

Frontier Estates

Ground Investigation

**Land at Cowplain Community School
Hart Plain Avenue
Waterlooville
Hampshire
PO8 8RY**

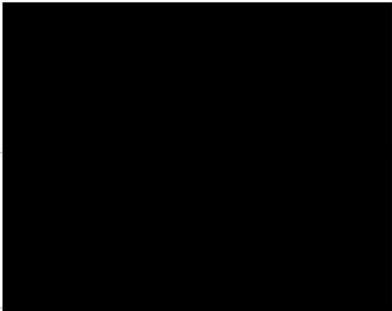
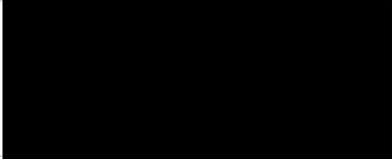
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DOCUMENT RECORD

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Development	New Residential and Adult Care Home Development
Project Address	Land at Cowplain Community School, Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RY
Project Number	21.02.014
Client	Frontier Estates

	<u>Signature</u>	<u>Name and Qualifications</u>
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For and on behalf of ListersGeo, trading name of Listers Geotechnical Consultants Ltd

Issue No	Date	Status
1	8 th April 2021	Draft
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EXECUTIVE SUMMARY

Project Reference	21.02.014
Site Location	Land at Cowplain Community School, Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RY
OS Grid Reference	468480, 110790
Development Proposals	Western site: erection of a care home (within Use Class C2) and Eastern site: erection of 6 dwellings (within Use Class C3) With associated works including access, parking and landscaping
Current Site Usage	Western Site – School playing field Eastern site – Asphaltic-concrete covered tennis courts
Topography	Slopes gently down to the west.
Vegetation	Some semi-mature and mature trees and hedge rows predominantly along the site northern boundary.
Published Geology	Published geological information on the area indicates that the site is directly underlain by Palaeogene Bedrock geology, the London Clay Formation above the Lambeth Group.
Hydrology	The anticipated direction of hydraulic flow is to the west although this is likely to be of very low permeability. The nearest surface watercourse in that approximate direction is a roughly north to south orientated drain located approximately 184m southwest of the site.
Hydrogeology	According to information provided by the EA the site is within a Source Protection Zone 1 (SPZ) but for subsurface activity only, which considered likely to be associated with the chalk aquifer at depth or possible Lambeth Group soils
Site History	The site remained part of a larger agricultural field until around 1953 when it was part of larger school playing field. The eastern part of the site was developed as a tennis court by about 1972.
Unexploded Ordnance	Low
Potential Contamination Sources	Desk Study research has identified Made Ground, minor spillages or leaks of petroleum hydrocarbons from parked vehicles and the vehicle maintenance workshop between the two sites as the main potential contamination sources.
Ground Conditions Encountered	Fill or Topsoil and/or Made Ground overlying Head deposits to depths of between 0.6m and 2.0m overlying the London Clay Formation to depths of between 4.70m and 5.70m overlying the Lambeth Group to the full extent of this investigation at 14.3m depth.
Groundwater Encountered	Groundwater was locally encountered at depths of between 0.40m and 6.5m during the site work. Groundwater monitoring carried out as part of the project has revealed standing groundwater levels within the natural deposits of between 0.68m and 1.51m below the existing ground level.
Risks to Human Health	An elevated concentration of dibenz(a,h)anthracene was locally recorded in the western site however, this does not exceed the SSAC for an adult care home and therefore does not pose a significant risk to human health. No elevated concentrations of contaminants were recorded in the eastern site.
Ground Gas Risks	For this residential development it is considered that no gas protection is necessary with regard to methane or carbon dioxide gas.
Risks to Controlled Waters	Although an elevated concentration of dibenz(a,h)anthracene was recorded within the total soils tests in the western site this was not considered to pose a significant risk to controlled waters.
Remediation Required	No remediation is considered necessary.
Chemical Attack on Buried Concrete	Design Sulphate Class DS-1 ACEC Class AC-2z
Geotechnical Hazards	Low risk of chalk dissolution and/or mining cavities.

Foundations	The London Clay Formation is considered to be a suitable bearing stratum for traditional spread foundations. A minimum foundation depth of 1.0m below existing ground level is recommended, or 0.20m into the top of the formation, whichever is the deeper. However, this will generally result in foundations extending to a depth of about 1.5m and locally to 2.2m depth.			
Allowable Bearing Pressure	The allowable bearing pressure recommended below is made on the assumption of an acceptable total settlement for the proposed structures of 25mm. Should the building design require a significantly different serviceability limit state (tolerance to settlement) then it is recommended that these recommendations be revised accordingly. At the minimum founding depth provided above, an allowable bearing pressure (or net loading intensity increase) of 120kPa may be adopted for conventional 600mm wide strip footings.			
Roads and Hardstanding Design	Head deposits – CBR value of 2.5%			
Infiltration Measures	Traditional soakaways and not considered appropriate at this site due to the predominantly impermeable nature of the underlying clay soils.			
Waste Soil Classification	Waste Stream	EWC Classification	WAC for Landfill Disposal	Comments
	Asphalt-bound or asphalt-coated Fill	Not assessed – see below		-
	Made Ground at HA04 in western site	Non-hazardous	Inert	-
	Made Ground in eastern site	Non-hazardous	Inert	-
	Topsoil	Non-hazardous (<i>organic content</i>)	Non-hazardous	Organic soils
	Head Deposits	Inert	Inert	-
	London Clay	Inert	Inert	-
	Lambeth Group	Inert	Inert	-
Limitations & Recommendations For Further Work	It should be noted that the cable percussive borehole in the western site was terminated at a depth of only 6.10m. Therefore, an additional borehole should be considered in this area of the site to confirm the findings of the borehole undertaken in the eastern site.			

This executive summary should be read in conjunction with the main report.

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GROUND INVESTIGATION REPORT

INTRODUCTION

A Ground Investigation has been undertaken for a proposed new residential adult care home and housing on land at Cowplain Community School, Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RY. A Site Location Plan is provided in Appendix A. The Ordnance Survey National Grid reference for the approximate centre of the site is 468480, 110790.

Instructions to undertake the investigation were received from Fed3 Projects, acting on behalf of the client, Frontier Estates, in their email 15th February 2021.

This report describes the desk study and intrusive site investigation activities carried out by ListersGeo in order to provide an evaluation of the ground conditions and the extent of any soil, gas or groundwater contamination present on the site. The report presents initial human health and groundwater risk assessments based on the findings of the desk study information and subsequent contamination laboratory testing. The contamination risk assessment has been carried out using the source-pathway-receptor risk assessment methodology.

The report also discusses the geotechnical implications with regard to the proposed development based on the findings of the fieldwork and subsequent laboratory testing.

This report has been prepared for the sole use of the client and their professional advisors. This report shall not be relied upon by third parties without the express written authority of ListersGeo. If an unauthorised third-party comes into possession of this report, they must not rely on it and the authors owe them no duty of care and skill.

SCOPE OF THE INVESTIGATION

The scope of the investigation as requested by Fed3 Projects, the client's project managers, was to undertake a desk study and walkover survey, provide an assessment of the geotechnical engineering properties of the ground and the extent of any soil, gas or groundwater contamination on the site. A contaminated land risk assessment was undertaken based on the Contaminated Land Exposure Assessment (CLEA) and Environment Agency (EA) Remedial Targets Methodology (RTM) guidelines.

The investigation also includes a preliminary assessment of the feasibility of adopting a soakaway drainage solution at the site, as well as providing parameters to aid pavement design.

PROPOSALS

It is proposed to develop the western site to accommodate a 2.5-storey adult care home (within Use Class C2), associated communal gardens and car parking. It is proposed to redevelop the eastern site with six two-storey detached houses with associated gardens and car parking. A proposed site layout plan is provided in Appendix A.

SITE INFORMATION AND WALKOVER SURVEY

A walkover survey of the site and its immediate surrounds was undertaken on the 23rd to 25th February 2021, preceding the fieldwork. A selection of site photographs is presented in Appendix A along with a plan showing the existing site layout.

The development sites lie within Cowplain Community School grounds. Access to the sites was afforded via Hart Plain Road to the north of the site.

The development sites consist of two separate sites on the school grounds. The western site comprised a roughly triangular parcel of land measuring approximately 0.52ha and the eastern site comprised a roughly rectangular parcel of land orientated east to west measuring approximately 55m by 35m the eastern site extends to approximately 0.2ha.

The general topography of the area slopes gently down to the west. The site itself also slopes gently down towards the west.

Western Site

The western site is bordered by:

Direction	Feature
North	Hart Plain Avenue with housing beyond
East	Housing including a vehicle repair shop to the rear of the house approximately 15m to the east of the site
South	Cowplain School playing field with AstroTurf and asphalt sports pitches beyond
West	Hart Plain Infant School grounds

The western site is located within the north of a larger school playing field with a long jump sand pit partly located within the southeast of the western site.

A hedge row and semi-mature and mature trees are located along the western site's northern boundary and towards the south of the western site's eastern boundary.

No obvious potential sources of contamination were noted during the site walkover survey on the western site.

Eastern Site

The site eastern site is bordered by:

Direction	Feature
North	Hart Plain Avenue with housing beyond
East	Cowplain school Access road and car parking with school buildings beyond
South	Cowplain School car park with school buildings beyond
West	Housing including a vehicle repair shop to the rear of the house approximately 15m to the east of the site

The eastern site is located within Cowplain School grounds and comprised an asphaltic-concrete covered playground also in use as car parking.

A low level hedgerow was noted along the eastern sites northern boundary.

No obvious potential sources of contamination were noted during the site walkover survey on the eastern site including any obvious surface staining associated with possible leaks or spillages from parked cars.

DESK STUDY AND BACKGROUND INFORMATION

A desk study review of the site and its history has been undertaken to determine the former land use and the potential for any historically derived sources of chemical contamination, as well as provide information to aid our geotechnical assessment.

The information provided in the desk study is obtained from independent third-party sources. We have relied on this information, but no guarantee can be given for the accuracy or completeness of the third-party data used. It should be appreciated that such data is not exhaustive and is constantly being updated and reviewed in light of new information and procedures. Therefore, improved practices, technology and new information may affect our conclusions and hence this report should be referred back to us for reassessment if new data comes to light, or changes in legislation/best practise is identified prior to development. Similarly, should the development commence after expiry of one year from publication of this report, then we recommend this report is referred back to us for reassessment.

A copy of the desk study information obtained from Landmark is presented in Appendix G of this report.

The desk study comprises a review of the following consultations and information sources:

- Environment Agency (EA)
- Natural England
- National Geoscience Information Service
- Public Health England
- Centre for Ecology & Hydrology
- British Geological Survey (BGS)
- Contemporary Trade Directories
- Historical Ordnance Survey maps
- Aerial Imagery
- Unexploded Ordnance (UXO) maps

Information from the above referenced sources has been utilised to develop a conceptual model of the site for use in the geotechnical appraisal and source-pathway-receptor risk assessment.

GEOLOGY

Published Geology

Reference to the British Geological Survey (BGS) 1:50,000 scale map, Sheet 316 (Fareham 1998), and other published geological information on the area indicates that the site is directly underlain by Palaeogene Bedrock geology, the London Clay Formation.

The London Clay Formation is underlain by the Lambeth Group which itself is recorded as surface geology approximately 50m north of the site. The Lambeth Group is expected to up to about 35m in thickness overlying the Portsdown Chalk Member (part of the Upper Chalk)

However, the London Clay Formation is recorded to be overlain by Quaternary Superficial geology, Head deposits approximately 15m south of the site. As the BGS does not map Superficial units of less than 1m thick, it is possible that the Head deposits extend across the site.

Superficial Deposits

The Head deposit are generally represented by poorly sorted and poorly stratified, angular rock debris and/or clayey hillwash and soil creep, mantling a hillslope and deposited by solifluction and gelifluction processes. Solifluction is the slow viscous downslope flow of waterlogged soil and other unsorted and unsaturated superficial deposits. The term gelifluction is restricted to the slow flow of fluidized superficial deposits during the thawing of seasonally frozen ground. The flow is initiated by meltwater from thawing ice lenses. Polymict deposit: comprises gravel, sand and clay depending on upslope source and distance from source. Locally with lenses of silt, clay or peat and organic material. Beneath the site itself, the deposit is anticipated to be absent but may occur up to 1m or so in thickness if present.

Bedrock

The London Clay is generally represented by overconsolidated, fissured, bioturbated or poorly laminated, grey-brown, clay and silty clay, of high plasticity and medium to high volume-change potential, locally with pockets of sand and occasionally with calcretes (see below). Thin beds of black, rounded, flint gravel occur locally at the base of the formation, and at some other levels. The weathered deposit commonly contains crystalline (selenite) or anhydrous forms of gypsum.

The Lambeth Group is described, by the BGS, as, 'vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestones and lignites and occasional sandstone and conglomerate'.

Both the London Clay and the Lambeth Group are known to contain occasional calcretes (calcium-rich concretions that commonly vary between gravel- and cobble-size, but which occasionally cement into thicker and laterally extensive layers).

Historical Boreholes

The BGS holds records of exploratory holes historically put down during previous investigations. The records of two historical boreholes, put down on the western parcel of land, have been reviewed to aid the preliminary assessment of the ground conditions.

Borehole SU61SE44 was drilled in the east of the western parcel of land in 1967 using a shell and auger drilling rig to a depth of 10.66m. This borehole revealed the underlying soils to comprised variable '*clay and sandy clay*' to about 3.0m overlying '*firm grey clay with traces of sand*' referred to on the borehole log as *London Clay* to a depth of about 5.0m overlying '*grey sandy clay and pebbles*' above '*gravel flint and red clay*' to a depth of about 6.0m overlying '*firm grey clay and firm grey red mottled clay*' referred to as '*Reading Beds*'. Groundwater was recorded at 1.5m.

Borehole SU61SE49 was drilled towards the west of the western parcel of land in 1967 using an auger drilling rig to a depth of 6m. This borehole revealed the underlying soils to comprise variable clays and sandy clay to about 3.0m overlying 'soft grey sandy clay' referred to as both 'London Clay' and the 'Reading Beds' in the borehole log. Groundwater was recorded at 1.4m.

HYDROLOGY

The site is on a gentle, west facing hillside. The anticipated direction of hydraulic flow is to the west although this is likely to be of very low permeability. The nearest surface watercourse in that approximate direction is a roughly north to south orientated drain located approximately 184m southwest of the site.

The Environment Agency's Catchment Data Explorer records the Potwell Tributary, to be "heavily modified" and of generally Moderate overall quality between 2013 and (the latest reported period) 2019.

The desk study data indicates that the site lies outside of any surface water flood impact zones. These data do not constitute a site-specific Flood Risk Assessment and we recommend further enquiries to determine if such an assessment would be required to support a development application for the site.

There are no recorded current surface water abstraction licenses located within 1000m of the site.

HYDROGEOLOGY

The groundwater vulnerability and aquifer designation data are based on geological mapping provided by the British Geological Survey.

Groundwater vulnerability is divided, by the EA, into High, Medium and Low ranks (as further detailed in the appended Desk Study Report).

The aquifer designation is initially divided as below:

- **Superficial (Drift)** - permeable unconsolidated (loose) deposits. For example, sands and gravels
- **Bedrock** - solid permeable formations. For example, sandstone, chalk and limestone

And, for each of these, there are sub-classifications as Principal, Secondary A and Secondary B Aquifers and Unproductive Strata, each with a decreasing rank of importance.

The EA records the nearby Head deposits as a Superficial Secondary Aquifer of Medium vulnerability and the London Clay Formation as Unproductive Strata.

There are no recorded current groundwater abstraction licenses located within 1000m of the site.

According to information provided by the EA the site is within a Source Protection Zone 1 (SPZ) but for subsurface activity only, which is considered likely to be associated with the chalk aquifer at depth or potentially the overlying Lambeth Group soils.

An SPZ is a protection zone placed around a well or borehole (or group of such) that supplies groundwater of potable quality and is divided into three sub-zones, defined as follows:

- Zone 1 – Travel time (of water) of 50 days or less to the groundwater source
- Zone 2 – The greater of: 25% of the source area, or a travel time of 400 days
- Zone 3 – The total area needed to support the discharge and abstraction from the source

HISTORY OF THE SITE

The history of the site has been assessed by reviewing available historical Ordnance Survey and National Grid maps and aerial imagery of the area. This has revealed the following:

Time Period	Historical Site Use	Historical Use of the Surrounding Area
1886 to 1881	The site lies in the north of a larger agricultural field.	An east to west orientated road is located along the north of the site. A Brick Field with two small clay pits is shown approximately 390m northeast of the site.
1897		A small sandpit is shown approximately 400m west of the site. Two new small clay pits and a kiln are shown in the area of the previously noted brick pits.
1909 to 1910		A Tramway Depot is shown approximately 315m east of the site.
1932		A school building is shown approximately 70m east of the site. A sewage works is shown approximately 270m west of the site. The previously noted Brick Field and associated clay pits are no longer labelled but the associated excavations appear to have remained. The previously noted sand pit 400m west of the site is no longer shown. Some housing with associated gardens has been developed to the north of the site.
1933	The site is labelled as part of a larger school playing field.	A house has been constructed between the eastern and western parcels of land.
1938 to 1942		A second house has been constructed between the two parcels of land.
1953 to 1966		The school building to the west of the site has been extended to within approximately 30m to the east of the site.
1959 to 1977		Buildings associated with the nearby school are shown approximately 5m south of the site. The previously noted sewage work is now labelled disused.

Time Period	Historical Site Use	Historical Use of the Surrounding Area
1972 to 1974	The eastern part of the site has been developed to comprise tennis courts. A drain is shown along the north of the western site.	Another school building has been constructed approximately 50m west of the site.
1993	No obvious significant changes	
1999 (aerial photograph)	A long jump sandpit is shown a couple of metres to the southeast of the western parcel of land.	No obvious significant changes
2016		Sports pitches are shown approximately 15m south of the western site.
2020	No obvious significant changes	

UNEXPLODED ORDNANCE AND BOMB SITES

A Preliminary Unexploded Ordnance (UXO) Risk Assessment, has been undertaken for the site by MACC International Ltd. The report identifies that the site is within a low risk area of encountering UXO and a copy of the report is provided in Appendix D.

INDUSTRIAL USE SITES

The following table summarises the historical potentially contaminative activities and current industrial land uses that have been identified within 150m from the site:

Distance (m)	Direction	Feature/Activity
11	NE	Garage Services (inactive)
125	NW	Jewellery Manufactures & Repairers (inactive)
139	N	Cleaning Services – Domestic (inactive)

The nearest active fuel filling station is identified as the Esso garage on London Road 836m northeast of the site. An obsolete fuel filling station is recorded 190m west of the site.

ENVIRONMENTAL PERMITS, INCIDENTS AND REGISTERS

There have been no substantiated/recorded pollution incidents to controlled waters/land/air within 250m of the site.

There are no licensed discharge consents within 250m of the site.

There are no Integrated Pollution Control (IPC) Licenses or Integrated Pollution Prevention and Control (IPPC) licenses within 2000m of the site.

WASTE TREATMENT AND LANDFILL SITES

Reference to records indicates that there are no current or historical landfill disposal sites within 1000m of the site.

Reference to records from the BGS, the EA and the Local Authority indicates that there are no waste transfer sites, no waste treatment sites and no waste management facilities within 1000m of the site area.

WORKED OUT GROUND/MADE GROUND

There are two BGS Recorded Mineral Sites within 1000m of the site. The closest was an opencast mine recorded 415m west of the site and the commodity mined is recorded as sand from the Head deposits in that area. The other is an opencast mine recorded 422m northeast of the site and the commodity mined was clay and shale from the Lambeth Group.

Potentially infilled land associated with ponds, rivers or streams is recorded 66m and 68m to the south of the site.

RADON GAS

Desk study information indicates that the site lies within an area where less than 1% of homes exceed the action level of 200Bq/m³ for radon gas. Therefore, in accordance with BR 211, 'Radon: guidance on protective measures for new dwellings', no radon protection measures are necessary in the construction of new dwellings or extensions without underground rooms.

Should a basement be proposed, radon levels may be higher in this underground room and in accordance with BRE Quick Guide 7, Reducing Radon, Underground Rooms – Cellars and Basements, 2015, mitigation measures should be included in the basement design.

GEOTECHNICAL HAZARDS

Geological

The risk of naturally occurring geotechnical hazards at the site is recorded in the Envirocheck report to be as follows:

Ground Stability Hazard	Hazard Potential Rating	Comments
Shrinking and swelling clays	Low	Moderate 51m northwest of the site
Landslides	Very Low	-
Running sand	Very Low	-
Collapsible deposits	Very Low	-
Compressible deposits	No Hazard	-
Ground dissolution from soluble rocks	No Hazard	-

Natural Cavities Database

The desk study information has not identified any naturally formed dissolution features within 1000m from the site.

It should be appreciated that the subsidence from dissolution features hazard rating is based on the statistical relationship of cavity occurrences, adopting database information referenced within the Predicting Natural Cavities in Chalk, 2001 publication. As a result, this rating is not unequivocal and does not take into consideration updated records or the occurrence of new subsidence features that may have occurred.

Dissolution Feature Risk Assessment

The site location was assessed for its susceptibility to dissolution features, using the risk assessment methodology published by Edmonds, 2001, *Predicting natural cavities in chalk*.

The site is located above the feathering margins of the London Clay Formation which in turn overlies the Lambeth Group occurring up to 35m in thickness above the Portland Chalk Member.

The assessment provided a low hazard rating for the site, compared to the no hazard rating provided in the Envirocheck report. This does not mean that there is no risk of the occurrence of dissolution features, however, it appears unlikely. If the client is risk averse to such features, then further detailed investigation should be undertaken, although the benefits may turn out to be minimal.

BACKGROUND SOIL CHEMISTRY

Information from the BGS is provided in the table below listing the background soil chemistry of some commonly occurring heavy metals in the natural soils in the site area:

Heavy Metal	Level in Rural Soil (mg/kg)
Arsenic	<15
Cadmium	<1.8
Chromium	60-90
Lead	<100
Nickel	15-30

These concentrations are all well below the generic assessment criteria (GACs) for a residential site. The adopted screening standards and the BGS estimates are discussed further in the Contamination Risk Assessment section of this report.

POTENTIALLY SENSITIVE LAND USES

The site is not located in close proximity to any environmentally sensitive land uses, however the area is located within a broad nitrate vulnerable zone.

CONCEPTUAL SITE MODEL

A qualitative Preliminary Risk Assessment (PRA) has been undertaken in line with the EA's new online guidance, Land Contamination: Risk Management (LCRM), published in October 2020. The new guidance is based upon the principles of CLR11, Model procedures for the management of land contamination, 2004.

It is understood that the development proposals are for a residential care home with communal gardens in the western parcel of land and houses with private gardens in the eastern parcel of land.

Potential sources of contamination and potential receptors have been assessed using the source-pathway-receptor principle to create a Conceptual Site Model (CSM). This takes into account the fact that a complete pathway must exist between a potential source of contamination and a potential receptor for there to be considered a risk.

POTENTIAL CONTAMINATION SOURCES

Potential Solid-, Liquid- and Vapour-phase Contamination Sources

The results of the desk study and walkover indicate that the following potential sources of soil or groundwater contamination are present at, or in close proximity to, the site:

- Made Ground is likely to be present at the site associated with tennis courts and the nearby school buildings and housing.
- Possible minor petroleum hydrocarbon spills or leaks associated with vehicles parked on the old tennis courts.
- Contamination associated with the former vehicle maintenance workshop between the two site areas.

Potential Ground Gas Contamination Sources

In consideration of the source-pathway-receptor methodology for ground gas risk assessment set out in CIRIA C665, the sensitivity of the residential development is considered to be high (housing) to moderate (care home).

The site is located in an area where the risks from ground gases are considered to be low. We have therefore provisionally assessed the risk of ground gas impacting the site, by reference to the CL:AIRE research bulletin RB17, "A pragmatic approach to ground gas risk assessment" 2012.

The following potential sources have been assessed:

- No credible sources or pathways for landfill gas migration from an off-site landfill have been identified.
- The site has not been a registered landfill.
- Any Made Ground present is not expected to be 5m deep or an average of 3m in thickness.
- The site does not lie on a potential naturally organic soil.
- Radon protection measures are not required for this development unless a basement is proposed.

Therefore, ground gases are not considered likely to affect the site.

RECEPTORS

The following most sensitive receptors have been identified at the site:

Human Health – Long Term Exposure

- End users of the site - the future residents/workers
- Nearby residents

Human Health – Short Term Exposure

- Construction workers (during redevelopment)
- General Public (during redevelopment)
- Maintenance Workers

Controlled Waters and Environment

- Zone 1 Source Protection Zone (subsurface activity only) likely associated with the deep Portdown Chalk Member, or possible overlying Lambeth Group soils

Infrastructure

- Substructures
- Water supply pipes

PATHWAYS

It is considered that a number of potential pathways exist between these potential sources and the above identified receptors. The viability of these pathways is discussed in the preliminary risk assessment.

Human Health

- Direct soil ingestion in areas of exposed soil
- Ingestion of soil attached to homegrown produce (eastern site only)
- Ingestion of homegrown produce with contamination uptake (eastern site only)
- Inhalation of indoor and outdoor vapours and dust
- Dermal contact with contaminated soil

Controlled Waters and Environment

- Migration/leaching of contaminants through the unsaturated zone
- Migration of contaminants through the groundwater
- Movement of contaminants through drains or services runs

Infrastructure

- Leachable or corrosive contaminants within the soil
- Corrosive contaminants within the groundwater

PRELIMINARY RISK ASSESSMENT

Desk Study research has identified Made Ground, minor spillages or leaks of petroleum hydrocarbons from parked vehicles and the vehicle maintenance workshop between the two sites as the main potential contamination sources. Based upon the findings of the Conceptual Site Model (CSM), it is considered possible that soils below the site area itself may be contaminated.

Given the distance to the watercourse and the presence of superficial low permeability strata, it is unlikely that a laterally continuous body of groundwater exists between the site itself and the drain.

The Principal Aquifer within a Zone 1 Source Protection Zone (subsurface activity only) at depths is overlain by the relatively low permeability London Clay Formation.

The desk study has not identified any current or historical landfills sites within 1000m of the site.

As such, it is considered that gas monitoring is not required at this site. However, as we have installed groundwater monitoring standpipes at the site as a precaution these have been monitored for ground gasses twice over a period of four weeks. The results are discussed later in this report.

Based on the desk study research alone, the sources, pathways and receptors listed in the CSM are considered to have the potential to be present as complete pollutant linkages. The geoenvironmental investigation and risk assessment detailed in the remainder of this report have been conducted to validate this CSM.

GEOTECHNICAL CONCEPTUAL SITE MODEL

Anticipated geology suggests that subject to the proposed superstructural loads, shallow foundations are likely to be a suitable option for low rise development formed on the London Clay Formation deposits. However a veneer of potentially compressible Head deposits, may be present and the London Clay Formation soils may be prone to shrinkage and swelling due to seasonal influences, or due to nearby trees/hedgerows, which may necessitate deepened foundations, or piles, at the site.

The London Clay Formation and potential Head deposits are unlikely to be amenable to conventional Sustainable Drainage Systems (SuDS).

With regard to the potential for chalk dissolution features beneath the site, it is considered that the depth to the top of the chalk is great enough that any dissolution features would not propagate to surface or cause any surface ground disturbance or expression.

The intrusive investigation has been implemented to address these main issues and establish any potential problems for foundations and the general development of the site.

EXPLORATION AND TESTING

A total of thirteen exploratory holes were formed at the site between the 23rd and 25th February 2021. These included two cable percussion boreholes, six continuous tube sample boreholes and five hand auger boreholes.

Exploratory Hole Type	Reference
Cable percussion boreholes	BH01 & BH02
Continuous tube sampler boreholes	CT01 to CT06
Hand auger boreholes	HA01 to HA05

The positions of all exploratory holes undertaken at the site as part of this investigation can be seen on the Exploratory Hole Location Plans in Appendix A. The logs are provided in Appendix B and the results of the geotechnical laboratory testing are provided in Appendix C.

Gas and groundwater monitoring was undertaken on two occasions over the first few weeks following the fieldwork. The monitoring results are provided in Appendix B.

Engineering and geoenvironmental conclusions given in this report are based on data obtained from these sources but it should be noted that variations, which affect these conclusions, may inevitably occur between and beyond the test locations. Also, water levels may vary seasonally and with other factors.

SAMPLING STRATEGY

The investigation was undertaken in accordance with the scope of works agreed with Fed3 Projects. The positions of the exploratory holes were selected by ListersGeo to provide a wide coverage of information on the site area.

As the desk study and walkover survey had identified the former vehicle workshop between the two site areas as potential source of contamination several of the exploratory holes (BH02, CT02 and HA04) were targeted along the site boundary adjacent to this potential source. Boreholes HA01, HA02, CT01, CT02 and BH02 were located within the former tennis courts where Made Ground was expected.

The other exploratory holes were positioned to create a semi-regular pattern across the site, in order to provide a spread of information.

It was initially proposed to undertake the drilling of both cable percussive boreholes within the western site where a possible basement may be constructed. However, due to potential rutting and unacceptable mess and disturbance it was agreed with the school that only one cable percussive borehole would be attempted within the western site area.

METHODOLOGY

Health and Safety

Prior to commencement of boring/testing, and in order to minimise the dangers from/to buried services, the proposed locations were scanned using a Cable Avoidance Tool. At the borehole and probe locations, a service avoidance pit was dug, using hand tools, to a depth of around 1.2m below ground level (bgl).

Exploratory Holes

At positions located on existing hardstanding, the surfacing was broken-out using a hand-held electric breaker.

Hand auger boreholes HA01 to HA05, were put down using a Dutch portable hand auger to a maximum depth of 1.12m below existing ground level. The 55mm diameter auger head was rotated and pushed down into the soil by means of a T-handle to obtain selected disturbed soil samples at regular intervals.

Continuous tube sample boreholes CT01 to CT06, were put down using an Archway Competitor Dart rig to a maximum depth of 6.0m. Boreholes were advanced using a plastic lined steel tube sampling system, driven into the ground by a top drive percussive hammer. A near continuous 85mm to 65mm diameter core sample was recovered for subsequent examination, sub-sampling and laboratory testing. Standard Penetration Tests (SPTs) were taken at 1.0m intervals. Measurements of unconfined compressive strength were made in the tube samples in the field using a pocket penetrometer.

Boreholes BH01 and BH02, were drilled utilising a standard cable percussion rig, at a diameter of 150mm, down to depths of 6.1m (BH01) and 14.3m (BH02) below ground level where refusal was met on very stiff sandy silty clay (BH01) and very dense sand (BH02) following two hours of chiselling. Metal casing was extended to a maximum depth of 9.0m, to avoid the collapse of the loose deposits within the upper part of the boreholes seal out groundwater inflows. Disturbed samples were collected at regular intervals throughout the borehole for future laboratory inspection and testing. Standard Penetration Tests (SPTs) and undisturbed tube samples (U100s) were taken at 1.0m intervals down to 10m depth and at 1.5m intervals thereafter.

Borehole BH01 was terminated in very stiff very silty very sandy clay at 6.10m depth following two hours of chiselling. Due to concerns from the school over the disturbance caused by the drilling rig it was not possible to attempt to re-drill this borehole in this area of the site.

Installations

On completion of the boring, boreholes CT01, CT02 and CT04 were utilised for the installation of a 50mm diameter slotted uPVC standpipe from 3.0m depth up to within 1.0m below existing ground level. From 1.0m depth up to ground level a plain pipe was added. The slotted section of the standpipe was surrounded with pea gravel, while expansive bentonite clay was added around the plain pipe. The standpipe was finished with a rubber bung and gas tap and protected with a stopcock cover, which was then concreted flush with ground level.

In-situ Testing

Infiltration testing was undertaken in the standpipes following the principles of BRE Digest 365 'Soakaway Design'.

GROUND CONDITIONS

The intrusive investigation revealed that the general succession of strata was represented by a layer of Fill and/or Made Ground overlying Head above the London Clay Formation overlying the Lambeth Group to the full depth of the investigation at 14.3m. Our Ground Model for the site is as follows

TOPSOIL

Encountered in each borehole undertaken in the western site from ground levels down to depths of between 0.15m and 0.40m with an average thickness of 0.3m. Represented in general by dark brown sandy slightly organic clay with roots.

FILL

Fill was encountered in the eastern site from ground level down to depths of between 0.08m to 0.20m. This was represented by asphaltic-concrete (hardstanding).

MADE GROUND

Encountered in HA01, HA02, CT01, CT02 and BH02 in the eastern site, and locally in HA04 in the western site, from beneath the Fill or locally Topsoil down to depths of between 0.30m and 0.60m. Represented by a variable mixture of brown sandy clayey gravel and very soft brown and grey sandy silty gravelly clay. Gravel is fine to coarse subangular flint and occasional brick and locally asphaltic concrete in HA04.

HEAD

Encountered at each test location from beneath the Made Ground or Topsoil down to depths of between 0.6m and 2.0m. Represented in general by soft to firm and firm orange brown locally mottled grey brown silty sandy clay.

The results of the field strength tests, and other relevant data, are summarised below:

Parameter	Range	Comments
Undrained Shear Strength (kPa)	23 to 60	Very Low to Medium strength (Pocket Penetrometer)
SPT Field 'N' Value	3 to 7	Low to Medium strength

Laboratory testing revealed the following:

Parameter	Range	Comments
Water Content (%)	30 to 41	Typical values for fine grained soils
Liquid Limit (%)	53 to 73	CLAY of High and locally Very High plasticity (BS5930 Casagrande)
Plastic Limit (%)	23 to 31	
Plasticity Index (%)	28 to 42	

Parameter	Range	Comments
Modified Plasticity Index (%)	24 to 42	Shrinkable soil of Medium and local High Volume Change Potential (NHBC Standards)
Retained on 425µm sieve (%)	0 to 13	BS1377 'coarse soil' fraction
Passing 63µm sieve (%)	70 to 98	Fines (silt/clay) fraction

LONDON CLAY FORMATION

Encountered at each test location except HA01 and HA02 from beneath the Head deposits down to the base of each hand auger borehole and each continuous tube sample borehole except CT02 where this was encountered to 5.70m and down to depths of 4.70m (BH01) and 5.0m (BH02) in the cable percussive boreholes.

Represented in general by firm becoming stiff grey brown mottled orange brown silty slightly sandy clay.

The results of the field strength tests, and other relevant data, are summarised below:

Parameter	Range	Comments
Undrained Shear Strength (kPa)	60 to 143	Medium and High strength (Pocket Penetrometer)
SPT Field 'N' Value	9 to 31	Medium to Very High strength

Laboratory testing revealed the following:

Parameter	Range	Comments
Water Content (%)	19 to 38	Typical values for fine grained soils
Liquid Limit (%)	37 to 68	CLAY of Intermediate and High plasticity (BS5930 Casagrande)
Plastic Limit (%)	18 to 29	
Plasticity Index (%)	18 to 42	
Modified Plasticity Index (%)	18 to 42	Shrinkable soil of Medium and High Volume Change Potential (NHBC Standards)
Retained on 425µm sieve (%)	0 to 8	BS1377 'coarse soil' fraction
Passing 63µm sieve (%)	53 to 98	Fines (silt/clay) fraction

LAMBETH GROUP

Encountered in CT02 and the cable percussive boreholes from beneath the London Clay Formation down to the base of these boreholes at a maximum depth of 14.3m.

Represented stiff grey mottled dark brown and red brown silty sandy clay with occasional flint gravel and medium dense grey slightly gravelly very silty very clayey sand. Two hours of chiselling was undertaken at depths of 6.3m (BH01) and 14.3m (BH02) below ground level where refusal was met on very stiff sandy silty clay (BH01) and very dense sand (BH02).

The results of the field strength tests, and other relevant data, are summarised below:

Parameter	Range	Comments
SPT Field 'N' Value	18 to greater than 50	Very High Strength

Laboratory testing revealed the following:

Parameter	Range	Comments
Water Content (%)	17 to 38	Typical values
Liquid Limit (%)	30 to 54	CLAY of High plasticity and SILT of Low Plasticity (BS5930 Casagrande) and locally non-plastic (BH02 at 6.0m)
Plastic Limit (%)	20 to 26	
Plasticity Index (%)	4 to 33	
Modified Plasticity Index (%)	4 to 33	Shrinkable soil of generally Medium Volume Change Potential but locally non-shrinkable (NHBC Standards)
Retained on 425µm sieve (%)	1 to 3	BS1377 'coarse soil' fraction
Passing 63µm sieve (%)	47 to 92	Fines (silt/clay) fraction

GROUNDWATER

Groundwater was encountered at various depths in the three continuous tube boreholes, as summarised below:

Borehole	Strike Depth (m bgl)	Depth after 20 minutes/on completion (m bgl)	Stratum
HA01	Dry	-	-
HA02	Dry	-	-
HA03	Dry	-	-
HA04	0.70	-	London Clay
HA05	Dry	-	
CT01	Dry	-	
CT02	2.0	5.6	London Clay
CT03	2.0	2.0	London Clay
CT04	Dry	-	
CT05	Dry	-	
CT06	0.4	4.8	Head
BH01	6.5	6.1	Lambeth Group
BH02	5.0	4.6	Lambeth Group

Groundwater monitoring carried out as part of the project has revealed standing groundwater levels within the natural deposits of between 0.68m and 1.51m below the existing ground level.

OBSERVED SOIL CONTAMINATION

No obvious evidence of olfactory or visual contamination was noted during the site work, however, asphaltic-concrete was noted in HA04 between 0.15m and 0.30m.

INFILTRATION TESTING

Infiltration testing was undertaken in the borehole standpipe installations at depths of between 1.0m and 3.0m, following the principles of BRE Digest 365 'Soakaway Design', to provide an indicative permeability and infiltration characteristics of the soil. The results of the infiltration tests are included in Appendix C.

However, no drop in water level was recorded during a monitoring period of four hours and therefore the shallow soils are considered effectively impermeable.

GROUND GAS MONITORING

Ground gas monitoring was carried out in boreholes CT01, CT03 and CT04 as a part of this investigation, on two occasions, using a calibrated Geotech GA 5000 gas analyser.

The results of the monitoring across the site as a whole are summarised in the table below:

Parameter	Range	Comments
Oxygen (%v/v)	18.9 to 20.2	Normal ranges for non-gassing ground.
Carbon Dioxide (%v/v)	1.0 to 3.7	
Methane (%v/v)	<0.1	
Flow rate (l/h)	-1.3 to 1.5	

The low flow rates are indicative of the soils encountered which did not include any significant thicknesses of Made Ground or have any significant quantities of organic matter or materials which can decay.

SULPHATE AND pH TESTS

The results of the laboratory pH and water-soluble sulphate tests on samples of soil are summarised below:

Stratum	Water-soluble Sulphate SO ₄ (g/l)	pH (pH units)	Number tested
Made Ground	<0.01 to 0.17	7.5 to >12.0	4
Head	<0.01 to 0.19	4.3 to 10.1	7
London Clay	0.10 to 0.21	4.0 to 7.2	5
Lambeth Group	0.23	7.5	1

GROUND CONTAMINATION ASSESSMENT

The results of the laboratory tests from this investigation are included in Appendix C. The following is a description of: the testing schedule (number of tests from each stratum and the tests performed); the guidelines adopted for assessing the results, and a comparison of the test results from this investigation with those adopted guideline values. The implications of these comparisons are provided in the Risk Assessment sections that follow.

The contamination risk assessment has been undertaken in line with the EA's new online guidance Land Contamination: Risk Management (LCRM) published in October 2020. The guidance is based upon the principles of CLR11, Model procedures for the management of land contamination, 2004, now withdrawn.

The assessment has been undertaken in order to validate the Preliminary Risk Assessment (PRA) using a Generic Quantitative Risk Assessment (GQRA) followed by a Detailed Quantitative Risk Assessment (DQRA), if required.

SOIL TESTING

Three samples of the Made Ground and three samples of the natural soils collected on site during this investigation were tested for a range of constituents of potential concern (CoPC). The majority of the samples to be tested were recovered from the test locations targeting the potential sources of contamination listed in the Conceptual Site Model and the identified visual and olfactory contamination described in the Exploration and Testing section of this report.

The suite of testing carried out on the samples was decided upon following consultation of R&D CLR Publications, published as part of the Contaminated Land Exposure Assessment (CLEA), a joint venture between the Department for Environment, Food and Rural Affairs (DEFRA) and the EA.

The test suite included:

Group	Details
Asbestos	Screening for ACMs and fibres with the naked eye and microscopy
Inorganic substances	Arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc Sulphates
Organic substances	16 (EPA) Speciated Polycyclic Aromatic Hydrocarbons (PAH) Total Petroleum Hydrocarbons (TPH) with eight-band / Aliphatic-Aromatic split
Other	pH Total organic carbon (TOC)

Unless explicitly stated on the laboratory report, the soil samples were tested to obtain 'Total' values within the soil.

The results of the tests from this investigation are included in Appendix C.

RISK ASSESSMENT GUIDELINES – HUMAN HEALTH

The human health risk assessment has been undertaken using the guidance provided in the EA's LCRM guidance, published October 2020 and the CLEA guidelines.

This assesses risks associated with the ingestion, dermal contact, and vapour inhalation pathways related to contaminated soils and groundwater. Risks associated with the inhalation of Ground Gas, for example that resulting from landfill, is not addressed by LCRM. The assessment for ground gases has been undertaken separately in the Ground Gas Risk Assessment section of this report.

Human health assessment criteria used are based upon the proposed final land use of the site. As the site is to be redeveloped to accommodate a housing in the east and a residential care home in the west the Generic Assessment Criteria (GACs) for the standard land-use, 'Residential with homegrown produce' has been used for the eastern site and 'Residential without homegrown produce' have been used for the western site with further site specific assessment criteria for a Care Home scenario modelled using the CLEA software have been used as described below.

Consideration has also been given to potential risks to groundworkers coming into contact with the soil during demolition or construction phases.

If the proposed site use should alter from the above, then the human health risk assessment will require re-evaluation for the new end use scenario.

The results of the soil samples tested have been compared to the following published assessment criteria:

Category 4 Screening Levels (C4SLs)

Published in March 2014 by DEFRA, a limited number of generic Category 4 Screening Levels (C4SLs) were produced to support the revised Statutory Guidance to support Part 2A of the Environmental Protection Act 1990, which was published in April 2012. This Guidance introduced a new four-category system for classifying land under Part 2A for cases of a Significant Possibility of Significant Harm to human health, where Category 1 includes land where the level of risk is clearly unacceptable and Category 4 includes land where the level of risk posed is acceptably low.

Although not the primary purpose, the DEFRA letter dated 3rd September 2014 from Lord de Mauley established that the C4SLs are also suitable for use in planning situations, as did the Department for Communities and Local Government (DCLG)'s 'Planning Portal' document from June 2014.

Suitable 4 Use Levels (S4ULs)

To supplement the small number of C4SL, a set of Suitable for Use Levels (S4UL) were produced, in 2015, by Land Quality Management (LQM) and the Chartered Institute of Environmental Health (CIEH), using the EA's Contaminated Land Exposure Assessment (CLEA) software, version 1.06 (2009), and the revised assumptions used in deriving the C4SL. The S4UL are more conservative than the C4SL and are derived to represent the minimal levels of risk to human health as described in the EA's SR2 guidance, with the intention of being 'suitable for use' under planning.

Detailed Quantitative Risk Assessment (DQRA)

Should any results exceed the C4SLs or S4ULs used in the GQRA, or if a more site-specific model is required, then a Detailed Quantitative Risk Assessment (DQRA) is undertaken to establish site specific assessment criteria. This final stage uses specific information regarding the contamination and its potential receptors and pathways. The CLEA software was updated to version 1.071 in November 2015 to enable both site specific C4SLs and S4ULs to be determined by contaminated land practitioners, which produces less conservative, more accurate, site specific soil assessment criteria (SACs).

The model is based on the most sensitive receptor being for an adult female. The occupancy period has been modelled as 21 hours per day inside, 3 hours per day outside, 365 days per year. A post-1970s office building has been used to model the proposed care home building and a sandy clay loam of 1% soil organic matter (SOM) to model the soils at the site. Although it is considered unlikely that significant volumes of homegrown produce will be consumed from this site this has still be included as a pathway linkage for conservatism.

RISK ASSESSMENT GUIDELINES – CONTROLLED WATERS

The procedures set out in EA's RTM *Hydrogeological risk assessment for contaminated land* (2006), have been followed.

RESULTS OF ASBESTOS SCREENING

Screening for the presence of asbestos did not reveal any asbestos containing material (ACM) or fibres in the five samples of Made Ground soils tested.

RESULTS OF TOTAL SOIL TESTS

Results of the total soil testing have been compared to relevant published GAC as discussed above. For S4ULs, a range of values have been published for the organic contaminants based on the soil's organic matter content.

As site-specific soil organic content was not determined for the site, where S4ULs have been adopted for the organic contaminants, analytical results have been compared to the most conservative value, which is that for soils of 1% soil organic matter (SOM) as a preliminary screening tool.

Of the remaining determinants tested for from the eastern site, none recorded values higher than their relevant GAC for human health for a residential setting.

Of the remaining determinants tested, only dibenz(a,h)anthracene recorded a value above its relevant GAC for human health for a 'residential without homegrown produce' setting from the western site. However, the elevated concentration of dibenz(a,h)anthracene of 1mg/kg does not exceed the CLEA calculated SSAC of 1.24mg/kg for an adult care home setting.

HUMAN HEALTH RISK ASSESSMENT

The following quantitative risk assessment has been carried out using the source-pathway-receptor principle. Potential sources of contamination identified in the Conceptual Site Model (CSM) have been assessed using the CLEA Guidelines. This takes into account the fact that a complete pathway must exist between a potential source of contamination and a potential receptor for there to be considered a risk.

The potential human receptors evaluated for their individual risk are:

Long-Term Exposure

- End users of the site – the future residents/workers.
- Nearby residents.

Short-Term Exposure

- Construction workers and the general public (during redevelopment).
- Maintenance workers

If the proposed site use or layout should alter significantly, then the human health risk assessment will require re-evaluation.

SOIL CONTAMINATION RISK

Of the determinants tested for from the eastern site, none recorded values higher than their relevant GAC for human health for a 'residential with homegrown produce' setting.

Of the determinants tested for from the western site, only dibenz(a,h)anthracene recorded a value above its relevant GAC for human health for a 'residential without homegrown produce' setting. However, the elevated concentration of dibenzo(a,h)anthracene of 1mg/kg does not exceed the CLEA calculated SSAC of 1.24mg/kg for an adult care home setting.

It should also be noted that the elevated concentration of dibenz(a,h)anthracene was recorded from HA04 where some asphaltic-concrete gravel was noted during the site work. It is considered that the suspect asphaltic concrete represents hardcore type material at this location. The origin of the PAH in the soil can be ascertained by plotting the results on a double ratio plot. The ratio between benzo(a)anthracene and chrysene is plotted against the ratio between fluoranthene and pyrene. Using the plot provided in Appendix D, the PAH identified at this site can be attributed to coal derived products, including tarmac.

It should also be noted that the area around HA04 will be covered with the proposed access road and car parking which would break the source-pathway-receptor linkage.

It is therefore considered that the slightly elevated concentration of dibenz(a,h)anthracene at this site do not pose a significant risk to human health.

Asbestos

Although no asbestos was identified in the soils at the site, the presence of asbestos containing material (ACM) and fibres within Made Ground at any site cannot be ruled out. Groundworkers should be made aware of potential risks of asbestos during the groundworks.

Asbestos in soils is not normally hazardous to humans unless it is disturbed and fibres become airborne and can be inhaled. Asbestos is most frequently encountered bonded in cement in fragments of corrugated roofing sheets, in tiles or in insulation materials. Any groundworks involving asbestos needs to be appropriately controlled.

Conclusion

It is considered that there are no significant risks to human health from the soil or groundwater contamination at the site. There is, therefore, no requirement for investigation or remedial measures prior to the proposed redevelopment.

REGULATORY APPROVAL

We recommend that the conclusions of this report are agreed with the relevant Local Authority at the earliest stage, to reduce potential delays to the development.

CONSTRUCTION WORKERS

For construction workers and maintenance workers that are exposed to the ground, there is a short-term exposure risk (at each site they attend, which contributes to an overall lifetime exposure risk) and the pathway of primary concern is 'direct soil ingestion'.

Protective measures that are different to those taken to protect the long-term exposure group (such as end-users of the site) are, therefore, required and these are outlined in the Remediation section, below.

Demolition and redevelopment activities have the potential to create short-term pollutant linkages to the general public. These risks should be managed by means of the Construction Phase (Health & Safety) Plan.

To reduce the risk to as low as reasonably practicable for the construction workers it is recommended that appropriate health and safety measures be implemented along with the use of Personal Protective Equipment (PPE). All personnel coming into contact with the soil, ground workers in particular, should be instructed to use gloves when on site to avoid dermal contact and restrict inadvertent hand-to-mouth ingestion. Washing facilities should be provided for the site staff to use and should be used prior to eating or smoking. Reference should be made to the HSE Document, "Protection of Workers and the General Public during Development of Contaminated Land".

Although no asbestos was identified in the soils at the site, the presence of ACM and fibres within Made Ground at any site cannot be ruled out. Groundworkers should be made aware of potential risks of asbestos during the groundworks prior to beginning work.

GROUND GAS RISK ASSESSMENT

The preliminary ground gas risk assessment indicated that gas monitoring was not required.

The results of the gas monitoring have revealed that low levels of carbon dioxide gas up to 3.7% are being produced in the ground and methane gas being produced in the ground are less than the detection limits of 0.1%. Flows rates between -1.3l/hr and 1.5l/hr were recorded.

The low flow rates show that no significant volumes of gas being produced in the ground. There was no significant thickness of Made Ground and no organic rich soil beneath the site.

GROUND GAS SCREENING VALUES

The results have been evaluated with reference to Code of practice for the characterization and remediation from ground gas in affected developments, BS8485.

Using the maximum carbon dioxide reading of 3.7% with the highest recorded absolute flow rate of ± 1.5 l/hr, the maximum gas screening value is 0.0555l/hr.

There were no carbon dioxide levels above 5% and no methane levels above 1%.

This classifies the site as Characteristic Situation 1 (*care home*) or NHBC green traffic light (*houses*). The NHBC guidance is specifically derived for an 8m by 8m house and relies upon the building having a 150mm under slab void.

GROUND GAS PROTECTION MEASURES

Carbon Dioxide and Methane Gas

Therefore, for this residential development it is considered that no gas protection is necessary with regard to methane or carbon dioxide gas.

Radon Gas

The BGS advises that no radon gas protection measures are necessary for buildings without underground rooms at this site. However, should a basement be adopted then the risks of radon are increased in underground rooms and radon protection measures should be included in the basement design.

REGULATORY APPROVAL

The above conclusions regarding ground gases should be agreed with the relevant local Regulatory Authority as soon as possible prior to development, to reduce any potential delays to the development should they require further clarification of this report or further ground gas monitoring.

CONTROLLED WATERS RISK ASSESSMENT

The following Controlled Waters risk assessment has been carried out in accordance with the procedures set out in the EA's RTM *Hydrogeological risk assessment for contaminated land* (2006). Using the source-pathway-receptor principle, this takes into account the fact that a complete pathway must exist between a potential source of contamination and a potential receptor for there to be considered a risk.

The potential Controlled Waters receptor considered during this risk assessment was:

- Zone 1 Source Protection Zone (subsurface activity only) likely associated with the chalk aquifer at depth.

Following the intrusive investigation and contamination testing, the CSM can now be revised.

DISCUSSION

The results of the soil testing identified slightly elevated concentrations of PAHs in the western site.

However, the origin of the PAH in the soil was ascertained by plotting the results on a double ratio plot, provided in Appendix D. The PAH identified at this site has been attributed to coal derived products, including tarmac. As these substances are not readily mobile in the environment, it is considered that the low levels of PAHs at this site do not pose a significant risk to controlled waters.

It should also be noted that the site is underlain by about 5m of relatively impermeable Head deposits and the London Clay Formation which would prevent the leaching of such contaminants to the underlying Lambeth Group and chalk aquifer at depth.

It is therefore considered that the above recognised Controlled Waters receptors will not be at significant risk from potential groundwater contamination at the site.

REGULATORY APPROVAL

We recommend that the conclusions of this report are agreed with the relevant Local Authority at the earliest stage, to reduce potential delays to the development.

INFRASTRUCTURE RISK ASSESSMENT

SUBSURFACE CONCRETE

The concrete design mix recommendations for subsurface concrete have been assessed in terms of BRE Special Digest 1, as follows:

Type of Site	Groundwater	Characteristic Sulphate			Characteristic	
		Soil Soluble (mg/l)	Ground-water (mg/l)	Total Potential (%)	Design Sulphate Class	pH (pH units)
Brownfield/Natural Land	Static/Mobile	200	n/a	n/a	DS-1	4.4

Based upon the site history, the site may be considered as 'natural ground'.

The groundwater beneath the site should be considered as mobile.

The above assessment provides an Aggressive Chemical Environment for Concrete (ACEC) class of AC-2z.

UNDERGROUND SERVICES

Low levels of hydrocarbons were recorded in the made ground soil at the site. Generally, plastic pipes will not be affected by inorganic contaminants, but they could be affected by organic contaminants and extremes of pH in the soils.

Organic contaminants, such as petroleum or polycyclic aromatic hydrocarbons, may attack plastic pipes and remedial measures may be required. The pathway with the contaminated soils could be removed by sleeving the pipe with another material or by removing the contamination source itself.

It should be noted that the utility companies often have their own local guidelines and standards on levels of shallow soil contamination in the ground that may or may not be acceptable for the installation of below ground services. These standards may be different to those specified for assessing risks to human health and groundwater.

The local requirements should be obtained from the particular service supply company as soon as possible to avoid unexpected delays or additional development costs.

Guidance can be sought from the UK Water Industry Research (UKWIR), 'Guidance for the selection of water supply pipes to be used in brownfield sites', reference 10/WM/03/21, 2010. This document proposes that the assessment of the hazard to potable water supply pipes should be based on the following pathways: contact with migrating groundwater, permeation of vapour, and direct contact with soil.

Approval should be sought for the type of pipes proposed before they are installed.

GEOTECHNICAL ENGINEERING CONCLUSIONS

We understand it is proposed to develop the western site to accommodate a 2.5-storey adult care home, associated communal gardens and car parking. It is proposed to redevelop the eastern site with six two-storey detached houses with associated gardens and car parking. The anticipated loading of the proposed buildings were not provided.

STRATA

The exploratory work from this investigation has proven the expected general strata sequence comprising Fill or Topsoil and/or Made Ground overlying Head deposits to depths of between 0.6m and 2.0m overlying the London Clay Formation to depths of between 4.70m and 5.70m overlying the Lambeth Group to the full extent of this investigation at 14.3m depth.

The laboratory testing shows the Head Deposits and London Clay Formation to have a medium and high volume change potential as defined by NHBC Building Standards, Chapter 4.2 and we recommend high volume change potential is adopted for design purposes.

GROUNDWATER

Groundwater was locally encountered at depths of between 0.40m and 6.5m during the site work.

Groundwater monitoring carried out as part of the project has revealed standing groundwater levels within the natural deposits of between 0.68m and 1.51m below the existing ground level.

CHALK CAVITY HAZARDS

The desk study information, records the risk of solution features and mining at the development site to be low. Our subsequent investigations have not recorded obvious evidence of loose or voided ground and hence we concur with these recommendations. As with all sites where chalk deposits are present however site operatives should remain vigilant, report any loosening or weak zones of soil and seek advice from a specialist. Natural geological dissolution features can develop in chalk however, with the anticipated thickness of Tertiary bedrock soils covering the chalk, these are considered unlikely to affect development at this site.

SITE EXCAVATION

Conventional hydraulic plant should be satisfactory for excavating foundation and service trenches within the soils beneath the site, however, specialist breaking plant will be required to assist in the removal of existing hardstanding at the site.

In line with HSE guidelines, all excavations requiring personnel access should be adequately supported to avoid the risk of collapse. Consideration should also be given to the stability of open trenches where personnel are working in close proximity. During the fieldwork, excavations within the Head deposits, the London Clay Formation and the Lambeth Group remained stable for the short time that the boreholes were open.

Groundwater is expected to may locally be encountered at depths greater than about 0.40m and dewatering may be required. Conventional pumping from sumps should be satisfactory in order to maintain a dry excavation.

Consideration should be given to the effects of trees and shrubs on service runs that cross the site. Soil movements brought on by the influence of vegetation can severely disrupt the drain runs and mains services, and measures should be incorporated into the excavations to allow for future ground movements.

FOUNDATION SOLUTIONS

Shallow Foundations

The Made Ground and weak Head deposits are considered unsuitable as a bearing stratum due to its variability, and potential for unacceptable total and differential settlement under applied foundation loadings.

The London Clay Formation is considered to be a suitable bearing stratum for traditional spread foundations.

A minimum foundation depth of 1.0m below existing ground level is recommended, or 0.20m into the top of the formation, whichever is the deeper. However, this will generally result in foundations extending to a depth of about 1.5m and locally to 2.2m depth.

The allowable bearing pressure recommended below is made on the assumption of an acceptable total settlement for the proposed structures of 25mm. Should the building design require a significantly different serviceability limit state (tolerance to settlement) then it is recommended that these recommendations be revised accordingly.

At the minimum founding depth provided above, an allowable bearing pressure (or net loading intensity increase) of 120kPa may be adopted for conventional 600mm wide strip footings.

This allows for a suitable factor of safety against shear failure and should result in acceptable levels of differential and total vertical settlement generally that are likely to take place over a number of years.

Where foundations are to be constructed within the vicinity of trees or shrubs on this site then they will require deepening in accord with guidelines given in NHBC Building Standards Chapter 4.2. For trees that are not to be removed, mature tree heights should be assumed when determining the foundation depths. The soils should be considered as being of high volume change potential.

Where this requires that foundations are constructed deeper than 2.50m further ground investigation may be required in order to establish the full depth of any localized soil desiccation beneath the footprint of the proposed structure.

Where shrinkable soils are present, reference should be made to the NHBC guidelines for the specific requirements for compressible layers, such as Claymaster or Clayshield, to be placed along the sides of foundation excavations or beneath ground beams, in order to accommodate heave forces in the ground where any trees and shrubs are removed in the vicinity of the proposed foundations or if the existing vegetation should die.

Care should be taken to ensure that any new planting in the development will not affect the new foundations.

GROUND FLOOR SLABS

The site is underlain by shrinkable soils. The decision as to whether ground floor slabs will be ground bearing or suspended on the main foundations will, in part, depend on the considerations detailed below:

Ground Bearing

All pre-existing building foundations, Fill, Made Ground and disturbed or desiccated soil should be removed from beneath any proposed ground bearing floor area and the exposed surface should be proof-rolled to expose any excessively soft or compressible zones, which should also be removed. Coarse-grained backfill should then be placed in layers and subjected to controlled compaction.

Suspended

In accord with NHBC guidelines: if it is required to deepen the main foundations below 1.50m depth, such as on account of trees or shrubs, then ground floor slab to that building should be suspended.

A void should be left below the floor slab to accommodate future moisture content-related soil movements. This may be achieved by use of a proprietary compressible material such as Clayboard or Cellcore.

Also, a suspended floor slab will be required in shrinkable soils, even in the absence of trees and shrubs, where the soil is seasonally desiccated. Under those circumstances the adoption of a suspended slab is only likely to be avoided if construction of the floor slab takes place during the wetter times of the year.

ACCESS ROADS AND PARKING

The structural design of a road or hard standing is based on the strength of the subgrade, which is assessed on the California Bearing Ratio (CBR) scale. With reference to Transport and Road Research Laboratory, Report LR1132 and the laboratory classification tests it is recommended that for formation prepared in Head, a subgrade CBR value of 2.5% is adopted for preliminary design purposes based on equilibrium soil conditions, a thin pavement construction, low water table and average construction conditions.

Site conditions should be reassessed at the time of construction and the CBR/pavement design updated accordingly if considered necessary. If pavement construction is undertaken during wetter parts of the year, then a greater pavement thickness or geogrid reinforcement may be required.

Any areas of soft or deleterious material should be excavated and replaced with a properly compacted coarse-grained fill.

As this stratum is likely to be frost susceptible a suitable minimum pavement thickness will need to be specified depending upon the proposed pavement usage.

INFILTRATION MEASURES

Test Results

Infiltration testing was undertaken in the borehole standpipe installations at depths of between 1.0m and 3.0m, following the principles of BRE Digest 365 'Soakaway Design', to provide an indicative permeability and infiltration characteristics of the soil.

Appropriately designed sustainable drainage systems (SuDS) are more sustainable than using piped drainage to local sewer systems. However, no drop in water level was recorded during a monitoring period of four hours and therefore the shallow soils are considered effectively impermeable.

Therefore, an alternative sustainable drainage solution should be adopted at this site.

DISPOSAL OF ARISING

Site excavations, such as for foundations and services trenches are likely to produce arisings, some of which may be able to be re-used on-site and some of which will be surplus to requirements. The options for disposal of these arisings are discussed below:

RE-USE OF MATERIAL ON SITE

Currently, if surplus arisings are 'fit for re-use' on the site and have not been treated, its re-use is allowed within the planning law. If it needs treating prior to re-use, exemptions can be sought from the EA to allow this activity.

A recent voluntary code of practice published by CL:AIRE, in conjunction with the EA, (the Definition of Waste: Development Industry Code of Practice, Version 2) endorses the re-use of arisings on and off the site of origin without the need for exemptions from the EA, dependent on whether it is "fit for purpose". It also supports the use of "Hub and Cluster" sites (to enable surplus soil to be used on agreed sites in the local vicinity, dependent on the soil being 'fit for purpose').

The use of a Materials Management Plan (MMP) during the earthworks phase will help to avoid paying tax on soil movements that might otherwise attract tax, if they are construed by the HMRC as being waste without the relevant documentation to prove otherwise.

Based upon the human health and groundwater risk assessments, the soils on this site are considered to be suitable to be re-used on site for landscaping purposes, dependent on the agreement of the Local Authority.

Further testing, specifically on the existing topsoil, could show that this material is suitable for re-use on site, negating the need to remove or dispose of this soil off site and purchase new soil later on.

Soils arising from cut and fill processes and from foundation and services trenches may be suitable for re-use on site if required. Advice can be obtained from the Manual of Contract Documents for Highways Works, Volume 1 Specification for Highway Works, Series 600 for Earthworks.

WASTE CLASSIFICATION

Under current waste management legislation, arisings that are surplus to requirements will be classified as waste and need disposing off-site. Records must be kept of where the waste is taken upon leaving site and its final destination.

The classification is a twofold process using the soil chemical testing results and the European Waste Catalogue for off-site disposal, followed by testing under the Waste Acceptance Criteria (WAC) specifically for landfill disposal.

EUROPEAN WASTE CATALOGUE DETERMINATION

Any soil classified as waste requires classification of the chemical constituents prior to leaving site in accordance with the European Waste Catalogue. Soils containing asbestos fragments or fibres will be classified as a mixed waste unless the asbestos can be separated.

Soils

The 'Total' soil contamination test results from this investigation, excluding asbestos, have been used in conjunction with the HazWasteOnline spreadsheets and the Technical Guidance WM3 published by the EA.

Three samples of Made Ground and three samples of the Head deposits were included in the assessment.

All of the soil has been classified as Non-hazardous.

The assessment report is provided in Appendix F. This assessment does not take into account the presence of asbestos.

Asbestos

No obvious visual evidence of asbestos containing material (ACM) was noted in the soils during the fieldwork or subsequent laboratory analysis.

Technical Guidance WM3 states that 'if the waste contains fibres that are free and dispersed then the waste will be hazardous if the waste as a whole contains 0.1% w/w or more asbestos'. It also states that 'where the waste contains identifiable **pieces** of asbestos (i.e. any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye), then the waste is hazardous if the concentration of asbestos in the pieces alone is 0.1% or more'.

Asbestos cement roofing sheet typically contains 10-15% asbestos, which is above the hazardous waste limit of 0.1%.

In soils where asbestos pieces visible by the naked eye are encountered, this soil is considered as mixed waste and must be separated whenever possible and each separate waste stream classified accordingly. Any works involving or potentially involving asbestos must be undertaken by suitably trained groundworkers.

WASTE ACCEPTANCE CRITERIA (WAC) TESTING RESULTS

If it is decided that the surplus arisings will be disposed of at a landfill facility, the implementation of the Landfill Directive means that the waste soil requires additional classification under the Waste Acceptance Criteria (WAC) to determine whether it should be destined for an Inert, Non-hazardous, Stable non-reactive hazardous, or Hazardous landfill, or whether an alternative disposal method must be sought.

WAC testing has been carried out on two representative samples of the Made Ground collected from HA04 at 0.1m to 0.5m (WAC01) in the western site and from CT01, CT02, HA01 and HA2 between 0.1m and 0.6m (WAC02) from the west of the site. The laboratory testing results are presented in Appendix F.

Sample WAC01 and WAC02 was initially classified as Non-hazardous waste and the WAC testing indicates that these soils pass the Inert criteria.

OVERALL WASTE CLASSIFICATION

From the results of the HazWasteOnline spreadsheets and the WAC testing, currently, the waste soil on this site is classified as follows:

Waste Stream	EWG Classification	WAC for Landfill Disposal	Comments
Asphalt-bound or asphalt-coated Fill	Not assessed – see below		-
Made Ground at HA04 in western site – Dark brown and black clayey sandy GRAVEL of asphaltic - concrete	Non-hazardous	Inert	-
Made Ground in eastern site – brown sandy clayey gravel and very soft brown and grey sandy silty gravelly clay	Non-hazardous	Inert	-
Topsoil - dark brown sandy slightly organic clay with roots	Non-hazardous (<i>organic content</i>)	Non-hazardous	Organic soils
Head Deposits - soft to firm and firm orange brown locally mottled grey brown silty sandy clay	Inert	Inert	-
London Clay - firm becoming stiff grey brown mottled orange brown silty slightly sandy clay	Inert	Inert	-
Lambeth Group - stiff grey mottled dark brown and red brown silty sandy clay with occasional flint gravel and medium dense grey slightly gravelly very silty very clayey sand	Inert	Inert	-

Analytical results relevant to the materials being disposed of should be provided to the waste management contractors and landfill operators to confirm whether it meets their license agreements and to confirm tipping costs.

With regard to European Decision 1999/31/EC, EWC 17 05 04 'Stone and soils from uncontaminated sites, excluding topsoil and peat' should be classified as inert. Furthermore, in accordance with the Landfill Directive, uncontaminated soil and stones, including naturally occurring sands and clays, may be classified as inert without testing, provided that it is not topsoil or peat and excludes soil from contaminated sites. Inert waste should not undergo change, will not burn, react, biodegrade or adversely affect human health or the environment. It should not contain metals, plastics or asbestos.

Asphaltic surfacing and sub-bases may contain coal tar. Coal tar was in production and used as a binder, and more latterly for top dressing, prior to the 1980s, when the transition was made to bitumen. Where areas of hardstanding were constructed before, or improved/repared (using older road planings) after, the 1980s, further assessment for waste classification purposes will be necessary to determine whether or not the hardstanding contains coal tar.

It should be noted that in May/June 2012, HMRC issued Briefs 15/12 and 18/12 clarifying how construction spoil and excess soils will be assessed for landfill tax purposes. Detailed accurate descriptions of waste are required for all wastes to support the landfill tax assessment. Uncontaminated naturally occurring soils will remain inert by default and eligible for the lower rate of landfill tax. Similarly, 'reworked soils' and demolition 'stone' comprising ONLY materials listed in the Schedule of the Landfill Tax (Qualifying Material) Order 2011 (SI 2011/1017) will also be eligible for the lower rate of landfill tax.

Tax relief may be available to developers involved in the rehabilitation of brownfield sites via corporation tax relief.

LIMITATIONS & RECOMMENDATIONS FOR FURTHER WORK

Soil is a heterogeneous material and variations, which affect our conclusions, may inevitably occur between and beyond the test locations. The risk of significant variations to our Ground Model is considered to be low however should ground conditions vary noticeably from our Ground Model, then we recommend further assessment by a suitably qualified person.

It should also be noted that the cable percussive borehole in the western site was terminated at a depth of only 6.10m. Therefore, an additional borehole should be considered in this area of the site to confirm the findings of the borehole undertaken in the eastern site.

Based on our investigation, the risk from chalk dissolution features is considered to be low. As a precaution, we recommend a watching brief is prepared during groundworks and should any evidence of loosened or weak zones of soil be encountered, then we recommend further advice is sought from a specialist.

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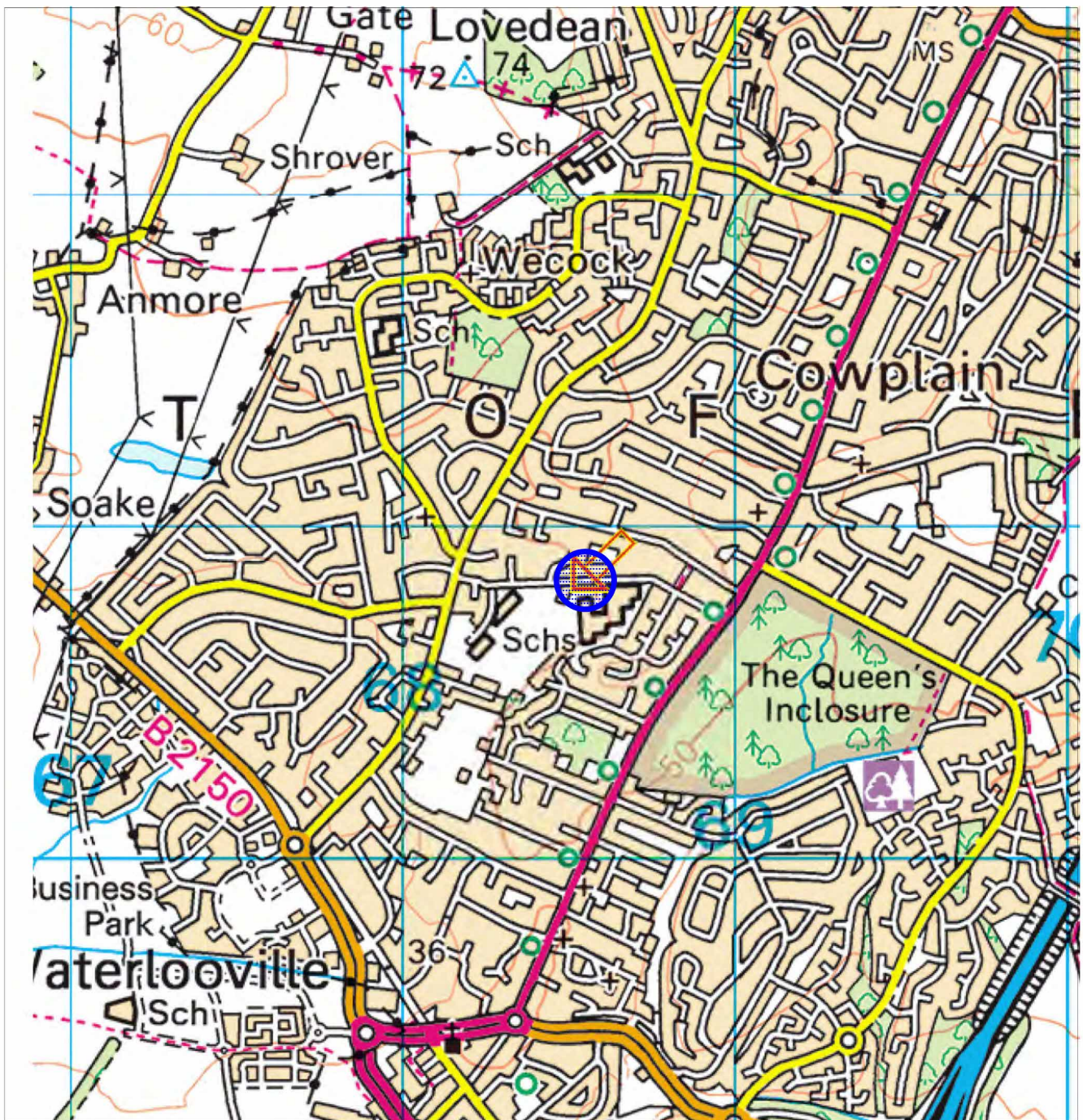
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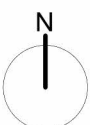
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APPENDIX A PLANS & PHOTOGRAPHS

Extract of 1:50,000 Ordnance Survey Explorer Map



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Key:  Approximate Site Location



Listers Geotechnical Consultants Ltd www.listersgeotechnics.co.uk Tel: 01937 860060

Title:	Site Location Plan		
Site:	Land at Cowplain Community School, Hart Plain Avenue, Waterloo, PO8 8RY		
Scale: NTS	Job No: 21.02.014	Drawn By: HC	

LAND AT COWPLAIN SCHOOL

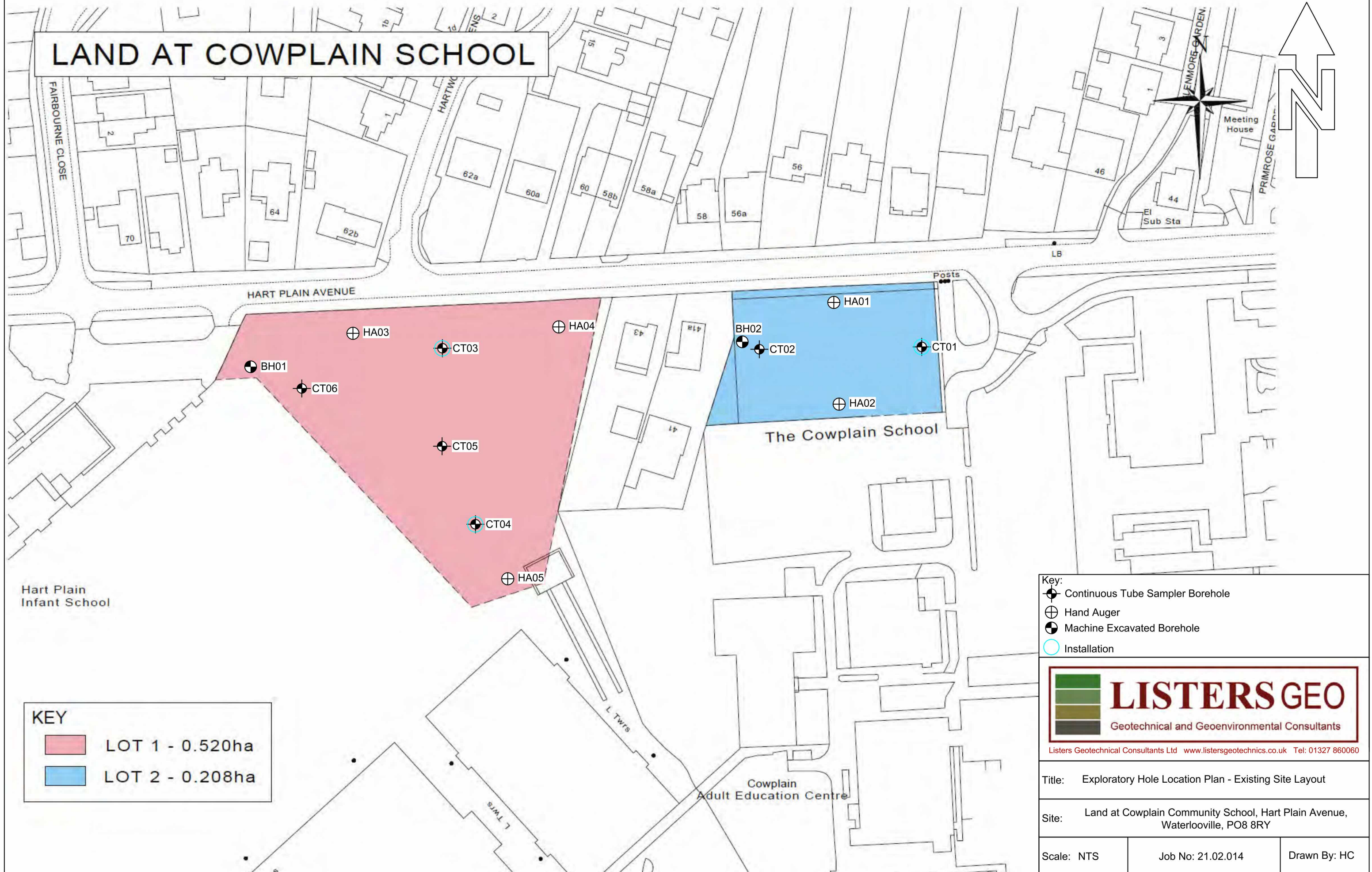




Photo 1



Photo 2

SITE PHOTOGRAPHS

Report:
21.02.014



Photo 3



Photo 4

SITE PHOTOGRAPHS

Report:
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Photo 5



Photo 6

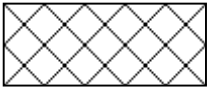
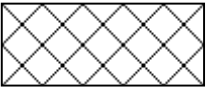
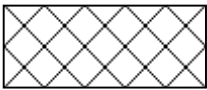
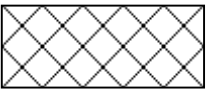
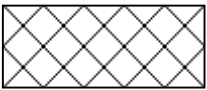
SITE PHOTOGRAPHS

Report:
21.02.014

APPENDIX B

FIELDWORK AND TESTING

LEGEND - Soils

	Made Ground		Topsoil		Sand
	Silt		Boulders and Cobbles		
	Clay		Gravel		Peat

LEGEND - Rocks (Sedimentary)

	Chalk		Siltstone		Limestone
	Mudstone		Sandstone		
	Coal		Conglomerate		Breccia

LOG ABBREVIATIONS

W	Water Sample		Water Strike
B	Bulk Sample		Water (Standing Level)
D	Disturbed Sample	PP	Pocket Penetrometer
J	Jar Sample	HV	Hand Vane
U	Undisturbed Sample	SPT	Standard Penetration Test
(No. of blows shown in brackets for U100 samples)		CPT	Cone Penetration Test
WAC	Waste Acceptance Criteria Sample	CBR	California Bearing Ratio
		*	Extrapolated Value

Pocket penetrometer testing provides values of unconfined compressive strength. The results have been converted to an approximate equivalent shear strength which should be used with due circumspection. As the pocket penetrometer tends to overestimate shear strength, we have used an appropriate reduction factor.

LOG KEY

Well

Well

Well

Test Location	Depth at Start of Test (m)	Spoon or Cone	Blows per 75mm Penetration				N' Value	Strata Type
BH 01	1.20	S	1	1	2	2	6	H
BH 01	2.00	S	2	2	2	3	9	LCF
BH 01	4.00	S	3	3	3	4	13	LCF
BH 01	5.00	C	3	4	5	6	18	LG
BH 01	6.00	C	50				50+	LG
BH 01	6.10	C	50				50+	LG
BH 02	1.20	S	1	1	2	2	6	MG
BH 02	2.00	S	2	2	2	3	9	LCF
BH 02	4.00	S	3	3	4	5	15	LCF
BH 02	5.00	S	4	5	6	7	22	LG
BH 02	6.00	C	4	6	7	9	26	LG
BH 02	7.00	S	6	8	9	10	33	LG
BH 02	8.00	S	5	6	6	8	25	LG
BH 02	9.00	S	5	5	6	8	24	LG
BH 02	10.00	S	6	8	10	12	36	LG
BH 02	11.50	S	9	10	10	12	41	LG
BH 02	13.00	S	10	12	14	14	50+	LG
CT 01	1.00	S	-1	1	1	2	3	H
CT 01	2.00	S	2	3	3	4	12	LCF
CT 01	3.00	S	4	4	5	5	18	LCF
CT 01	4.00	S	5	5	5	5	20	LCF
CT 01	5.00	S	4	5	6	7	22	LCF
CT 01	6.00	S	7	7	6	7	27	LCF
CT 02	1.00	S	-1	-1	1	1	0	H
CT 02	2.00	S	3	3	3	4	13	LCF
CT 02	3.00	S	6	5	6	7	24	LCF
CT 02	4.00	S	4	4	4	5	17	LCF
CT 02	5.00	S	3	4	5	5	17	LCF
CT 03	1.00	S	2	1	2	2	7	H
CT 03	2.00	S	4	4	5	6	19	LCF
CT 03	3.00	S	4	5	5	6	20	LCF
CT 03	4.00	S	6	5	5	6	22	LCF
CT 03	5.00	S	6	5	6	7	24	LCF
Key: H LCF LG Head London Clay Formation Lambeth Group								
STANDARD PENETRATION TESTS						Report: 21.02.014		

Well

Well

Well

Well

Well

Well

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend
	Depth (m)	Type	Result			
				0.08		
				0.23		
				0.60		
				1.09		

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend
	Depth (m)	Type	Result			
				0.08		
				0.35		
				0.60		
				0.90		

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend
	Depth (m)	Type	Result			
				0.16		
				0.50		
				0.80		
				1.00		

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend
	Depth (m)	Type	Result			
				0.15		
				0.30		
				0.60		
				1.00		

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend
	Depth (m)	Type	Result			
				0.21		
				0.45		
				0.80		
				1.12		

Project: Land at Cowplain Community School, Hart Plain Avenue, Waterlooville, PO8 8RY

Ambient air temperature (°C): 7

Barometric pressure (mB): 1022

Barometric trend: Falling

Weather conditions: Overcast

Groundwater monitoring

Groundwater Monitoring					
Hole ID	Ground level (mAOD)	Water depth (m)	Water level (mAOD)	Depth of pipe base (m)	Remarks
CT1		1.45		3.00	
CT4		0.90		3.00	
CT3		0.68		3.00	

Gas monitoring

Gas Monitoring							
Hole ID	Methane CH ₄ (%v/v)	Carbon Dioxide CO ₂ (%v/v)	Oxygen O ₂ (%v/v)	Flow Rate (l/h)	Well Pressure (mBar)	PID* (ppm)	Remarks
CT1	<0.1	3.7	18.9	0.4	-0.21		
CT4	<0.1	1.4	20.0	0.0	15.47		
CT3	<0.1	1.0	20.2	-1.3	17.74		

SUMMARY OF GAS & GROUNDWATER MONITORING - 03.Mar.21

Report No.
21.02.014



Project: Land at Cowplain Community School, Hart Plain Avenue, Waterlooville, PO8 8RY

Ambient air temperature (°C): 9

Barometric pressure (mB): 993

Barometric trend: Falling

Weather conditions: Sunny

Groundwater monitoring

Hole ID	Ground level (mAOD)	Water depth (m)	Water level (mAOD)	Depth of pipe base (m)	Remarks
CT1		1.51		3.00	
CT4		0.60		3.00	
CT3		0.52		3.00	

Gas monitoring

Gas Monitoring							
Hole ID	Methane CH ₄ (%v/v)	Carbon Dioxide CO ₂ (%v/v)	Oxygen O ₂ (%v/v)	Flow Rate (l/h)	Well Pressure (mBar)	PID* (ppm)	Remarks
CT1	<0.1	1.4	19.5	1.2	0.26		
CT4	<0.1	2.3	19.7	1.5	-10.45		
CT3	<0.1	1.6	19.7	0.1	7.05		

SUMMARY OF GAS & GROUNDWATER MONITORING - 11.Mar.21

Report No.
21.02.014

APPENDIX C LABORATORY TEST REPORTS

GroundTech Laboratories

Geotechnical Testing Facility

Slapton Hill Barn, Blakesley Road, Slapton, Towcester, Northants. NN12 8QD

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PROJECT INFORMATION		SAMPLE INFORMATION																																																							
Site Location:- Land at Cowplain Community School Hart Plain Avenue Waterlooville PO8 8RY	Laboratory Tests Undertaken:- <table border="1"> <thead> <tr> <th>TEST TYPE</th> <th>TEST METHOD</th> <th>TESTED</th> </tr> </thead> <tbody> <tr> <td>Natural Water Contents (WC%)</td> <td>(BS 1377:Part 2:1990 Clause 3.2)</td> <td>P</td> </tr> <tr> <td>Liquid Limits (%)</td> <td>(BS 1377:Part 2:1990 Clause 4.3)</td> <td>P</td> </tr> <tr> <td>Plastic Limits (%)</td> <td>(BS 1377:Part 2:1990 Clause 5.3)</td> <td>P</td> </tr> <tr> <td>Plasticity Index (%)</td> <td>(BS 1377:Part 2:1990 Clause 5.4)</td> <td>P</td> </tr> <tr> <td>Linear Shrinkage (%)</td> <td>(BS 1377:Part 2:1990 Clause 6.5)</td> <td></td> </tr> <tr> <td>PSD - Wet Sieving</td> <td>(BS 1377:Part 2:1990 Clause 9.2)</td> <td></td> </tr> <tr> <td>Engineering Sample Descriptions</td> <td>(BS 5930 : Section 6)</td> <td></td> </tr> <tr> <td>Passing 425/63 (mm)</td> <td>-</td> <td>P</td> </tr> <tr> <td>Hydrometer</td> <td>(BS 1377:Part 2:1990 Clause 9.5)</td> <td></td> </tr> <tr> <td>Loss on Ignition (%)</td> <td>-</td> <td>P</td> </tr> <tr> <td>Soil Suctions (kPa)</td> <td>BRE Digest IP 4/93, 1993</td> <td></td> </tr> <tr> <td>Bulk Density (Mg/m³)</td> <td>(BS 1377:Part 2:1990 Clause 7.2)</td> <td></td> </tr> <tr> <td>Strength Tests</td> <td>(BS 1377:Part 7:1990 Clause 8 & 9)</td> <td></td> </tr> <tr> <td>Soluble Sulphate Content (SO₄g/l)</td> <td>(BS 1377:Part 3:1990 Clause 5.3)</td> <td>P</td> </tr> <tr> <td>pH value</td> <td>(BS 1377:Part 3:1990 Clause 9.4)</td> <td>P</td> </tr> <tr> <td>California Bearing Ratios (CBR)</td> <td>(BS 1377:Part 4:1990 Clause 7)</td> <td></td> </tr> <tr> <td>Compaction Tests</td> <td>(BS 1377:Part 4:1990 Clauses 3.0-3.6)</td> <td></td> </tr> </tbody> </table>	TEST TYPE	TEST METHOD	TESTED	Natural Water Contents (WC%)	(BS 1377:Part 2:1990 Clause 3.2)	P	Liquid Limits (%)	(BS 1377:Part 2:1990 Clause 4.3)	P	Plastic Limits (%)	(BS 1377:Part 2:1990 Clause 5.3)	P	Plasticity Index (%)	(BS 1377:Part 2:1990 Clause 5.4)	P	Linear Shrinkage (%)	(BS 1377:Part 2:1990 Clause 6.5)		PSD - Wet Sieving	(BS 1377:Part 2:1990 Clause 9.2)		Engineering Sample Descriptions	(BS 5930 : Section 6)		Passing 425/63 (mm)	-	P	Hydrometer	(BS 1377:Part 2:1990 Clause 9.5)		Loss on Ignition (%)	-	P	Soil Suctions (kPa)	BRE Digest IP 4/93, 1993		Bulk Density (Mg/m ³)	(BS 1377:Part 2:1990 Clause 7.2)		Strength Tests	(BS 1377:Part 7:1990 Clause 8 & 9)		Soluble Sulphate Content (SO ₄ g/l)	(BS 1377:Part 3:1990 Clause 5.3)	P	pH value	(BS 1377:Part 3:1990 Clause 9.4)	P	California Bearing Ratios (CBR)	(BS 1377:Part 4:1990 Clause 7)		Compaction Tests	(BS 1377:Part 4:1990 Clauses 3.0-3.6)		Client Reference:- -	Date Samples Received:- 22nd February 2021 Date Testing Completed:- 26th March 2021
TEST TYPE	TEST METHOD	TESTED																																																							
Natural Water Contents (WC%)	(BS 1377:Part 2:1990 Clause 3.2)	P																																																							
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California Bearing Ratios (CBR)	(BS 1377:Part 4:1990 Clause 7)																																																								
Compaction Tests	(BS 1377:Part 4:1990 Clauses 3.0-3.6)																																																								
The results relate only to the samples tested																																																									
This test-report may not be reproduced, except with full and written approval of GROUNDTECH LABORATORIES		Laboratory testing in accord with BS EN ISO/IEC 17025-2000 and Quality Management in accord with ISO 9001																																																							
Signed on behalf of GroundTech Laboratories:- _____ Technical Signatory			Quality Assured to ISO 9001																																																						
GEOTECHNICAL LABORATORY TEST RESULTS		Report No:	21.02.014																																																						

GroundTech Laboratories

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SAMPLES				CLASSIFICATION TESTS							CLASSIFICATION TESTS							STRENGTH TESTS					CHEMICAL TESTS				
Test Location	Sample Type	Sample Depth -m	Test Type	WC %	LL %	PL %	PI %	Passing 425 μm %	Modified PI %	Class	Passing 63 μm %	WC/ LL	PL+ 2%	Liquidity Index	Loss on Ignition %	Soil Suction kPa	Bulk Density Mg/m³	Test Type	Cell Pressure kN/m²	Deviator Stress kN/m²	Apparent Cohesion kN/m²	f	pH Value	Soluble Sulphate Content SO4 g/l			
BH 01	B	0.50	PI/63	34	54	24	30	98	29	CH	86	0.63	26	0.33									7.6	0.17			
	D	1.20		39																							
	D	1.50		38																							
	D	1.70		31																							
	D	2.00	PI/63	34	52	23	29	99	29	CH	80	0.65	25	0.38													
	D	2.50		31																							
	D	3.50		29																							
	D	4.00		27																							
	D	4.50		29																							
	B	4.50	PI/63	31	45	20	25	99	25	CI	96	0.69	22	0.44									7.2	0.21			
BH 02	D	5.00		30																							
	D	5.50	PI/63	38	31	24	7	99	7	ML	68	1.23	26	2.00													
	D	0.50		9.4																							
	D	1.20		27																			7.5	0.17			
	D	1.70		39	56	23	33			CH		0.70	25	0.48													
	D	2.00		38																							
	D	2.50	PI/63	30	56	27	29	99	29	CH	94	0.54	29	0.10									4.9	0.19			
	D	3.50		37																							
	D	4.00		26																							
	D	4.50	PI/63	28	54	22	32	99	32	CH	93	0.52	24	0.19													
Symbols:				U	Undisturbed Sample					R	Remoulded				PI	Plasticity Index			T	Triaxial Undrained					L	100mm specimen	
				D	Disturbed Sample					63	Passing 63μm				F	Filter Paper Suction Tests			M	Multistage Triaxial					S	38mm specimen	
				B	Bulk Sample					H	Hydrometer				CC	Continuous Core			HP	Hand Penetrometer							
				W	Water Sample					PSD	Wet Sieving								V	Vane Test							
LABORATORY TEST RESULTS																				Project Reference 21.02.014							

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SAMPLES				CLASSIFICATION TESTS							CLASSIFICATION TESTS							STRENGTH TESTS					CHEMICAL TESTS		
Test Location	Sample Type	Sample Depth -m	Test Type	WC %	LL %	PL %	PI %	Passing 425 μm %	Modified PI %	Class	Passing 63 μm %	WC/ LL	PL+ 2%	Liquidity Index	Loss on Ignition %	Soil Suction kPa	Bulk Density Mg/m³	Test Type	Cell Pressure kN/m²	Deviator Stress kN/m²	Apparent Cohesion kN/m²	f	pH Value	Soluble Sulphate Content SO4 g/l	
BH 02	D	6.50	PI/63	20	30	26	4	97	4	ML	52	1.13	28	2.00									7.5	0.23	
	D	7.00		28																					
	D	7.50		34																					
	D	8.00		31																					
	D	8.50		22																					
	CT 01	D	9.00	PI/63	21	54	21	33	99	33	CH	87	0.43	23	0.06										
		D	9.50		23																				
		D	10.00		18																				
		D	11.00		19																				
		D	11.50		18																				
		D	12.50	PI/63	20	51	20	31	98	30	CH	92	0.39	22	0.00										
		D	13.00		17																				
		D	14.10		19																				
		D	0.10		15																				
		D	0.25		32																				
		D	0.40	PI/63	37	55	23	32	100	32	CH	81	0.67	25	0.44										
		D	1.00		36																				
		D	1.50		36																				
		D	2.00		30																				
		D	2.50		28																				
D		3.00	27																						
	D	3.60	PI/63	21	57	27	30	100	30	CH	86	0.49	29	0.03											
D	4.00	23																							
Symbols:				U	Undisturbed Sample					R	Remoulded			PI	Plasticity Index			T	Triaxial Undrained			L	100mm specimen		
				D	Disturbed Sample					63	Passing 63μm			F	Filter Paper Suction Tests			M	Multistage Triaxial			S	38mm specimen		
				B	Bulk Sample					H	Hydrometer			CC	Continuous Core			HP	Hand Penetrometer						
				W	Water Sample					PSD	Wet Sieving							V	Vane Test						
LABORATORY TEST RESULTS																					Project Reference 21.02.014				

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SAMPLES				CLASSIFICATION TESTS							CLASSIFICATION TESTS							STRENGTH TESTS					CHEMICAL TESTS			
Test Location	Sample Type	Sample Depth -m	Test Type	WC %	LL %	PL %	PI %	Passing 425 μm %	Modified PI %	Class	Passing 63 μm %	WC/ LL	PL+ 2%	Liquidity Index	Loss on Ignition %	Soil Suction kPa	Bulk Density Mg/m³	Test Type	Cell Pressure kN/m²	Deviator Stress kN/m²	Apparent Cohesion kN/m²	f	pH Value	Soluble Sulphate Content SO4 g/l		
CT 01	D	4.50	PI/63	25	41	18	23	99	23	CI	74	0.49	20	0.09									4.0	0.13		
CT 02	D	5.00		24																						
	D	5.50		20																						
	SPT	6.00		23																						
	D	0.10		15																						
	D	0.30	23																							
CT 03	D	0.50	PI/63	41	67	29	38	100	38	CH	98	0.61	31	0.32												
	D	1.00		41																						
	D	1.50		38																						
	D	2.00		31																						
	D	2.50		31																						
	D	3.00	24	PI/63	24	37	19	18	99	18	CI	53	0.65	21	0.28											
	D	3.50	24																							
	D	3.80	20																							
	D	4.00	21																							
	D	4.50	25																							
D	5.00	PI/63	27	50	22	28	100	28	CI	97	0.54	24	0.18													
D	5.50	28																								
D	5.70	23																								
D	0.10	33																								
D	0.40	35																								
D	1.00	PI/63	39	69	29	40	100	40	CH	98	0.57	31	0.25													
D	1.50	31																								
Symbols:				U	Undisturbed Sample					R	Remoulded				PI	Plasticity Index			T	Triaxial Undrained				L	100mm specimen	
				D	Disturbed Sample					63	Passing 63μm				F	Filter Paper Suction Tests			M	Multistage Triaxial				S	38mm specimen	
				B	Bulk Sample					H	Hydrometer				CC	Continuous Core			HP	Hand Penetrometer						
				W	Water Sample					PSD	Wet Sieving								V	Vane Test						
LABORATORY TEST RESULTS																					Project Reference 21.02.014					

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SAMPLES				CLASSIFICATION TESTS							CLASSIFICATION TESTS							STRENGTH TESTS					CHEMICAL TESTS			
Test Location	Sample Type	Sample Depth -m	Test Type	WC %	LL %	PL %	PI %	Passing 425 μm %	Modified PI %	Class	Passing 63 μm %	WC/ LL	PL+ 2%	Liquidity Index	Loss on Ignition %	Soil Suction kPa	Bulk Density Mg/m³	Test Type	Cell Pressure kN/m²	Deviator Stress kN/m²	Apparent Cohesion kN/m²	f	pH Value	Soluble Sulphate Content SO4 g/l		
CT 03	D	2.00	PI/63	32	57	28	29	99	29	CH	96	0.53	30	0.07												
	D	2.50		30																						
	D	3.00		32																						
	D	3.60		22																						
	D	4.00		25																						
CT 04	D	4.50	PI/63	24	73	31	42	100	42	CV	96	0.51	33	0.14												
	SPT	5.00		27																						
	D	0.10		35																						
	D	0.30		37																						
	D	0.50		37																						
CT 05	D	1.00	PI/63	36	47	21	26	92	24	CI	73	0.66	23	0.38												
	D	1.50		30																						
	D	2.00		31																						
	D	2.50		23																						
	D	3.00		32																						
	D	3.40		30																						
	D	4.00		28																						
	D	4.50		28																						
	SPT	5.00		24																						
	D	0.10		26																						
CT 05	D	0.40	PI/63	37	60	27	33	100	33	CH	84	0.47	29	0.03										4.3	0.13	
	D	1.00		37																						
	D	1.30		28																						
Symbols:				U	Undisturbed Sample					R	Remoulded				PI	Plasticity Index			T	Triaxial Undrained				L	100mm specimen	
				D	Disturbed Sample					63	Passing 63μm				F	Filter Paper Suction Tests			M	Multistage Triaxial				S	38mm specimen	
				B	Bulk Sample					H	Hydrometer				CC	Continuous Core			HP	Hand Penetrometer						
				W	Water Sample					PSD	Wet Sieving								V	Vane Test						
LABORATORY TEST RESULTS																					Project Reference 21.02.014					

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SAMPLES				CLASSIFICATION TESTS							CLASSIFICATION TESTS							STRENGTH TESTS					CHEMICAL TESTS			
Test Location	Sample Type	Sample Depth -m	Test Type	WC %	LL %	PL %	PI %	Passing 425 μm %	Modified PI %	Class	Passing 63 μm %	WC/ LL	PL+ 2%	Liquidity Index	Loss on Ignition %	Soil Suction kPa	Bulk Density Mg/m³	Test Type	Cell Pressure kN/m²	Deviator Stress kN/m²	Apparent Cohesion kN/m²	f	pH Value	Soluble Sulphate Content SO4 g/l		
CT 05	D	1.50	PI/63	31	67	25	42	100	42	CH	96	0.43	27	0.10												
	D	2.00		34																						
	D	2.50		32																						
	D	3.00		29																						
	D	3.50		28																						
	D	4.00		30																						
	D	4.50		22																						
	SPT	5.00		20																						
	D	0.10		38																						
	D	0.40		30																						
CT 06	D	1.00	PI/63	37	60	25	35	100	35	CH	91	0.62	27	0.34												
	D	1.60		33																						
	D	2.00		33																						
	D	2.50		32																						
	D	3.00		28																						
	D	3.60		21																						
	D	3.80		19																						
	D	4.00		22																						
	D	4.50		24																						
	SPT	5.00		23																						
HA 01	D	0.10	PI/63	10																						
	D	0.40		26																						
	D	0.80		36																						
Symbols:				U	Undisturbed Sample					R	Remoulded				PI	Plasticity Index			T	Triaxial Undrained				L	100mm specimen	
				D	Disturbed Sample					63	Passing 63μm				F	Filter Paper Suction Tests			M	Multistage Triaxial				S	38mm specimen	
				B	Bulk Sample					H	Hydrometer				CC	Continuous Core			HP	Hand Penetrometer						
				W	Water Sample					PSD	Wet Sieving								V	Vane Test						
LABORATORY TEST RESULTS																					Project Reference 21.02.014					

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Geotechnical Testing Facility

Slapton Hill Barn, Blakesley Road, Slapton, Towcester, Northants. NN12 8QD

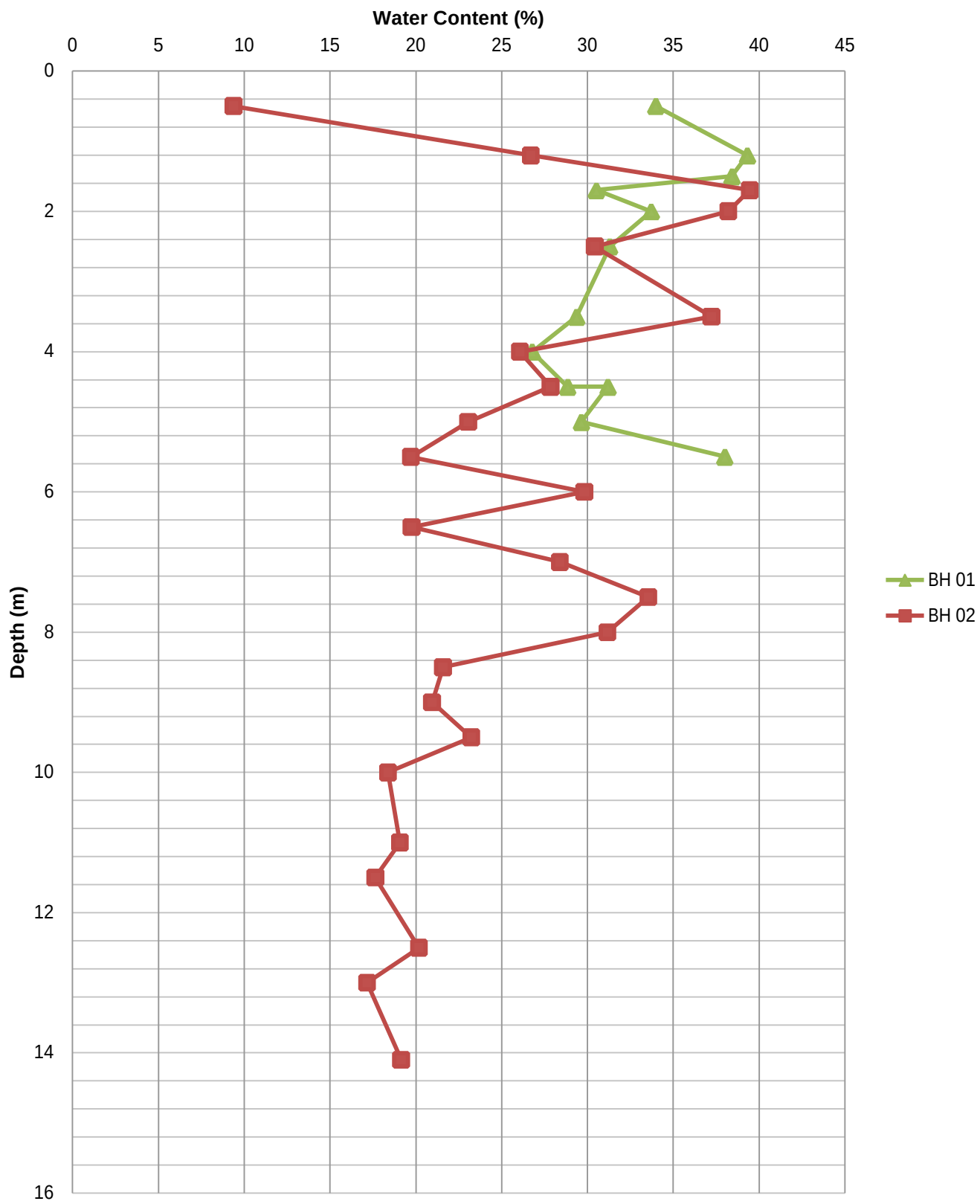
Telephone: 01327 860947/860060

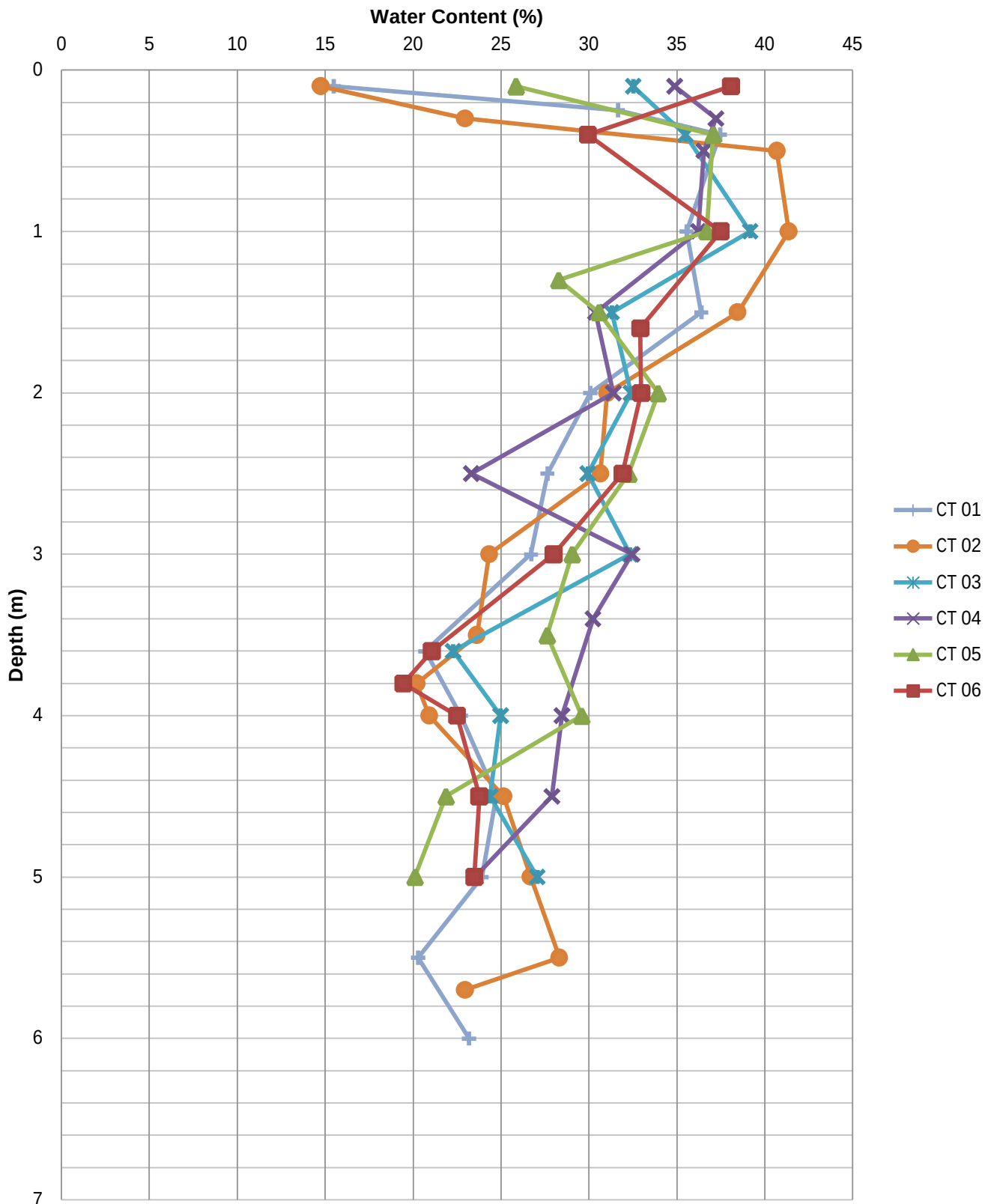
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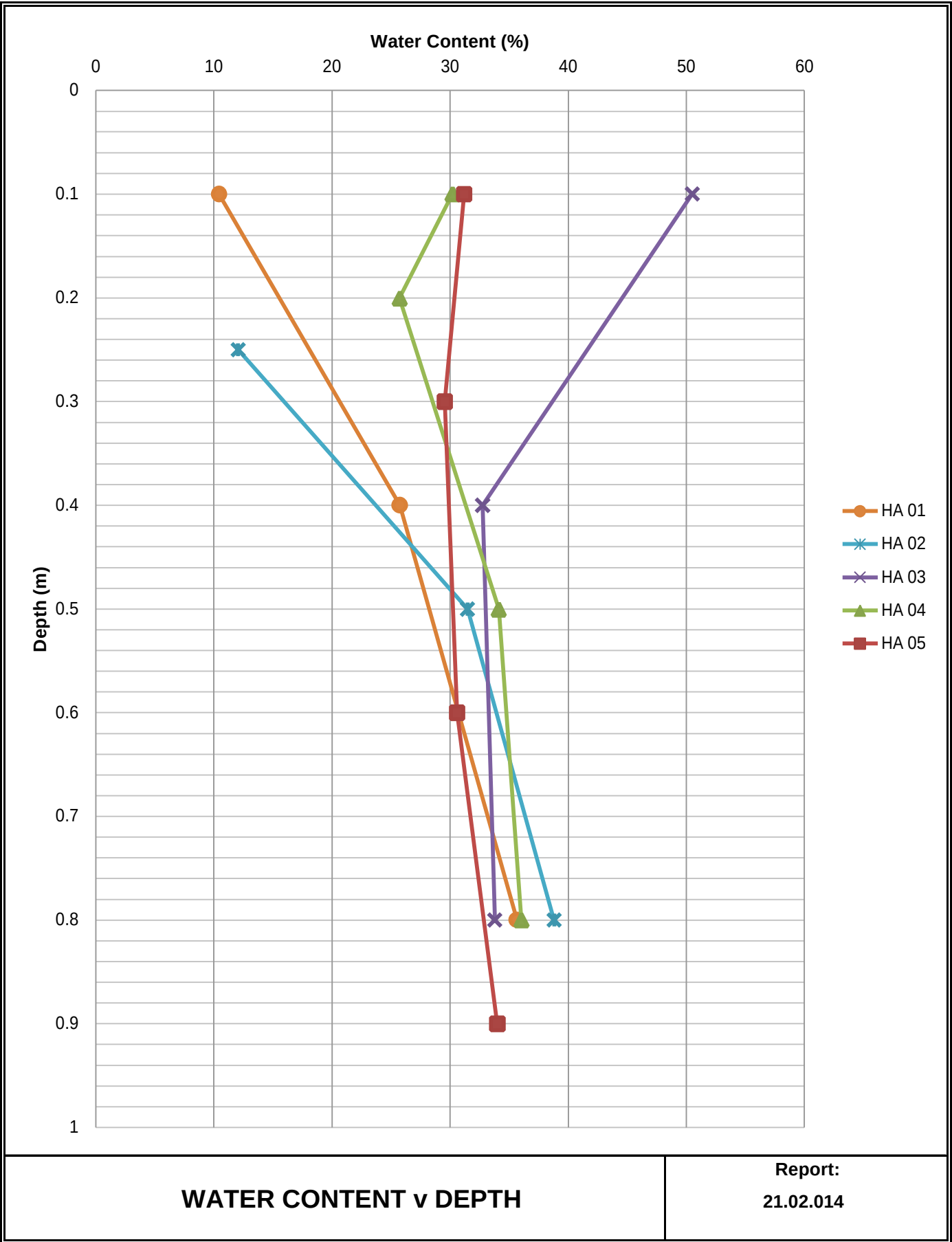
SAMPLES				CLASSIFICATION TESTS							CLASSIFICATION TESTS							STRENGTH TESTS					CHEMICAL TESTS							
Test Location	Sample Type	Sample Depth -m	Test Type	WC %	LL %	PL %	PI %	Passing 425 μm %	Modified PI %	Class	Passing 63 μm %	WC/ LL	PL+ 2%	Liquidity Index	Loss on Ignition %	Soil Suction kPa	Bulk Density Mg/m³	Test Type	Cell Pressure kN/m²	Deviator Stress kN/m²	Apparent Cohesion kN/m²	f	pH Value	Soluble Sulphate Content SO4 g/l						
HA 02	D	0.25	PI/63	12	53	25	28	87	24	CH	70	0.74	27	0.50	6								6.9	0.10						
	D	0.50		31																										
	D	0.80		39																										
HA 03	D	0.10		50																										
	D	0.40		33																										
	D	0.80		34																										
HA 04	D	0.10		30																										
	D	0.20		26																										
	D	0.50		34																										
HA 05	D	0.80	PI/63	36	68	28	40	95	38	CH	92	0.53	30	0.20																
	D	0.10	31																											
	D	0.30	30																											
	D	0.60	31																											
	D	0.90	PI/63	34	58	26	32	100	32	CH	79	0.59	28	0.25																
Symbols:				U	Undisturbed Sample					R	Remoulded					PI	Plasticity Index					T	Triaxial Undrained					L	100mm specimen	
				D	Disturbed Sample					63	Passing 63μm					F	Filter Paper Suction Tests					M	Multistage Triaxial					S	38mm specimen	
				B	Bulk Sample					H	Hydrometer					CC	Continuous Core					HP	Hand Penetrometer							
				W	Water Sample					PSD	Wet Sieving											V	Vane Test							
LABORATORY TEST RESULTS																				Project Reference 21.02.014										

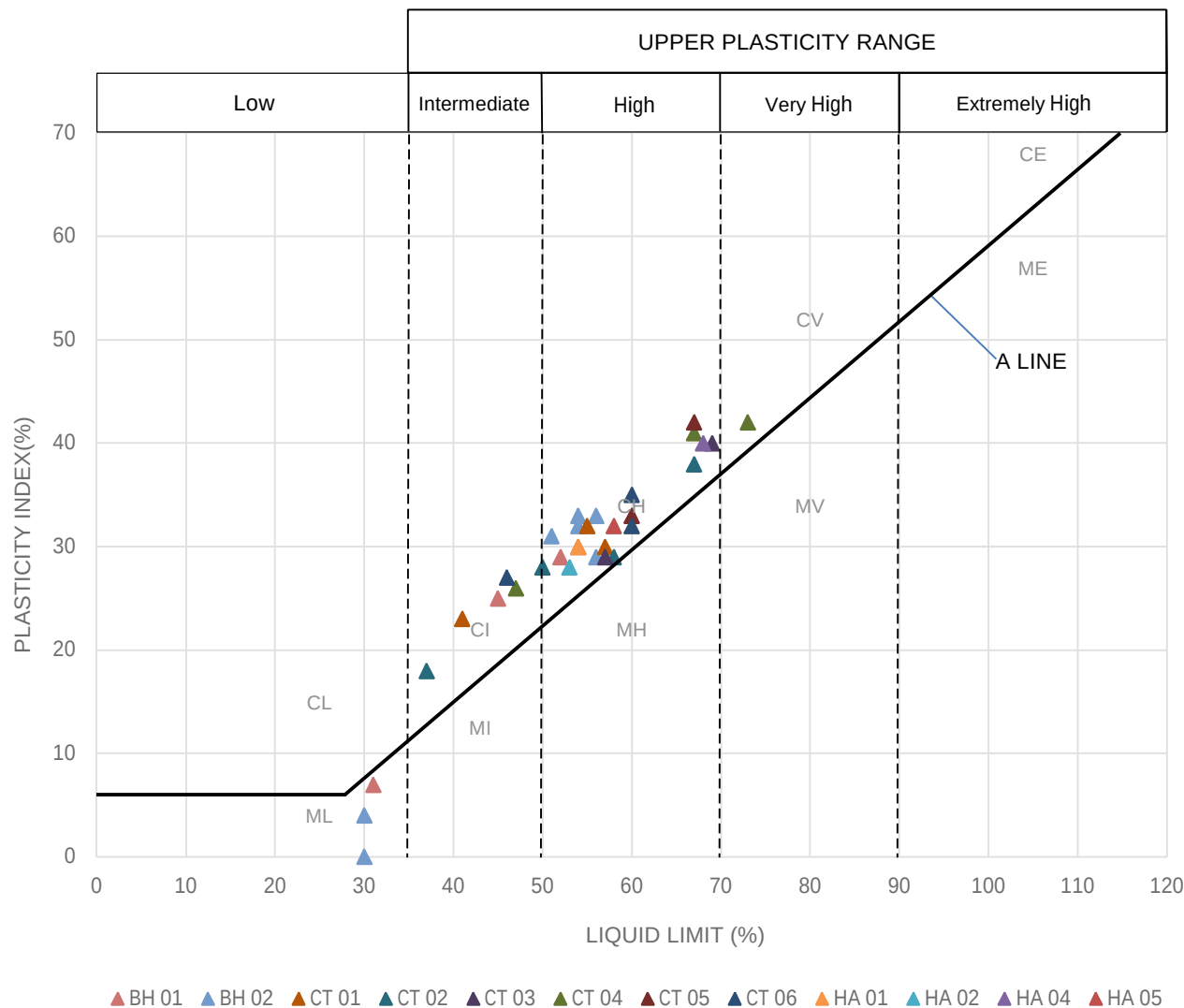




WATER CONTENT v DEPTH

Report:
21.02.014





PLASTICITY CHART

Report:
21.02.014



2183

Final Report

Report No.:	21-06649-1		
Initial Date of Issue:	09-Mar-2021		
Client	Listers Geotechnical Consultants		
Client Address:	Slapton Hill Barn, Blakesley Road Slapton Towcester Northamptonshire NN12 8QD		
Contact(s):	Matthew Johnston		
Project	21.02.014 Land at Cowplain Community School, Waterloooville		
Quotation No.:	Q18-12046	Date Received:	03-Mar-2021
Order No.:	21.02.014/781	Date Instructed:	03-Mar-2021
No. of Samples:	8		
Turnaround (Wkdays):	5	Results Due:	09-Mar-2021
Date Approved:	09-Mar-2021		

Approved By:



Details: Glynn Harvey, Technical Manager

Results - Soil

Project: 21.02.014 Land at Cowplain Community School, Waterloooville

Client: Listers Geotechnical Consultants	Chemtest Job No.:				21-06649	21-06649	21-06649	21-06649	21-06649	21-06649	21-06649	21-06649
Quotation No.: Q18-12046	Chemtest Sample ID.:				1152979	1152980	1152981	1152982	1152983	1152984	1152985	1152986
	Sample Location:				HA01	HA02	HA03	HA04	HA05	CT06	WAC01	WAC02
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.1	0.25	0.4	0.2	0.3	0.4	0.10	0.2
	Bottom Depth (m):										0.5	0.6
	Date Sampled:				23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021
	Asbestos Lab:				DURHAM	DURHAM		DURHAM			DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A	-	-		-			-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected			No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-		-			-	-
Moisture	N	2030	%	0.020	10	8.1	17	13	24	20		
Chromatogram (TPH)	N			N/A	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached		
pH	U	2010		4.0	9.7	> 12.0	10.1	9.5	9.1	6.7		
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.093	0.16	0.049	< 0.010	< 0.010	< 0.010		
Arsenic	U	2450	mg/kg	1.0	12	13	14	13	17	11		
Cadmium	U	2450	mg/kg	0.10	0.28	0.28	0.51	< 0.10	0.30	< 0.10		
Chromium	U	2450	mg/kg	1.0	13	15	17	29	19	19		
Copper	U	2450	mg/kg	0.50	7.6	8.3	7.1	14	10	8.1		
Mercury	U	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Nickel	U	2450	mg/kg	0.50	13	11	15	12	11	8.6		
Lead	U	2450	mg/kg	0.50	16	25	57	18	35	16		
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	0.55	< 0.20	0.42		
Zinc	U	2450	mg/kg	0.50	30	45	97	44	65	28		
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50							
TPH >C6-C8	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C8-C10	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C10-C12	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C12-C16	N	2670	mg/kg	1.0	1.2	7.6	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C16-C21	N	2670	mg/kg	1.0	8.9	13	< 1.0	7.5	< 1.0	< 1.0		
TPH >C21-C25	N	2670	mg/kg	1.0	21	21	< 1.0	24	< 1.0	< 1.0		
TPH >C25-C35	N	2670	mg/kg	1.0	20	36	< 1.0	30	< 1.0	< 1.0		
TPH >C35-C40	N	2670	mg/kg	1.0	5.9	9.0	< 1.0	8.2	< 1.0	< 1.0		
Total TPH >C6-C40	U	2670	mg/kg	10	57	87	< 10	70	< 10	< 10		
Naphthalene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Acenaphthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Fluorene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Phenanthrene	U	2800	mg/kg	0.10	0.50	0.32	0.12	0.99	< 0.10	< 0.10		
Anthracene	U	2800	mg/kg	0.10	0.15	0.16	< 0.10	0.77	< 0.10	< 0.10		
Fluoranthene	U	2800	mg/kg	0.10	1.1	0.82	0.17	1.9	0.13	< 0.10		
Pyrene	U	2800	mg/kg	0.10	1.0	0.80	0.14	1.9	0.13	< 0.10		
Benzo[a]anthracene	U	2800	mg/kg	0.10	0.34	0.42	< 0.10	1.6	< 0.10	< 0.10		

Results - Soil

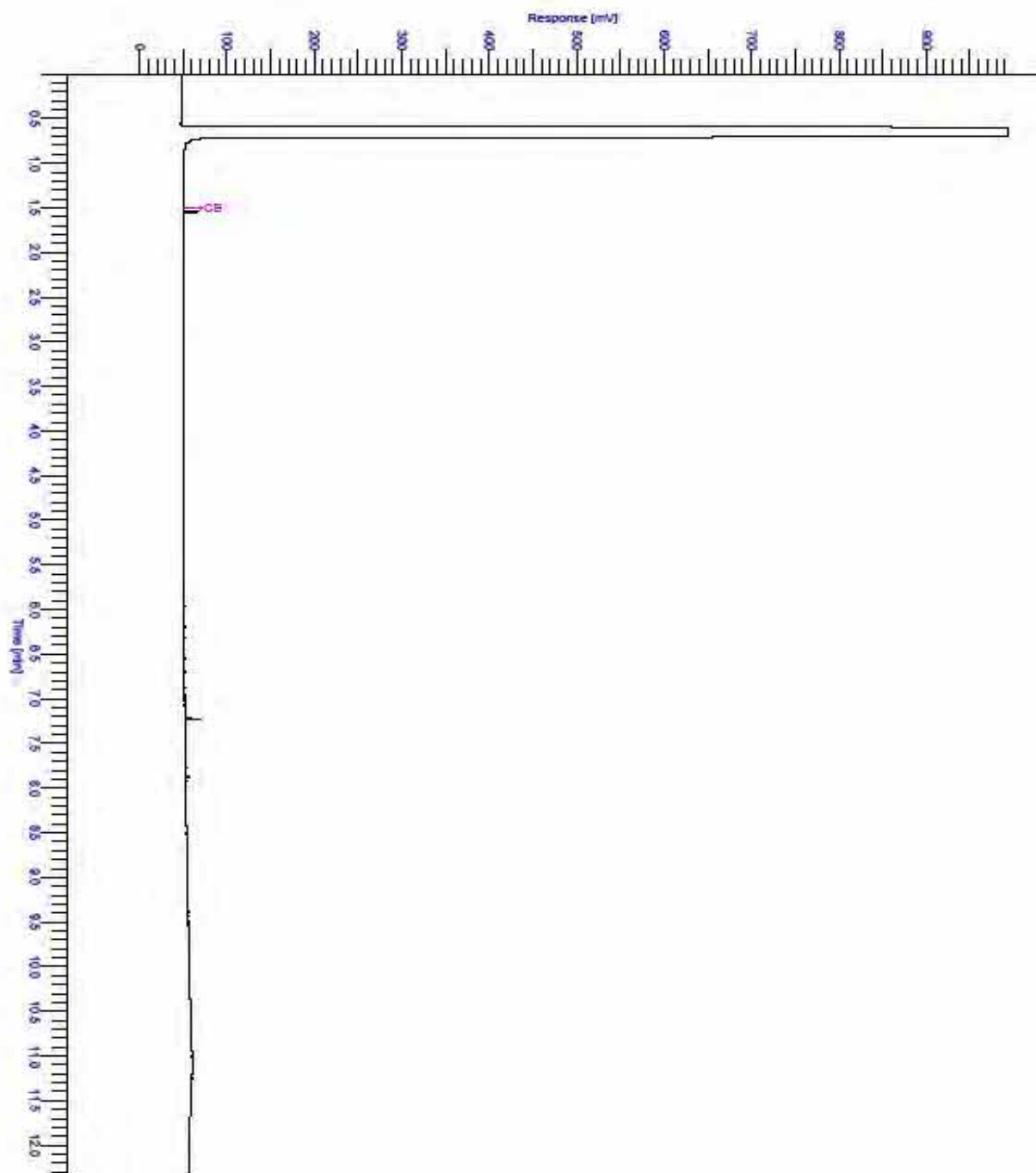
Project: 21.02.014 Land at Cowplain Community School, Waterloooville

Client: Listers Geotechnical Consultants	Chemtest Job No.:				21-06649	21-06649	21-06649	21-06649	21-06649	21-06649	21-06649	21-06649
Quotation No.: Q18-12046	Chemtest Sample ID.:				1152979	1152980	1152981	1152982	1152983	1152984	1152985	1152986
	Sample Location:				HA01	HA02	HA03	HA04	HA05	CT06	WAC01	WAC02
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.1	0.25	0.4	0.2	0.3	0.4	0.10	0.2
	Bottom Depth (m):										0.5	0.6
	Date Sampled:				23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021	23-Feb-2021
	Asbestos Lab:				DURHAM	DURHAM		DURHAM			DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
Chrysene	U	2800	mg/kg	0.10	0.51	0.55	< 0.10	1.7	< 0.10	< 0.10		
Benzo[b]fluoranthene	U	2800	mg/kg	0.10	0.76	0.91	< 0.10	2.7	< 0.10	< 0.10		
Benzo[k]fluoranthene	U	2800	mg/kg	0.10	0.26	0.32	< 0.10	1.4	< 0.10	< 0.10		
Benzo[a]pyrene	U	2800	mg/kg	0.10	0.55	0.63	< 0.10	2.6	< 0.10	< 0.10		
Indeno(1,2,3-c,d)Pyrene	U	2800	mg/kg	0.10	< 0.10	0.56	< 0.10	2.4	< 0.10	< 0.10		
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	0.13	< 0.10	1.0	< 0.10	< 0.10		
Benzo[g,h,i]perylene	U	2800	mg/kg	0.10	< 0.10	0.57	< 0.10	2.2	< 0.10	< 0.10		
Total Of 16 PAH's	N	2800	mg/kg	2.0	5.2	6.2	< 2.0	21	< 2.0	< 2.0		

TPH Chromatogram on Soil Sample: 1152979

Chromatogram

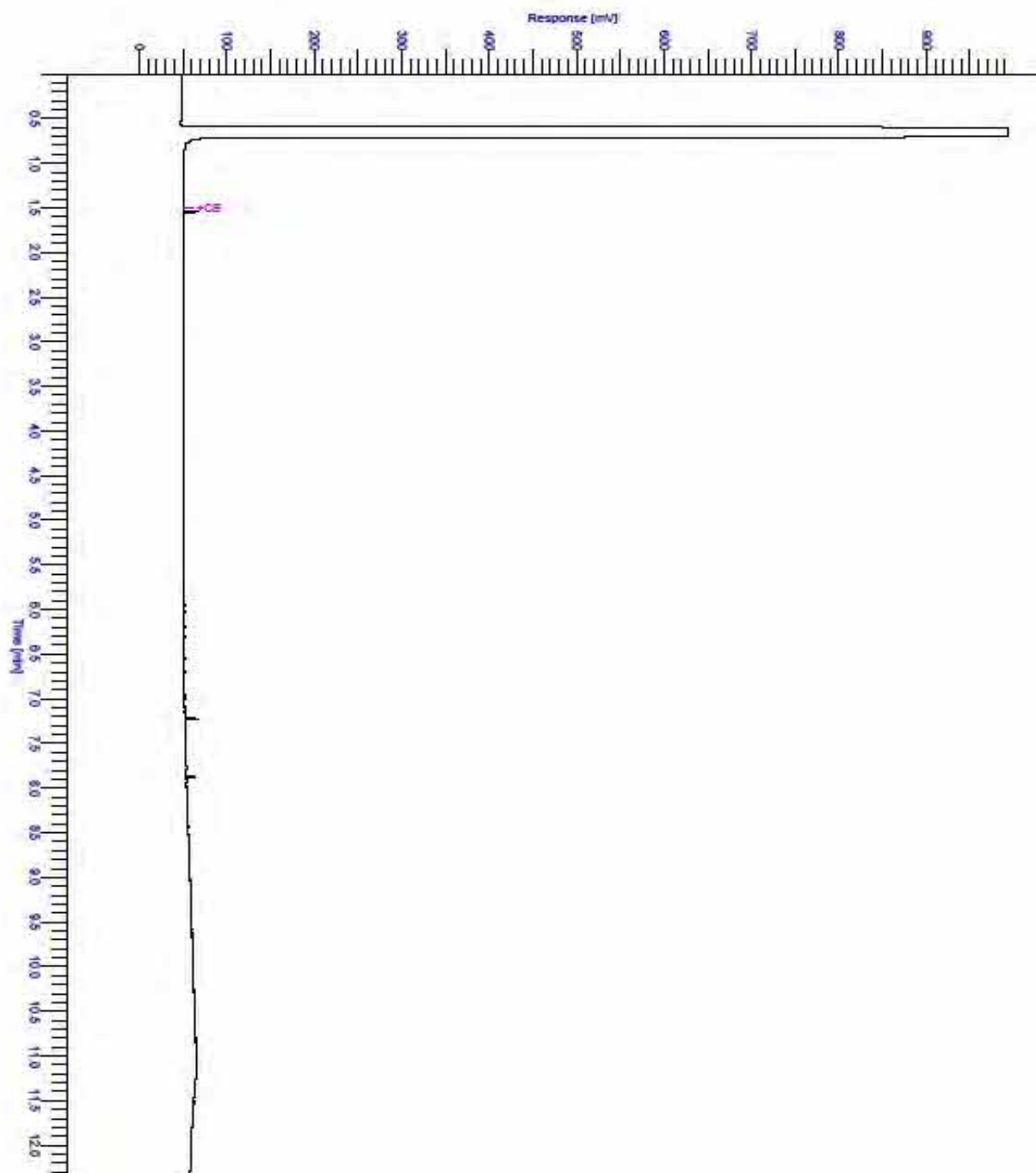
Sample Name : 1152979_sx1-21-06549 Sample #: 028 Page 1 of 1
FileName : U:\2021\GC15\Mar0503_1_TPH2A\0503_1_TPH2A_A028.raw
Date : 08/03/2021 16:35:57
Method :
Start Time : 0.00 min End Time : 12.36 min Time of Injection: 05/03/2021 23:21:17
Plot Offset: -2.64 mV Plot Scale: 996.5 mV Low Point : -2.64 mV High Point : 993.88 mV



TPH Chromatogram on Soil Sample: 1152980

Chromatogram

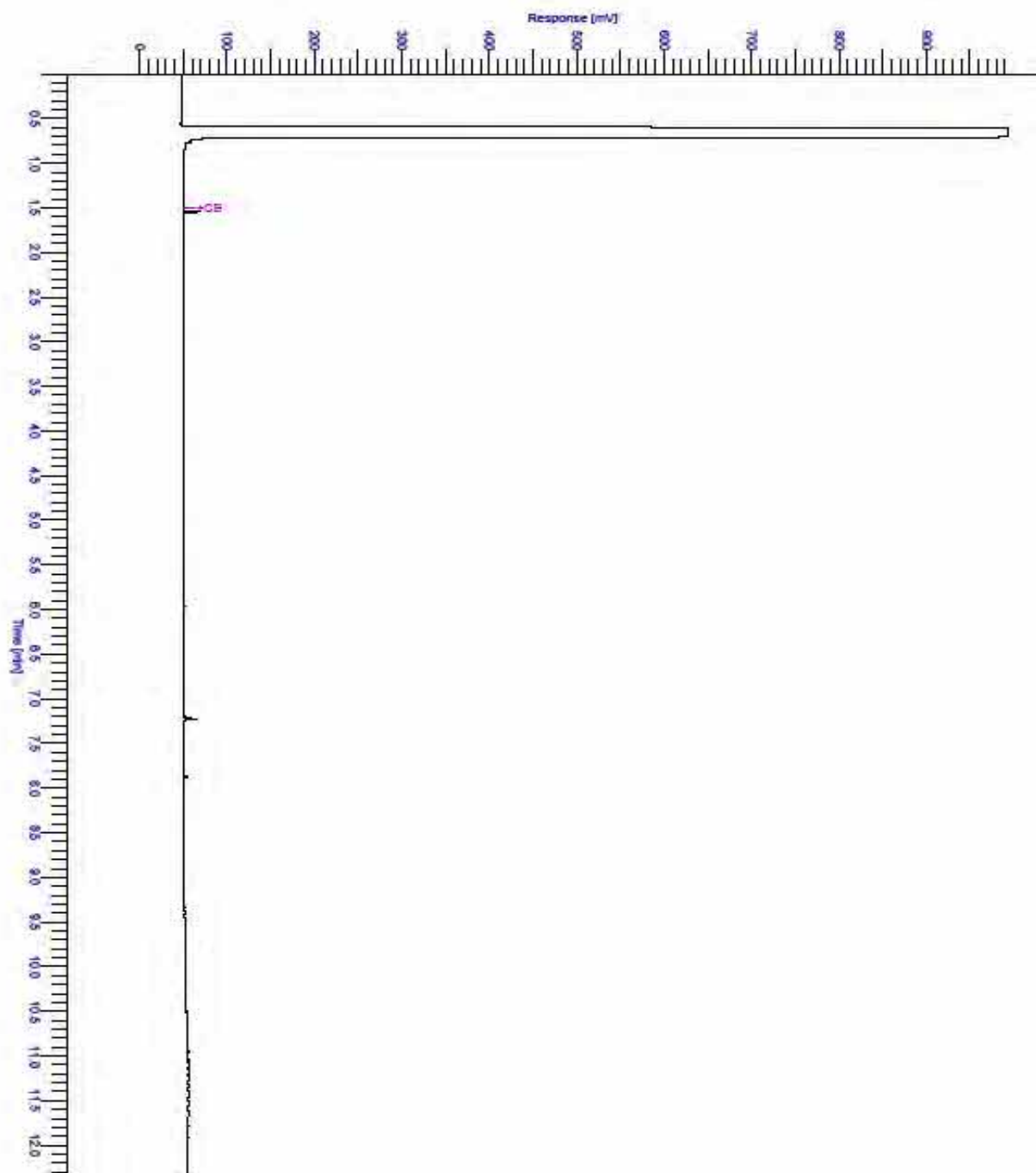
Sample Name : 1152980_sx1-21-06649 Sample #: 029 Page 1 of 1
FileName : U:\2021\GC15\Mar0503_1_TPH2A\0503_1_TPH2A_A029.raw
Date : 08/03/2021 16:36:23
Method :
Start Time : 0.00 min End Time : 12.36 min Time of Injection: 05/03/2021 23:48:49
Plot Offset: -2.49 mV Plot Scale: 996.4 mV Low Point : -2.49 mV High Point : 993.86 mV



TPH Chromatogram on Soil Sample: 1152981

Chromatogram

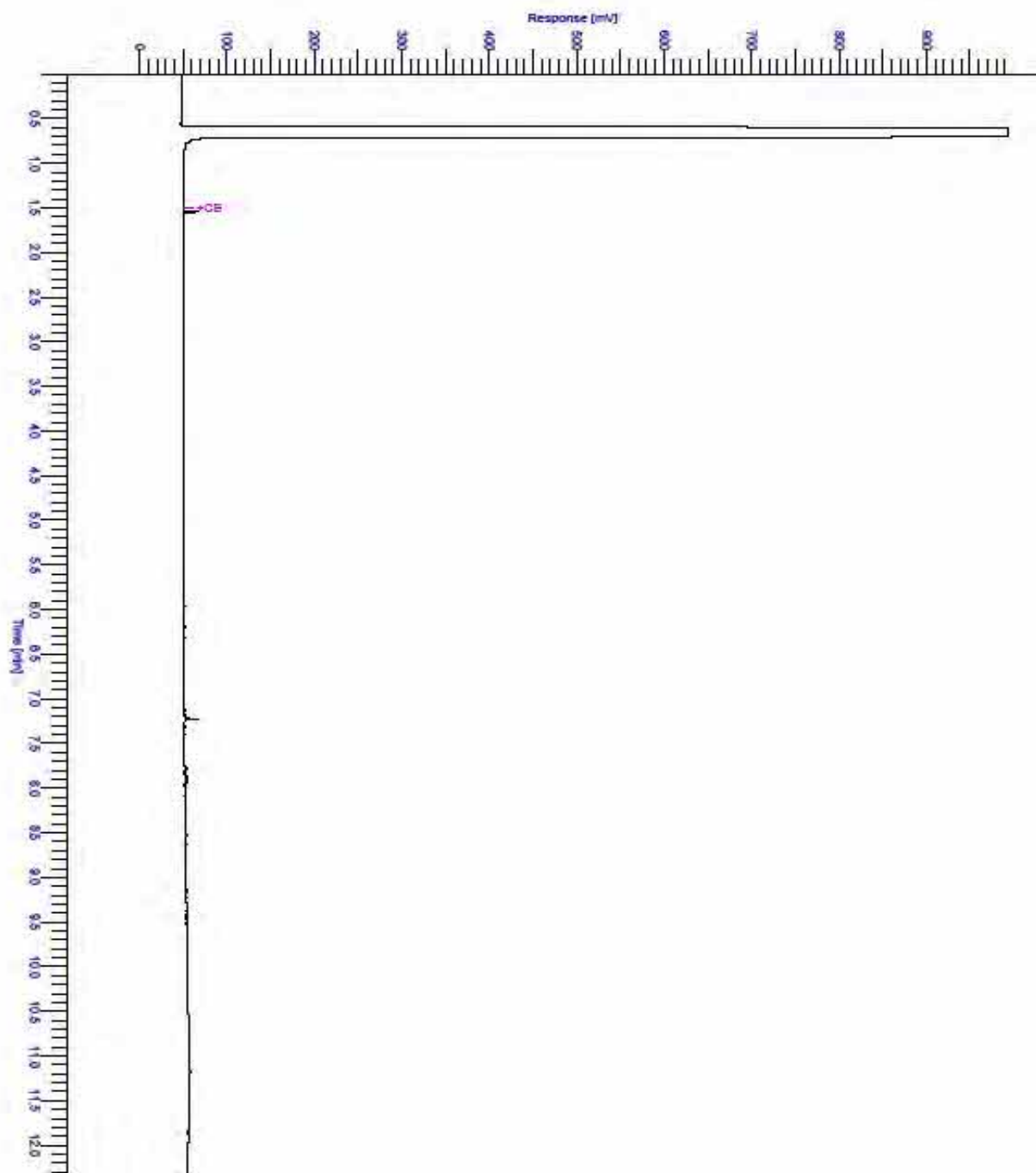
Sample Name : 1152981_sx1-21-06549 Sample #: 030 Page 1 of 1
FileName : U:\2021\GC15\Mar0503_1_TPH2A\0503_1_TPH2A_A030.raw
Date : 08/03/2021 16:36:42
Method :
Start Time : 0.00 min End Time : 12.36 min Time of Injection: 06/03/2021 00:16:36
Plot Offset: -2.70 mV Plot Scale: 996.6 mV Low Point : -2.70 mV High Point : 993.88 mV



TPH Chromatogram on Soil Sample: 1152982

Chromatogram

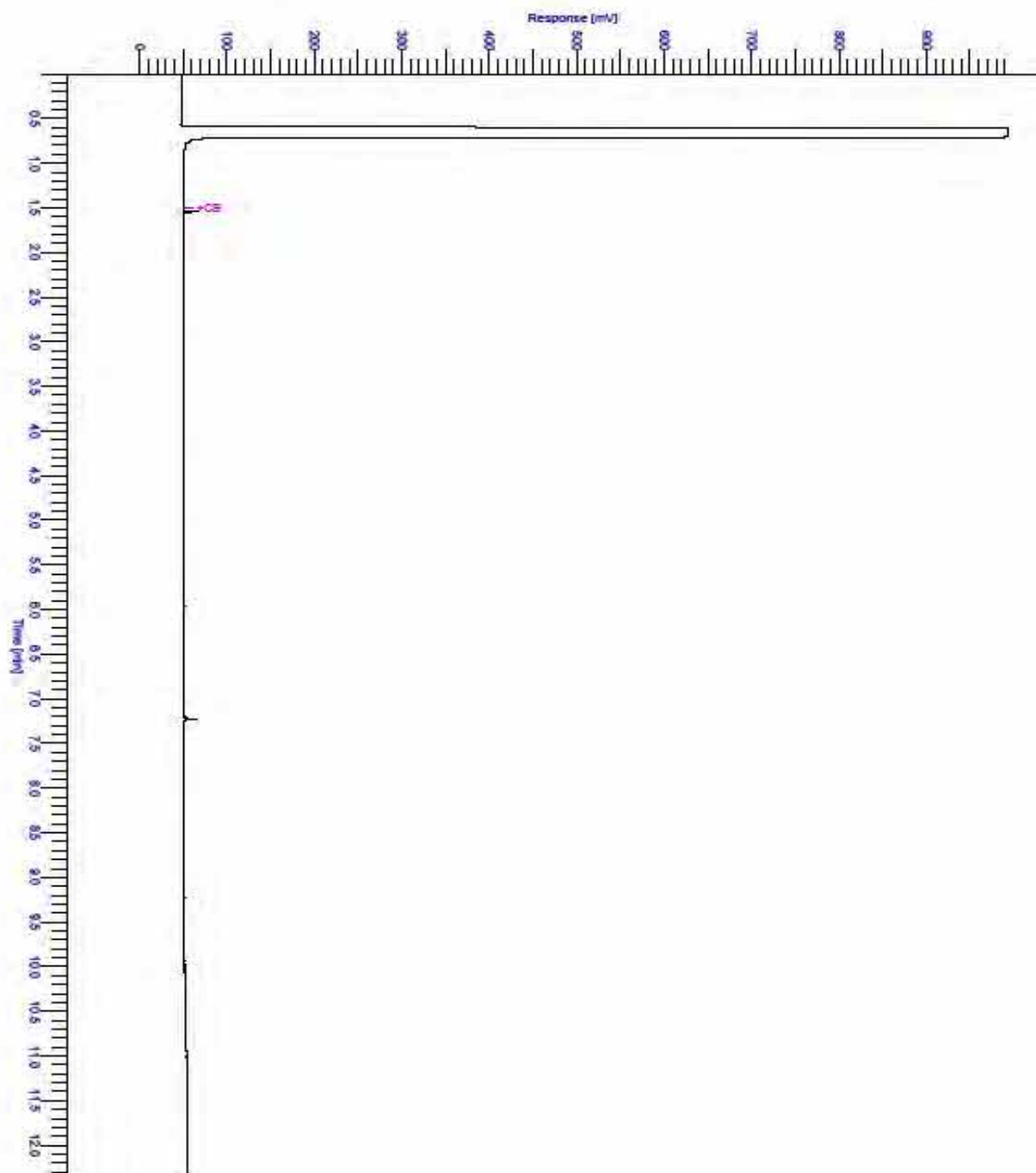
Sample Name : 1152982_sx1-21-06549 Sample #: 031 Page 1 of 1
FileName : U:\2021\GC15\Mar0503_1_TPH2A\0503_1_TPH2A_A031.raw
Date : 08/03/2021 16:37:03
Method :
Start Time : 0.00 min End Time : 12.36 min Time of Injection: 06/03/2021 00:44:12
Plot Offset: -2.64 mV Plot Scale: 996.5 mV Low Point : -2.64 mV High Point : 993.86 mV



TPH Chromatogram on Soil Sample: 1152983

Chromatogram

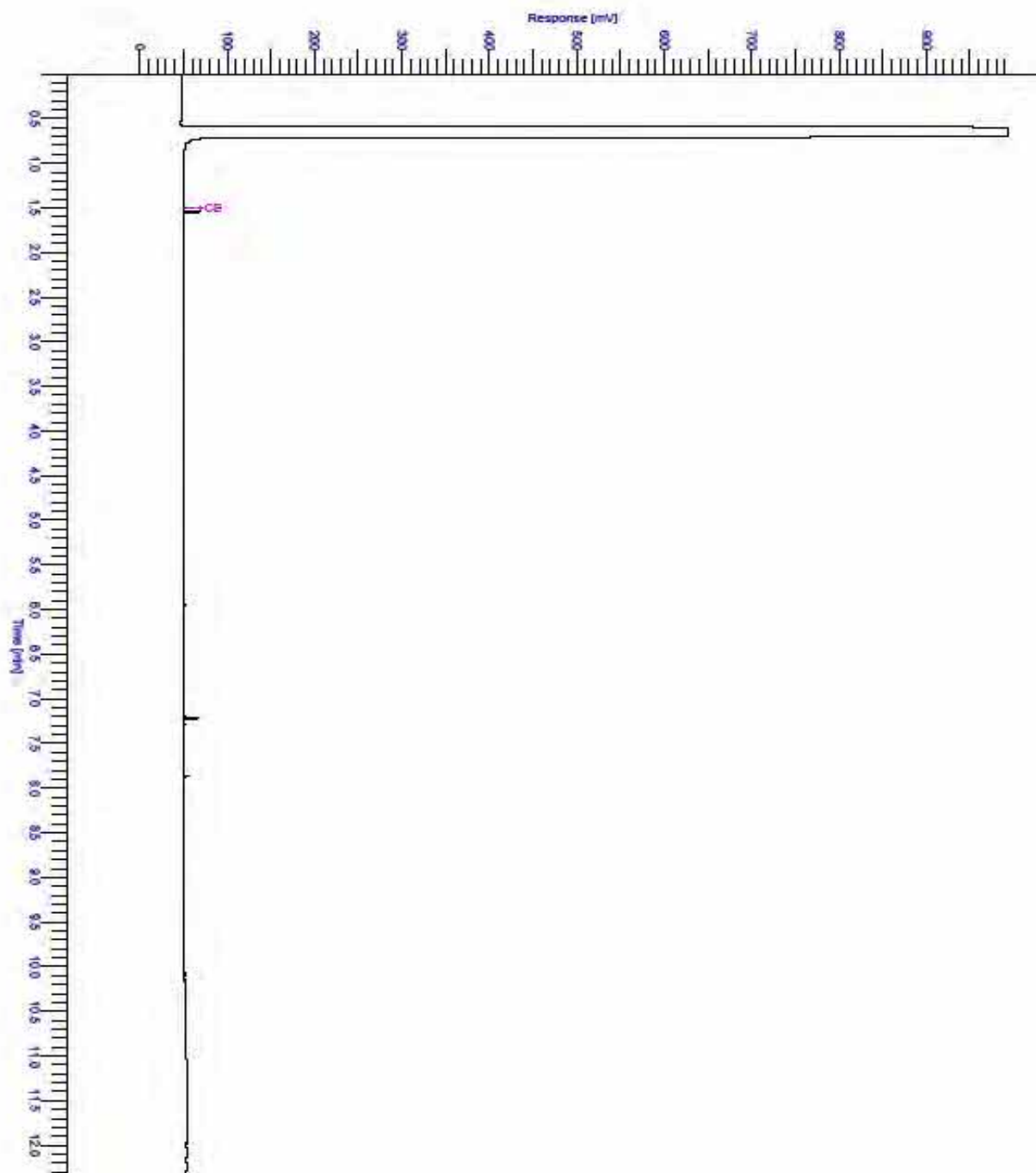
Sample Name : 1152983_sx1-21-06549 Sample #: 032 Page 1 of 1
FileName : U:\2021\GC15\Mar0503_1_TPH2A\0503_1_TPH2A_A032.raw
Date : 05/03/2021 16:37:19
Method : Time of Injection: 05/03/2021 01:11:50
Start Time : 0.00 min End Time : 12.36 min Low Point : -2.61 mV High Point : 993.88 mV
Plot Offset: -2.61 mV Plot Scale: 996.5 mV



TPH Chromatogram on Soil Sample: 1152984

Chromatogram

Sample Name : 1152984_srl1-21-06649 Sample #: 033 Page 1 of 1
FileName : U:\2021\GC15\Mar0503_1_TPH2A\0503_1_TPH2A_A033.raw
Date : 08/03/2021 16:37:35
Method :
Start Time : 0.00 min End Time : 12.36 min Time of Injection: 06/03/2021 01:40:22
Plot Offset: -2.82 mV Plot Scale: 996.7 mV Low Point : -2.82 mV High Point : 993.86 mV



Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Diben[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

APPENDIX D

CONTAMINATION RISK ASSESSMENT WORKSHEETS

Contaminated Land Risk Assessment – Definition of Methodology

The Contaminated Land Risk Assessment methodology followed in this report is based on Environment Agency's (EA) online guidance, Land Contamination: Risk Management (LCRM), published in October 2020. The new guidance is based upon the principles of the EA's CLR11 guidance, Model procedures for the management of land contamination, published in 2004, now withdrawn.

The preliminary Conceptual Site Model (CSM) has been assessed using the methodology set out in CIRIA C552, Contaminated Land Risk Assessment - A Guide to Good Practice, published in 2001, as detailed below.

Risk evaluation determines the magnitude of risks present by assessing the likelihood of a particular risk being present alongside the severity of the consequence, should that event occur. The overall risk classification is a combination of the two and provides a qualitative assessment upon which to base any further work or remedial measures, where deemed necessary.

Where complete pollutant linkages are present, the probability of a contamination risk occurring at the site has been classified in accordance with the terms listed and defined in the table below.

Classification	Definition of Probability
High Likelihood	An event appears very likely in the short term and almost inevitable in the long term; or there is evidence at the receptor that harm or pollution is occurring.
Likely	It is probable that an event will occur, however, the event is not inevitable. It is possible in the short term and is likely over the long term.
Low Likelihood	Circumstances are possible under which an event could occur. However, it is uncertain that the event would occur even over a longer period and even less likely in the short term.
Unlikely	Circumstances are such that it is improbable that an event would occur even in the very long term.

The magnitude of the consequence of a contamination event occurring at this site is classified in accordance with the definitions listed in the following table. The classification of the consequence does not take into account the probability of the consequences being realised.

Classification	Definition of Consequence	Examples
Severe	Short term (acute) risk to human health likely to result in “significant harm” as defined by the Environment protection Act (1990), Part IIA. Short term risk of pollution of controlled waters. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion causing building collapse (can also equate to a short-term human health risk if buildings are occupied.).
Medium	Chronic damage to Human Health (“significant harm”). Pollution of controlled waters. A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of contaminants from site exceeding generic or site-specific screening criteria. Leaching of contaminants into a major or minor aquifer. Death of species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy. (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by measures such as protective clothing etc). Easily reparable effects of damage to buildings, structures and services	The presence of contaminants at such concentration that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

Once the probability and consequence of each pathway has been classified, the potential overall risk classification can be evaluated using the following matrix.

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

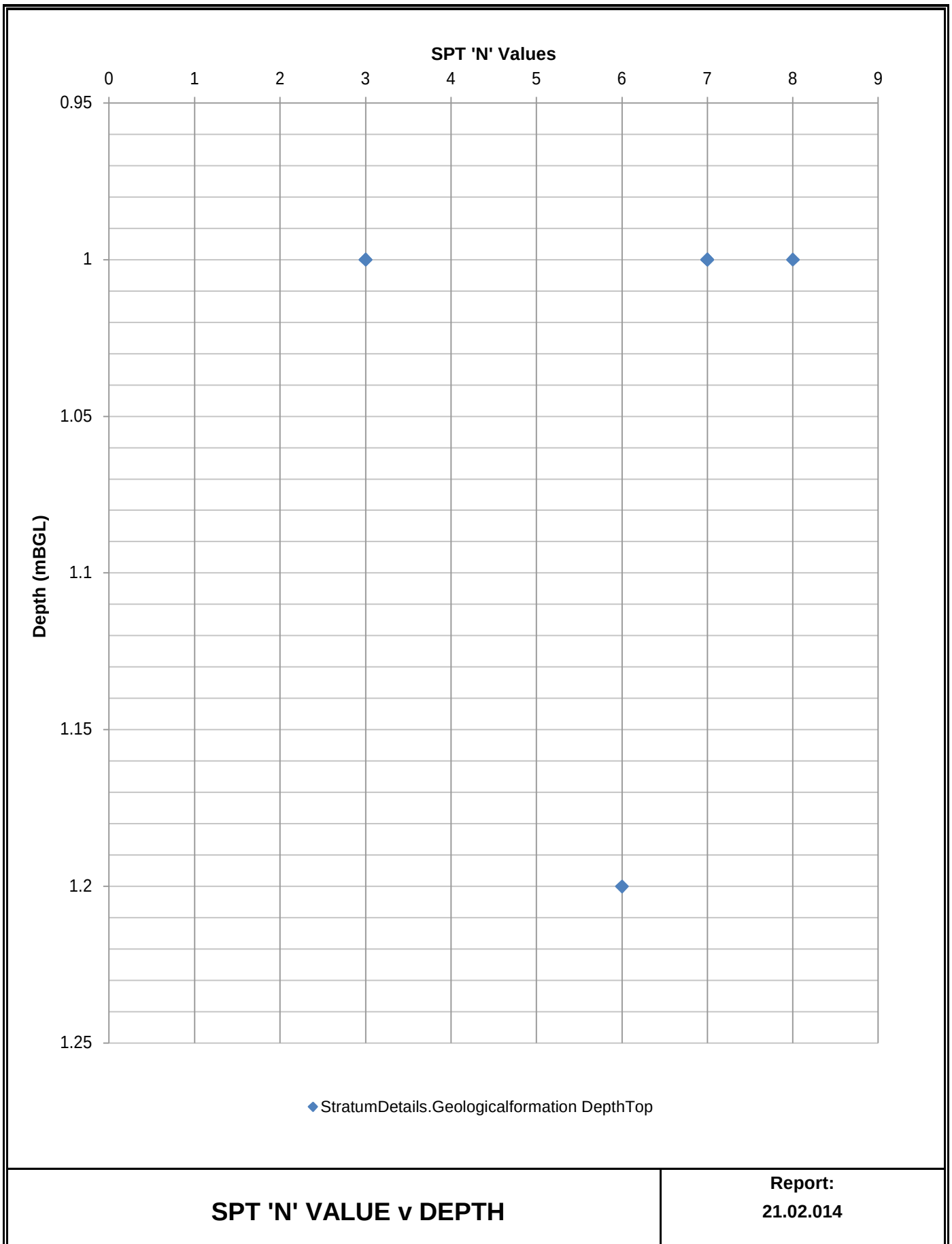
The definitions of the risk categories provided in CIRIA C552, together with actions that are likely to be necessary, are presented below.

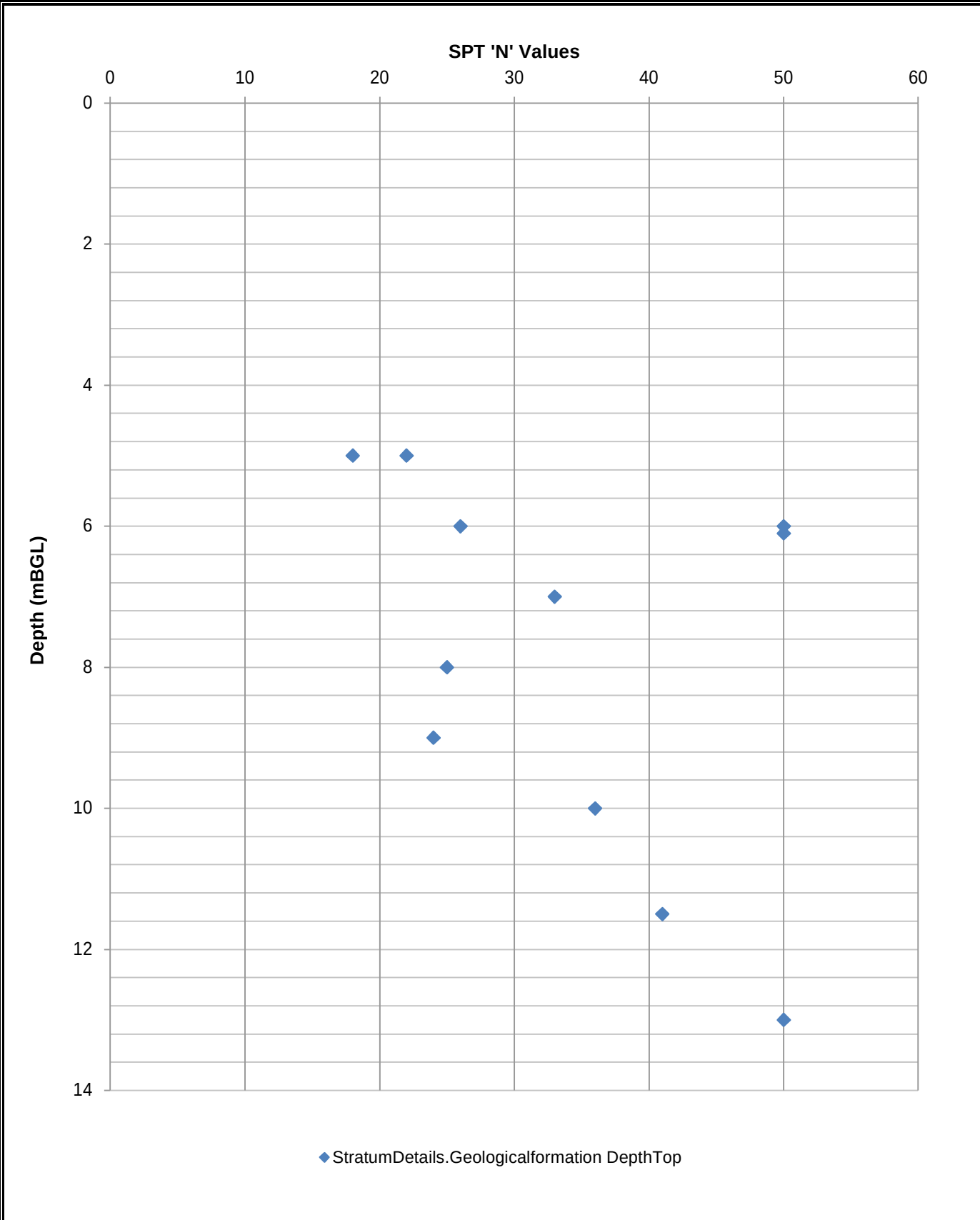
Classification	Definition of Risk and Likely Actions Required
Very High Risk	High probability that severe harm could arise or that severe harm is already occurring This risk, if realised, is likely to result in a substantial liability Urgent investigation and remediation are likely to be required
High Risk	Harm is likely to arise The risk, if realised, is likely to present a substantial liability Urgent investigation is required and remediation may be necessary in the short term and likely over the longer term
Moderate Risk	It is possible that harm could arise, however, it is unlikely that any harm would be severe and more likely it would be relatively mild Investigation is likely to be required to clarify the risk and determine potential liability Some remediation may be required in the longer term
Low Risk	It is possible that harm could arise, but is likely that this harm, if realised, would be mild at worst
Very Low Risk	There is a low possibility that harm could arise If realised, such harm is not likely to be severe

Reference:

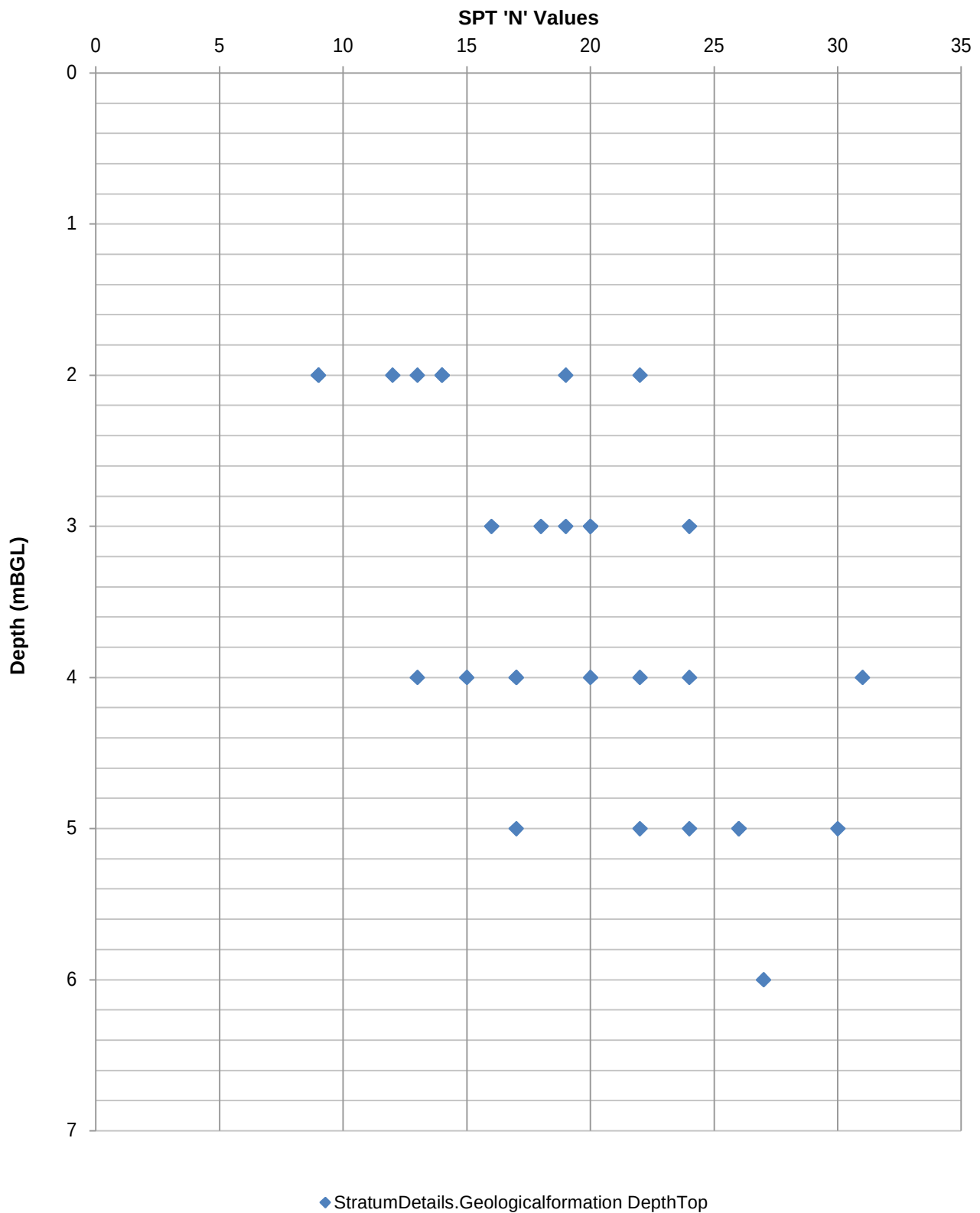
Rudland, D J, Lancefield, R M, Mayell, P N, Contaminated land Risk Assessment. A guide to Good Practice, CIRIA Report C552, 2001.

APPENDIX E GEOTECHNICAL PLOTS AND TABLES



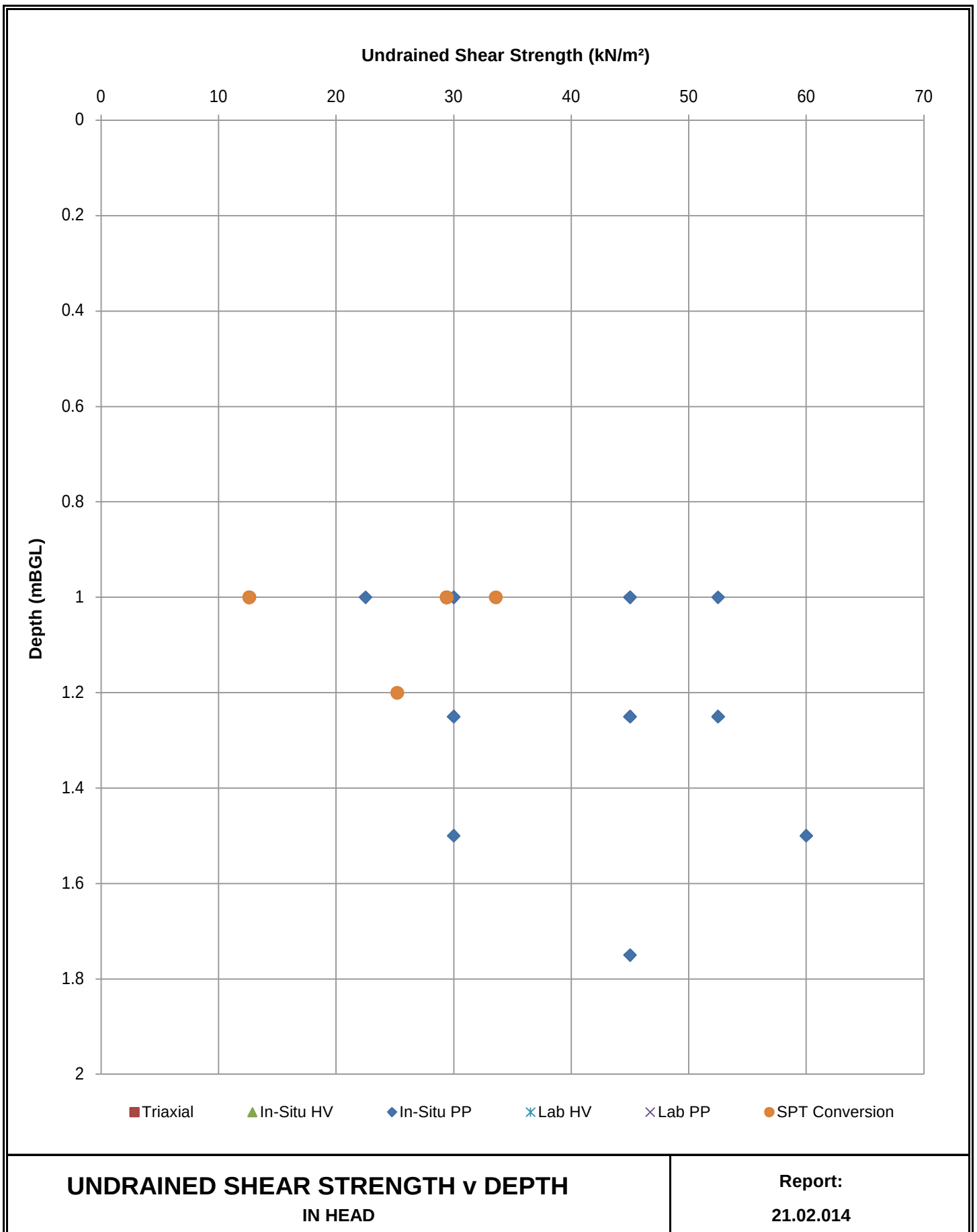


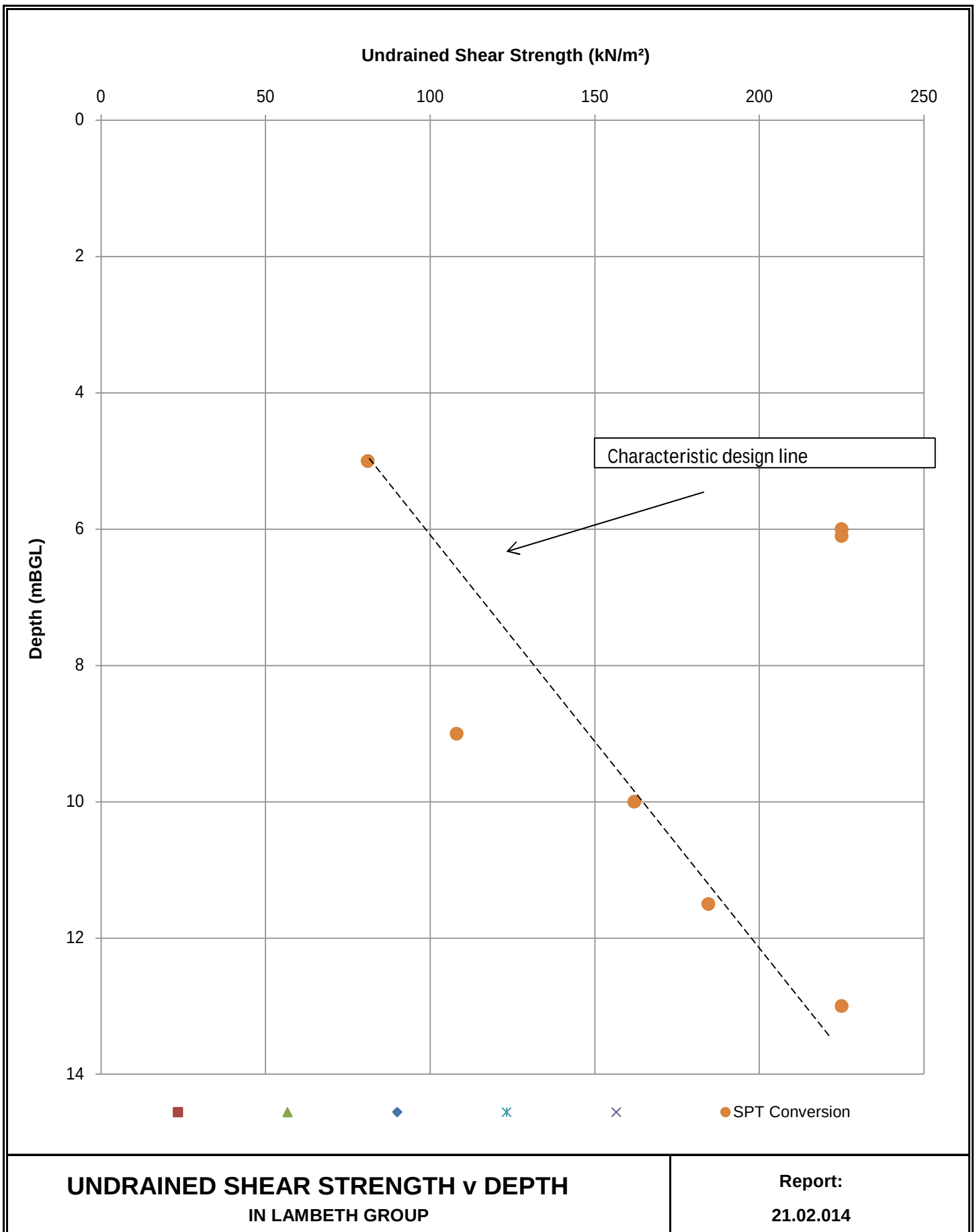
SPT 'N' VALUE v DEPTH	Report: 21.02.014
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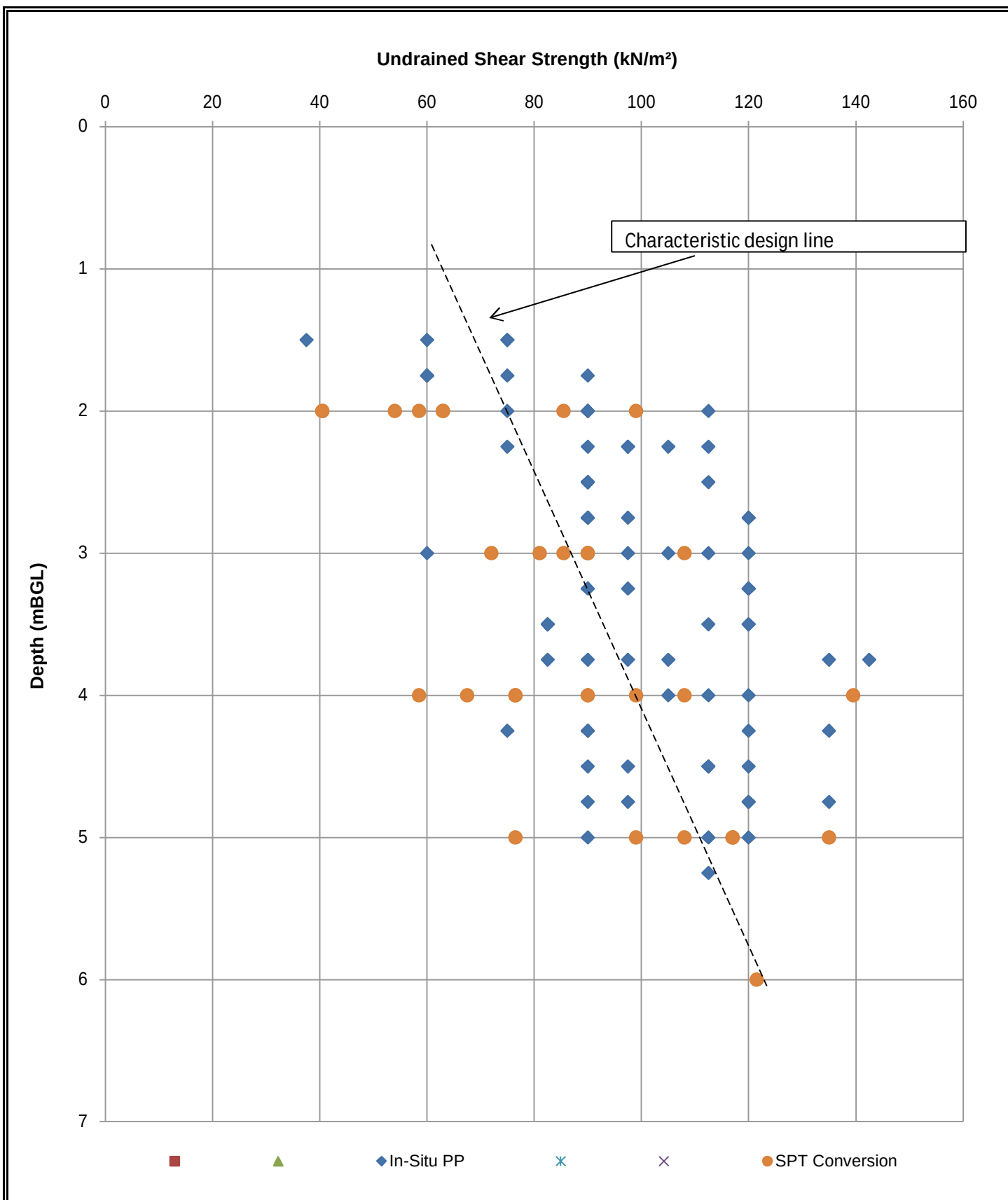


SPT 'N' VALUE v DEPTH

Report:
21.02.014







UNDRAINED SHEAR STRENGTH v DEPTH
IN LONDON CLAY FORMATION

Report:
21.02.014

The working load of a single pile is the sum of the ultimate shaft resistance and the ultimate end bearing resistance, each divided by an appropriate factor of safety. The following unit ultimate values of shaft resistance and end bearing resistance are proposed for preliminary pile design:

Ultimate Skin Friction

kN

Made Ground

From GL to 0.5m bgl

Ignore

Head

From 0.5m to 2.0m bgl

Ignore

London Clay Formation

From 2.0m to 5.0m bgl

Increasing linearly from
35 x A_s to 60 x A_s per metre

Lambeth Group (sand)

From 5.0m to 8.5m

30 x A_s per metre

Lambeth Group (clay)

From 8.5m to 12.0m

Increasing linearly from
65 x A_s to 100 x A_s per metre

Ultimate End Bearing

kN

Lambeth Group

At 12.0m bgl

1,800 x A_b

Notes:

A_s – area of the pile shaft (m^2); A_b – area of pile base (m^2)

Design GWL = 1.0m bgl

Coarse soils: beta-method, on the basis of SPT 'N' values and effective overburden pressure. Assumes the use of CFA bored piles to minimise loosening as a result of pile installation

Fine soils: design guidance from LDSA (2009) wherein:

'Adhesion' factor, α , of 0.5 and Bearing Capacity Factor, N_c , of 9.0 have been used

PRELIMINARY PILE DESIGN DATA

**Report No:
21.02.014**

APPENDIX F WASTE CLASSIFICATION

Waste Classification Report



EZ848-HLD94-9EBFJ

Job name

21.02.014 Waterlooile

Description/Comments

Project

21.02.014

Site

Land at Cowplain Community School, Hart Plain Avenue, Waterlooile, Hampshire, PO8 8RY

Related Documents

#	Name	Description
None		

Waste Stream Template

ListersGeo Metals, TPH, PAH, BTEX WM3 1.1

Classified by

Name: Matthew Johnston	Company: Listers Geotechnical Consultants	HazWasteOnline™ Training Record:	
Date: 31 Mar 2021 15:45 GMT	Slapton Hill Barn	Course	Date
Telephone: 01327 860060	Blakesley Road	Hazardous Waste Classification	-
	Towcester	Advanced Hazardous Waste Classification	-
	NN12 8QD		

Report

Created by: Matthew Johnston
Created date: 31 Mar 2021 15:45 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	HA01	0.1	Non Hazardous		2
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Classification of sample: HA01



Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
HA01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.1 m	
Moisture content:	
10%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 10% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	• pH		PH		9.7 pH		9.7	pH	9.7 pH		
2	• arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	12 mg/kg	1.32	14.26	mg/kg	0.00143 %	✓	
3	• cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	0.28 mg/kg	1.285	0.324	mg/kg	0.0000252 %	✓	
4	• chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9	13 mg/kg	1.462	17.1	mg/kg	0.00171 %	✓	
5	• copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	7.6 mg/kg	1.126	7.701	mg/kg	0.00077 %	✓	
6	• mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
7	• nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	13 mg/kg	1.579	18.48	mg/kg	0.00185 %	✓	
8	• lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	16 mg/kg	1.56	22.461	mg/kg	0.00144 %	✓	
9	• selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<0.2 mg/kg	1.405	<0.281	mg/kg	<0.0000281 %		<LOD
10	• zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	30 mg/kg	2.774	74.902	mg/kg	0.00749 %	✓	
11	• TPH (C6 to C40) petroleum group		TPH		57 mg/kg		51.3	mg/kg	0.00513 %	✓	
12	• naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• phenanthrene		201-581-5	85-01-8	0.5 mg/kg		0.45	mg/kg	0.000045 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.15 mg/kg		0.135 mg/kg	0.0000135 %	✓	
18	fluoranthene	205-912-4	206-44-0		1.1 mg/kg		0.99 mg/kg	0.000099 %	✓	
19	pyrene	204-927-3	129-00-0		1 mg/kg		0.9 mg/kg	0.00009 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.34 mg/kg		0.306 mg/kg	0.0000306 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.51 mg/kg		0.459 mg/kg	0.0000459 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.76 mg/kg		0.684 mg/kg	0.0000684 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.26 mg/kg		0.234 mg/kg	0.0000234 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.55 mg/kg		0.495 mg/kg	0.0000495 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0204 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because concentration not high enough for flammability to be of concern

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00513%)

Classification of sample: HA02



Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
HA02	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.25 m	
Moisture content:	
8.1%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.1% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				13	mg/kg	1.32	15.774	mg/kg	0.00158 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium sulfide }			1	0.28	mg/kg	1.285	0.331	mg/kg	0.0000257 %	✓	
	048-010-00-4	215-147-8	1306-23-6									
3	chromium { chromium(III) oxide (worst case) }				15	mg/kg	1.462	20.148	mg/kg	0.00201 %	✓	
		215-160-9	1308-38-9									
4	copper { dicopper oxide; copper (I) oxide }				8.3	mg/kg	1.126	8.588	mg/kg	0.000859 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
5	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
6	nickel { nickel dihydroxide }				11	mg/kg	1.579	15.967	mg/kg	0.0016 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
7	lead { lead chromate }			1	25	mg/kg	1.56	35.837	mg/kg	0.0023 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				<0.2	mg/kg	1.405	<0.281	mg/kg	<0.0000281 %		<LOD
	034-002-00-8											
9	zinc { zinc chromate }				45	mg/kg	2.774	114.725	mg/kg	0.0115 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
10	TPH (C6 to C40) petroleum group		TPH		87	mg/kg		79.953	mg/kg	0.008 %	✓	
11	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
12	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
13	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
14	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
15	phenanthrene				0.32	mg/kg		0.294	mg/kg	0.0000294 %	✓	
		201-581-5	85-01-8									
16	anthracene				0.16	mg/kg		0.147	mg/kg	0.0000147 %	✓	
		204-371-1	120-12-7									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluoranthene				0.82 mg/kg		0.754 mg/kg	0.0000754 %	✓	
		205-912-4	206-44-0							
18	pyrene				0.8 mg/kg		0.735 mg/kg	0.0000735 %	✓	
		204-927-3	129-00-0							
19	benzo[a]anthracene				0.42 mg/kg		0.386 mg/kg	0.0000386 %	✓	
		601-033-00-9	200-280-6							
20	chrysene				0.55 mg/kg		0.505 mg/kg	0.0000505 %	✓	
		601-048-00-0	205-923-4							
21	benzo[b]fluoranthene				0.91 mg/kg		0.836 mg/kg	0.0000836 %	✓	
		601-034-00-4	205-911-9							
22	benzo[k]fluoranthene				0.32 mg/kg		0.294 mg/kg	0.0000294 %	✓	
		601-036-00-5	205-916-6							
23	benzo[a]pyrene; benzo[def]chrysene				0.63 mg/kg		0.579 mg/kg	0.0000579 %	✓	
		601-032-00-3	200-028-5							
24	indeno[123-cd]pyrene				0.56 mg/kg		0.515 mg/kg	0.0000515 %	✓	
		205-893-2	193-39-5							
25	dibenz[a,h]anthracene				0.13 mg/kg		0.119 mg/kg	0.0000119 %	✓	
		601-041-00-2	200-181-8							
26	benzo[ghi]perylene				0.57 mg/kg		0.524 mg/kg	0.0000524 %	✓	
		205-883-8	191-24-2							
Total:								0.0285 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because concentration not high enough for flammability to be of concern

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.008%)

Classification of sample: HA03



Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
HA03	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.4 m	
Moisture content:	
17%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 17% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	• pH		PH		10.1 pH		10.1	pH	10.1 pH		
2	• arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	14 mg/kg	1.32	15.342	mg/kg	0.00153 %	✓	
3	• cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	0.51 mg/kg	1.285	0.544	mg/kg	0.0000423 %	✓	
4	• chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9	17 mg/kg	1.462	20.623	mg/kg	0.00206 %	✓	
5	• copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	7.1 mg/kg	1.126	6.635	mg/kg	0.000663 %	✓	
6	• mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
7	• nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	15 mg/kg	1.579	19.665	mg/kg	0.00197 %	✓	
8	• lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	57 mg/kg	1.56	73.795	mg/kg	0.00473 %	✓	
9	• selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<0.2 mg/kg	1.405	<0.281	mg/kg	<0.0000281 %		<LOD
10	• zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	97 mg/kg	2.774	223.347	mg/kg	0.0223 %	✓	
11	• TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
12	• naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• phenanthrene		201-581-5	85-01-8	0.12 mg/kg		0.0996	mg/kg	0.00000996 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		0.17 mg/kg		0.141 mg/kg	0.0000141 %	✓	
19	pyrene	204-927-3	129-00-0		0.14 mg/kg		0.116 mg/kg	0.0000116 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0345 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: HA04



Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
HA04	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	
Moisture content:	
13%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	• pH		PH		9.5 pH		9.5	pH	9.5 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		13 mg/kg	1.32	14.933	mg/kg	0.00149 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
4	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9	29 mg/kg	1.462	36.875	mg/kg	0.00369 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	14 mg/kg	1.126	13.713	mg/kg	0.00137 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	12 mg/kg	1.579	16.49	mg/kg	0.00165 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	18 mg/kg	1.56	24.427	mg/kg	0.00157 %	✓	
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			0.55 mg/kg	1.405	0.672	mg/kg	0.0000672 %	✓	
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	44 mg/kg	2.774	106.194	mg/kg	0.0106 %	✓	
11	• TPH (C6 to C40) petroleum group		TPH		70 mg/kg		60.9	mg/kg	0.00609 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	phenanthrene		201-581-5	85-01-8	0.99 mg/kg		0.861	mg/kg	0.0000861 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.77 mg/kg		0.67 mg/kg	0.000067 %	✓	
18	fluoranthene	205-912-4	206-44-0		1.9 mg/kg		1.653 mg/kg	0.000165 %	✓	
19	pyrene	204-927-3	129-00-0		1.9 mg/kg		1.653 mg/kg	0.000165 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.6 mg/kg		1.392 mg/kg	0.000139 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	1.7 mg/kg		1.479 mg/kg	0.000148 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	2.7 mg/kg		2.349 mg/kg	0.000235 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.4 mg/kg		1.218 mg/kg	0.000122 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	2.6 mg/kg		2.262 mg/kg	0.000226 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		2.4 mg/kg		2.088 mg/kg	0.000209 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	1 mg/kg		0.87 mg/kg	0.000087 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		2.2 mg/kg		1.914 mg/kg	0.000191 %	✓	
Total:								0.0284 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because concentration not high enough for flammability to be of concern

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00609%)

Classification of sample: HA05



Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
HA05	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.3 m	
Moisture content:	
24%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 24% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	• pH		PH		9.1 pH		9.1	pH	9.1 pH		
2	• arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	17 mg/kg	1.32	17.059	mg/kg	0.00171 %	✓	
3	• cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	0.3 mg/kg	1.285	0.293	mg/kg	0.0000228 %	✓	
4	• chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9	19 mg/kg	1.462	21.105	mg/kg	0.00211 %	✓	
5	• copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	10 mg/kg	1.126	8.557	mg/kg	0.000856 %	✓	
6	• mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
7	• nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	11 mg/kg	1.579	13.205	mg/kg	0.00132 %	✓	
8	• lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	35 mg/kg	1.56	41.491	mg/kg	0.00266 %	✓	
9	• selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<0.2 mg/kg	1.405	<0.281	mg/kg	<0.0000281 %		<LOD
10	• zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	65 mg/kg	2.774	137.043	mg/kg	0.0137 %	✓	
11	• TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
12	• naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• phenanthrene		201-581-5	85-01-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		0.13 mg/kg		0.0988 mg/kg	0.00000988 %	✓	
19	pyrene	204-927-3	129-00-0		0.13 mg/kg		0.0988 mg/kg	0.00000988 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0236 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: CT06



Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
CT06	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.4 m	
Moisture content:	
20%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	pH		PH		6.7 pH		6.7	pH	6.7 pH		
2	arsenic { arsenic trioxide }				11 mg/kg	1.32	11.619	mg/kg	0.00116 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
4	chromium { chromium(III) oxide (worst case) }				19 mg/kg	1.462	22.216	mg/kg	0.00222 %	✓	
		215-160-9	1308-38-9								
5	copper { dicopper oxide; copper (I) oxide }				8.1 mg/kg	1.126	7.296	mg/kg	0.00073 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
6	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel dihydroxide }				8.6 mg/kg	1.579	10.867	mg/kg	0.00109 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
8	lead { lead chromate }			1	16 mg/kg	1.56	19.966	mg/kg	0.00128 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.42 mg/kg	1.405	0.472	mg/kg	0.0000472 %	✓	
	034-002-00-8										
10	zinc { zinc chromate }				28 mg/kg	2.774	62.141	mg/kg	0.00621 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	naphthalene				<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8								
14	acenaphthene				<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9								
15	fluorene				<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7								
16	phenanthrene				<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-581-5	85-01-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0139 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non CLP determinands

• pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

• chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4 H332 , Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Resp. Sens. 1 H334 , Skin Sens. 1 H317 , Repr. 1B H360FD , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , STOT RE 2 H373 , Muta. 1B H340 , Carc. 1B H350 , Repr. 2 H361d , Aquatic Chronic 2 H411

• acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 1 H330 , Acute Tox. 1 H310 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

• acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Aquatic Chronic 2 H411

• fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Skin Irrit. 2 H315

• anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

♦ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2 H351

♦ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on risk phrases

cadmium {cadmium sulfide}

Worst case species based on risk phrases

chromium {chromium(III) oxide (worst case)}

chromium VI below detection

copper {dicopper oxide; copper (I) oxide}

Most likely common species

mercury {mercury dichloride}

Worst case species based on risk phrases

nickel {nickel dihydroxide}

Worst case species based on risk phrases

lead {lead chromate}

Worst case species based on risk phrases

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Worst case species based on risk phrases

zinc {zinc chromate}

Worst case default setting

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018

HazWasteOnline Classification Engine Version: 2021.77.4714.9046 (18 Mar 2021)

HazWasteOnline Database: 2021.77.4714.9046 (18 Mar 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1stEditionv1.1-May2018

CLP Regulation - Regulation1272/2008/ECof16December2008

1st ATP - Regulation790/2009/ECof10August2009

2nd ATP - Regulation286/2011/ECof10March2011

3rd ATP - Regulation618/2012/EUof10July2012

4th ATP - Regulation487/2013/EUof8May2013

Correction to 1st ATP - Regulation758/2013/EUof7August2013

5th ATP - Regulation944/2013/EUof2October2013

6th ATP - Regulation605/2014/EUof5June2014

WFD Annex III replacement - Regulation1357/2014/EUof18December2014

Revised List of Waste 2014 - Decision2014/955/EUof18December2014

7th ATP - Regulation2015/1221/EUof24July2015

8th ATP - Regulation(EU)2016/918of19May2016

9th ATP - Regulation(EU)2016/1179of19July2016

10th ATP - Regulation(EU)2017/776of4May2017

HP14 amendment - Regulation(EU)2017/997of8June2017

13th ATP - Regulation(EU)2018/1480of4October2018

14th ATP - Regulation(EU)2020/217of4October2019

15th ATP - Regulation(EU)2020/1182of19May2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2019 - UK:2019No.720of27thMarch2019

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK:2020No.1567of16thDecember2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

POPs Regulation 2019 - Regulation(EU)2019/1021of20June2019



Amended Report

Report No.:	21-09702-2		
Initial Date of Issue:	09-Mar-2021	Date of Re-Issue:	01-Apr-2021
Client	Listers Geotechnical Consultants		
Client Address:	Slapton Hill Barn, Blakesley Road Slapton Towcester Northamptonshire NN12 8QD		
Contact(s):	Matthew Johnston		
Project	21.02.014 Land at Cowplain Community School, Waterloooville		
Quotation No.:	Q18-12046	Date Received:	03-Mar-2021
Order No.:	21.02.014/781	Date Instructed:	03-Mar-2021
No. of Samples:	2		
Turnaround (Wkdays):	22	Results Due:	01-Apr-2021
Date Approved:	01-Apr-2021		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Soil

**Project: 21.02.014 Land at Cowplain Community School,
Waterlooville**

Client: Listers Geotechnical Consultants	Chemtest Job No.:				21-09702	21-09702
Quotation No.: Q18-12046	Chemtest Sample ID.:				1152985	1152986
	Sample Location:				WAC01	WAC02
	Sample Type:				SOIL	SOIL
	Top Depth (m):				0.10	0.2
	Bottom Depth (m):				0.5	0.6
	Date Sampled:				23-Feb-2021	23-Feb-2021
	Asbestos Lab:				DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD		
ACM Type	U	2192		N/A	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-

Results - Single Stage WAC

Project: 21.02.014 Land at Cowplain Community School, Waterloooville

Chemtest Job No: 21-09702					Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1152985					Limits		
Sample Ref:					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:							
Sample Location: WAC01							
Top Depth(m): 0.10							
Bottom Depth(m): 0.5							
Sampling Date: 23-Feb-2021							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	< 0.20	3	5	6
Loss On Ignition	2610	M	%	2.9	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC (Mineral Oil)	2670	M	mg/kg	30	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	12	100	--	--
pH	2010	M		8.9	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.021	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0022	0.022	0.5	2	25
Barium	1455	U	0.013	0.13	20	100	300
Cadmium	1455	U	< 0.00012	< 0.0012	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	0.0007	0.0065	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0032	0.032	0.5	10	30
Nickel	1455	U	0.0070	0.070	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	0.004	0.039	4	50	200
Chloride	1220	U	2.3	23	800	15000	25000
Fluoride	1220	U	0.22	2.2	10	150	500
Sulphate	1220	U	58	580	1000	20000	50000
Total Dissolved Solids	1020	N	170	1700	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	14	140	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	24

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 21.02.014 Land at Cowplain Community School, Waterloooville

Chemtest Job No: 21-09702					Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1152986					Limits		
Sample Ref:					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:							
Sample Location: WAC02							
Top Depth(m): 0.2							
Bottom Depth(m): 0.6							
Sampling Date: 23-Feb-2021							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	1.2	3	5	6
Loss On Ignition	2610	M	%	4.9	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC (Mineral Oil)	2670	M	mg/kg	27	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.4	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.011	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0023	0.023	0.5	2	25
Barium	1455	U	0.009	0.086	20	100	300
Cadmium	1455	U	< 0.00012	< 0.0012	0.04	1	5
Chromium	1455	U	0.0007	0.0070	0.5	10	70
Copper	1455	U	0.0028	0.028	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0009	0.0091	0.5	10	30
Nickel	1455	U	0.019	0.19	0.4	10	40
Lead	1455	U	0.0029	0.029	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	0.009	0.085	4	50	200
Chloride	1220	U	2.4	24	800	15000	25000
Fluoride	1220	U	0.47	4.7	10	150	500
Sulphate	1220	U	12	120	1000	20000	50000
Total Dissolved Solids	1020	N	98	950	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	16	160	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	38

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

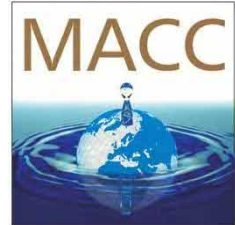
All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

APPENDIX G DESK STUDY INFORMATION



MACC International Ltd, Camilla Court, Nacton, Ipswich, Suffolk, IP10 0EU, UK

Sandy David
Contracts Manager
Listers Geotechnics Ltd

Your Reference:

Our Reference: JM/6963/03

Email 1st Instance: Sandy@geotechnics.co.uk

Date: 17/02/2021

Unexploded Ordnance Preliminary Risk Review
Cowplain Community School, Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RY

MACC International Ltd (MACC) has conducted a preliminary risk review for the site footprint. The review has drawn on open source and in-house information, references have been provided where available (See Annex A).

The review has been conducted to provide Geotechnics Limited with a review of the risk which may be posed by UXO while conducting investigations on the site.

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Although the immediate surrounding area did suffer enemy bombing raids during WWII, no records were found to indicate a bomb strike within the footprint. Whilst considering the history of the site and the level of post-war development, the following conclusions have been reached:

It is considered that there is not a credible likelihood of encountering UXO on the plot. Consequently, the UXO risk is considered to be LOW within the site boundary.

Nevertheless, it is recommended that:

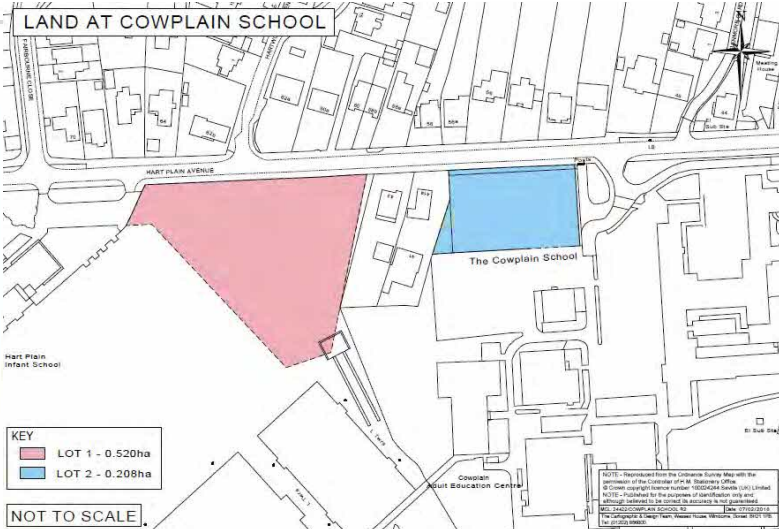
- o All site personnel are provided with a UXO Safety Awareness Talk before intrusive works are commenced.

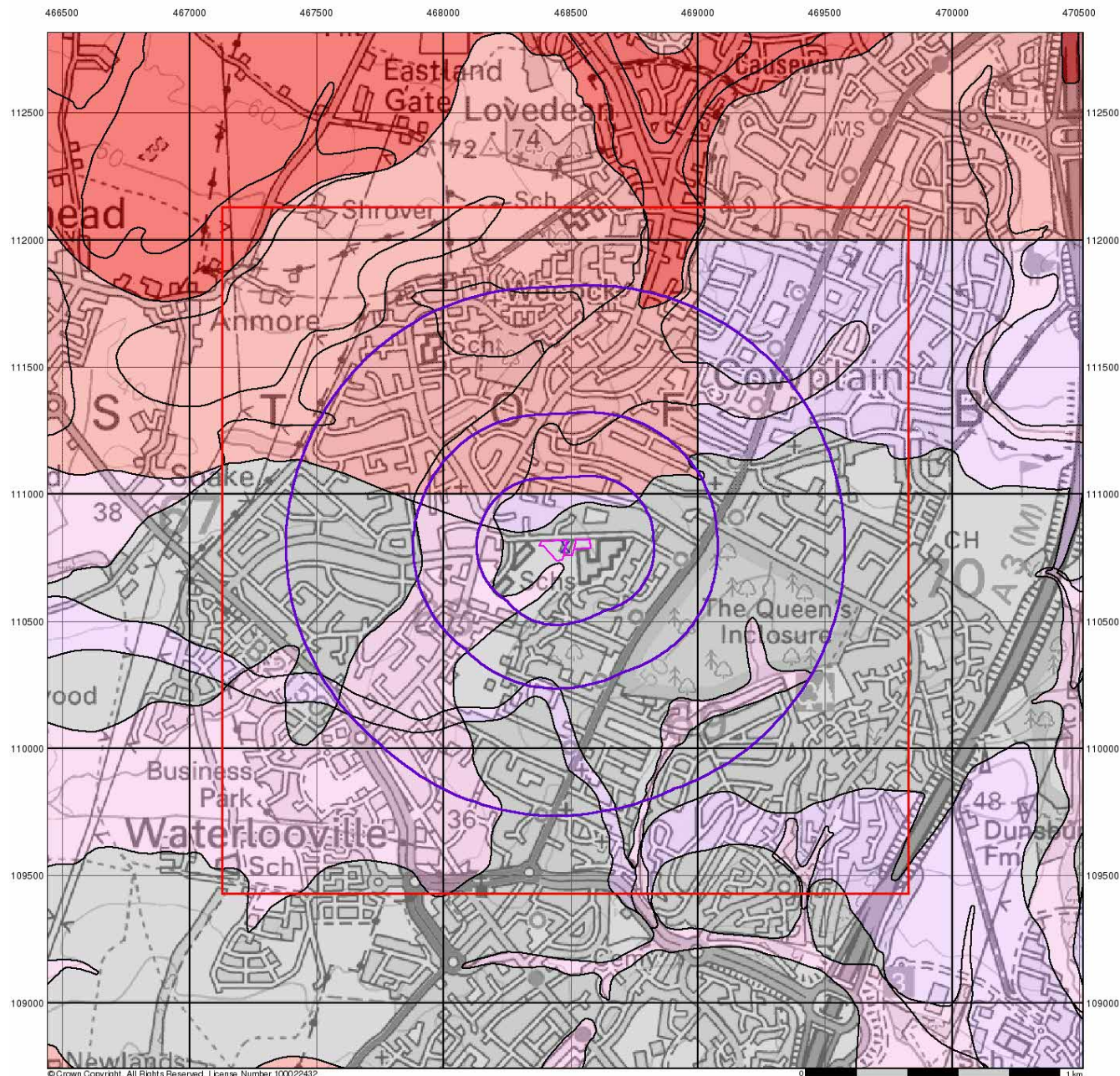
I trust this document has provided you with sufficient information to meet your immediate needs, should you require anything further, please do not hesitate to contact me.

Yours Sincerely

John Morrison
Operations Manager

Unexploded Ordnance Preliminary Risk Review

Site location 	Site Address: Land at Cowplain Community School, Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RY Grid Reference: 468452, 110788 and 468551, 110809 
Scope of Intended works	Preliminary review of the risk that may be posed by UXO to geotechnical investigations.
History	Wartime Use: The site footprint was located within the grounds of Cowplain Community School (formerly Cowplain Comprehensive School) during WWII forming part of their playing fields. Post War Development: The site has undergone little post-war development.
Wartime History	Enemy Bombing: Waterlooville suffered significant enemy bombing during WWII. However, no records were found to indicate a bomb strike within the site footprint. The nearest recorded bomb strike occurred approximately 500m east of the site footprint within the Queen's Enclosure (wooded area). Anti-Aircraft Guns: No guns were recorded to have been positioned on site. The nearest Light Anti-Aircraft battery was positioned approximately 950m south-east of the site footprint. Military Use: Although there was significant wartime military presence in the immediate area with marshalling camps for troops prior to D-Day, no records were found to confirm military use of the site footprint.
Unexploded Ordnance (UXO) Finds	No records were found to indicate that items of UXO have been found within the site footprint.



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Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Bedrock Aquifers

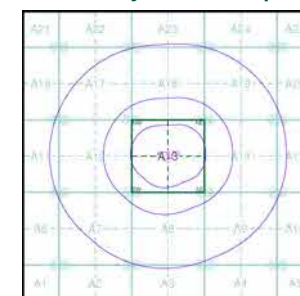
- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

- Unproductive Aquifer
- Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

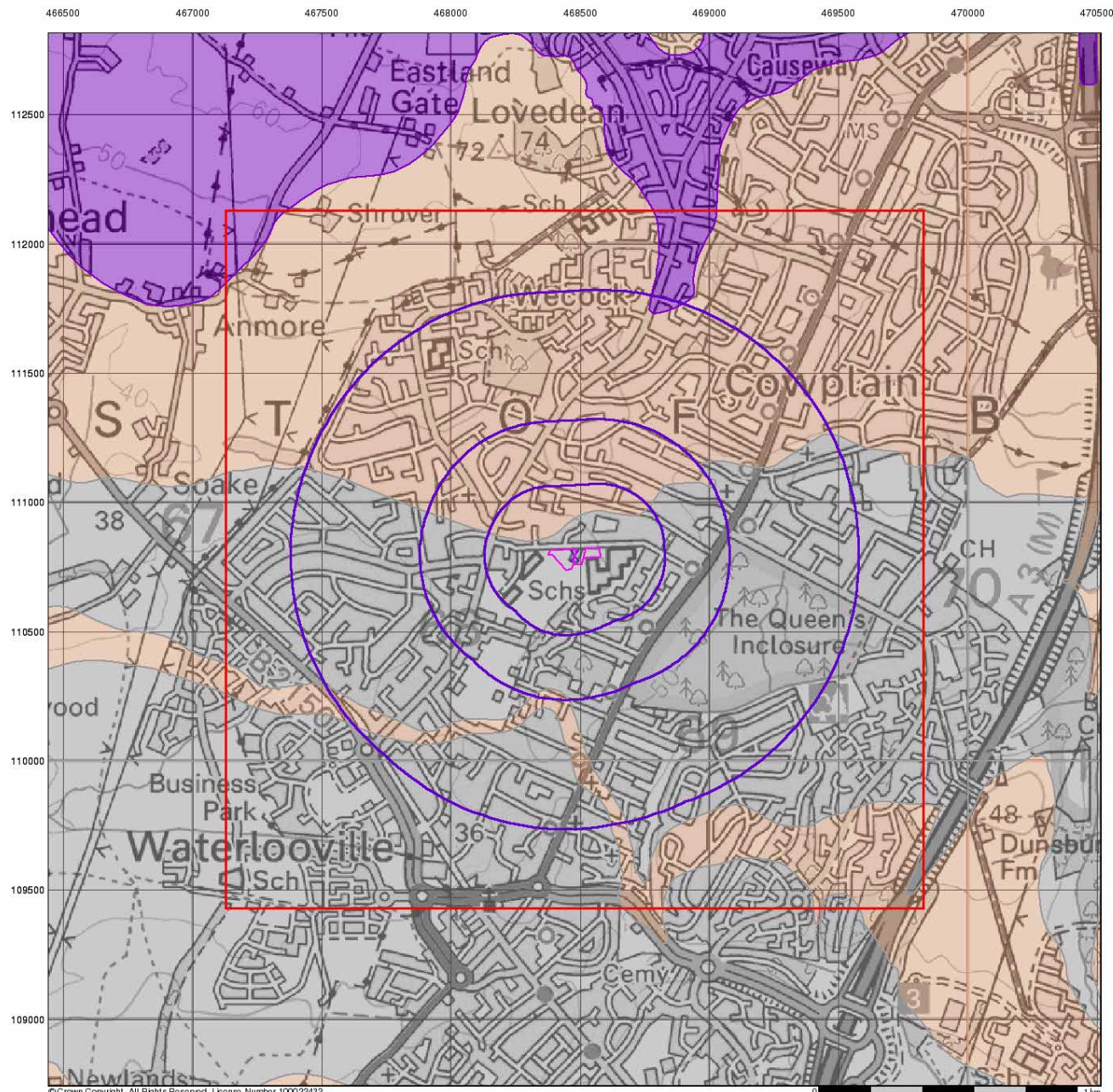
Order Number: 273549449_1_1
 Customer Ref: 21.02.014
 National Grid Reference: 468480, 110790
 Slice: A
 Site Area (Ha): 0.74
 Search Buffer (m): 1000

Site Details

Land at Cowplain School, Hart Plain Avenue, WATERLOOVILLE, PO8 8RY



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Bedrock Aquifer Designation

General

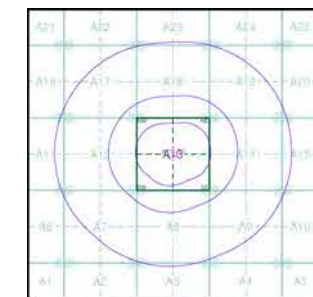
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

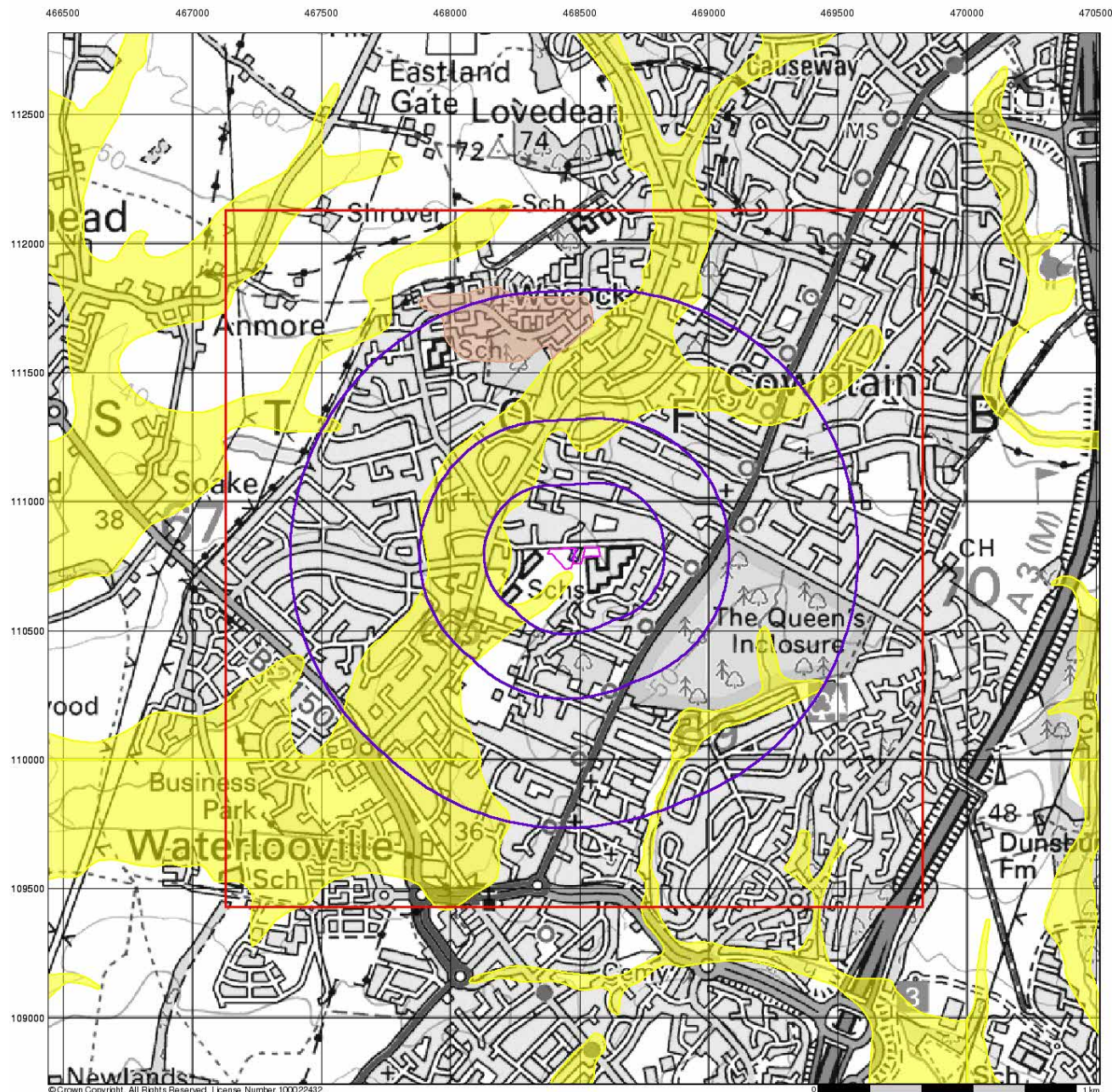
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 Customer Ref: 21.02.014
 National Grid Reference: 468480, 110790
 Slice: A
 Site Area (Ha): 0.74
 Search Buffer (m): 1000

Site Details

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Tel: 0844 844 9952
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Superficial Aquifer Designation

General

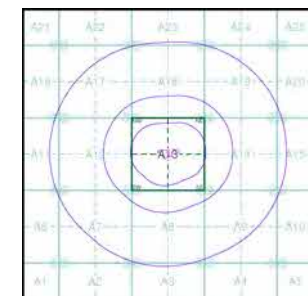
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 273549449_1_1
 Customer Ref: 21.02.014
 National Grid Reference: 468480, 110790
 Slice: A
 Site Area (Ha): 0.74
 Search Buffer (m): 1000

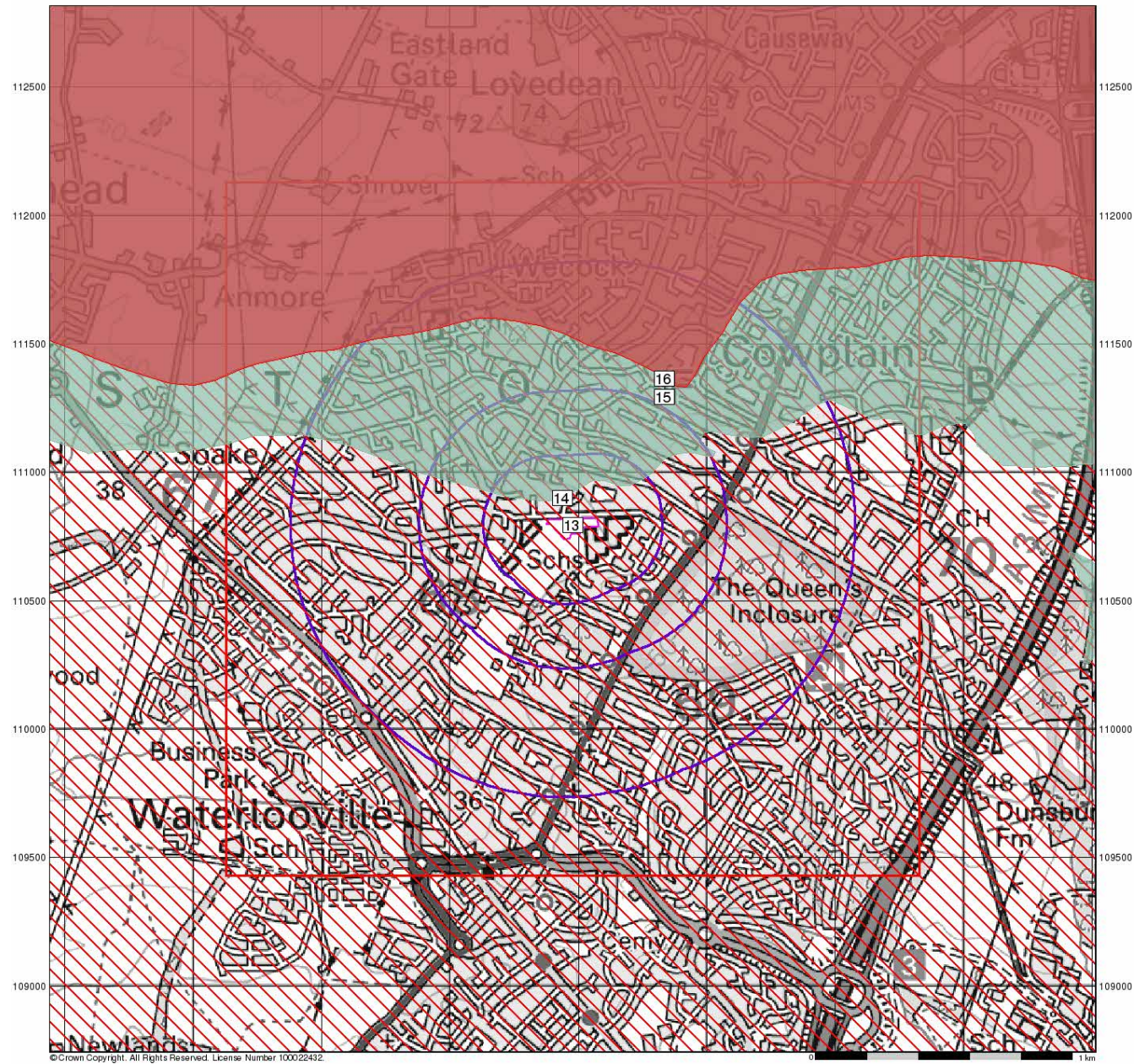
Site Details

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466500 467000 467500 468000 468500 469000 469500 470000 470500



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Source Protection Zones

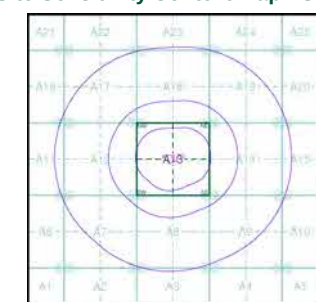
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

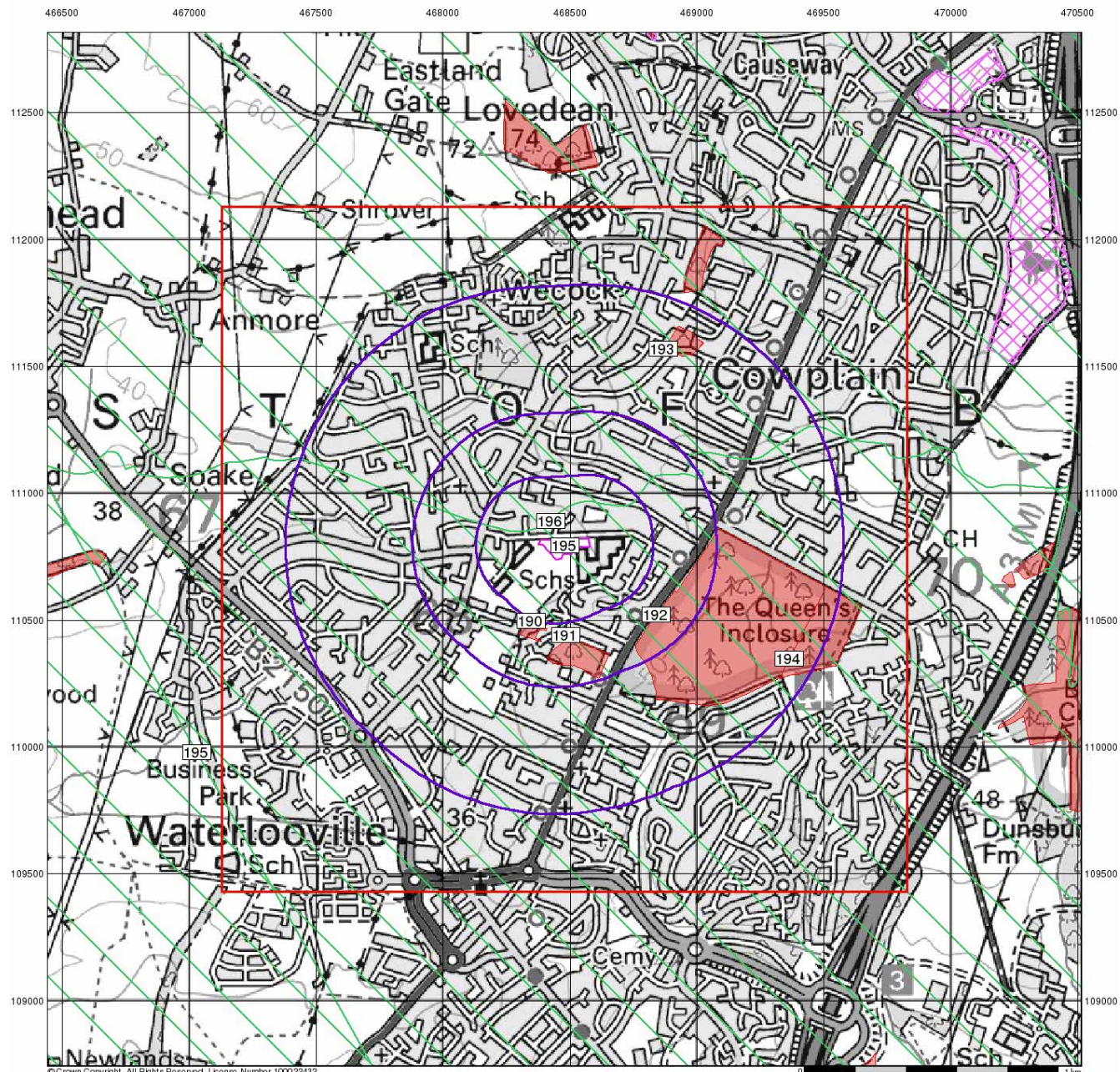
Order Number: 273549449_1_1
 Customer Ref: 21.02.014
 National Grid Reference: 468480, 110790
 Slice: A
 Site Area (Ha): 0.74
 Search Buffer (m): 1000

Site Details

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Sensitive Land Uses

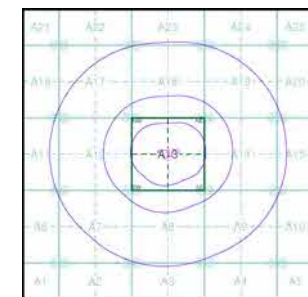
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

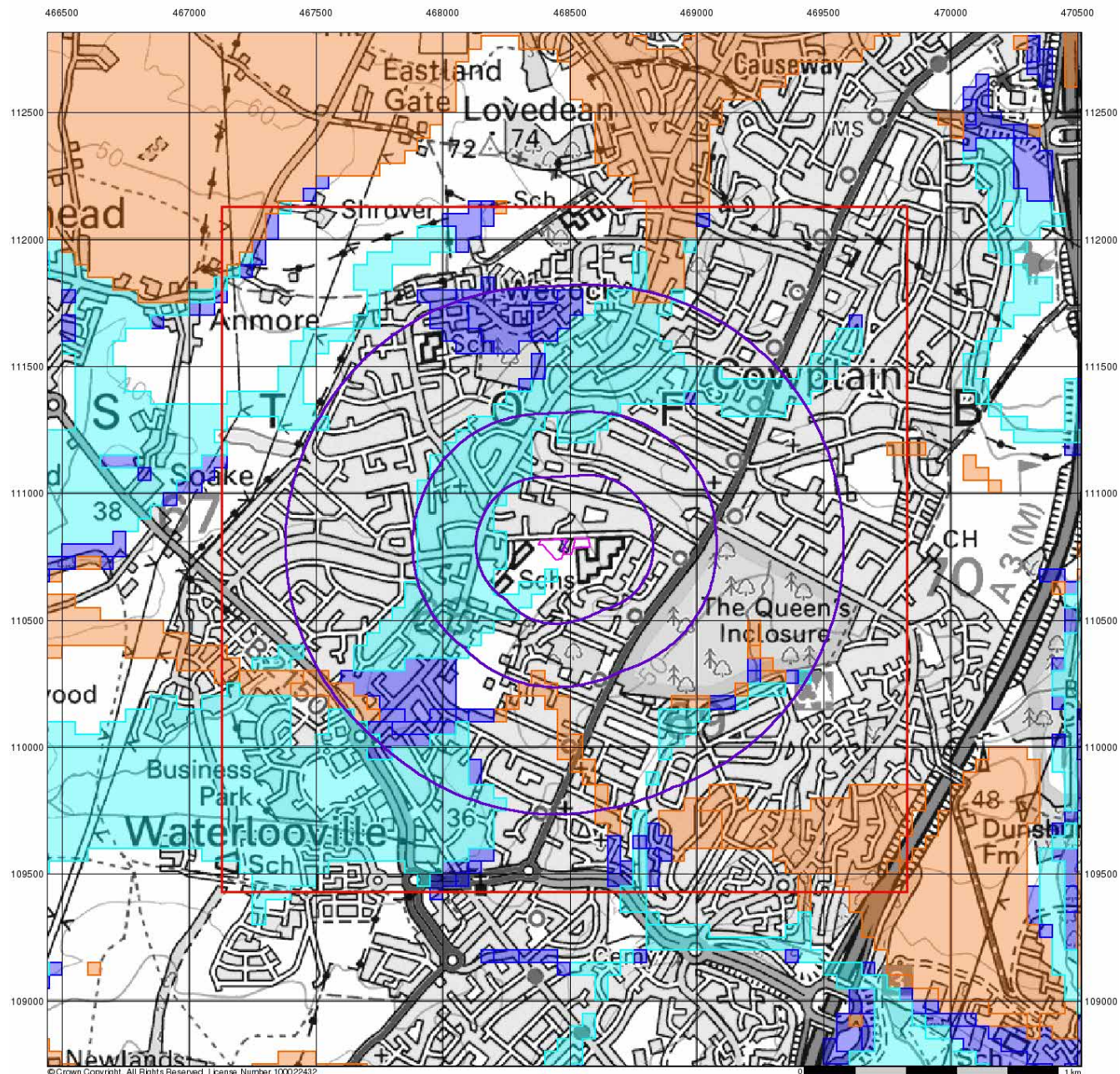
Order Number: 273549449_1_1
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BGS Flood GFS Data

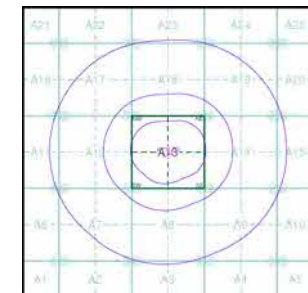
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 273549449_1_1
 Customer Ref: 21.02.014
 National Grid Reference: 468480, 110790
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 Site Area (Ha): 0.74
 Search Buffer (m): 1000

Site Details

Land at Cowplain School, Hart Plain Avenue, WATERLOOVILLE, PO8 8RY



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

273549449_1_1

Customer Reference:

21.02.014

National Grid Reference:

468480, 110790

Slice:

A

Site Area (Ha):

0.74

Search Buffer (m):

1000

Site Details:

Land at Cowplain School, Hart Plain Avenue
WATERLOOVILLE
PO8 8RY

Client Details:

Mr M Johnston
Listers Geotechnical Consultants Ltd
Slapton Hill Barn
Blakesley Road
Slapton
Nr Towcester
Northants
NN12 8QD

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	9
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Geological	11
Industrial Land Use	14
Sensitive Land Use	36
Data Currency	37
Data Suppliers	43
Useful Contacts	44

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1		Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1			1	3
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 2				3
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2		Yes		
Pollution Incidents to Controlled Waters	pg 2				4
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 3		1		1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 3				1
Water Abstractions	pg 3				(*1)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 3	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones	pg 4	1	1		2
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 4		1	1	32

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 9	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 9			2	
Potentially Infilled Land (Water)	pg 9		5	14	14
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 11	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 11	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 12			2	
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 13	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 13	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 14		6	6	173
Fuel Station Entries	pg 30		1		2
Points of Interest - Commercial Services	pg 30		3	2	37
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 33		3		10
Points of Interest - Public Infrastructure	pg 34				7
Points of Interest - Recreational and Environmental	pg 35				5
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 36			3	2
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 36	1	1		
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (S)	37	1	468450 110700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (SW)	98	1	468400 110650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	439	1	468400 110300
1	Discharge Consents Operator: Mrs W.M.G. Wildsmith Esq. Property Type: FARMS (NOT HOUSE)/CROP + ANIMAL REARING/PLANT NURSERY Location: Little Wongalee (Piggeries), Pipers Hill, Denmead Hampshire Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: H01291 Permit Version: 1 Effective Date: 13th June 1970 Issued Date: 13th June 1970 Revocation Date: Not Supplied Discharge Type: Agriculture - Livestock Farming Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	474	2	468850 110400
2	Discharge Consents Operator: Southern Water Services Ltd (H) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: London Road, Cowplain Hampshire Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: A00324 Permit Version: 1 Effective Date: 1st April 1991 Issued Date: 1st April 1991 Revocation Date: 6th March 1996 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A14NW (E)	544	2	469100 110960
3	Discharge Consents Operator: Southern Water Services Ltd (H) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Park Lane, Cowplain Hampshire Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: A00325 Permit Version: 1 Effective Date: 1st April 1991 Issued Date: 1st April 1991 Revocation Date: 14th January 1993 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A14SE (E)	718	2	469290 110710
4	Discharge Consents Operator: Jaiducts Ltd. Property Type: REAL ESTATE ACTIVITIES/BUYING/SELLING/RENTING Location: Units 13 & 14, Aston Road, Waterloooville, Hampshire Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: H01132 Permit Version: 1 Effective Date: 30th December 1971 Issued Date: 30th December 1971 Revocation Date: 8th December 1992 Discharge Type: Trade Effluent Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	921	2	468020 109920

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Local Authority Pollution Prevention and Controls Name: Liphook Valet Services Ltd Location: 49 London Road, Cowplain, Waterlooville, Po8 8uj Authority: Havant Borough Council, Environmental Health Department Permit Reference: HBC/IPPC/05/01570 Dated: 13th November 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Located by supplier to within 10m	A14NW (E)	535	3	469090 110963
6	Local Authority Pollution Prevention and Controls Name: Highfield Dry Cleaners Location: 3 Highfield Parade, Waterlooville, Po7 7qh Authority: Havant Borough Council, Environmental Health Department Permit Reference: HBC/IPPC/05/01590 Dated: 1st April 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	834	3	469086 110127
7	Local Authority Pollution Prevention and Controls Name: Westons Service StationEsso Location: 127-129 London Road, Cowplain, WATERLOOVILLE, Hampshire, PO8 8XJ Authority: Havant Borough Council, Environmental Health Department Permit Reference: PERM09/174HBC Dated: 22nd December 1998 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address	A19SE (NE)	836	3	469234 111335
	Nearest Surface Water Feature	A13SW (SW)	184	-	468272 110646
8	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: Riders Lane, LEIGH PARK Authority: Environment Agency, Southern Region Pollutant: Oils - Petrol Note: Petrol On Stream; Miscellaneous Premises: Unknown Incident Date: 16th May 1994 Incident Reference: 1264 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Oils/Related Products Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	616	2	468200 111400
9	Pollution Incidents to Controlled Waters Property Type: Road Location: COWPLAIN Authority: Environment Agency, Southern Region Pollutant: Oils - Petrol Note: Petrol Washed To Drains After Road Traffic Accident Incident Date: 1st June 1993 Incident Reference: 702 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Water Company STW Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	809	2	468200 111600
10	Pollution Incidents to Controlled Waters Property Type: Domestic/Residential Location: Heritage Stream, Rear Of Bramley Road, WATERLOOVILLE Authority: Environment Agency, Southern Region Pollutant: Organic Chemicals : Domestic Fuel Oils Note: Not Supplied Incident Date: 8th October 1999 Incident Reference: 3109 Catchment Area: Hermitage Stream Receiving Water: Freshwater Stream/River Cause of Incident: Structural Failure : Pipe Failure (Below Ground) Incident Severity: Category 3 - Minor Incident Positional Accuracy: Approximate location provided by supplier	A9SW (SE)	897	2	468900 109950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: Sparrow Close, Wecock Farm Estate, COWPLAIN Authority: Environment Agency, Southern Region Pollutant: Oils - Petrol Note: 10 Litres Of Petrol Into Surface Water Drain Incident Date: 14th April 1993 Incident Reference: 591 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Oils/Related Products Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	931	2	468650 111750
	River Quality Name: Sheepwash Trib GQA Grade: River Quality C Reach: Wallington Conf - B2150 Estimated Distance (km): 5.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A13NW (NW)	234	2	468296 111038
	River Quality Name: Hermitage Strm GQA Grade: River Quality C Reach: Tidal Limit - Source Estimated Distance (km): 14.8 Flow Rate: Flow less than 0.62 cumecs Flow Type: River Year: 2000	A8NE (SE)	618	2	468747 110188
12	Substantiated Pollution Incident Register Authority: Environment Agency - Southern Region, Solent and South Downs Incident Date: 30th June 2009 Incident Reference: 692881 Water Impact: Category 1 - Major Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Crude Sewage	A14SE (E)	726	2	469300 110732
	Water Abstractions Operator: West Waterlooille Developments Limited Licence Number: So/042/0028/014 Permit Version: 1 Location: River Wallington, West Of Waterlooille, Authority: Environment Agency, Southern Region Abstraction: Other Environmental Improvements: Transfer between sources Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: River Wallington, West Of Waterlooille, Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 14th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1NE (SW)	1442	2	467451 109691
	Groundwater Vulnerability Map Combined Classification: Unproductive Aquifer (may have productive aquifer beneath) Combined Vulnerability: Unproductive Combined Aquifer: Unproductive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13NE (NW)	0	4	468480 110792
	Groundwater Vulnerability - Soluble Rock Risk None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13NE (NW)	0	4	468480 110792
	Superficial Aquifer Designations No Data Available				
13	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone Ic (Inner Protection Zone): Travel time of 50 days or less to the groundwater source - subsurface activity only.	A13NE (NW)	0	2	468480 110792
14	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	A13NW (N)	76	2	468439 110898
15	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A19SW (NE)	598	2	468836 111362
16	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone I (Inner Protection Zone): Travel time of 50 days or less to the groundwater source.	A19SW (NE)	598	2	468836 111362
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 92.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A13SW (SW)	184	5	468272 110646
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 292.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A14SW (SE)	378	5	468817 110495
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 94.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A8NE (S)	541	5	468671 110241

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 99.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A18SW (N)	552	5	468355 111364
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A8NE (S)	566	5	468709 110230
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 86.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A8NE (SE)	573	5	468734 110234
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A18SE (NE)	587	5	468783 111371
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 102.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A9NW (SE)	588	5	468818 110251
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 186.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A8NE (S)	594	5	468701 110196
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A18SW (N)	601	5	468263 111401
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A8NW (S)	604	5	468271 110159
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 135.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A18SW (N)	605	5	468258 111404

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 145.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A9NW (SE)	679	5	468887 110182
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 79.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A14SE (E)	685	5	469206 110517
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 284.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A14SE (E)	693	5	469217 110523
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A8SW (S)	714	5	468316 110035
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	727	5	469216 110437
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.0 Watercourse Level: Underground Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	740	5	469219 110421
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 187.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	744	5	469221 110415
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NW (SE)	774	5	469020 110153
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 216.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NW (SE)	775	5	469025 110155

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 123.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NW (SE)	779	5	468991 110127
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 60.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9SW (SE)	819	5	468906 110038
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 80.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9SW (SE)	852	5	468876 109989
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	862	5	469228 110222
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	867	5	469244 110234
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	867	5	469244 110234
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	869	5	469246 110233
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 67.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	883	5	469272 110243
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 84.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A9SW (S)	903	5	468837 109918

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 221.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: East Hampshire Primacy: 1	A9NE (SE)	915	5	469333 110273
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A8SE (S)	961	5	468805 109843
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 2	A8SE (S)	961	5	468807 109843
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 80.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hermitage Stream Catchment Name: East Hampshire Primacy: 1	A8SE (S)	968	5	468805 109834

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Havant Borough Council - Has supplied landfill data		0	3	468480 110792
	Local Authority Landfill Coverage Name: Hampshire County Council - Had landfill data but passed it to the relevant environment agency		0	6	468480 110792
51	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A14NW (NE)	391	-	468863 111086
52	Potentially Infilled Land (Non-Water) Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A12SE (W)	414	-	467977 110696
53	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1910	A13SE (S)	66	-	468495 110677
54	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1933	A13SW (S)	68	-	468448 110669
55	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1910	A13SE (SE)	103	-	468577 110684
56	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A13NW (W)	142	-	468237 110793
57	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A13SW (S)	185	-	468440 110552
58	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A13NW (NW)	263	-	468201 110998
59	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1933	A13NW (NW)	273	-	468280 111064
60	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A13SW (SW)	279	-	468268 110521
61	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A12NE (W)	306	-	468095 110911
62	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1910	A12NE (W)	325	-	468090 110944
63	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1910	A12NE (NW)	357	-	468087 111006
64	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A8NW (SW)	364	-	468263 110422
65	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A12SE (W)	373	-	468029 110665
66	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1910	A12NE (NW)	392	-	468063 111034
67	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1933	A12SE (W)	401	-	468021 110614
68	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A18SW (N)	424	-	468382 111237

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A12NE (W)	451	-	467932 110858
70	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A18SE (N)	454	-	468498 111273
71	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A18SE (N)	460	-	468518 111279
72	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A18SE (N)	508	-	468521 111328
73	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A12NW (W)	579	-	467800 110820
74	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A7NE (SW)	696	-	467824 110374
75	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A12NW (W)	715	-	467664 110832
76	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1933	A14NE (E)	752	-	469329 110786
77	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A17NE (NW)	786	-	468023 111510
78	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A12NW (W)	910	-	467469 110813
79	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1933	A11NE (W)	917	-	467462 110810
80	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A17SW (NW)	920	-	467635 111343
81	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A9SW (SE)	954	-	469117 110000
82	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A11NE (W)	964	-	467435 110991
83	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1910	A20SW (E)	989	-	469517 111123
84	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A7NW (SW)	997	-	467486 110350
85	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A7NW (SW)	998	-	467496 110329

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Thames Group	A13NE (NW)	0	1	468480 110792
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	0	1	468500 110792
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NW)	0	1	468480 110792
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	12	1	468458 110727
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (N)	375	1	468516 111194
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NW (E)	461	1	469000 111000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	465	1	467916 110747

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12SE (SW)	480	1	468000 110500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12SW (W)	680	1	467766 110500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NW (SE)	681	1	468900 110186
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel <15 mg/kg Concentration:	A18NE (N)	932	1	468784 111730
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 15 - 30 mg/kg Concentration:	A17SW (NW)	941	1	467572 111283
86	BGS Recorded Mineral Sites Site Name: Hart Plain House Sand Pit Location: Waterlooville, Hampshire Source: British Geological Survey, National Geoscience Information Service Reference: 162736 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Head Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A12SE (W)	415	1	467975 110696

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	BGS Recorded Mineral Sites Site Name: Cow Plain Brick Field Location: Cowplain, Horndean, Waterlooville, Hampshire Source: British Geological Survey, National Geoscience Information Service Reference: 162695 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Palaeocene Geology: Lambeth Group Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	422	1	468896 111095
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	51	1	468422 110888
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	51	1	468422 110888
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	468480 110792

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	Contemporary Trade Directory Entries Name: J F Lawson & Son Location: 41, Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RX Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	11	-	468507 110804
89	Contemporary Trade Directory Entries Name: Les Gems Location: 17, Fairbourne Close, WATERLOOVILLE, Hampshire, PO8 8RL Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (NW)	125	-	468320 110918
90	Contemporary Trade Directory Entries Name: Nationwide Cleaners (West Hampshire) Location: 6, Hartwood Gardens, Waterlooville, Hampshire, PO8 8RA Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	139	-	468492 110956
91	Contemporary Trade Directory Entries Name: Cowplain Hobby Ceramics Location: 6, Lawnswood Close, Waterlooville, Hampshire, PO8 8RU Classification: Ceramic Manufacturers, Supplies & Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	158	-	468733 110759
92	Contemporary Trade Directory Entries Name: Electramech Ltd Location: 6, Glenwood Gardens, Waterlooville, Hampshire, PO8 8TN Classification: Industrial Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	214	-	468681 111007
93	Contemporary Trade Directory Entries Name: Any Circuits Ltd Location: 4, Edwards Close, Waterlooville, Hampshire, PO8 8RJ Classification: Printed Circuit Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	236	-	468676 110573
94	Contemporary Trade Directory Entries Name: Bath Resurfacing & Renovations Location: 44a, Silvester Road, Waterlooville, Hampshire, PO8 8TL Classification: Bath Resurfacing Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	270	-	468799 110973
95	Contemporary Trade Directory Entries Name: Johnsons The Cleaners Location: 223 London Road, Waterlooville, Hampshire, PO8 8DA Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	346	-	468752 110488
96	Contemporary Trade Directory Entries Name: Atos Location: 11, Rimington Road, WATERLOOVILLE, Hampshire, PO8 8UA Classification: Hydraulic Systems & Equipment Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	347	-	468456 111163
97	Contemporary Trade Directory Entries Name: Superbike Services Location: 18, Silvester Road, Waterlooville, PO8 8TL Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (E)	352	-	468921 110879
98	Contemporary Trade Directory Entries Name: J Golding Location: 30, Chaucer Close, Waterlooville, Hampshire, PO7 6AQ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	359	-	468162 110509
99	Contemporary Trade Directory Entries Name: 1st For Ford Location: 1, Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RP Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	360	-	468928 110709

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
100	Contemporary Trade Directory Entries Name: Richmond Transport Ltd Location: 42, Buckland Close, Waterlooville, Hampshire, PO7 6EF Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	533	-	467898 111027
101	Contemporary Trade Directory Entries Name: Liphook Valet Service Location: 49, London Road, Cowplain, Waterlooville, Hampshire, PO8 8UJ Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (E)	535	-	469090 110962
102	Contemporary Trade Directory Entries Name: A L Motors Location: 2, Newbolt Close, Waterlooville, Hampshire, PO8 8SS Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	547	-	468261 111345
103	Contemporary Trade Directory Entries Name: Dings 'N' Dents Paintless Dent Removal Location: 78, Longwood Avenue, Waterlooville, Hampshire, PO8 8JB Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (N)	578	-	468661 111393
104	Contemporary Trade Directory Entries Name: Graffiti Removal South Location: 20, Summerhill Road, Waterlooville, Hampshire, PO8 8XE Classification: Graffiti Removers Status: Active Positional Accuracy: Automatically positioned to the address	A19SW (NE)	620	-	469052 111216
105	Contemporary Trade Directory Entries Name: Easypad Ltd Location: 5, Park Lane, Cowplain, Waterlooville, Hampshire, PO8 8AB Classification: Machinery - Industrial & Commercial Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	629	-	469204 110835
106	Contemporary Trade Directory Entries Name: J & S Accessories Location: 79-81, London Road, Cowplain, Waterlooville, Hampshire, PO8 8XB Classification: Cycle Accessories, Manufacturers & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A14NE (NE)	645	-	469160 111094
106	Contemporary Trade Directory Entries Name: Stuart Hoare Chartered Accountants Location: 87, London Road, Cowplain, Waterlooville, Hampshire, PO8 8XB Classification: Radio Communication Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (NE)	670	-	469177 111115
107	Contemporary Trade Directory Entries Name: Spelgraphics Location: 31, Albretia Avenue, Waterlooville, Hampshire, PO8 8QS Classification: Car Painters & Sprayers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	687	-	468083 111429
108	Contemporary Trade Directory Entries Name: Solentec Ltd Location: 82a, Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Electrical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (SW)	700	-	468146 110104
108	Contemporary Trade Directory Entries Name: Jubilee Road Motors Ltd Location: 76, Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (SW)	702	-	468173 110089
109	Contemporary Trade Directory Entries Name: 1st 4 Mobile Mechanic F R M Autos Location: 11, Wheatsheaf Drive, Waterlooville, Hampshire, PO8 8PX Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	707	-	467838 111258

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	Contemporary Trade Directory Entries Name: Speedcuts Ltd Location: 88a, Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	708	-	468098 110119
111	Contemporary Trade Directory Entries Name: Research Analyst Defence Ltd Location: 22, Highfield Avenue, Waterlooville, Hampshire, PO7 7PX Classification: Gunsmiths Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	714	-	468748 110086
112	Contemporary Trade Directory Entries Name: Kenklean Location: 62, Thrush Walk, Waterlooville, Hampshire, PO8 8LX Classification: Hygiene & Cleansing Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	726	-	468482 111544
113	Contemporary Trade Directory Entries Name: Premier Scaffolding Ltd Location: 15, Windsor Road, Waterlooville, PO7 6BA Classification: Scaffolding & Work Platforms Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (W)	735	-	467680 110568
113	Contemporary Trade Directory Entries Name: A & J Services Location: 23, Windsor Road, Waterlooville, Hampshire, PO7 6BA Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	768	-	467639 110588
114	Contemporary Trade Directory Entries Name: Safecoat Europe Ltd Location: Latchmore House, 99-101 London Rd, Cowplain, Waterlooville, Hampshire, PO8 8XJ Classification: Safety Glazing Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	737	-	469202 111208
114	Contemporary Trade Directory Entries Name: Reed'S Hardware Location: 109b, London Road, Cowplain, Waterlooville, Hampshire, PO8 8XJ Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	763	-	469208 111248
115	Contemporary Trade Directory Entries Name: D & B Pest Control Services Location: 24, Albretia Avenue, Waterlooville, Hampshire, PO8 8QS Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	747	-	468004 111453
115	Contemporary Trade Directory Entries Name: Advanced Power Clean Location: 17, Albretia Avenue, Waterlooville, Hampshire, PO8 8QS Classification: Carpet, Curtain & Upholstery Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	790	-	467983 111492
116	Contemporary Trade Directory Entries Name: London Road Motors Location: 179, London Road, Waterlooville, Hampshire, PO7 7RJ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	757	-	468518 109984
116	Contemporary Trade Directory Entries Name: Car Connections Location: 179, London Road, Waterlooville, Hampshire, PO7 7RJ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	757	-	468518 109984

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	Contemporary Trade Directory Entries Name: Ultra Press Ltd Location: Unit 15, Churchill Yard Ind Est, Jubilee Rd, Waterlooville, Hampshire, PO7 7RF Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SW)	758	-	468040 110096
117	Contemporary Trade Directory Entries Name: J & S Services Ltd Location: Churchill House, 57, Jubilee Road, Waterlooville, PO7 7RE Classification: Crane Hire, Sales & Service Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	774	-	468037 110079
117	Contemporary Trade Directory Entries Name: Alliance Uk Cleaning Services Location: 57, Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	774	-	468039 110078
117	Contemporary Trade Directory Entries Name: Alliance (Uk) Cleaning Location: 57, Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	774	-	468039 110078
117	Contemporary Trade Directory Entries Name: Waterlooville Fabrications Location: Unit 5 Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, Hampshire PO7 7RE Classification: Wrought Ironwork Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	792	-	468034 110059
117	Contemporary Trade Directory Entries Name: Goble Engineering Ltd Location: Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, Hampshire, PO7 7RF Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	792	-	468003 110080
117	Contemporary Trade Directory Entries Name: Agtool Engineering Ltd Location: Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Plastics - Injection Moulding Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	795	-	468028 110060
117	Contemporary Trade Directory Entries Name: Red 14 Plastics Location: Unit 11, Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, PO7 7RF Classification: Plastic Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	812	-	468001 110057
117	Contemporary Trade Directory Entries Name: Meb Fabrications Ltd Location: Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, Hampshire, PO7 7RF Classification: Metal Products - Fabricated Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	812	-	468001 110057
118	Contemporary Trade Directory Entries Name: Westerly Group Ltd Location: 1-2, Aston Road, Waterlooville, Hampshire, PO7 7UX Classification: Boatbuilders & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	759	-	467950 110160
118	Contemporary Trade Directory Entries Name: W P L Location: Unit 1-2, Aston Road, Waterlooville, Hampshire, PO7 7UX Classification: Sewage Disposal - Equipment & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	760	-	467950 110160

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	Contemporary Trade Directory Entries Name: A D S Precision Engineering Ltd Location: A, 53, Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	770	-	468090 110054
119	Contemporary Trade Directory Entries Name: Skeens Precision Engineering Ltd Location: 55-55a, Jubilee Road, Waterlooville, Hampshire, PO7 7RE Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	772	-	468067 110064
120	Contemporary Trade Directory Entries Name: Prima Air Conditioning & Refrigeration Ltd Location: 44a, London Road, Cowplain, Waterlooville, PO8 8EN Classification: Air Conditioning & Refrigeration Contractors Status: Active Positional Accuracy: Automatically positioned to the address	A19SE (NE)	773	-	469256 111187
120	Contemporary Trade Directory Entries Name: Prima Air Conditioning & Refrigeration Ltd Location: 44, London Road, Cowplain, Waterlooville, PO8 8EN Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	803	-	469297 111171
121	Contemporary Trade Directory Entries Name: L K Cleaning Services Location: Jubilee Rd, Waterlooville, Hampshire, PO7 7RD Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	776	-	468326 109970
122	Contemporary Trade Directory Entries Name: V R C Coachworks Location: Unit 14 Churchill Yard, Waterlooville, PO7 7RE Classification: Garage Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	804	-	468015 110057
122	Contemporary Trade Directory Entries Name: Ultra Press Location: 15 Churchill Yard Ind Est, Jubilee Rd, Waterlooville, Hampshire, PO7 7RF Classification: Printers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	805	-	468039 110042
122	Contemporary Trade Directory Entries Name: The Printers Ltd Location: Unit 15, Churchill Yard Ind Est, Jubilee Rd, Waterlooville, Hampshire, PO7 7RF Classification: Printers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	805	-	468052 110034
122	Contemporary Trade Directory Entries Name: L S Autos Location: Unit 4, Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, PO7 7RF Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	815	-	468045 110026
122	Contemporary Trade Directory Entries Name: Croesus Trading Ltd Location: Unit 1, Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, Hampshire, PO7 7RF Classification: Catering Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	816	-	468034 110032
122	Contemporary Trade Directory Entries Name: Grindle Engineering Services Ltd Location: Unit 7, Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, Hampshire, PO7 7RF Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	818	-	468012 110043

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
122	Contemporary Trade Directory Entries Name: A C Redman Metal Spinnings Ltd Location: Unit 10, Churchill Yard Industrial Estate, Jubilee Road, Waterlooville, Hampshire, PO7 7RF Classification: Metal Spinners Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	819	-	468005 110045
122	Contemporary Trade Directory Entries Name: Ultra Press Location: Unit 15, Churchill Yard Ind Est, Jubilee Rd, Waterlooville, Hampshire, PO7 7RF Classification: Printers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	827	-	468048 110011
122	Contemporary Trade Directory Entries Name: Ultra Press Location: Unit 15, Churchill Yard Ind Est, Jubilee Rd, Waterlooville, Hampshire, PO7 7RF Classification: Printers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	827	-	468048 110011
122	Contemporary Trade Directory Entries Name: Martin Goddard Engineering Ltd Location: 12, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Machine Shops Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	835	-	468012 110023
122	Contemporary Trade Directory Entries Name: T J Spraytech Ltd Location: Unit 10, The Parkwood Centre, Aston Road, Waterlooville, Hampshire, PO7 7HT Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	839	-	467988 110034
122	Contemporary Trade Directory Entries Name: Dfe Ltd Location: 10, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	839	-	467988 110034
122	Contemporary Trade Directory Entries Name: Aston Car Co Ltd Location: 10, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	839	-	467988 110034
122	Contemporary Trade Directory Entries Name: Absolute Autos Location: 13-14, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	842	-	468022 110009
122	Contemporary Trade Directory Entries Name: Crm Saw & Tool Co Ltd Location: 13-14, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Tool Sharpening, Repairing & Servicing Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	842	-	468022 110009
122	Contemporary Trade Directory Entries Name: F & S Engineering Ltd Location: 13-14, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Sheet Metal Work Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	842	-	468022 110009
122	Contemporary Trade Directory Entries Name: Ash Autos Location: 11, Aston Road, WATERLOOVILLE, Hampshire, PO7 7XG Classification: Commercial Vehicle Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	845	-	467996 110021

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
122	Contemporary Trade Directory Entries Name: Car Cosmetics Location: 10a, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	848	-	467984 110024
122	Contemporary Trade Directory Entries Name: Alma Garage Location: 10a, Aston Road, Waterlooville, PO7 7XG Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	848	-	467984 110024
122	Contemporary Trade Directory Entries Name: Get Acrylic Photo Frames Location: Unit 15, Aston Rd, Waterlooville, Hampshire, PO7 7XG Classification: Photographic Equipment & Supplies - Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	879	-	467998 109980
122	Contemporary Trade Directory Entries Name: Sfx Trade Location: 18 Aston Rd, Waterlooville, Hampshire, PO7 7XG Classification: Window Frames - Sales & Service Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	879	-	467998 109980
122	Contemporary Trade Directory Entries Name: Sunlight Plastics Location: 15, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Plastic Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	879	-	467998 109980
122	Contemporary Trade Directory Entries Name: Sunlight Plastics Ltd Location: 15, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Plastic Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	879	-	467998 109980
123	Contemporary Trade Directory Entries Name: D B Domestic Services Location: 6, Chaplains Avenue, Waterlooville, Hampshire, PO8 8QL Classification: Washing Machines - Servicing & Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	804	-	467816 111380
124	Contemporary Trade Directory Entries Name: A D L Executive Travel Location: 26, Bunting Gardens, WATERLOOVILLE, Hampshire, PO8 9UW Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	812	-	468590 111633
125	Contemporary Trade Directory Entries Name: Collison Motoring Services Ltd Location: 127-129, London Road, Cowplain, Waterlooville, Hampshire, PO8 8XJ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	813	-	469197 111346
125	Contemporary Trade Directory Entries Name: Esso Location: 127-129, London Road, Cowplain, Waterlooville, PO8 8XJ Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A19SE (NE)	813	-	469197 111346
125	Contemporary Trade Directory Entries Name: Eurolink Ventures Ltd Location: 127-129 London Road, Cowplain, Waterlooville, Hampshire, PO8 8XJ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A19SE (NE)	813	-	469197 111346
125	Contemporary Trade Directory Entries Name: Collison Motoring Services Ltd Location: 127-129, London Road, Cowplain, Waterlooville, Hampshire, PO8 8XJ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	813	-	469197 111346

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
125	Contemporary Trade Directory Entries Name: Esso Location: 127, London Road, Cowplain, Waterlooville, Hampshire, PO8 8XJ Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	836	-	469234 111335
125	Contemporary Trade Directory Entries Name: Westons Location: 127, London Road, Cowplain, Waterlooville, Hampshire, PO8 8XJ Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	836	-	469234 111335
126	Contemporary Trade Directory Entries Name: Roger Trise Location: 35, Sutton Road, Waterlooville, Hampshire, PO8 8PU Classification: Bookbinding & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	815	-	467629 111115
127	Contemporary Trade Directory Entries Name: Outside Cleaning Location: 7, High Trees, Waterlooville, Hampshire, PO7 7XP Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	824	-	468652 109939
128	Contemporary Trade Directory Entries Name: Stylish Glass Ltd Location: 34g, Aston Road, Waterlooville, Hampshire, PO7 7XQ Classification: Glass Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	830	-	467879 110129
128	Contemporary Trade Directory Entries Name: D J & G Auto Services Location: 34f, Aston Road, Waterlooville, PO7 7XQ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	837	-	467876 110124
128	Contemporary Trade Directory Entries Name: D J The Auto Services Location: 34f, Aston Road, Waterlooville, PO7 7XQ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	837	-	467876 110124
128	Contemporary Trade Directory Entries Name: Boxhall Location: 34f, Aston Road, Waterlooville, Hampshire, PO7 7XQ Classification: Exhaust & Shock Absorber Centres Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	837	-	467876 110124
128	Contemporary Trade Directory Entries Name: Venture-Flex Ltd Location: 34e, Aston Road, Waterlooville, Hampshire, PO7 7XQ Classification: Hose, Tubing & Fittings Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	843	-	467871 110119
128	Contemporary Trade Directory Entries Name: Screen Print Promotions Ltd Location: 34b, Aston Road, Waterlooville, Hampshire, PO7 7XQ Classification: Screen Process Printers Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	862	-	467857 110106
128	Contemporary Trade Directory Entries Name: Bright Sparks Garage Location: 34, Aston Road, Waterlooville, PO7 7XQ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	876	-	467842 110101
128	Contemporary Trade Directory Entries Name: Timbervision Location: 34, Aston Road, Waterlooville, Hampshire, PO7 7XQ Classification: Cabinet Makers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	876	-	467842 110101

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	Contemporary Trade Directory Entries Name: Acme Design & Print Location: 34, Aston Road, Waterlooville, Hampshire, PO7 7XQ Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	876	-	467842 110101
128	Contemporary Trade Directory Entries Name: Davage Welding Location: 33, Aston Road, Waterlooville, Hampshire, PO7 7XQ Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	881	-	467847 110089
129	Contemporary Trade Directory Entries Name: Communication Solutions Consultants Ltd Location: A, 44, Highfield Avenue, Waterlooville, Hampshire, PO7 7PX Classification: Telecommunications Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	837	-	468934 110030
130	Contemporary Trade Directory Entries Name: Waterlooville Motor Co Location: 36, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	854	-	467905 110074
130	Contemporary Trade Directory Entries Name: Croft Grp Location: 36, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Glass Fibre Moulding, Materials & Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	854	-	467905 110074
130	Contemporary Trade Directory Entries Name: Dennison Doors Location: 36, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Door Manufacturers - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	855	-	467905 110074
130	Contemporary Trade Directory Entries Name: A L Motors Location: 35, Aston Road, Waterlooville, PO7 7XF Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	867	-	467895 110067
130	Contemporary Trade Directory Entries Name: Acme Printing Co Ltd Location: 37, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	872	-	467904 110053
130	Contemporary Trade Directory Entries Name: Steve Jackson Pump Services Ltd Location: 37, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Pumps - Sales, Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	872	-	467904 110053
130	Contemporary Trade Directory Entries Name: Dot Inprint Location: 37, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	872	-	467904 110053
130	Contemporary Trade Directory Entries Name: Velvin Location: Aston Rd, Waterlooville, Hampshire, PO7 7XF Classification: Rubber & Plastic Products - Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	876	-	467912 110041
130	Contemporary Trade Directory Entries Name: Southbourne Rubber Co Ltd Location: 47, Aston Road, WATERLOOVILLE, Hampshire, PO7 7XJ Classification: Rubber & Plastic Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	889	-	467875 110054

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	Contemporary Trade Directory Entries Name: Armashield Location: 46, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Door Manufacturers - Industrial Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	896	-	467890 110034
131	Contemporary Trade Directory Entries Name: Personal Touch Ltd Location: 1, Highfield Parade, WATERLOOVILLE, Hampshire, PO7 7QH Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	857	-	469053 110074
131	Contemporary Trade Directory Entries Name: Paul Costen Location: 3, Highfield Parade, Waterlooville, Hampshire, PO7 7QH Classification: Photo & Digital Imaging Bureaus Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	863	-	469047 110063
131	Contemporary Trade Directory Entries Name: Peter Jay Services Ltd Location: 5-6, Highfield Parade, Waterlooville, Hampshire, PO7 7QH Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	880	-	469043 110041
131	Contemporary Trade Directory Entries Name: Blueshore Southern Ltd Location: 5-6, Highfield Parade, Waterlooville, Hampshire, PO7 7QH Classification: Air Conditioning Equipment & Systems Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	880	-	469043 110041
132	Contemporary Trade Directory Entries Name: Hampshire Pest Clear Location: 1, Lynwood Avenue, Waterlooville, Hampshire, PO8 8PZ Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	857	-	467564 111060
133	Contemporary Trade Directory Entries Name: Portsmouth Metal Recycling Ltd Location: 47, Magpie Walk, Waterlooville, Hampshire, PO8 9UZ Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	861	-	468118 111630
134	Contemporary Trade Directory Entries Name: Hughes Bros Location: 39, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Glass Fibre Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	883	-	467921 110026
134	Contemporary Trade Directory Entries Name: Waterlooville Crash Repair Centre Location: 39, Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	883	-	467921 110026
134	Contemporary Trade Directory Entries Name: The Complete Finishing Company Location: Unit 40 Aston Road, Waterlooville, Hampshire, PO7 7XF Classification: Coating Specialists Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	884	-	467936 110015
134	Contemporary Trade Directory Entries Name: L W & T (Engineering Co) Ltd Location: 42, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	887	-	467945 110004
134	Contemporary Trade Directory Entries Name: Fast Right Engineering Ltd Location: 42, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Sheet Metal Work Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	900	-	467944 109988

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
134	Contemporary Trade Directory Entries Name: South Coast Seals Location: 45, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Seal & Joint Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	902	-	467900 110018
134	Contemporary Trade Directory Entries Name: Allflow Pumps & Pump Systems Location: 45, Aston Road, Waterlooville, PO7 7XJ Classification: Pumps - Sales, Servicing & Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	902	-	467900 110018
134	Contemporary Trade Directory Entries Name: South Coast Seals Location: 45, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Seal & Joint Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	902	-	467900 110018
134	Contemporary Trade Directory Entries Name: Wingspan Solutions Ltd Location: 45, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	902	-	467900 110018
134	Contemporary Trade Directory Entries Name: Commercial Linen Location: 46, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Disability Equipment - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	923	-	467907 109986
134	Contemporary Trade Directory Entries Name: Cobra (Precision Engineering) Ltd Location: 26 Aston Rd, Waterlooville, Hampshire, PO7 7XJ Classification: Precision Engineers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	951	-	467869 109980
134	Contemporary Trade Directory Entries Name: Cobra Precision Engineering Ltd Location: 26, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	956	-	467866 109977
135	Contemporary Trade Directory Entries Name: A P S Pest Control Ltd Location: 16, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	884	-	468032 109955
136	Contemporary Trade Directory Entries Name: A W Motor Co Location: 41, Aston Road, Waterlooville, PO7 7XG Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	887	-	467957 109996
136	Contemporary Trade Directory Entries Name: Waterlooville Motor Co Mechanical Location: 41, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	887	-	467957 109996
137	Contemporary Trade Directory Entries Name: Jenag Equipment Filtration Engineers Location: 17, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	898	-	467988 109964
137	Contemporary Trade Directory Entries Name: A P M Location: Unit 4, 19, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	941	-	467971 109923

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	Contemporary Trade Directory Entries Name: Robin Hood Coachbuilders Ltd Location: 19, Aston Road, Waterlooville, Hampshire, PO7 7XE Classification: Commercial Vehicle Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	941	-	467971 109923
137	Contemporary Trade Directory Entries Name: Tectonics Location: 19, Aston Road, Waterlooville, Hampshire, PO7 7XE Classification: Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	941	-	467971 109923
137	Contemporary Trade Directory Entries Name: Aston Plot Services Ltd Location: Unit 5, 19, Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Printed Circuit Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	941	-	467971 109923
137	Contemporary Trade Directory Entries Name: Ballard & Bailey Location: Unit 5-6, 19 Aston Road, Waterlooville, Hampshire, PO7 7XG Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	943	-	467970 109922
138	Contemporary Trade Directory Entries Name: Emily'S Maintenance Services Ltd Location: 57, Chaplains Avenue, Waterlooville, PO8 8QH Classification: Road Construction Equipment Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	926	-	467607 111313
139	Contemporary Trade Directory Entries Name: C B A Domestics Location: 9, Fennell Close, Waterlooville, Hampshire, PO7 7XH Classification: Vacuum Cleaners - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	932	-	467812 110053
139	Contemporary Trade Directory Entries Name: The West Group Location: 29, Aston Road, Waterlooville, PO7 7XJ Classification: Pneumatic Systems & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	945	-	467824 110024
139	Contemporary Trade Directory Entries Name: The West Group Ltd Location: 29, Aston Road, Waterlooville, PO7 7XJ Classification: Pneumatic Systems & Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	945	-	467824 110024
139	Contemporary Trade Directory Entries Name: The West Group Location: 29, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Pneumatic Systems & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	945	-	467824 110024
139	Contemporary Trade Directory Entries Name: The West Group Location: 29, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Flow Measurement Systems - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	945	-	467824 110024
139	Contemporary Trade Directory Entries Name: Circuit Supply Ltd Location: 28, Aston Road, Waterlooville, PO7 7XJ Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	951	-	467832 110009
140	Contemporary Trade Directory Entries Name: South Coast Films Location: 37, Winifred Road, Waterlooville, Hampshire, PO7 7TD Classification: Window Tinting Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	932	-	468225 109832

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	Contemporary Trade Directory Entries Name: Solent Sewing Machines Ltd Location: 5, Jubilee Business Centre, Aston Road, Waterlooville, Hampshire, PO7 7XD Classification: Sewing Machines - Industrial Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	941	-	468009 109903
141	Contemporary Trade Directory Entries Name: Charter Blinds Location: Unit 7 Jubilee Business Centre, Aston Road, Waterlooville, Hampshire, PO7 7XD Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	941	-	468009 109903
141	Contemporary Trade Directory Entries Name: Crisp Air Ltd Location: Unit 3, 48C Jubilee Business Centre, Aston Rd, Waterlooville, Hampshire, PO7 7XD Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	942	-	468009 109902
141	Contemporary Trade Directory Entries Name: A E S Environmental Systems Location: Unit 8, The Parkwood Centre, Aston Road, Waterlooville, PO7 7HT Classification: Air Conditioning & Refrigeration Contractors Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	966	-	468047 109856
141	Contemporary Trade Directory Entries Name: Aes Environmental Systems Location: Unit 8, The Parkwood Centre, Aston Road, Waterlooville, Hampshire, PO7 7HT Classification: Air Conditioning Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	966	-	468047 109856
141	Contemporary Trade Directory Entries Name: Farlington Architectural Ltd Location: Unit 9, The Parkwood Centre, Aston Road, WATERLOOVILLE, Hampshire, PO7 7HT Classification: Ornamental Metalwork Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	967	-	468056 109852
141	Contemporary Trade Directory Entries Name: Artyzan Press Location: Unit 9, 11, The Parkwood Centre, Aston Rd, Waterlooville, Hampshire, PO7 7HT Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	967	-	468055 109852
141	Contemporary Trade Directory Entries Name: Roofline Installations Location: Unit 9/11, The Parkwood Centre, Aston Road, Waterlooville, Hampshire, PO7 7HT Classification: Fascias and Soffits Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	968	-	468064 109847
141	Contemporary Trade Directory Entries Name: Farlington Architectural Ltd Location: Unit 9, The Parkwood Centre, Aston Road, Waterlooville, PO7 7HT Classification: Ornamental Metalwork Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	970	-	468056 109848
141	Contemporary Trade Directory Entries Name: Cartronix Location: Unit 4, The Parkwood Centre, Aston Road, Waterlooville, PO7 7HT Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	972	-	468022 109862
141	Contemporary Trade Directory Entries Name: Electrical Design Services Location: Unit 1, The Parkwood Centre, Aston Road, Waterlooville, Hampshire, PO7 7HT Classification: Electronic Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	972	-	468022 109862

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	Contemporary Trade Directory Entries Name: Time For You South Location: Unit 5, The Parkwood Centre, Aston Road, Waterlooville, PO7 7HT Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	984	-	468027 109847
142	Contemporary Trade Directory Entries Name: Neil Gunner Location: 5, Kingfisher Close, Waterlooville, Hampshire, PO8 9XD Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (N)	941	-	468133 111719
143	Contemporary Trade Directory Entries Name: Grange Gas & Plumbing Services Location: 44, Sunnymead Drive, Waterlooville, Hampshire, PO7 6DA Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NE (W)	947	-	467432 110790
144	Contemporary Trade Directory Entries Name: Venntic Location: 10, Gladys Avenue, Cowplain, Waterlooville, Hampshire, PO8 8HT Classification: Carpet, Curtain & Upholstery Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NE (NE)	947	-	469154 111570
145	Contemporary Trade Directory Entries Name: Crease Lightening Location: 68, Padnell Avenue, Waterlooville, Hampshire, PO8 8DT Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (E)	949	-	469525 110817
146	Contemporary Trade Directory Entries Name: F J W Electrical Services Location: 149a, London Road, Cowplain, Waterlooville, Hampshire, PO8 8ER Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NE (NE)	951	-	469278 111462
147	Contemporary Trade Directory Entries Name: R A M Fabrication Location: 28, Crestland Close, Waterlooville, Hampshire, PO8 9AG Classification: Gate Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	963	-	469423 111278
148	Contemporary Trade Directory Entries Name: M M Caravans Location: 84, London Road, Cowplain, Waterlooville, Hampshire, PO8 8EW Classification: Caravan Dealers & Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	964	-	469317 111436
148	Contemporary Trade Directory Entries Name: Cowplain Car Centre Location: 84, London Road, Cowplain, Waterlooville, Hampshire, PO8 8EW Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	981	-	469330 111448
149	Contemporary Trade Directory Entries Name: Martin Prior Location: 1, Dove Close, WATERLOOVILLE, Hampshire, PO8 9UF Classification: Cabinet Makers Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	970	-	468598 111792
150	Contemporary Trade Directory Entries Name: Rosscopp Group Ltd Location: 24 Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Road Haulage Services Status: Active Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	974	-	467887 109938
150	Contemporary Trade Directory Entries Name: K F Autos Location: 25, Aston Road, Waterlooville, PO7 7XJ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	975	-	467888 109936

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
150	Contemporary Trade Directory Entries Name: M V M Location: 25, Aston Road, Waterlooville, Hampshire, PO7 7XJ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	975	-	467888 109936
150	Contemporary Trade Directory Entries Name: Southern Sealed Units & Glass Ltd Location: Unit 24/25, The Parkwood Centre, Aston Road, Waterlooville, Hampshire, PO7 7HT Classification: Window Frame Manufacturers' Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	975	-	467888 109936
150	Contemporary Trade Directory Entries Name: Spirit Circuits Ltd Location: 22-24, Aston Road, WATERLOOVILLE, Hampshire, PO7 7XJ Classification: Printed Circuit Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	992	-	467907 109903
150	Contemporary Trade Directory Entries Name: Southern Co-Operative Dairies Ltd Location: Aston Road, Waterlooville, PO7 7RH Classification: Dairies Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	999	-	467900 109900
151	Contemporary Trade Directory Entries Name: H F Bath & Sons Location: 118, Sutton Road, Waterlooville, Hampshire, PO8 8PT Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	978	-	467648 111454
152	Contemporary Trade Directory Entries Name: Repro Engineering Ltd Location: Unit 6, Aysgarth Road, Waterlooville, Hampshire, PO7 7UG Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	978	-	468173 109797
152	Contemporary Trade Directory Entries Name: Ev Engineering Ltd Location: Unit 6A, Aysgarth Road, Waterlooville, Hampshire, PO7 7UG Classification: Sheet Metal Work Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	993	-	468173 109782
152	Contemporary Trade Directory Entries Name: R & L Grinding Ltd Location: Unit 6a, Aysgarth Road, Waterlooville, Hampshire, PO7 7UG Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	993	-	468173 109782
152	Contemporary Trade Directory Entries Name: M G Systems Location: Unit 6A, Aysgarth Road, Waterlooville, Hampshire, PO7 7UG Classification: Electronic Equipment - Manufacturers & Assemblers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A8SW (S)	993	-	468173 109782
153	Contemporary Trade Directory Entries Name: S C E S Air Conditioning Ltd Location: Unit 5, Arnside Road, Waterlooville, Hampshire, PO7 7UP Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (S)	979	-	468095 109823
153	Contemporary Trade Directory Entries Name: Qualiturn Engineering Ltd Location: Unit 12, The Parkwood Centre, Aston Road, Waterlooville, Hampshire, PO7 7HT Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	994	-	468054 109823

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
153	Contemporary Trade Directory Entries Name: A S Precision Engineering Ltd Location: Unit 12, The Parkwood Centre, Aston Road, Waterlooville, Hampshire, PO7 7HT Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	994	-	468054 109823
153	Contemporary Trade Directory Entries Name: D M Precision Ltd Location: Unit 4, Aysgarth Road, Waterlooville, Hampshire, PO7 7UG Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (S)	995	-	468091 109807
153	Contemporary Trade Directory Entries Name: Apricorn Systems Ltd Location: Unit 4/5, Aysgarth Road, Waterlooville, Hampshire, PO7 7UG Classification: Electronic Equipment - Manufacturers & Assemblers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (S)	995	-	468091 109807
154	Contemporary Trade Directory Entries Name: Driveways Southern Ltd Location: Flat 2, Redwood Court, Winifred Road, Waterlooville, Hampshire, PO7 7TQ Classification: Building Block Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NW (S)	980	-	468397 109758
155	Contemporary Trade Directory Entries Name: Snobz Corsets Location: 87, Sutton Road, Waterlooville, PO8 8PT Classification: Lingerie & Hosiery Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	983	-	467528 111290
156	Contemporary Trade Directory Entries Name: Tempera-Tec Ltd Location: 8, Charlesworth Drive, Waterlooville, Hampshire, PO7 6AS Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	986	-	467484 110380
157	Contemporary Trade Directory Entries Name: Established Plastics Location: 1, Dorrita Avenue, Waterlooville, Hampshire, PO8 8HU Classification: Plaster Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NE (NE)	986	-	469239 111551
158	Contemporary Trade Directory Entries Name: Creative Fires (Uk) Ltd Location: Unit 14, Arnside Road, Waterlooville, Hampshire, PO7 7UP Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NW (S)	996	-	468241 109762
158	Contemporary Trade Directory Entries Name: Action Pumps Ltd Location: UNIT 14, ARNSIDE ROAD, WATERLOOVILLE, PO7 7UP Classification: Distribution Services Status: Active Positional Accuracy: Automatically positioned to the address	A3NW (S)	996	-	468241 109762
158	Contemporary Trade Directory Entries Name: Creative Fires Location: Unit 14, Arnside Road, WATERLOOVILLE, Hampshire, PO7 7UP Classification: Electrical Heating Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NW (S)	996	-	468241 109762
159	Contemporary Trade Directory Entries Name: Tyre-Finder Classic & Vintage Motorcycle Car Commercial Location: Waterlooville, Hampshire, Po7 7qs Classification: Classic Car Specialists Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A9NE (SE)	997	-	469336 110141

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
160	Fuel Station Entries Name: Milton Road Express Location: 157, Milton Road , Cowplain , Waterlooville, Hampshire, PO8 8RE Brand: OBSOLETE Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Approximate location provided by supplier	A13SW (W)	190	-	468190 110773
161	Fuel Station Entries Name: Westons Service Station Location: 127-129, London Road , Cowplain , Waterlooville, Hampshire, PO8 8XJ Brand: ESSO Premises Type: Petrol Station Status: Open Positional Accuracy: Automatically positioned to the address	A19SE (NE)	836	-	469234 111335
162	Fuel Station Entries Name: Cowplain Service Station Location: 84, London Road , Cowplain , Waterlooville, Hampshire, PO8 8EW Brand: Bp Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A19SE (NE)	981	-	469330 111448
163	Points of Interest - Commercial Services Name: J F Lawson & Son Location: 41 Hart Plain Avenue, Waterlooville, PO8 8RX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	11	7	468507 110804
163	Points of Interest - Commercial Services Name: F Lawson & Sons Location: 41 Hart Plain Avenue, Waterlooville, PO8 8RX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	11	7	468507 110804
164	Points of Interest - Commercial Services Name: The Waterless Detailers Portsmouth Ltd Location: 31 Firs Avenue, Waterlooville, PO8 8RS Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13SE (SE)	201	7	468663 110606
165	Points of Interest - Commercial Services Name: Elliott Valeting Location: 15 Silvester Road, Waterlooville, PO8 8TJ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NW (E)	327	7	468900 110854
165	Points of Interest - Commercial Services Name: Superbike Services Location: 18 Silvester Road, Waterlooville, PO8 8TL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (E)	351	7	468921 110878
166	Points of Interest - Commercial Services Name: Dings 'n' Dents Paintless Dent Removal Location: 78 Longwood Avenue, Waterlooville, PO8 8JB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18SE (N)	578	7	468660 111393
167	Points of Interest - Commercial Services Name: Prestige Car Service Ltd Location: 113a London Road, Cowplain, Waterlooville, PO8 8XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SE (NE)	768	7	469184 111289
167	Points of Interest - Commercial Services Name: Eurolink Ventures Ltd Location: 127-129 London Road, Cowplain, Waterlooville, PO8 8XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SE (NE)	812	7	469196 111345

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
167	Points of Interest - Commercial Services Name: Dental Surgery Location: 127-129 London Road, Cowplain, Waterloooville, PO8 8XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SE (NE)	813	7	469197 111346
167	Points of Interest - Commercial Services Name: Collison Motoring Services Location: 127-129 London Road, Cowplain, Waterloooville, PO8 8XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SE (NE)	813	7	469197 111346
167	Points of Interest - Commercial Services Name: Collison Motoring Services Ltd Location: 127-129 London Road, Cowplain, Waterloooville, PO8 8XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SE (NE)	813	7	469197 111346
168	Points of Interest - Commercial Services Name: Clarks Auto Service Location: Jubilee Road, Waterloooville, PO7 7RE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	795	7	468028 110060
168	Points of Interest - Commercial Services Name: L S Autos Location: Unit 4 Churchill Yard Industrial Estate, Jubilee Road, Waterloooville, PO7 7RF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	816	7	468034 110032
168	Points of Interest - Commercial Services Name: L S Autos Location: Unit 4 Churchill Yard Industrial Estate, Jubilee Road, Waterloooville, PO7 7RF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	816	7	468034 110032
168	Points of Interest - Commercial Services Name: Martin Goddard Engineering Ltd Location: 12 Aston Road, Waterloooville, PO7 7XG Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A7SE (SW)	835	7	468012 110023
168	Points of Interest - Commercial Services Name: Alma Garage Location: 10 Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	839	7	467988 110034
168	Points of Interest - Commercial Services Name: Waterloooville Crash Repair Centre Location: 10 Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	839	7	467988 110034
168	Points of Interest - Commercial Services Name: Chinese Catering Equipment Ltd Location: 13-14 Aston Road, Waterloooville, PO7 7XG Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A7SE (SW)	842	7	468022 110009
168	Points of Interest - Commercial Services Name: Absolute Autos Location: 13-14 Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	843	7	468022 110008
168	Points of Interest - Commercial Services Name: Alma Garage Location: 10a Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	849	7	467984 110024

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
168	Points of Interest - Commercial Services Name: A W Motor Co Ltd Location: 38 Aston Road, Waterloooville, PO7 7XF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	876	7	467912 110041
168	Points of Interest - Commercial Services Name: Waterloooville Crash Repair Centre Location: 39 Aston Road, Waterloooville, PO7 7XF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	884	7	467921 110025
169	Points of Interest - Commercial Services Name: Boxhall Location: 34f Aston Road, Waterloooville, PO7 7XQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	837	7	467876 110124
169	Points of Interest - Commercial Services Name: D J the Auto Services Location: 34f Aston Road, Waterloooville, PO7 7XQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	838	7	467875 110123
169	Points of Interest - Commercial Services Name: D J & G Auto Services Location: 34f Aston Road, Waterloooville, PO7 7XQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	838	7	467875 110123
169	Points of Interest - Commercial Services Name: A L Motors Location: 35 Aston Road, Waterloooville, PO7 7XF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	867	7	467894 110067
169	Points of Interest - Commercial Services Name: Bright Sparks Garage Location: 34 Aston Road, Waterloooville, PO7 7XQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	876	7	467842 110101
170	Points of Interest - Commercial Services Name: Hampshire Pest Clear Location: 1 Lynwood Avenue, Waterloooville, PO8 8PZ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A12NW (W)	857	7	467564 111060
171	Points of Interest - Commercial Services Name: Portsmouth Metal Recycling Ltd Location: 47 Magpie Walk, Waterloooville, PO8 9UZ Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A17NE (NW)	861	7	468118 111630
172	Points of Interest - Commercial Services Name: Waterloooville Motor Co Mechanical Location: 41 Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	887	7	467957 109996
172	Points of Interest - Commercial Services Name: Waterloooville Motor Co Mechanical Location: 41 Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	887	7	467957 109996
172	Points of Interest - Commercial Services Name: Fast Right Engineering Ltd Location: 42 Aston Road, Waterloooville, PO7 7XG Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A7SE (SW)	887	7	467945 110004

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
172	Points of Interest - Commercial Services Name: A W Motor Co Location: 41 Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	888	7	467956 109995
172	Points of Interest - Commercial Services Name: Apm BMW Specialists Location: Unit 4 19, Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	941	7	467971 109923
172	Points of Interest - Commercial Services Name: A P M Location: Unit 4 19, Aston Road, Waterloooville, PO7 7XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	942	7	467971 109923
172	Points of Interest - Commercial Services Name: K F Autos Location: 25 Aston Road, Waterloooville, PO7 7XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	975	7	467888 109936
172	Points of Interest - Commercial Services Name: Motor Vehicle Maintenance Location: 25 Aston Road, Waterloooville, PO7 7XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	975	7	467888 109936
172	Points of Interest - Commercial Services Name: M V M Location: 25 Aston Road, Waterloooville, PO7 7XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	975	7	467888 109936
173	Points of Interest - Commercial Services Name: Cpa Mobile Mechanic Services Location: 19 Alten Road, Waterloooville, PO7 6DR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (W)	897	7	467489 110914
174	Points of Interest - Commercial Services Name: H F Bath & Sons Location: 118 Sutton Road, Waterloooville, PO8 8PT Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A17SW (NW)	978	7	467648 111454
174	Points of Interest - Commercial Services Name: H F Bath & Sons Location: 118 Sutton Road, Waterloooville, PO8 8PT Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A17SW (NW)	978	7	467648 111454
175	Points of Interest - Commercial Services Name: Action Pumps Ltd Location: Unit 14, Arnside Road, Waterloooville, PO7 7UP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A3NW (S)	996	7	468240 109762
176	Points of Interest - Manufacturing and Production Name: Tank Location: PO8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	24	7	468553 110762
177	Points of Interest - Manufacturing and Production Name: Tank Location: PO8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	112	7	468569 110667

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
177	Points of Interest - Manufacturing and Production Name: Cowplain Business Centre Location: PO8 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	143	7	468634 110656
178	Points of Interest - Manufacturing and Production Name: Tank Location: PO8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	524	7	469030 111081
179	Points of Interest - Manufacturing and Production Name: Works Location: PO7 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	701	7	468201 110080
179	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	702	7	468200 110079
180	Points of Interest - Manufacturing and Production Name: Industrial Estate Location: PO7 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	810	7	467941 110103
180	Points of Interest - Manufacturing and Production Name: Industrial Estate Location: PO7 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	824	7	467920 110101
181	Points of Interest - Manufacturing and Production Name: Industrial Estate Location: PO7 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	826	7	468040 110017
182	Points of Interest - Manufacturing and Production Name: Works Location: PO7 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	914	7	468001 109938
182	Points of Interest - Manufacturing and Production Name: Business Centre Location: PO7 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	936	7	468005 109911
182	Points of Interest - Manufacturing and Production Name: Industrial Estate Location: PO7 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	968	7	467968 109894
182	Points of Interest - Manufacturing and Production Name: Industrial Estate Location: PO7 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	969	7	467969 109893
183	Points of Interest - Public Infrastructure Name: Esso Location: 127-129 London Road, Cowplain, Waterlooville, PO8 8XJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A19SE (NE)	812	7	469196 111345

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
183	Points of Interest - Public Infrastructure Name: Esso Location: 127 London Road, Cowplain, Waterloooville, PO8 8XJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A19SE (NE)	835	7	469233 111335
183	Points of Interest - Public Infrastructure Name: Westons Service Station Location: 127, London Road, Cowplain, Waterloooville, PO8 8XJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A19SE (NE)	835	7	469233 111335
183	Points of Interest - Public Infrastructure Name: Westons Service Station Location: 127 London Road, Cowplain, Waterloooville, PO8 8XJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A19SE (NE)	836	7	469234 111335
184	Points of Interest - Public Infrastructure Name: Weir Location: PO7 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	849	7	468886 109996
184	Points of Interest - Public Infrastructure Name: Weir Location: PO7 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	850	7	468881 109993
185	Points of Interest - Public Infrastructure Name: 24/7 Drainage Solutions Ltd Location: 83 Padnell Avenue, Waterloooville, PO8 8DT Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A15NW (E)	977	7	469547 110917
186	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	501	7	468155 110328
186	Points of Interest - Recreational and Environmental Name: Playground Location: Nr Milton Road, PO7 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	501	7	468155 110328
187	Points of Interest - Recreational and Environmental Name: Play Area Location: PO8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	763	7	468460 111580
188	Points of Interest - Recreational and Environmental Name: Play Area Location: PO8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	956	7	468268 111762
189	Points of Interest - Recreational and Environmental Name: Play Area Location: PO8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	995	7	468946 111745

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
190	Ancient Woodland Name: Not Supplied Reference: 1489663 Area(m ²): 3909.62 Type: Ancient and Semi-Natural Woodland	A13SW (SW)	260	8	468347 110496
191	Ancient Woodland Name: Not Supplied Reference: 1488394 Area(m ²): 21312.77 Type: Ancient and Semi-Natural Woodland	A8NE (S)	299	8	468479 110440
192	Ancient Woodland Name: The Queens Inclosure Reference: 1489823 Area(m ²): 318916.6 Type: Plantation on Ancient Woodland	A14SW (SE)	370	8	468837 110519
193	Ancient Woodland Name: Long Wood Reference: 1490509 Area(m ²): 10816.92 Type: Ancient and Semi-Natural Woodland	A19NW (NE)	802	8	468867 111569
194	Ancient Woodland Name: The Queens Inclosure Reference: 1489907 Area(m ²): 55709.43 Type: Ancient and Semi-Natural Woodland	A9NE (SE)	900	8	469363 110348
195	Nitrate Vulnerable Zones Name: Chichester, Langstone And Portsmouth Harbours Eutrophic Nvz (Trac) Description: Eutrophic Water Source: Environment Agency, Head Office	A13NE (NW)	0	4	468480 110792
196	Nitrate Vulnerable Zones Name: Hampshire Chalk Description: Groundwater Source: Environment Agency, Head Office	A13NW (NW)	51	4	468422 110888

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices East Hampshire District Council - Environmental Health Department Havant Borough Council - Environmental Health Department Chichester District Council - Environmental Health Department Environment Agency - Head Office Portsmouth City Council - Health and Trading Standards Winchester City Council - Environmental Health Department	January 2015 January 2015 July 2013 June 2020 October 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annually Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Southern Region	January 2021	Quarterly
Enforcement and Prohibition Notices Environment Agency - Southern Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - Southern Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region	January 2021 January 2021	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Portsmouth City Council - Environmental Health Department East Hampshire District Council - Environmental Health Department Winchester City Council - Environmental Health Department Havant Borough Council - Environmental Health Department Chichester District Council - Environmental Health Department	August 2014 December 2014 December 2014 December 2015 October 2014	Variable Variable Variable Variable Variable
Local Authority Pollution Prevention and Controls Portsmouth City Council - Environmental Health Department East Hampshire District Council - Environmental Health Department Winchester City Council - Environmental Health Department Havant Borough Council - Environmental Health Department Chichester District Council - Environmental Health Department	August 2014 December 2014 December 2014 December 2015 October 2014	Not Applicable Annual Rolling Update Annual Rolling Update Annual Rolling Update Not Applicable
Local Authority Pollution Prevention and Control Enforcements Portsmouth City Council - Environmental Health Department East Hampshire District Council - Environmental Health Department Winchester City Council - Environmental Health Department Havant Borough Council - Environmental Health Department Chichester District Council - Environmental Health Department	August 2014 December 2014 December 2014 December 2015 October 2014	Variable Variable Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	October 2020	
Pollution Incidents to Controlled Waters Environment Agency - Southern Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Southern Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - Southern Region	March 2013	Annual Rolling Update
Registered Radioactive Substances Environment Agency - Southern Region	June 2016	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually

Agency & Hydrological	Version	Update Cycle
Substantiated Pollution Incident Register Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Hampshire and Isle of Wight Area Office Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	January 2021 January 2021 January 2021 January 2021	Quarterly Quarterly Quarterly Quarterly
Water Abstractions Environment Agency - Southern Region	January 2021	Quarterly
Water Industry Act Referrals Environment Agency - Southern Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2020	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2020	Quarterly
Flood Defences Environment Agency - Head Office	September 2020	Quarterly
OS Water Network Lines Ordnance Survey	September 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Southern Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Hampshire and Isle of Wight Area Office Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	January 2021 January 2021 January 2021 January 2021	Quarterly Quarterly Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Hampshire and Isle of Wight Area Office Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	January 2021 January 2021 January 2021 January 2021	Quarterly Quarterly Quarterly Quarterly
Local Authority Landfill Coverage Chichester District Council - Environmental Health Department East Hampshire District Council Hampshire County Council - Minerals and Waste Planning Havant Borough Council - Environmental Health Department Portsmouth City Council - Environmental Health Department West Sussex County Council - Environment & Development Winchester City Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Chichester District Council - Environmental Health Department East Hampshire District Council Hampshire County Council - Minerals and Waste Planning Havant Borough Council - Environmental Health Department Portsmouth City Council - Environmental Health Department West Sussex County Council - Environment & Development Winchester City Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites Environment Agency - Southern Region - Hampshire Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003 March 2003	Not Applicable Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - Southern Region - Hampshire Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003 March 2003	Not Applicable Not Applicable Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - Southern Region - Hampshire Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003 March 2003	Not Applicable Not Applicable Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Chichester District Council - Planning Department East Hampshire District Council Hampshire County Council - Minerals and Waste Planning Havant Borough Council - Commercial Team Portsmouth City Council - Planning Office West Sussex County Council - Environment & Development Winchester City Council - Planning Department	February 2016 February 2016 February 2016 February 2016 February 2016 October 2006 October 2015	Variable Variable Variable Variable Variable Annual Rolling Update Variable
Planning Hazardous Substance Consents Chichester District Council - Planning Department East Hampshire District Council Hampshire County Council - Minerals and Waste Planning Havant Borough Council - Commercial Team Portsmouth City Council - Planning Office West Sussex County Council - Environment & Development Winchester City Council - Planning Department	February 2016 February 2016 February 2016 February 2016 February 2016 October 2006 October 2015	Variable Variable Variable Variable Variable Annual Rolling Update Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	September 2020	Quarterly
Gas Pipelines National Grid	January 2021	
Points of Interest - Commercial Services PointX	December 2020	Quarterly
Points of Interest - Education and Health PointX	December 2020	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2020	Quarterly
Points of Interest - Public Infrastructure PointX	December 2020	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2020	Quarterly
Underground Electrical Cables National Grid	December 2020	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt Chichester District Council East Hampshire District Council Havant Borough Council - Commercial Team Portsmouth City Council - Planning Office South Downs National Park Winchester City Council	June 2020 June 2020 June 2020 June 2020 June 2020 June 2020	As notified As notified As notified As notified As notified As notified
Areas of Unadopted Green Belt Chichester District Council East Hampshire District Council Havant Borough Council - Commercial Team Portsmouth City Council - Planning Office South Downs National Park Winchester City Council	June 2020 June 2020 June 2020 June 2020 June 2020 June 2020	As notified As notified As notified As notified As notified As notified
Areas of Outstanding Natural Beauty Natural England	January 2021	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	February 2021	Bi-Annually
Marine Nature Reserves Natural England	July 2019	Bi-Annually
National Nature Reserves Natural England	January 2021	Bi-Annually
National Parks Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest Natural England	February 2021	Bi-Annually
Special Areas of Conservation Natural England	July 2020	Bi-Annually
Special Protection Areas Natural England	September 2020	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Havant Borough Council - Environmental Health Department Public Service PLaza, Civic Centre Road, Havant, Hampshire, PO9 2AX	Telephone: 023 9244 6677 Email: env.services@havant.gov.uk Website: www.havant.gov.uk
4	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	Hampshire County Council - Minerals and Waste Planning Room 130, Ashburton Court West, The Castle, Winchester, Hampshire, SO23 8UD	Telephone: 01962 841841 Fax: 01962 847055 Website: www.hants.gov.uk
7	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene
	SLIP	Landslide Deposit	Sandstone and Mudstone	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay And Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Not Supplied - Ypresian
	LC	London Clay Formation	Sand	Not Supplied - Ypresian
	WTT	Wittering Formation	Sand, Silt and Clay	Not Supplied - Ypresian
	WTT	Wittering Formation	Sand	Not Supplied - Ypresian
	BOSA	Bognor Sand Member	Sand	Not Supplied - Eocene
	LMBE	Lambeth Group	Clay, Silt and Sand	Not Supplied - Thanetian
	TACH	Tarrant Chalk Member	Chalk	Not Supplied - Campanian



Geology 1:50,000 Maps

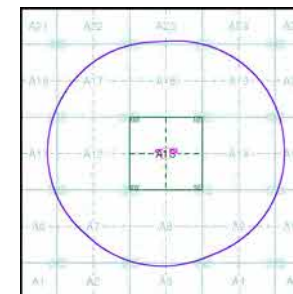
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	316
Map Name:	Fareham
Map Date:	1998
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

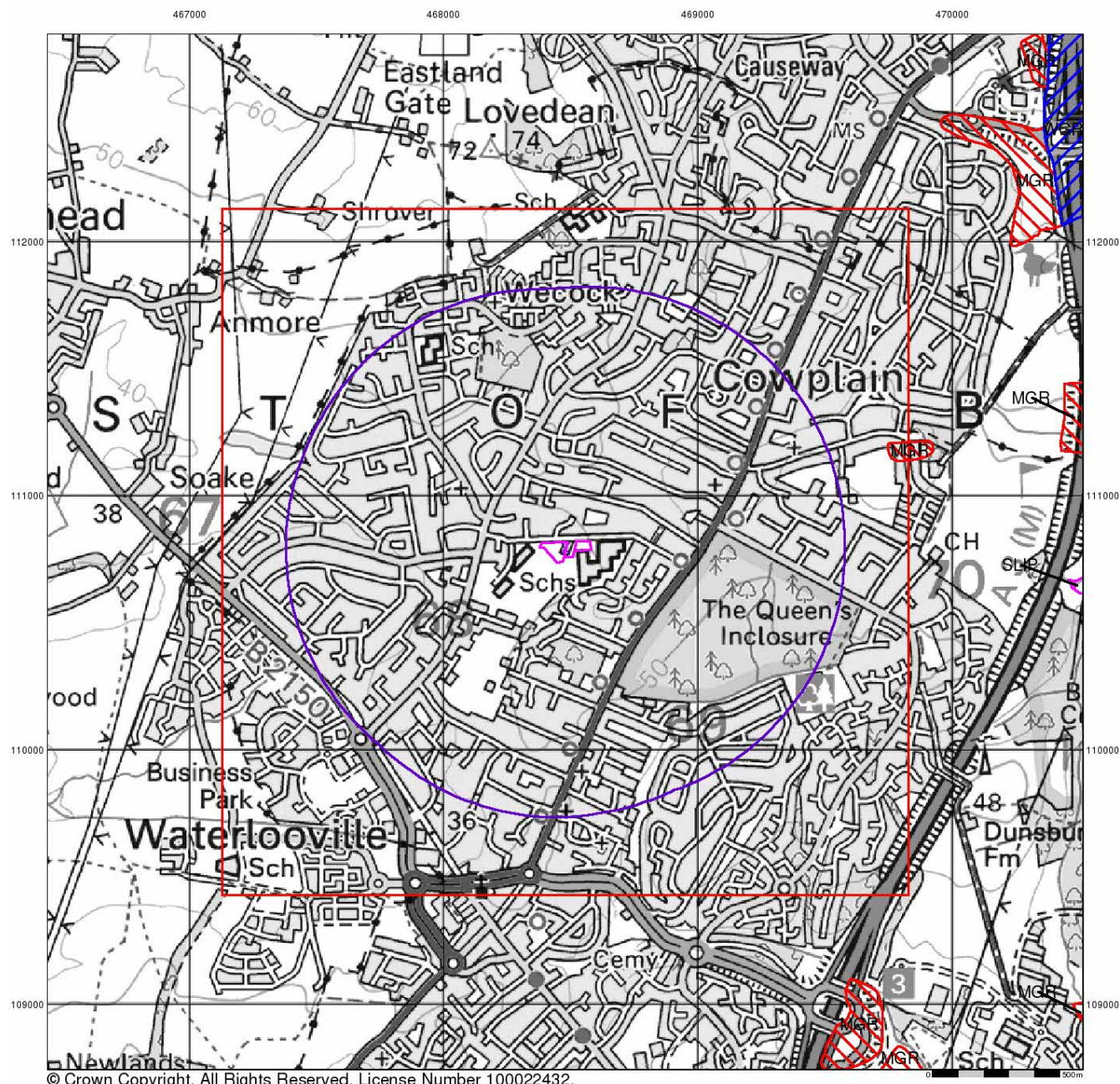
Order Number:	273549449_1_1
Customer Reference:	21.02.014
National Grid Reference:	468480, 110790
Slice:	A
Site Area (Ha):	0.74
Search Buffer (m):	1000

Site Details:

Land at Cowplain School, Hart Plain Avenue, WATERLOOVILLE, PO8 8RY



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Artificial Ground and Landslip

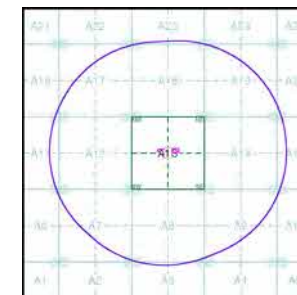
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 273549449_1_1
 Customer Reference: 21.02.014
 National Grid Reference: 468480, 110790
 Slice: A
 Site Area (Ha): 0.74
 Search Buffer (m): 1000

Site Details:

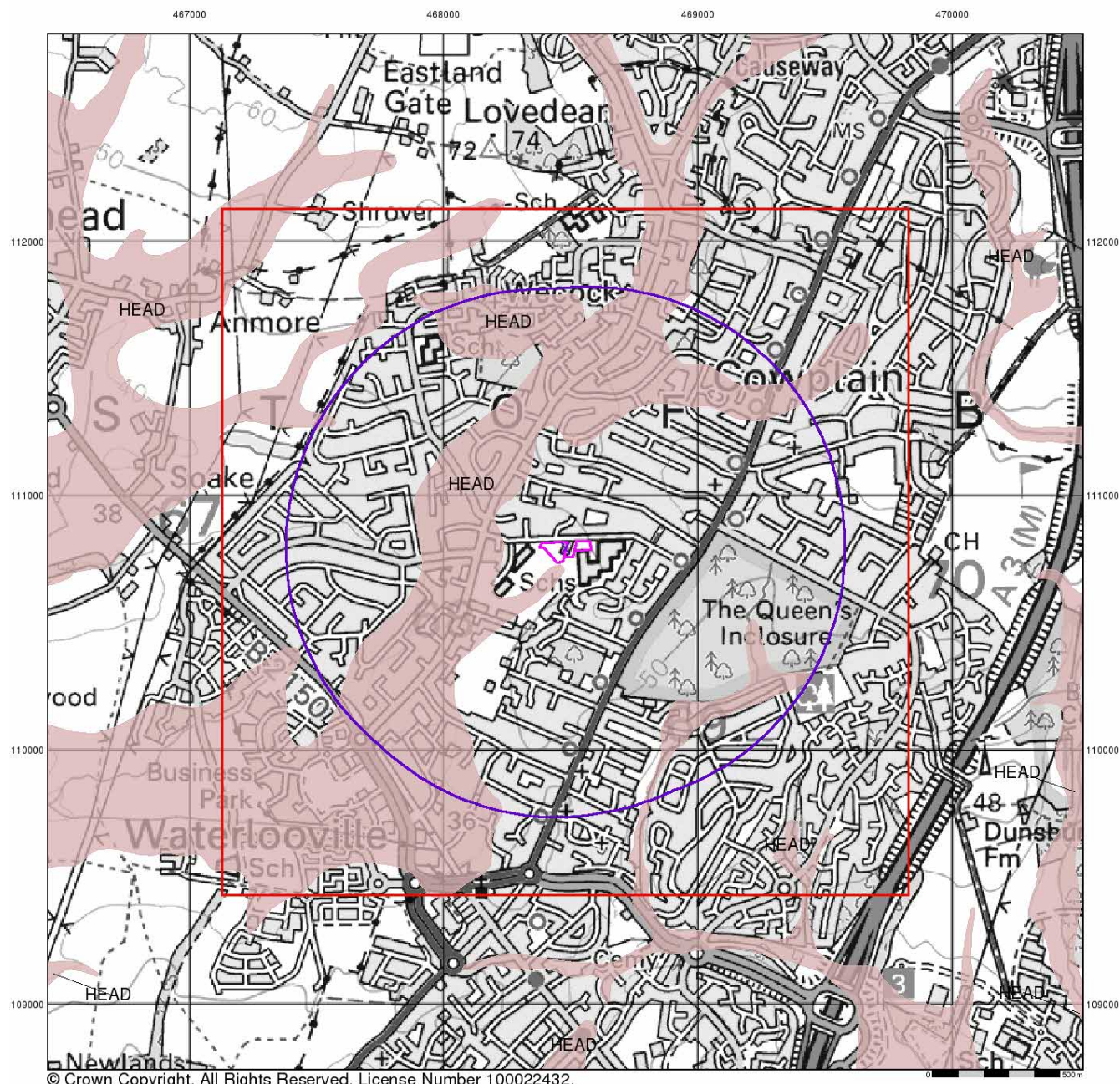
Land at Cowplain School, Hart Plain Avenue, WATERLOOVILLE, PO8 8RY

Landmark
 INFORMATION GROUP

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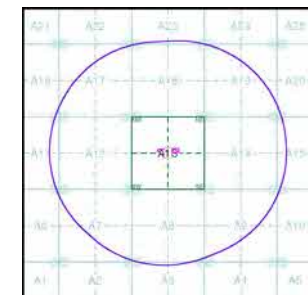
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

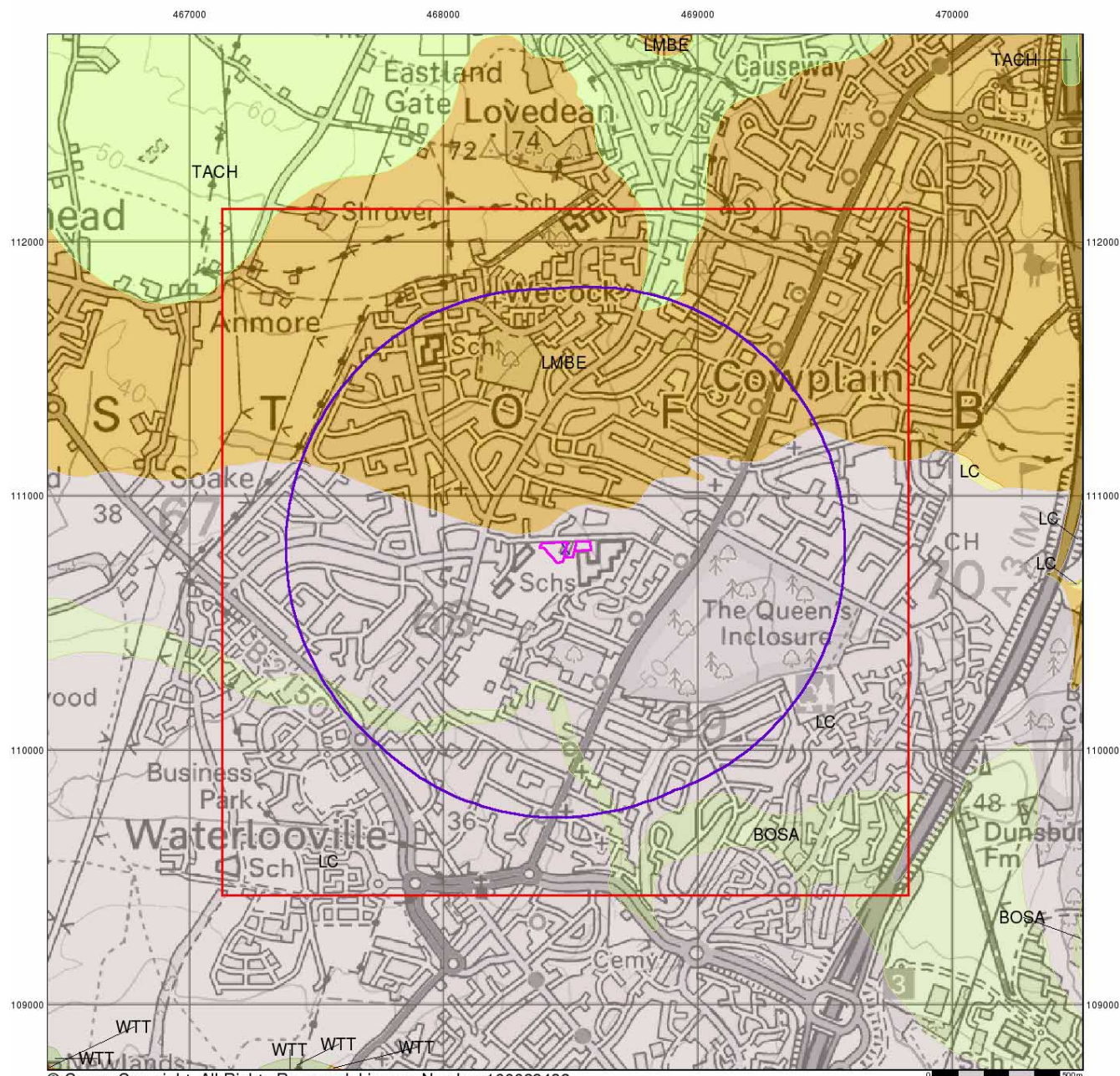
Order Number: 273549449_1_1
 Customer Reference: 21.02.014
 National Grid Reference: 468480, 110790
 Slice: A
 Site Area (Ha): 0.74
 Search Buffer (m): 1000

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Bedrock and Faults

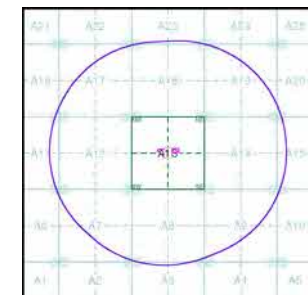
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

Order Number: 273549449_1_1
Customer Reference: 21.02.014
National Grid Reference: 468480, 110790
Slice: A
Site Area (Ha): 0.74
Search Buffer (m): 1000

Site Details:

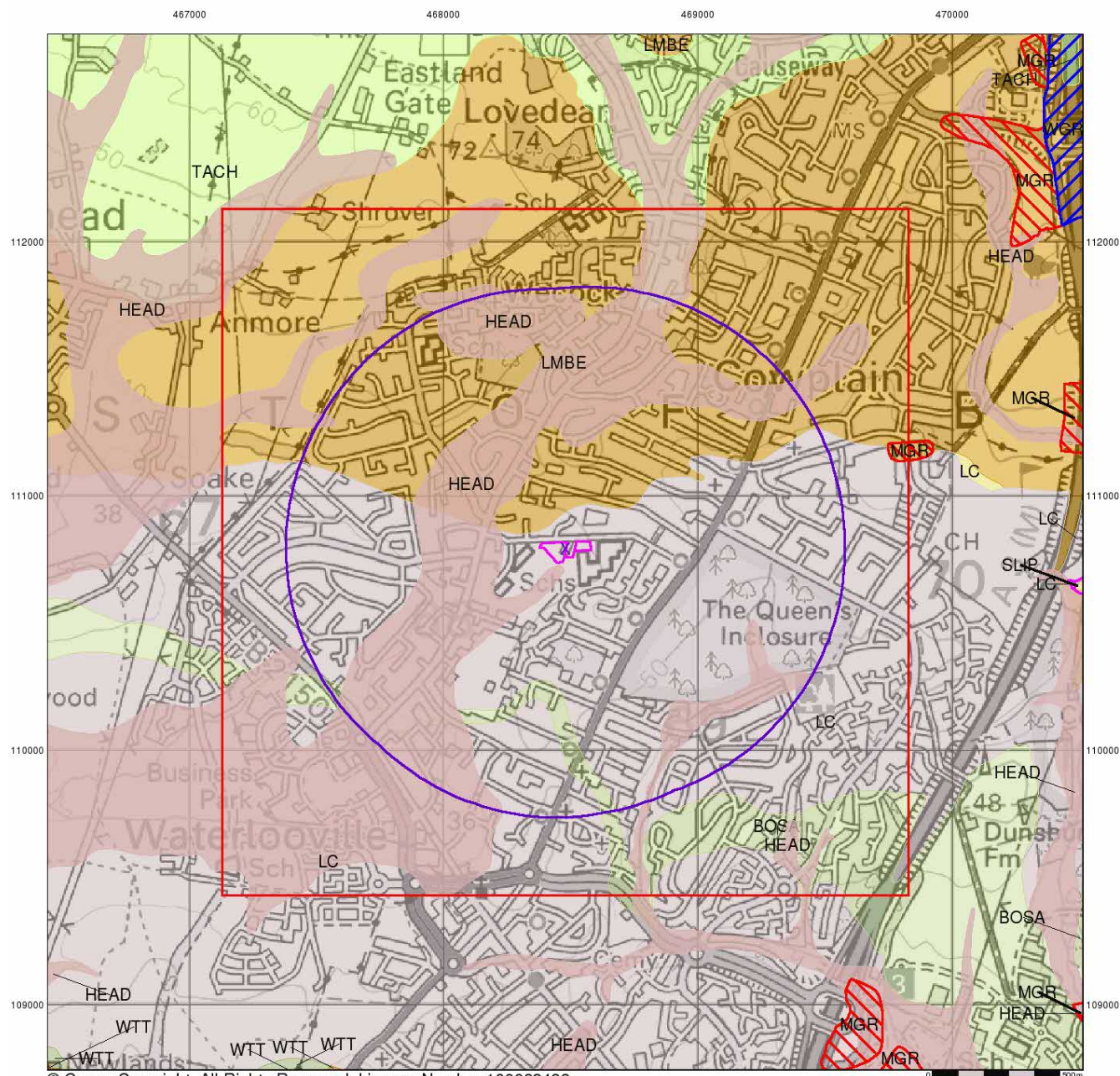
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

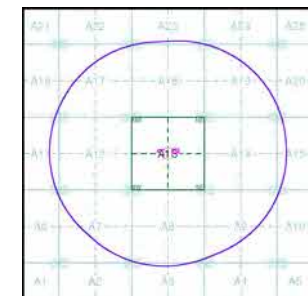
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



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