE	< 0.01				
Fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Pyrene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01				
Chrysene	ug/l	< 0.01	NONE	< 0.01				
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01				
Benzo(ghi)perylene	ug/l	< 0.008	NONE	< 0.008				
Total EPA-16 PAHs	ug/l	< 0.01	NONE	0.02				



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 Rose Lane
 Lenham Heath
 Maidstone
 Kent ME17 2JN



Water Analysis Certificate - TPH CWG Banded						
QTS Environmental Report No: 17-58047	Date Sampled	21/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon2				
Order No: None Supplied	Depth (m)	1.78				
Reporting Date: 04/05/2017	QTSE Sample No	264633				

Determinand	Unit	RL	Accreditation	(hs)				
Aliphatic >C5 - C6	ug/l	< 10	NONE	< 10				
Aliphatic >C6 - C8	ug/l	< 10	NONE	< 10				
Aliphatic >C8 - C10	ug/l	< 10	NONE	< 10				
Aliphatic >C10 - C12	ug/l	< 10	NONE	< 10				
Aliphatic >C12 - C16	ug/l	< 10	NONE	< 10				
Aliphatic >C16 - C21	ug/l	< 10	NONE	< 10				
Aliphatic >C21 - C34	ug/l	< 10	NONE	< 10				
Aliphatic (C5 - C34)	ug/l	< 70	NONE	< 70				
Aromatic >C5 - C7	ug/l	< 10	NONE	< 10				
Aromatic >C7 - C8	ug/l	< 10	NONE	< 10				
Aromatic >C8 - C10	ug/l	< 10	NONE	< 10				
Aromatic >C10 - C12	ug/l	< 10	NONE	< 10				
Aromatic >C12 - C16	ug/l	< 10	NONE	< 10				
Aromatic >C16 - C21	ug/l	< 10	NONE	< 10				
Aromatic >C21 - C35	ug/l	< 10	NONE	< 10				
Aromatic (C5 - C35)	ug/l	< 70	NONE	< 70				
Total >C5 - C35	ug/l	< 140	NONE	< 140				

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - BTEX / MTBE						
QTS Environmental Report No: 17-58047	Date Sampled	21/04/17				
Your Environment	Time Sampled	None Supplied				
Site Reference: Progress Garage	TP / BH No	WS4				
Project / Job Ref: YE2996	Additional Refs	Mon2				
Order No: None Supplied	Depth (m)	1.78				
Reporting Date: 04/05/2017	QTSE Sample No	264633				

Determinand	Unit	RL	Accreditation	(hs)				
Benzene	ug/l	< 1	ISO17025	< 1				
Toluene	ug/l	< 5	ISO17025	< 5				
Ethylbenzene	ug/l	< 5	ISO17025	< 5				
p & m-xylene	ug/l	< 10	ISO17025	< 10				
o-xylene	ug/l	< 5	ISO17025	< 5				
MTBE	ug/l	< 10	ISO17025	< 10				

(hs) Please note deviating sample due to head space in container



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Soil Analysis Certificate - Methodology & Miscellaneous Information

QTS Environmental Report No: 17-58047

Your Environment

Site Reference: Progress Garage

Project / Job Ref: YE2996

Order No: None Supplied

Reporting Date: 04/05/2017

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO ₄)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	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 liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered