Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

36 Brunswick Road Gloucester GL1 1JJ
Tel: 01452 422843
Email: info@wilsonac.co.uk
www.wilsonac.co.uk
Company No. 6133365

Celtic Recycling Limited
Clearwater Road,
Queensway Meadows Industrial Estate
Newport
NP19 4ST

Our ref: TC/3403/2

Purchase Order ref: 24478

11 July 2018

FAO Philip Morris

Dear Phil,

RE: CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT NP19 4ST

Introduction

Celtic Recycling Limited (Newport) provides waste management services to the electricity generation and supply industry. In accordance with the Environmental Permitting (England and Wales) Regulations 2010 (as amended), permitted activities include a single listed activity relating to the disposal of waste oils from the regulated facility, as well as generation of wastes including metals, discarded electrical equipment components and other incidental wastes such as bricks, concrete, batteries and cylinders.

Celtic Recycling Limited (Newport) was issued with their original Environmental Permitting Regulations (EPR) permit 22 October 2010 and currently operates under a varied and consolidated permit issued 19 May 2014 - EPR Permit Number EPR/YP3135TE/V004.

It is understood that a condition of the permit variation requires the periodic monitoring of groundwater quality beneath the site at least once every five years. A ground investigation was therefore requested, the primary objective of which was to install and collect groundwater from piezometer wells for an appropriate suite of contamination testing to compare to the baseline report. The results been presented within this factual letter report for onward submission to Natural Resources Wales for their assessment.

This factual report has been prepared in accordance with quotation reference Q3403/2/Rev1, dated 11 May 2018 with written instruction received on 15 May 2018 under Purchase Order No. PO 24478 from Philip Morris.

Background Setting

Centred on National Grid Reference 334610-185900 the Celtic Recycling site is located immediately west of Clearwater Road within the Queensway Meadows Industrial Estate some 4km southeast of Newport city centre, as shown on drawing 3403/2/1.

Geological mapping sheet ST 38 NW and online indicates the site to be underlain by bedrock of the Mercia Mudstone Group (MMG) beneath superficial Tidal Flat Deposits (TFD). Previous investigation by this Practice in March 2011 (reported under WA report ref 3403) recorded up to 1.6m thickness of surface topsoil and made ground over 10-10.8m thickness of mostly soft clay representing the TFD. Below superficial soils MMG was encountered as stiff clay that graded into mudstone with increasing depth. All CPT's recorded pore water pressure to increase with depth throughout the TFD.

Online sources confirm the MMG as a 'Secondary B' aquifer but cannot provide data for the overlying TFD. Given the recorded thickness of the TFD and the site's proximity to the River Usk (1675m SW) and the Severn Estuary (3500m S) the TFD is almost a certainly a water-bearing stratum.

Site Investigation

The Phase 2 intrusive investigation took place on 11-13 June 2018 by borehole drilling. The locations of all exploratory hole positions were selected by this Practice to be positioned around the perimeter of the site in a diamond formation with due regard to access limitations imposed by above ground existing structures, ongoing site activities and both above and below ground recorded services. Positions were subsequently marked out on site (again by this Practice) using both on and off-site reference points, and these are indicated on drawing 3403/2/2. Service plans were made available prior to the works and reasonable additional precautions were taken prior to breaking ground including lifting inspection covers and deployment of a CAT electrical scanner. In light of the knowledge that a layer of buried slag (locally fused) was present near surface all inspection pits were therefore by necessity excavated by JCB 3CX rather than by manual excavation. Whilst no services were physically encountered during the works, a fragment of yellow warning tape was identified during excavation of the inspection pit for borehole CP01 suggesting a buried gas pipe and this position was subsequently moved 5.0m to the north as a precaution.

Four cable percussion (150mm diameter) boreholes (CP01-04) were each drilled to 10.0m depth using a Dando 2000 drilling rig. Representative samples of the extracted disturbed arisings were taken by the drillers for later logging on-site at surface by a suitably qualified engineer from this Practice in accordance with Eurocode 7 (BS EN ISO 14688-1:2002 and 14688-2:2004) and the respective logs are presented in Appendix 2 together with photographic confirmation of the core arisings.

Upon completion of drilling, all boreholes were installed with a piezometer standpipe with a response zone of between 2.0m and 10.0m depth (entirely within the TFD).

Discussion on Ground Conditions

Ground conditions appear to be commensurate with both geological mapping and previous intrusive findings. Beneath a mantle of surface topsoil and/or made ground all boreholes encountered undisturbed clay, silt and peat representing the recorded superficial Tidal Flat Deposit. All boreholes terminated within the superficial TFD. A summary of the observed strata is presented in Table 1 and groundwater monitoring data is presented in Table 2 below.

TABLE 1: SUMMARY OF OBSERVED STRATA

Stratum	Base Depth (m)	Notes
TOPSOIL: probable loose/soft, brown, organic, slightly clayey, fine to medium SAND / sandy CLAY with many roots from overlying grass	0.2	Encountered in all boreholes except CP02
SURFACE MADE GROUND: probable loose, black and grey, coarse GRAVEL to COBBLES of tarmac and fine to coarse GRAVEL of limestone *(Damaged hardstand and sub-base)*	0.4	Encountered in borehole CP02 only
MADE GROUND: highly variable deposit in terms of both composition, thicknesses and depth - see specific logs for details – recovered as gravelly SAND / gravelly CLAY / GRAVEL and in boreholes CP01 and CP04 the foregoing was also underlain by probable dense, light greyish-blue, fine to coarse angular GRAVEL of slag.	0.6 – 1.4	Encountered in all boreholes except CP02
CLAY: probable firm, mottled light brown and grey, plastic CLAY. Typically becoming grey/dull grey below 4.0-4.2m depth *(Tidal Flat Deposit)*	4.5 – 4.9	Encountered in all boreholes
PEAT: variable deposit – mostly recovered as firm, dark brown, fibrous/pseudo-fibrous PEAT (CP02-4) but locally as plastic, black, probable amorphous/gyttja PEAT (CP01 only) *(Tidal Flat Deposit)*	6.7 – 7.9	Encountered in all boreholes
CLAY/SILT: probable very soft, grey, very wet, plastic CLAY/SILT *(Tidal Flat Deposit)*	>10.0	Encountered to terminal depth in all boreholes
Perched/Groundwater	**CP01** - 7.6m seepage / 7.4m standing **CP02** - 1.2m slight seepage / drillers log does not record any strikes but all samples of TFD taken from below peat layer were noted to be saturated **CP03** - drillers log does not record any strikes but all samples of TFD taken from below peat layer were noted to be saturated **CP04** - drillers log does not record any strikes but all samples of TFD taken from below peat layer were noted to be saturated	

TABLE 2: GROUNDWATER MONITORING RESULTS

Date	Borehole No.	Existing Ground Level (Circa. m)	Groundwater Level (m)	
			Depth	Level
11-13 June 2018	CP01	7	7.4	0
	CP02		dry	-
	CP03		dry	-
	CP04		dry	-
14 June 2018	CP01		1.45	5.55
	CP02		1.0	6.0
	CP03		2.9	4.1
	CP04		2.0	5.0

Somewhat surprisingly given the nature of the deeper soil saturated samples all boreholes were recorded by drillers as remaining mostly dry during drilling, however by 14 June '18 water was recorded standing in all boreholes at depths of between 1.0m and 2.9m and this is considered to be groundwater. As always the groundwater table is of course subject to seasonal fluctuation according to prevailing weather and likely also tidal conditions, and the situation encountered and described above could potentially change in the future, especially in a period of seemingly ever-apparent but unpredictable climate change.

Laboratory Testing – Contamination

The potential risk to groundwater resources was determined by sampling the groundwater accumulated in each of the four boreholes. To avoid the risk of cross-contamination each borehole was sampled using a separate brand-new plastic baler tube. Samples were sent to UKAS accredited Concept Life Sciences Laboratories in Manchester where analysis comprised the following:

- Toxic and phytotoxic metals
- pH
- Speciated polyaromatic hydrocarbons (PAH)
- Total petroleum hydrocarbons (TPH) (Banded C6-C35)
- Speciated phenols
- Polychlorinated biphenyls (PCB) (EC7 compounds only)

The certified laboratory test results are presented in Appendix 1 and for convenience these have also been summarised to facilitate comparison against relevant assessment criteria. This is a factual report and no interpretation of results has been undertaken at this time.

I trust that this suitably addresses your requirements, however please do not hesitate to contact me should you require anything further. This report is subject to our standard terms and conditions.

Yours sincerely,

TIMOTHY D COE BSc (Hons) MSc FGS
SENIOR GEOLOGIST
for
WILSON ASSOCIATES (CONSULTING) LIMITED

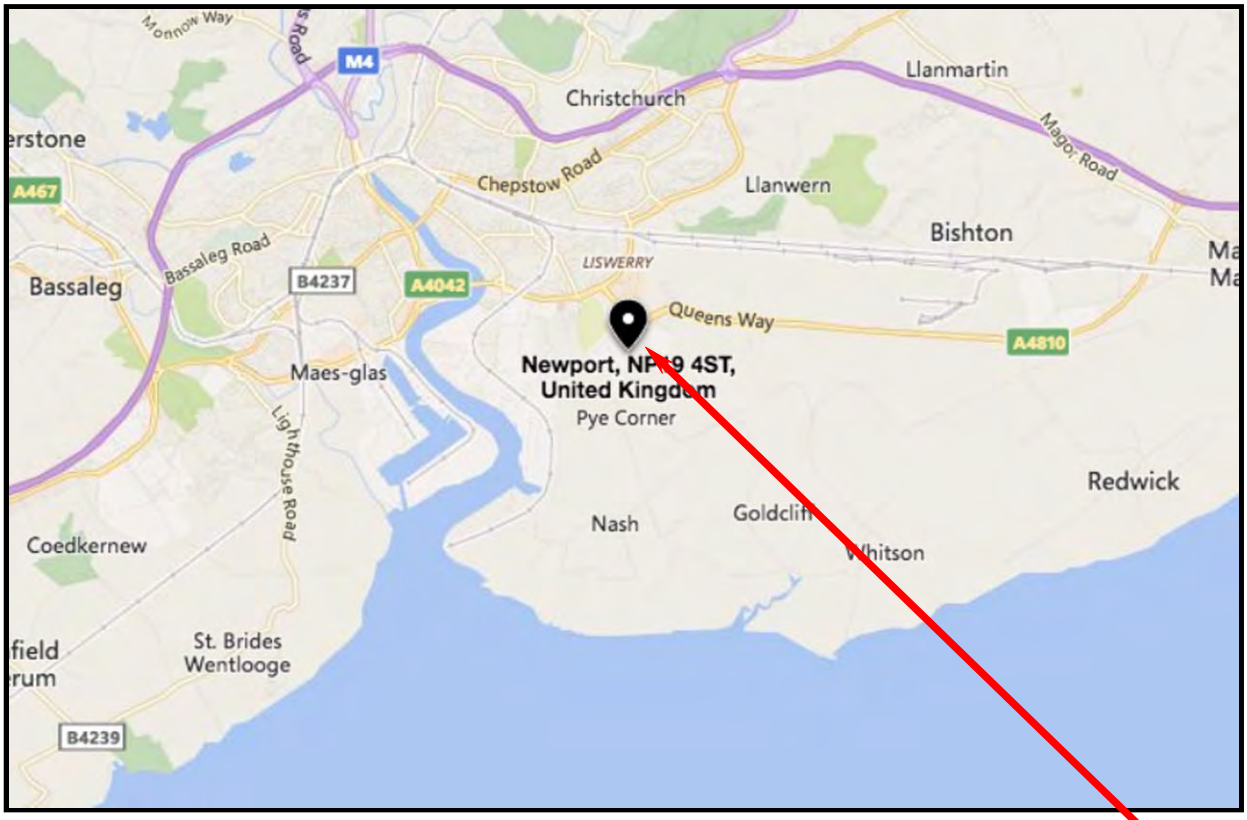
Encl.

CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

SITE LOCATION (based on Microsoft Bing & Google Mapping)

Job No.	Drawing No.	Scale:	Date:
3403/2	3403/2/1	NTS	04-07-18



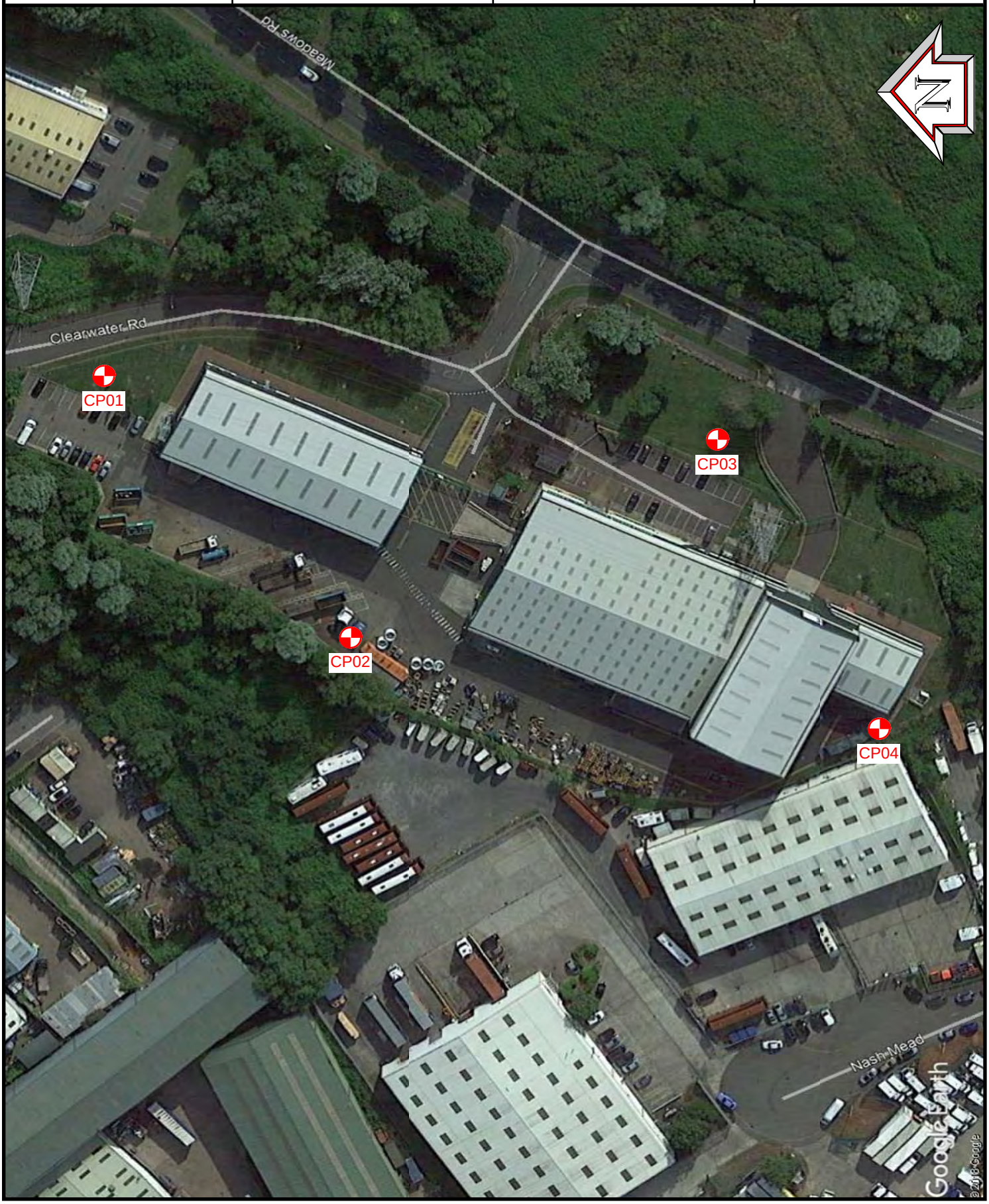
THE SITE

CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

EXISTING SITE LAYOUT (based on Google Earth Aerial Mapping Image, dated 2016) SHOWING INVESTIGATION LOCATIONS

Job No.	Drawing No.	Scale:	Date:
3403/2	3403/2/2	NTS	03-07-18



APPENDIX 1

CONTAMINATION
STATUTORY FRAMEWORK / METHODOLOGY
AND
CERTIFIED CONTAMINATION TEST RESULTS

A1 CONTAMINATION RISK ASSESSMENT

Statutory Framework

A1.1 Part 2A of the Environmental Protection Act 1990 (inserted by Section 57 of the Environment Act 1995) provides a regime for the control of specific threats to health or the environment from existing land contamination. In accordance with the Act and the statutory guidance document on the Contaminated Land (England) Regulations 2000, the definition of contaminated land is intended to embody the concept of risk assessment. Within the meaning of the Act, land is only 'contaminated land' where it appears to the regulatory authority, by reason of substances within or under the land, that:

- Significant harm is being caused or there is significant possibility of such harm being caused; or
- Pollution of controlled waters is being, or is likely to be, caused.

A1.2 In 2012 revised Statutory Guidance for Part 2A of the Environmental Protection Act (1990) came into force for England and Wales. This introduced a new four category approach for classifying land affected by contamination to assist decisions by regulators in cases of Significant Possibility of Significant Harm (SPOSH) to specified receptors, including humans, and significant pollution of controlled waters.

Category 1 describes land which is clearly problematic e.g. because similar sites are known to have caused a significant problem in the past. The legal definition is where "there is an unacceptably high probability, supported by robust science-based evidence, that significant harm would occur if no action is taken to stop it".

Categories 2 and 3 cover land where detailed consideration is needed before deciding whether it may be contaminated land. Category 2 is defined as land where "there is a strong case for considering that the risks from the land are of sufficient concern that the land poses a significant possibility of significant harm". Category 3 is defined as land where there is not the strong case described in the test for Category 2, and may include "land where the risks are not low, but nonetheless the authority considers that regulatory intervention under Part 2A is not warranted". The decision basis is initially related to human health risks, and if this is not conclusive due to uncertainty over risks, wider socio-economic factors (e.g. cost, local perception etc).

Category 4 describes land that is clearly not contaminated land, where there is no risk or the level or risk posed is low.

This same 4 category system has also been introduced to assist in identifying whether there is a significant possibility of significant pollution of controlled waters. Part 2A states that normal levels of contaminants in soil should not be considered to cause land to qualify as contaminated land, unless there is a particular reason to consider otherwise.

Following publication of the revised Statutory Guidance, DEFRA commissioned a research project to develop new Category 4 Screening Levels (C4SLs) to provide a simplified test for regulators to aid decision-making on when land was suitable for use and definitely not contaminated land under the statutory regime. The output from this research project was published by CL:AIRE in December 2013, with Policy Companion Documents published in England by DEFRA in March 2014 and the Welsh Government in May 2014. The culmination of this work was the development of a framework and methodology for deriving C4SLs and the publication of final C4SLs for use as new screening values for six common contaminants.

Further research by LQM on behalf of CIEH lead to the publication in 2015 of the Suitable for Use Levels known as S4ULs, and these are now widely adopted as a robust and authoritative source of guidance (see A1.14 below).

Once land has been determined as contaminated land, the enforcing authority must consider how it should be remediated and, where appropriate, it must issue a remediation notice to require such remediation. The enforcing authority for the purposes of remediation may be the local authority which determined the land, or the Environment Agency which takes on responsibility once land has been determined if the land is deemed to be a “special site”. The rules on what land is to be regarded as special sites, and various rules on the issuing of remediation notices, are set out in the Contaminated Land (England) Regulations 2006

A1.3 The UK guidance on the assessment of land contamination has developed as a direct result of the introduction of the above two Acts. The technical guidance supporting the new legislation has been summarised in a number of key documents collectively known as the Contaminated Land Reports (CLRs), a proposed series of twelve documents. Seven were originally published in March 1994, four more were published in April 2002, while the last remaining guidance document (CLR 11 was

published in 2004. In 2008 CLR reports 7 to 10 were withdrawn by the Department of Environment Food & Rural Affairs and the Environment Agency and updated versions of CLR 9 and 10 were produced in the form of Science Reports SR2 and SR3.

A1.4 The guidance defines 'risk' as the combination of:

- The probability, or frequency, of occurrence of a defined hazard (e.g. exposure of a property to a substance with the potential to cause harm); and
- The magnitude (including the seriousness) of the consequences.

A1.5 For a risk of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- A source, i.e. a substance that is capable of causing pollution or harm;
- A pathway, i.e. a route by which the contaminant can reach the receptor; and
- A receptor (or target), i.e. something which could be adversely affected by the contaminant.

A1.6 If any one of these elements is missing there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

A1.7 The presence of contamination is also a material issue in the determination of planning applications, and where a change of use is proposed, especially on brownfield (former industrial) land, investigation, assessment and remediation of contamination is often a requirement of the Planning Authority. The presence of contamination may consequently require remedial action prior to redevelopment, in circumstances which would otherwise be unlikely to result in the determination of the land as contaminated land as defined in the above legislation.

Contamination Assessment Methodology

A1.8 The guidance proposes a four-stage assessment process for identifying potential pollutant linkages on a site. These stages are set out in the table below:

No.	Process	Description
1	Hazard Identification	Establishing contaminant sources, pathways and receptors (the preliminary conceptual site model).
2	Hazard Assessment	Analysing the potential for unacceptable risks (what linkages could be present, what could be the effects).
3	Risk Estimation	Trying to establish the magnitude and probability of the possible consequences (what degree of harm might result and to what receptors, and how likely is it).
4	Risk Evaluation	Deciding whether the risk is unacceptable.

A1.9 Stages 1 and 2 develop a *'preliminary conceptual model'* based upon information collated from desk studies and usually a site walkover inspection. The formation of a conceptual site model is an iterative process, and it should be updated and refined throughout each stage of the project to reflect any additional information obtained.

A1.10 The information gleaned from the desk studies and associated enquiries is presented in a desk study report with recommendations, if necessary, for further work based upon the preliminary conceptual site model. CLR 8, together with specific DoE 'Industry Profiles' provides guidance on the nature of contaminants relating to specific industrial processes. Whilst it is acknowledged that CLR 8 has been withdrawn no replacement guidance has yet been published that lists the contaminants likely to be present on contaminated sites, thus CLR 8 guidance is still considered relevant.

A1.11 If the preliminary conceptual model identifies potential pollutant linkages, a Phase 2 site investigation is normally recommended, unless appropriate mitigation measures can be incorporated into the proposed development sufficient to negate the identified risks, subject to local planning authority approval. The number of exploratory holes and samples collected for analysis should be consistent with the size of the site and the level of risk envisaged. This will enable a contamination risk assessment to be conducted, at which point the preliminary conceptual model can be updated and relevant pollutant linkages identified.

Preliminary Risk Assessment

A1.12 By considering the various potential sources, pathways and receptors, a preliminary assessment of potential risk is made based upon the likelihood of the occurrence and the severity of the potential consequence, the latter being a function of the

sensitivity of the receptor. At Phase 1 desk study stage the qualitative risk assessment is based on the categories tabulated below.

Category	Definition
Severe	Acute risks to human health, catastrophic damage to buildings/property, major pollution to controlled waters
Moderate	Chronic risk to human health, pollution of sensitive controlled waters, significant effects on sensitive ecosystems or species, significant damage to buildings or structures
Mild	Pollution of non-sensitive waters, minor damage to buildings or structures
Minor	Requirement for protective equipment during site works to mitigate health effects, damage to non-sensitive ecosystems or species

A1.13 The likelihood of an event (probability) takes into account both the presence of the hazard and receptor and viability of the pathway, and is based on the categories tabulated below.

Category	Definition
Highly likely	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term
Possible	Pollution linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable

A1.14 On this basis potential hazards are assigned a risk rating as shown below.

		Consequence			
		Severe	*Moderate*	*Mild*	*Minor*
Probability (Likelihood)	**Highly likely**	very high	high	moderate	low
	Likely	high	moderate	low/moderate	low
	Possible	moderate	low/moderate	low	very low
	Unlikely	low/moderate	low	very low	very low

A1.15 At Phase 2 stage, quantitative assessment of human health risk posed by ground contamination is achieved by comparison of soil concentrations with Tier 1 Category Four Screening Levels (C4SL) published by DEFRA (2014), and/or Suitable for Use Levels (S4UL) as published by LQM/CIEH (2015). The official Soil Guideline Values utilise a soil organic matter content of 6% which is considered to be higher than typical UK soils, however three sets of S4UL's have been developed for organic matter contents of 1%, 2.5% and 6%, thus the most appropriate set is selected based upon proven site conditions.

A1.16 Contaminant concentrations below the threshold screening values are considered not to warrant further risk assessment. Concentrations of contaminants above these screening values require further consideration of potential pollutant linkages and may indicate potentially unacceptable risks to site users. Such exceedances may trigger a Tier 2 detailed quantitative risk assessment (DQRA) where site-specific parameters are used to derive site specific assessment criteria (SSAC), usually by using the CLEA Model (V1.06 at time of writing). It should be noted that exceedance of a screening value does not necessarily indicate that the site requires remediation.

A1.17 In order to assess any risk to controlled waters posed by contaminants within the underlying soils and groundwater, laboratory results have been screened against Level 1 Environmental Quality Standard (EQS) values derived from the Water Framework Directive (Standards & Classification) Directions (England & Wales) 2015 and the current UK Drinking Water Supply (Water Quality) Regulations (DWS), dependent upon the most vulnerable receptor. The EQS is usually an upper concentration set for the receiving watercourse and not the discharge itself. The DWS is established for compliance at the point of use or abstraction and not the source area.

SUMMARY OF CONTAMINATION TESTING RESULTS

Sample Ref	Sample Depth	Sample of	WATER																						
				TOXIC METALS (µg/l)							PHYTOTOXIC METALS (µg/l)		POLYCHLORINATED BIPHENYL (PCB EC7) (µg/l)							PHENOLS (speciated) (µg/l)			TOTAL PETROLEUM HYDROCARBONS (BANDED) (mg/l)					
			pH	Arsenic	Cadmium	Chromium	Lead	Mercury	Selenium	Nickel	Copper	Zinc	PCB BZ#28	PCB BZ#52	PCB BZ#101	PCB BZ#118	PCB BZ#153	PCB BZ#138	PCB BZ#180	Phenol	Cresols	Xylenols	C6 - C8	C8 - C10	C10 - C12	C12 - C16	C16 - 21	C21 - C35
CP01	1.45	Water	7.58	3.1	0.02	<1	0.7	<0.05	7.2	4	1.2	30	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.8	0.7	<0.5	<0.010	<0.010	(13,100) <0.10	(13) 0.15	(13) 0.30	(13) 0.48
CP02	1.0	Water	7.28	8.4	0.11	<1	0.7	<0.05	6.4	6	6.1	20	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.9	<0.5	<0.5	<0.010	<0.010	(100,13) <0.10	(100,13) <0.10	(13) 0.20	(13) 0.42
CP03	2.9	Water	7.35	3.3	(9) <0.2	<1	(9) <3.0	(9) <0.5	<0.5	8	1.0	29	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<0.5	<0.010	<0.010	(100,13) <0.10	(13) 0.12	(13) 0.55	(13) 1.1
CP04	2.0	Water	7.56	5	0.04	<1	0.3	<0.05	24	9	2.3	36	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<0.5	<0.010	<0.010	(13,100) <0.10	(13,100) <0.10	(13) 0.12	(13) 0.16
WFD "Water Framework Directive Standards & Classification (England & Wales)" 2015 *(Groundwater)*				7.5	3.75	37.5	7.5	0.75	75	15	1500																	
WFD "Water Framework Directive Standards & Classification (England & Wales)" 2015 *(Fresh Surface Water)*				50	0.08	3.4	1.2	0.07		<1	1	12.3								4.08 - 14.9								
EA EQS "River Basin Districts Typology, Standards & Groundwater Threshold Values (Water Framework Directive) (England & Wales) Directions 2010"				50	0.08-0.25	4.7	7.2	0.07		20	1-28	8-125																
UK Drinking Water Standards "The Water Supply (Water Quality) Regulations 2000"				10	5	50	25	1	10	20	2000	5000										30		0.3	0.3	0.3		
WHO TPHCWG in drinking water																												

SUMMARY OF POLYAROMATIC HYDROCARBON (PAH) TESTING RESULTS

Sample Ref	Sample Depth (m)	Sample of	WATER (µg/l)															
			TOTAL PAH	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b)Fluoranthene	Benzo(k)Fluoranthene	Benzo(a)Pyrene	Dibenzo(ah)Anthracene	Indeno(1,2,3)perylene	Benzo(ghi)Perylene
CP01	1.45	Water	2.7	(13) 2.0	(13) 0.04	(13) 0.35	(13) 0.14	(13) 0.08	(13) 0.03	(13) <0.01	(13) 0.01	(13) 0.01	(13) 0.01	(13) 0.01	(13) <0.01	(13) 0.01	(13) <0.01	(13) <0.01	(13) <0.01
CP02	1.0	Water	0.23	(13) <0.01	(13) 0.01	(13) 0.03	(13) 0.02	(13) 0.03	(13) 0.01	(13) 0.02	(13) 0.02	(13) 0.02	(13) 0.02	(13) 0.01	(13) 0.01	(13) 0.01	(13) <0.01	(13) 0.01	(13) 0.01
CP03	2.9	Water	0.03	(13) <0.01	(13) 0.01	(13) 0.01	(13) <0.01	(13) <0.01	(13) <0.01	(13) <0.01	(13) <0.01	(13) <0.01	(13) 0.01	(13) <0.01	(13) <0.01	(13) <0.01	(13) <0.01	(13) <0.01	(13) <0.01
CP04	2.0	Water	0.19	(13) <0.01	(13) 0.01	(13) 0.01	(13) <0.01	(13) 0.03	(13) 0.01	(13) 0.02	(13) 0.02	(13) 0.02	(13) 0.02	(13) 0.02	(13) <0.01	(13) 0.01	(13) <0.01	(13) 0.01	(13) 0.01
WFD "Water Framework Directive Standards & Classification (England & Wales)" 2015 (Groundwater)				0.075						0.075									
WFD "Water Framework Directive Standards & Classification (England & Wales)" 2015 (Fresh Surface Water)				1.03 - 4.24					0.052 - 0.193	0.0033 - 0.0122				0.016 - 0.058		0.000089- 0.000328			
EA EQS "River Basin Districts Typology, Standards & Groundwater Threshold Values (Water Framework Directive) (England & Wales) Directions 2010"				2.4										0.03	0.03	0.05	Sum of = 0.002		
UK Drinking Water Standards "The Water Supply (Water Quality) Regulations 2000"				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.01	0.1	0.1	0.1

(9) = LOD raised due to dilution of sample

(13) = Results have been blank corrected

(100) = LOD determined by sample aliquot used for analysis

CONCEPT LIFE SCIENCES
DELIVERING SCIENCE

Concept Life Sciences is a trading name of Concept Life Sciences Analytical & Development Services Limited registered in England and Wales (No 2514788)

Concept Life Sciences

Certificate of Analysis

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 745163-1

Date of Report: 27-Jun-2018

Customer: Wilson Associates (Consulting) Limited
36 Brunswick Road
Gloucester
GL1 1JJ

Customer Contact: Mr Tim Coe

Customer Job Reference: 3403/2
Customer Purchase Order: 3403/2/TC
Customer Site Reference: Newport
Date Job Received at Concept: 18-Jun-2018
Date Analysis Started: 18-Jun-2018
Date Analysis Completed: 27-Jun-2018

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

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

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with Concept Life Sciences SOPs

All results have been reviewed in accordance with Section 25 of the Concept Life Sciences, Analytical Services Quality Manual

UKAS TESTING
1549

Report checked
and authorised by :
Aneta Dybek-Echtermeyer
Customer Service Advisor

Issued by :
Aneta Dybek-Echtermeyer
Customer Service Advisor

Concept Reference: 745163
Project Site: Newport
Customer Reference: 3403/2

Water Analysed as Water
Miscellaneous

				Concept Reference	**745163 001**	**745163 002**	**745163 003**	**745163 004**
				Customer Sample Reference	**BHCP01**	**BHCP02**	**BHCP03**	**BHCP04**
				Depth	**1.45**	**1.00**	**2.90**	**2.00**
				Date Sampled	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**
				Sample Received (ml)	**3000**	**3000**	**3000**	**3000**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**				
pH	T7	AR			**7.58**	**7.28**	**7.35**	**7.56**

Concept Reference: 745163
Project Site: Newport
Customer Reference: 3403/2

Water Analysed as Water
Heavy Metals(9)

				Concept Reference	**745163 001**	**745163 002**	**745163 003**	**745163 004**
				Customer Sample Reference	**BHCP01**	**BHCP02**	**BHCP03**	**BHCP04**
				Depth	**1.45**	**1.00**	**2.90**	**2.00**
				Date Sampled	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**
				Sample Received (ml)	**3000**	**3000**	**3000**	**3000**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**				
As (Dissolved)	T281	F	0.2	µg/l	**3.1**	**8.4**	**3.3**	**5.0**
Cd (Dissolved)	T281	F	0.02	µg/l	**0.02**	**0.11**	(9) <0.20	**0.04**
Cr (Dissolved)	T281	F	1	µg/l	<1	<1	<1	<1
Cu (Dissolved)	T281	F	0.5	µg/l	**1.2**	**6.1**	**1.0**	**2.3**
Pb (Dissolved)	T281	F	0.3	µg/l	**0.7**	**0.7**	(9) <3.0	**0.3**
Hg (Dissolved)	T281	F	0.05	µg/l	<0.05	<0.05	(9) <0.50	<0.05
Ni (Dissolved)	T281	F	1	µg/l	**4**	**6**	**8**	**9**
Se (Dissolved)	T281	F	0.5	µg/l	**7.2**	**6.4**	<0.5	**24**
Zn (Dissolved)	T281	F	2	µg/l	**30**	**20**	**29**	**36**

Concept Reference: 745163
Project Site: Newport
Customer Reference: 3403/2

Water Analysed as Water
PCB EC7

				Concept Reference	**745163 001**	**745163 002**	**745163 003**	**745163 004**
				Customer Sample Reference	**BHCP01**	**BHCP02**	**BHCP03**	**BHCP04**
				Depth	**1.45**	**1.00**	**2.90**	**2.00**
				Date Sampled	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**
				Sample Received (ml)	**3000**	**3000**	**3000**	**3000**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**				
PCB BZ#28	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005
PCB BZ#52	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005
PCB BZ#101	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005
PCB BZ#118	T16	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005
PCB BZ#153	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005
PCB BZ#138	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005
PCB BZ#180	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005

Concept Reference: 745163
Project Site: Newport
Customer Reference: 3403/2

Water Analysed as Water
Phenols (Speciated)

Concept Reference	**745163 001**	**745163 002**	**745163 003**	**745163 004**
Customer Sample Reference	**BHCP01**	**BHCP02**	**BHCP03**	**BHCP04**
Depth	**1.45**	**1.00**	**2.90**	**2.00**
Date Sampled	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**
Sample Received (ml)	**3000**	**3000**	**3000**	**3000**

Determinand	Method	Test Sample	LOD	Units				
Phenol	T1	AR	0.5	µg/l	**1.8**	**0.9**	<0.5	<0.5
Cresols	T16	AR	0.5	µg/l	**0.7**	<0.5	<0.5	<0.5
Xylenols	T16	AR	0.5	µg/l	<0.5	<0.5	<0.5	<0.5

Concept Reference: 745163
Project Site: Newport
Customer Reference: 3403/2

Water Analysed as Water
PAH US EPA 16 (B and K split)

Concept Reference	**745163 001**	**745163 002**	**745163 003**	**745163 004**
Customer Sample Reference	**BHCP01**	**BHCP02**	**BHCP03**	**BHCP04**
Depth	**1.45**	**1.00**	**2.90**	**2.00**
Date Sampled	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**
Sample Received (ml)	**3000**	**3000**	**3000**	**3000**

Determinand	Method	Test Sample	LOD	Units				
Naphthalene	T149	AR	0.01	µg/l	**(13) 2.0**	(13) <0.01	(13) <0.01	(13) <0.01
Acenaphthylene	T149	AR	0.01	µg/l	**(13) 0.04**	**(13) 0.01**	**(13) 0.01**	**(13) 0.01**
Acenaphthene	T149	AR	0.01	µg/l	**(13) 0.35**	**(13) 0.03**	**(13) 0.01**	**(13) 0.01**
Fluorene	T149	AR	0.01	µg/l	**(13) 0.14**	**(13) 0.02**	(13) <0.01	(13) <0.01
Phenanthrene	T149	AR	0.01	µg/l	**(13) 0.08**	**(13) 0.03**	(13) <0.01	**(13) 0.03**
Anthracene	T149	AR	0.01	µg/l	**(13) 0.03**	**(13) 0.01**	(13) <0.01	**(13) 0.01**
Fluoranthene	T149	AR	0.01	µg/l	(13) <0.01	**(13) 0.02**	(13) <0.01	**(13) 0.02**
Pyrene	T149	AR	0.01	µg/l	**(13) 0.01**	**(13) 0.02**	(13) <0.01	**(13) 0.02**
Benzo(a)Anthracene	T149	AR	0.01	µg/l	**(13) 0.01**	**(13) 0.02**	(13) <0.01	**(13) 0.02**
Chrysene	T149	AR	0.01	µg/l	**(13) 0.01**	**(13) 0.02**	**(13) 0.01**	**(13) 0.02**
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	**(13) 0.01**	**(13) 0.01**	(13) <0.01	**(13) 0.02**
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	(13) <0.01	**(13) 0.01**	(13) <0.01	(13) <0.01
Benzo(a)Pyrene	T149	AR	0.01	µg/l	**(13) 0.01**	**(13) 0.01**	(13) <0.01	**(13) 0.01**
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	(13) <0.01	**(13) 0.01**	(13) <0.01	**(13) 0.01**
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	(13) <0.01	(13) <0.01	(13) <0.01	(13) <0.01
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	(13) <0.01	**(13) 0.01**	(13) <0.01	**(13) 0.01**
PAH(total)	T149	AR	0.01	µg/l	**2.7**	**0.23**	**0.03**	**0.19**

Concept Reference: 745163
Project Site: Newport
Customer Reference: 3403/2

Water Analysed as Water
Total Petroleum Hydrocarbons (C6-C35) (MCR) Banded

Concept Reference	**745163 001**	**745163 002**	**745163 003**	**745163 004**
Customer Sample Reference	**BHCP01**	**BHCP02**	**BHCP03**	**BHCP04**
Depth	**1.45**	**1.00**	**2.90**	**2.00**
Date Sampled	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**	**14-JUN-2018**
Sample Received (ml)	**3000**	**3000**	**3000**	**3000**

Determinand	Method	Test Sample	LOD	Units				
TPH (C10-C12) DW	T81	AR	0.01	mg/l	(13,100) <0.10	(100,13) <0.10	(100,13) <0.10	(13,100) <0.10
TPH (C12-C16) DW	T81	AR	0.01	mg/l	**(13) 0.15**	(100,13) <0.10	**(13) 0.12**	(13,100) <0.10
TPH (C16-C21) DW	T81	AR	0.01	mg/l	**(13) 0.30**	**(13) 0.20**	**(13) 0.55**	**(13) 0.12**
TPH (C21-C35) DW	T81	AR	0.01	mg/l	**(13) 0.48**	**(13) 0.42**	**(13) 1.1**	**(13) 0.16**
TPH (C6-C8)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10) DW	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010

Index to symbols used in 745163-1

Value	Description
F	Filtered
AR	As Received
13	Results have been blank corrected.
9	LOD raised due to dilution of sample
100	LOD determined by sample aliquot used for analysis
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T16	GC/MS
T1	GC/MS (HR)
T215	GC/MS (Headspace)(LV)
T7	Probe
T281	ICP/MS (Filtered)
T81	GC/FID (LV)
T149	GC/MS (SIR)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	Concept References
As (Dissolved)	T281	F	0.2	µg/l	U	001-004
Cd (Dissolved)	T281	F	0.02	µg/l	U	001-004
Cr (Dissolved)	T281	F	1	µg/l	U	001-004
Cu (Dissolved)	T281	F	0.5	µg/l	U	001-004
Pb (Dissolved)	T281	F	0.3	µg/l	U	001-004
Hg (Dissolved)	T281	F	0.05	µg/l	U	001-004
Ni (Dissolved)	T281	F	1	µg/l	U	001-004
Se (Dissolved)	T281	F	0.5	µg/l	U	001-004
Zn (Dissolved)	T281	F	2	µg/l	U	001-004
Naphthalene	T149	AR	0.01	µg/l	U	001-004
Acenaphthylene	T149	AR	0.01	µg/l	U	001-004
Acenaphthene	T149	AR	0.01	µg/l	U	001-004
Fluorene	T149	AR	0.01	µg/l	U	001-004
Phenanthrene	T149	AR	0.01	µg/l	U	001-004
Anthracene	T149	AR	0.01	µg/l	U	001-004
Fluoranthene	T149	AR	0.01	µg/l	U	001-004
Pyrene	T149	AR	0.01	µg/l	U	001-004
Benzo(a)Anthracene	T149	AR	0.01	µg/l	U	001-004
Chrysene	T149	AR	0.01	µg/l	U	001-004
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	U	001-004
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	U	001-004
Benzo(a)Pyrene	T149	AR	0.01	µg/l	U	001-004
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	U	001-004
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	U	001-004
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	U	001-004
PAH(total)	T149	AR	0.01	µg/l	U	001-004
TPH (C10-C12) DW	T81	AR	0.01	mg/l	U	001-004
TPH (C12-C16) DW	T81	AR	0.01	mg/l	U	001-004
TPH (C16-C21) DW	T81	AR	0.01	mg/l	U	001-004
TPH (C21-C35) DW	T81	AR	0.01	mg/l	U	001-004
TPH (C6-C8)	T215	AR	0.010	mg/l	N	001-004
TPH (C8-C10) DW	T215	AR	0.010	mg/l	N	001-004
pH	T7	AR			U	001-004
Phenol	T1	AR	0.5	µg/l	U	001-004
Cresols	T16	AR	0.5	µg/l	U	001-004
Xylenols	T16	AR	0.5	µg/l	U	001-004
PCB BZ#28	T1	AR	0.005	µg/l	U	001-004
PCB BZ#52	T1	AR	0.005	µg/l	U	001-004
PCB BZ#101	T1	AR	0.005	µg/l	U	001-004
PCB BZ#118	T16	AR	0.005	µg/l	U	001-004
PCB BZ#153	T1	AR	0.005	µg/l	U	001-004
PCB BZ#138	T1	AR	0.005	µg/l	U	001-004
PCB BZ#180	T1	AR	0.005	µg/l	U	001-004

APPENDIX 2

BOREHOLE LOGS
(INCLUDING PHOTOGRAPHS)

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

KEY TO BOREHOLE LOG SYMBOLS

Symbol	Explanation
D or J	Small Disturbed Sample (tub or jar sample)
B	Large Disturbed Sample
U	Undisturbed Sample
W	Water Sample
U70	Undisturbed Sample

Undrained Shear Strength Test (HSV)

90	Hand vane - direct reading in kN/m^2

Standard Penetration Test (SPT)

15	SPT 'N' Value (BS EN ISO 22476-3:2005)
125/50	Where full test drive not completed, penetration (125mm) and blow count (50) recorded
NR	No effective penetration

Water

	Water struck
	Water standing

Test/Core Range

TCR	Total Core Recovery - as percentage of core run. Where value significantly exceeds 100%, a note is given on remarks on log
SCR	Solid Core Recovery - as percentage of core run. Note: assessment of solid core is based on full diameter
RQD	Rock Quality Designation - the amount of solid core greater than 100mm expressed as percentage of core run
	Where SPT has been carried out at beginning of core run, disturbed section of core excluded from SCR and RQD assessment

Instrumentation

	Bentonite Seal
	Solid / Perforated Standpipe
	Granular Response Zone

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				CP01
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	11-06-18	7.00	E 334,656 N 185,980	
Contractor				Sheet
Samson Drilling Limited				1 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
						0.20	TOPSOIL: probable loose, brown, organic, slightly clayey, fine to medium SAND with many roots from overlying grass		
						(1.00)	MADE GROUND: probable dense, brown, gravelly SAND		
						1.20			
						1.40	MADE GROUND: probable dense, light greyish blue, fine to coarse, angular GRAVEL of slag		
1.45	W						CLAY: probable firm, mottled light brown and grey, plastic CLAY		
1.60-1.80	D								
2.00-2.20	D						2.00 - becoming grey		
						(3.10)		TFD	
3.00-3.20	D						3.00 - becoming probable soft		
						4.50			
4.50-4.70	D						PEAT: plastic, black, probable amorphous/gyttja PEAT		
5.50-5.70	D					(2.20)		TFD	
6.50-6.70	D					6.70			
							CLAY: probable very soft, grey, very wet, plastic CLAY/SILT		
			1					TFD	
7.50-7.70	D								

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
	150										Borehole position scanned using Cable Avoidance Tool (CAT); no services detected TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				**CP01**
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	11-06-18	7.00	E 334,656 N 185,980	
Contractor				Sheet
Samson Drilling Limited				2 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
8.50-8.70	D					(3.30)	CLAY: probable very soft, grey, very wet, plastic CLAY/SILT *(continued)*	TFD	
9.80-10.00	D					10.00	Borehole terminated at 10.0m depth; fitted with lockable cover at surface Mechanically excavated inspection pit to 1.6m depth		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
	150										Borehole position scanned using Cable Avoidance Tool (CAT); no services detected TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

BOREHOLE PHOTOGRAPHS

Project CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	**Borehole No.** **CP01**
Job No. 3403/2 **Date:** 11-06-18	

Borehole inspection pit

Borehole inspection pit arisings

Client	**Method/Plant Used**	**Logged By**
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

BOREHOLE PHOTOGRAPHS

Project	Borehole No.
CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	CP01
Job No. 3403/2 **Date:** 11-06-18	

Borehole Samples 1.6 - 1.8m & 2.0 - 2.2m

Borehole Samples 3.0 - 3.2m & 4.5 - 4.7m

Borehole Samples 5.5 - 5.7m & 6.5 - 6.7m

Borehole Samples 7.5 - 7.7m & 8.5 - 8.7m

Borehole Samples 9.8 - 10.0m

Client	Method/Plant Used	Logged By
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				**CP02**
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	12-06-18	7.00	E 334,586 N 185,925	
Contractor				Sheet
Samson Drilling Limited				1 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
						(0.40) 0.40	MADE GROUND: probable loose, black and grey, coarse GRAVEL to COBBLES of tarmac and fine to coarse GRAVEL of limestone		
1.00-1.30	D						CLAY: probable soft, mottled light brown and grey, locally silty, plastic CLAY		
1.00	W						1.20 - slight seepage		
2.00-2.30	D					(4.30)		TFD	
3.00-3.30	D								
4.00-4.30	D						4.00 - becoming dull grey		
						4.70			
5.00-5.30	D						PEAT: firm, dark brown, fibrous PEAT		
						(2.20)		TFD	
6.00-6.30	D								
						6.90			
7.00-7.30	D						CLAY/SILT: probable very soft, light grey, very wet, plastic CLAY/SILT	TFD	

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
	150										Borehole position scanned using Cable Avoidance Tool (CAT); no services detected TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				**CP02**
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	12-06-18	7.00	E 334,586 N 185,925	
Contractor				Sheet
Samson Drilling Limited				2 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
8.00-8.30	D						CLAY/SILT: probable very soft, light grey, very wet, plastic CLAY/SILT *(continued)*		
						(3.10)		TFD	
9.00-9.30	D								
9.80-10.00	D					10.00			
							Borehole terminated at 10.0m depth; fitted with lockable cover at surface Mechanically excavated inspection pit to 1.2m depth		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
	150										Borehole position scanned using Cable Avoidance Tool (CAT); no services detected TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

BOREHOLE PHOTOGRAPHS

Project CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	**Borehole No.** **CP02**
Job No. 3403/2 **Date:** 12-06-18	

Borehole inspection pit

Borehole inspection pit arisings

Client	**Method/Plant Used**	**Logged By**
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

BOREHOLE PHOTOGRAPHS

Project	Borehole No.
CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	CP02
Job No. 3403/2 **Date:** 12-06-18	

Borehole Samples 1.0 - 1.5, 2.0 - 2.3 & 3.0 - 3.3m

Borehole Samples 4.0 - 4.3, 5.0 - 5.3 & 6.0 - 6.3m

Borehole Samples 7.0 - 7.3 & 8.0 - 8.3m

Borehole Samples 9.0 - 9.3 & 9.8 - 10.0m

Client	Method/Plant Used	Logged By
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				CP03
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	13-06-18	7.00	E 334,641 N 185,839	
Contractor				Sheet
Samson Drilling Limited				1 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
						0.20	TOPSOIL: probable soft, brown, organic, sandy, plastic CLAY with many roots from overlying grass		
						(0.40) 0.60	MADE GROUND: probable soft, brown, slightly gravelly CLAY		
1.20-1.60	D						CLAY: probable soft, mottled light brown and grey, plastic CLAY		
2.20-2.40	D					(3.90)		TFD	
2.90	W								
3.40-3.60	D								
4.20-4.40	D					4.50	4.20 - becoming grey		
5.00-5.30	D						PEAT: firm, dark brown, fibrous/pseudo-fibrous PEAT		
6.00-6.30	D					(2.80)		TFD	
7.00-7.30	D					7.30			
							CLAY/SILT: probable very soft, dull grey, very wet plastic CLAY/SILT	TFD	

Boring Progress and Water Observations						Chiselling			Water Added	
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To

GENERAL REMARKS

Borehole position scanned using Cable Avoidance Tool (CAT); no services detected

TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				**CP03**
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	13-06-18	7.00	E 334,641 N 185,839	
Contractor				Sheet
Samson Drilling Limited				2 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
8.00-8.30	D						CLAY/SILT: probable very soft, dull grey, very wet plastic CLAY/SILT *(continued)*		
						(2.70)		TFD	
9.00-9.30	D								
9.80-10.00	D					10.00			
							Borehole terminated at 10.0m depth; fitted with lockable cover at surface Mechanically excavated inspection pit to 1.2m depth		

Boring Progress and Water Observations					
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Borehole position scanned using Cable Avoidance Tool (CAT); no services detected

TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

BOREHOLE PHOTOGRAPHS

Project CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	**Borehole No.** **CP03**
Job No. 3403/2 **Date:** 13-06-18	

Borehole inspection pit

Borehole inspection pit arisings

Client	**Method/Plant Used**	**Logged By**
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

BOREHOLE PHOTOGRAPHS

Project	Borehole No.
CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	**CP03**
Job No. 3403/2 **Date:** 13-06-18	

Borehole Samples 1.2 - 1.6, 2.2 - 2.8 & 3.0 - 3.6m

Borehole Samples 4.2 - 4.4, 5.0 - 5.5 & 6.0 - 6.3m

Borehole Samples 7.0 - 7.3 & 8.0 - 8.3m

Borehole Samples 9.0 - 9.3 & 10.0 - 10.3m

Client	Method/Plant Used	Logged By
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				**CP04**
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	13-06-18	7.00	E 334,561 N 185,805	
Contractor				Sheet
Samson Drilling Limited				1 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
						0.20	TOPSOIL: probable loose, brown, dry, organic, slightly clayey, fine to medium SAND with many roots from overlying grass		
						(0.60)	MADE GROUND: probable loose, dull reddish brown, medium GRAVEL of angular limestone		
						0.80			
						(0.60)	MADE GROUND: probable dense, greyish blue, fine to coarse, angular GRAVEL of slag		
1.20-1.50	D					1.40			
							CLAY: probable soft to firm, mottled light brown and grey, plastic CLAY		
2.00	W								
2.20-2.50	D								
						(3.50)		TFD	
3.20-3.50	D								
4.20-4.50	D						4.20 - becoming grey		
						4.90			
							PEAT: firm, dark brown, fibrous PEAT		
5.20-5.50	D								
6.20-6.50	D					(3.00)		TFD	
7.20-7.50	D								
						7.90		TFD	

Boring Progress and Water Observations						Chiselling			Water Added	
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To

GENERAL REMARKS

Borehole position scanned using Cable Avoidance Tool (CAT); no services detected

TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

BOREHOLE LOG

Project				BOREHOLE No
Celtic Recycling Limited, Clearwater Road, Queensway Meadows Industrial Estate, Newport, NP19 4ST				**CP04**
Job No	Date	Ground Level (c.m, AOD)	Co-Ordinates (c.)	
3403/2	13-06-18	7.00	E 334,561 N 185,805	
Contractor				Sheet
Samson Drilling Limited				2 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Undrained Shear Strength	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument/ Backfill
8.20-8.50	D						CLAY/SILT: probable very soft, grey, very wet, plastic CLAY/SILT *(continued)*		
						(2.10)		TFD	
9.20-9.50	D								
9.80-10.00	D					10.00			
							Borehole terminated at 10.0m depth; fitted with lockable cover at surface Mechanically excavated inspection pit to 1.5m depth		

Boring Progress and Water Observations					
Date	Hole Dia. mm	Depth	Casing Depth	Casing Dia. mm	Water Dpt

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Borehole position scanned using Cable Avoidance Tool (CAT); no services detected

TFD = Tidal Flat Deposit

All dimensions in metres Scale 1:50	Client Celtic Recycling Limited	Method/ Plant Used Cable Percussion (Shell & Auger)	Logged By TC

BOREHOLE PHOTOGRAPHS

Project CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	**Borehole No.** **CP04**
Job No. 3403/2 **Date:** 13-06-18	

Borehole inspection pit

Borehole inspection pit arisings

Client	**Method/Plant Used**	**Logged By**
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

BOREHOLE PHOTOGRAPHS

Project CELTIC RECYCLING LIMITED, CLEARWATER ROAD, QUEENSWAY MEADOWS INDUSTRIAL ESTATE, NEWPORT, NP19 4ST	**Borehole No.** **CP04**
Job No. 3403/2 **Date:** 13-06-18	

Borehole Samples 1.2 - 1.5 & 2.2 - 2.5m

Borehole Samples 3.2 - 3.5 & 4.2 - 4.5m

Borehole Samples 5.2 - 5.5, 6.2 - 6.5 & 7.2 - 7.5m

Borehole Samples 1.2 - 1.5 & 2.2 - 2.5m

Client	**Method/Plant Used**	**Logged By**
Celtic Recycling Limited	Cable Percussion (Shell & Auger)	TC

Wilson Associates
Consulting Engineering Geologists & Geo-Environmental Engineers

36 Brunswick Road Gloucester GL1 1JJ
Tel: 01452 422843
Email: info@wilsonac.co.uk
www.wilsonac.co.uk
Company No. 6133365

CONDITIONS OF CONTRACT - CONSULTANCY SERVICES

1 Wilson Associates (Consulting) Limited ("the Consultant") shall carry out the Services, including any proposal, report or other document, as detailed in any relevant correspondence, which forms part of this Agreement, for the Client with reasonable skill, care and diligence. The Consultant shall use reasonable endeavours to adhere to any agreed programme. Each instruction or acceptance of a quotation shall be deemed to be an offer to purchase the services subject to the conditions laid out in this document.

2 An interim invoice will normally be submitted upon completion of the site works, to include all disbursements and fees to date, and for contracts extending over a long period, monthly invoices will be submitted for payment. The final report will not be issued until payment of the first interim invoice has been received, unless agreed with this Practice beforehand. Invoices are not to be assigned to a third party without prior agreement. Should the contract be cancelled after either preparatory or fieldwork has commenced then a claim will be made for work completed to that date.

3 The rates quoted, are net of Value Added Tax (VAT) which will be added to invoices at the standard prevailing rate, and are valid for a period of 12 weeks from the date of the quote. The Consultant shall issue accounts monthly in respect of that part of the Services carried out in the preceding period. The Client shall make payment of accounts without discount or retention within 30 days of submission. Disputes should be raised within 10 days. In the event of non-payment of the account(s) within the specified period the Consultant reserves the right to charge, from time to time, interest on the unpaid amount at the rate of 2% per calendar month above the Bank of England base rate (at time of original invoice date).

4 In the event of non-payment of the account(s), the Client undertakes to pay to the Consultant all costs and expenses, on an indemnity basis, incurred by the Consultant in: (i) the recovery from the Client of money or arrears (ii) the enforcement of any of the provisions of these conditions of contract (iii) the service of any notice relating to the breach by the Client of any of their obligations under this contract whether or not the same shall result in court proceedings (iv) the cost of any bank or other charges incurred by the Consultant if any cheque written by the Client is dishonoured or if any standing order payment is withdrawn by the Client's bankers (v) compensation for the breach of any terms of this agreement.

5 Unless expressly stipulated to the contrary, payment of the account(s) is not dependent upon the Client achieving regulatory approval for or discharge of a planning condition relating to the project, nor is it dependent upon the Client's securing of funding for the development where this may be conditional upon the prior granting of planning or building regulations approval, nor the Client's onward sale of the site to another party. In the case of provision of services to another consultant, payment of our account is not dependent upon the prior settlement of their own account by their Client.

6 No work will commence until an official written order or completed Quote Acceptance form has been received by post or email. Such order will be deemed to constitute acceptance of the quotation and these terms and conditions. Where the instruction to undertake the Services may have been issued by an intermediary on behalf of the Client, full Client details including confirmation of and contact details for the person responsible for authorising payment must be provided to the Consultant. In the event that the Client defaults or otherwise fails to pay the due account, the Consultant reserves the right to pursue and recover any unpaid amount from the instructing intermediary.

7 Neither party shall assign any obligation or benefit under this Agreement without prior written consent of the other Party. The Client shall not be entitled to assign the report(s) or any part of it without our prior written consent. Re-assignment of reports can be provided on request, subject to liaison with our Insurers and standard administration costs. Any assignment shall exclude the Contracts (Rights of Third Parties) Act 1999. Provision of a Collateral Warranty can only be considered if it is agreed at the pre-works stage, and fees for legal advice and warranty provision agreed before the works commence.

8 The Client guarantees that it has the right to have the Services performed and that he has obtained all the necessary certificates, licences, permits and consents required by Statute or any order or regulation made there under or by any regulation or by-law of any authority undertaker. The Client shall indemnify and hold harmless the Consultant from and against all consequences of a failure in this respect. The Client shall arrange such rights of access to property and use of Client's facilities as described in (or reasonably to be inferred from) this Agreement. The Client shall use reasonable endeavours to supply to the Consultant, promptly and free of charge: (a) any other necessary things in accordance with this Agreement; (b) any instructions, decisions, consents and approvals; and (c) any relevant data and information in the Client's possession; all of which the Consultant may reasonably require in order to carry out the Services. The Client will indemnify the Consultant in respect of any failure by the Client under this Clause.

9 In line with the Construction (Design & Management) Regulations 2015 and AGS guidance, neither the Consultant nor any sub-contractor shall be held responsible for any accidental damage or the consequences of any damage to buried services such as cables, pipes, sewers, etc., the positions and nature of which have not been clearly indicated to the Consultant in writing prior to the commencement of the work, unless the locating of same is expressly part of the Services. Where necessary it is assumed that the Client will permit the use of their toilet/welfare facilities by Consultant's staff and sub-contractors, including domestic properties. We will normally undertake the role of Contractor on a ground investigation project, but may occasionally 'inherit' the role of Principal Contractor. In either case that role is restricted to the ground investigation phase ONLY and not the subsequent build.

10 The Consultant shall not be held responsible for any loss, damage or injury arising from actions or omissions of the Client, his agents, servants and/or independent contractors. The Client shall indemnify the Consultant from any such acts or omissions.

11 Each Party shall retain the copyright of its documents. Such documents may only be used by the other Party for the purposes described in or reasonably to be inferred from this Agreement and shall not be used for any other purpose. Information relating to the contract will only be disclosed to those employees who require it to carry out their job. If necessary this may include subcontractors. Any other third party enquiry about the purposes of these works will be referred back to the Client. No Party shall publish such documents or permit publication, including advertisements, without the written consent of the other Party. If required we can arrange a specific Confidentiality Agreement to be prepared. Each Party shall maintain the confidentiality of any documents and other information received from the other Party which appear to be confidential or have been so marked. No Party shall release or disclose such documents or information, or permit release or disclosure, without the written consent of the other Party unless required by law.

12 Copyright And Non-Disclosure Notice - The contents and layout of any report produced by the Consultant are subject to copyright owned by Wilson Associates save to the extent that copyright has been legally assigned by us to another party or is used by Wilson Associates under licence. To the extent that we own the copyright of a particular report, it may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in that report. The methodology (if any) contained in that report is provided to you in confidence and must not be disclosed or copied to third parties without the prior written agreement of Wilson Associates. Disclosure of such a information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Any third party who obtains access to that report by any means will, in any event, be subject to the Third Party Disclaimer set out below.

13 Third Party Disclaimer - Any disclosure of our report(s) to a third party is subject to this disclaimer. Reports are prepared by Wilson Associates at the instruction of, and for use by, our client named on the front of that report. It does not in any way constitute advice to any third party who is able to access it by any means. Wilson Associates excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of that report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability. Legal re-assignment to another party can be arranged - see Clause 7.

14 The Consultant's liability under this Agreement shall be limited to £500,000 (five hundred thousand pounds). The Consultant shall maintain professional indemnity insurance in this amount providing that such insurance cover is available at commercially reasonable rates.

15 To comply with the General Data Protection Regulation (GDPR) 2018, we will only request contact details sufficient to complete our project with you, name/job title, address/postcode/email. Any data collected will be used only by authorised personnel in the context of that project. We are committed to ensuring that your information is secure and in order to prevent unauthorised access or disclosure, we have put in place suitable physical, electronic and managerial procedures to safeguard and secure the information we collect. We will not share your information with third parties.