

Blue Field Land Limited

**Pontardawe Foundry
Old Foundry Road, Pontardawe, SA8 4EZ**

Site Investigation Report

12360/RAH/19/SI/RevA

CLIENT: Blue Field Land Ltd

PROJECT: Old Foundry Road, Pontardawe

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1.0 INTRODUCTION

1.1 GENERAL

Blue Field Land Ltd are proposing to redevelop a site at Old Foundry Road, Pontardawe for residential end-use.

Intégral Géotechnique (Wales) Limited have been appointed as the Geotechnical Engineers to undertake a site investigation to enable a geotechnical and geoenvironmental appraisal of the site and provide a basis for design.

This report presents the findings of the site investigation and gives recommendations for the design of foundations, floor slabs and other geotechnical and geoenvironmental aspects of the project.

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1.2 PROPOSED REDEVELOPMENT

The proposed redevelopment will comprise residential dwellings. A sketch layout provided to Intégral Géotechnique indicates the redevelopment to comprise 28 plots spread across the whole site, including one large plot in the north-east corner, likely to be a multi-storey building of flats, with associated infrastructure including an access road and gardens.

1.3 SCOPE OF WORKS

The work instructed included review of available site investigation data, site reconnaissance and intrusive investigation. This was followed by laboratory testing, on site monitoring and geotechnical and geoenvironmental reporting.

The desk study comprised a review of:

- An Envirocheck Report obtained for the site;

1.3 SCOPE OF WORKS (CONTINUED)

- Old Ordnance Survey maps covering the site, included within the Envirocheck Report;
- Geological maps of the area provided by the British Geological Survey
- the Environment Agency groundwater vulnerability map and aquifer database for the area;
- Existing site investigation data:
 - Earth Science Partnership – Geo-environmental Report. Ref: 3316s/979, dated May 2005
 - Includes a BGS Radon Report and Coal Authority Mining Report
 - Intégral Géotechnique – Preliminary Site Investigation Report. Ref: 9903/RB/07, dated May 2007

The desk study information was used to make an initial assessment of the site and to design an investigation to be carried out by Intégral Géotechnique. The site investigation was designed in accordance with BS5930:2015, the Code of Practice for Site Investigations, BS10175:2011, the code of practice for investigation of potentially contaminated sites, and 'Development of Land Affected by Contamination: A Guide for Developers' prepared by Welsh Local Government Association (WLGA)/Natural Resources Wales (NRW) Land Contamination Working Group, 2017.

The site investigation included:

- An intrusive investigation carried out during February 2019 (4th February through to 22nd February) comprising eleven trial pits, five trial pits into the stockpile and three cable percussive boreholes
- Sampling of soils/fill for laboratory chemical testing
- Sampling of groundwater for laboratory chemical testing
- Monitoring for concentrations of methane, carbon dioxide, oxygen, hydrocarbon vapours and gas flow

1.4 LIMITATIONS

This document is intended to be a working document for further development in discussion with all concerned including the Local Planning Authority, Natural Resources Wales, and the NHBC as appropriate.

"Contamination" is taken throughout the report to mean the "presence of one or more potentially harmful substances as a result of human activity".

1.4 LIMITATIONS (CONTINUED)

The use of the term in this way does not imply that harm is being or might be caused by the contamination. It should be noted that “contamination” can have different meanings under different regulatory regimes, for example, planning, building control and Part IIA of the Environmental Protection Act 1990. Naturally elevated concentrations of potentially harmful substances may also be of concern and the significance of any that have been found is also evaluated in this report.

It is important to recognise that there may be areas of contamination that have not been found, or that contaminants are present at concentrations above those that have been found. It is also important to recognise that contamination may be localised and that no investigation, however comprehensive, is capable of finding such occurrences other than by chance.

It should also be noted that vertical and lateral changes in ground conditions may be present between exploratory hole locations.

Access for the intrusive site investigation was limited at the time due to a large stockpile of demolition materials in the north-east of the site. Boreholes and/or trail pits were located as close as feasible to the stockpile in order to provide an insight into the ground conditions in this area.

2.0 THE SITE

2.1 SITE LOCATION AND DESCRIPTION

The site is located to the south of Arthur Terrace, in Pontardawe, at a National Grid Reference of SN 726 041, see Figure 1. Access was gained off Old Foundry Road, along the south-eastern boundary of the site.

The site is roughly rectangular in shape and occupies an area of approximately 0.75 hectares. The boundaries of the site are defined by an industrial estate access road to the south-east, the residential properties of Holly Street to the south-west, an approximately 2m high embankment to the former Swansea Canal with Arthur Terrace beyond and an approximate 1.5m high retaining wall to Holly Street to the north-west, and vacant land to the north-east, see Figure 2.

The former foundry buildings and neighbouring church were demolished at the time of the intrusive investigation and a large stockpile was located in the north-east of the site, comprising demolition materials, covering a maximum of 55m by 36m and up to four metres high. Smaller bunds of material were located in the three access ways and the site was partially surrounded by Heras fencing.

The main part of the site is situated on largely flat ground, sloping very slightly from north-west to south-east sitting between 33m and 31m AOD. There is a more significant change in level in the north of the site, with an embankment from the path level alongside the canal (approximately 36/37m AOD), dropping steeply to the site level at approximately 32mAOD immediately south.

Intégral Géotechnique were informed that all services within the site were terminated as part of the demolition works. Utility plans indicate the overhead power cables entering the north-west corner of the site. A disused, above ground steel pipe runs from north-east to south-west in from the north-eastern corner of the site, along the northern boundary. The pipe terminates before entering the ground in the approximate centre of the northern boundary.

Vegetation grows the north of the site, south of the canal. Some invasive plant species may be encountered including Japanese Knotweed. A vegetation survey of these areas is recommended.

2.2 SITE OPERATIONS

The site is currently vacant.

2.3 SURROUNDING LAND USE

The majority of the surrounding land use to the north and west is residential, whilst the land use to the south and east is predominantly occupied by the industrial estate. Old Foundry Road runs along the southern boundary, Swansea Canal and Arthur Terrace mark the northern boundary and the eastern and western boundaries are immediately neighboured by residential and industrial (vacant) land, respectively.

There is an approximately 2m, up to 3m level change from the site to the land immediately north of the site. The rest of the surrounding land (east, south and west) is generally at the same level as the site itself.

2.4 AVAILABLE SITE INVESTIGATION DATA

The following report has been made available to Intégral Géotechnique:

- Earth Science Partnership – Geo-environmental Report Ref: 3316s/979, dated May 2005

Information from this report has been used in this supplementary site investigation report.

In addition to this, Intégral Géotechnique completed a Preliminary Site Investigation Report in May 2007, ref: 9903/RB/07, the findings of which are referenced and included in this report.

2.5 CONSULTATIONS WITH REGULATORS

The regulators have not been contacted at this stage.

3.0 SITE HISTORY

The site history was traced as part of the preliminary site investigation in May 2007. The following summarises the findings and any further findings indicated on the Envirocheck report obtained in March 2019.

The recent history of the site has been traced with the aid of historical Ordnance Survey County Series and National Grid maps. The Envirocheck Report is included as Appendix A for reference.

The 1878 edition of the map shows the site to be occupied by an Iron Foundry. The foundry buildings are shown to be present in the central part of the site. The parts of the site to the north-east and south-west of the foundry are shown to be undeveloped. An Old Limekiln is indicated to the north-west of the site. A canal is present on an embankment running along the north-west boundary of the site. The land to the north and north-west of the site is mostly developed for residential use. A gas works is present to the west of the site, approximately 110m west-north-west. The land to the south and east is undeveloped. Pontardawe town is shown to the south-west of the site.

The 1918 edition of the map shows no change to the foundry part of the site. No additional buildings or features are present. A Methodist Chapel is now present in the south-western part of the site. Further residential development has taken place to the north and south-west of the site and a printing works is indicated approximately 50m to the south-west. The land to the south and east remains undeveloped.

Between 1918 and 1941/1942 there is no significant change to the site. The surrounding areas have been further developed for residential use and the gas works is no longer present.

The 1941/1942 editions of the map show the development of additional foundry buildings to the north of the existing buildings. A circular feature is shown immediately to the north of the northern site boundary. A large Sheet Mill has been developed some 100m to the south of the site, together with associated railway tracks, tanks and chimneys. The land between the site and the Sheet Mill remains as undeveloped.

The 1964/1965 edition of the map shows the site to now be occupied by 'Works'. No significant change to the buildings has taken place, with the exception of the additional new building in the north-east corner of the site. The circular feature previously identified just outside the northern boundary is now shown as a pond. The southern part of the site is occupied by an English Methodist Church.

3.0 SITE HISTORY (CONTINUED)

The 1974 edition of the map shows very little change to the site. A chimney is now shown as part of the 'Works' located in the approximate centre of the site. The land to the south and east of the site is now shown to be an industrial estate with several buildings and uses shown, including a factory, a bakery, a council yard and a bus depot. The pond formerly present immediately to the north of the site is no longer shown. There have been no significant changes to the land to the north and west of the site.

There have been no significant changes to the site between 1974 and present day. The foundry and the church closed and became disused, the dates of this are unknown. These were demolished in 2006 and a layer of crushed stone placed across the site.

4.0 SITE ENVIRONMENTAL SETTING

4.1 PHYSICAL SETTING

The site is situated at the base of the Swansea Valley at an approximate elevation of 30m AOD, on the reclaimed floodplain of the River Tawe. The Environment Agency Website indicates that the site is located on the edge of the extent of flooding from the River. The River Tawe benefits from flood defences to the south and east of the site.

4.2 GEOLOGY

The 1:50,000 scale Geological Map of the area (Sheet No. 230) indicates that the site is underlain by the rocks of the Rhondda Member, of the Upper Coal Measures of Carboniferous age. These strata typically comprise sandstones and locally interbedded sandstones and mudstones with coal seams. The strata are shown to dip at an angle of approximately 10° towards the south-west.

The site is not affected by any geological faults.

The geological map of the area indicates that the solid geology is overlain by glaciofluvial deposits comprising sands and gravels in the northernmost part of the site and alluvial fan deposits comprising clays, silts and sands beneath the rest of the site.

A summary of the anticipated geological succession is given below in Table 1.

Table 1 : Summary of Anticipated Site Geology		
Geological unit	Horizon	Description
Recent	Made ground	Various materials including demolition materials.
Quaternary	Glacial Deposits	Sands and gravels with varying matrix <i>(In the northernmost part of the site only)</i>
Quaternary	Alluvium	Clays/silts/sands with varying matrix
Carboniferous	Rhondda Member	Green-grey, lithic arenites ("Pennant sandstones"), with thin mudstone/siltstone and seatearth interbeds, and thin coals.

4.3 RADON

A Radon Report was obtained from the British Geological Survey (BGS) as part of the Earth Science Partnerships report, and a copy is included in Appendix B. The report states that no radon protective measures are required for the site. This is further confirmed by the up to date Envirocheck report which states the same.

4.4 MINING

A Coal Mining Report was obtained for the site from the Coal Authority as part of the Earth Science Partnerships report, and a copy is included in Appendix C. The report states that the site is not within the zone of likely physical influence on the surface from past underground coal workings. The Coal Authority have no knowledge of any mine entries within, or within 20m of, the boundary of the site.

4.5 HYDROLOGY, HYDROGEOLOGY AND FLOOD RISK

The Swansea Canal is located upon an embankment as close as 5 metres north-west of the site. The next closest waterline is a river located 131m north of the site. The River Tawe is located as close as 230m to the south-east of the site.

The Environment Agency groundwater vulnerability map and aquifer database classifies the bedrock and superficial deposits beneath the site as a Secondary 'A' Aquifers. Secondary 'A' Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These were formerly classified as minor aquifers

A perched water body may be anticipated in the made ground.

There are two recorded discharge consents recorded within 250m and ten within 500m of the site boundary. 43m north of the site, there are two sewage discharges to freshwater stream/river, one now revoked.

The Envirocheck Report states that there is one listed water abstraction 7m west of the site, from Swansea Canal. There are no other water abstractions within 1000m of the site.

Tables 2 and 3 present a summary of the hydrological features and key hydrogeological nature of the site.

4.5 HYDROLOGY, HYDROGEOLOGY AND FLOOD RISK (CONTINUED)**Table 2: Summary of Site Hydrology**

Feature	Distance from site	Flow	Classification	Abstraction	Discharge
Swansea Canal	Immediately north of the site	N/A	Not known	No	Runs from Abercraf to Swansea Docks
Unnamed river	131m north	North-west to south-east	Inland river	No	River Tawe
Surface run-off	On site	Unknown	N/A	No	Not known
Site Drainage	On site	Not known	N/A	No	Not known

Table 3: Summary of Site Hydrogeology

Geological Unit	Aquifer Classification	Aquifer Characteristics	Source Protection Zone	Groundwater Abstractions
Made ground	Not classified	Highly variable permeability and porosity. Perched water may be present with variable flow directions.	No	None
Glacial Till	Secondary A Aquifer	Variable permeability dependant on soil type (clays/silts/sands/gravels). High clay content likely to restrict flow.	No	None
Alluvium				
Hughes Beds	Secondary A Aquifer	Variable permeability sandstones, with thin mudstone/siltstone and thin coals	No	None

The soils have been classified as having a high leachate potential. Soils of high leaching potential are likely to penetrate the soil layer with the potential ability to have the ability to diffuse pollutants.

The Environment Agency Flood Risk Map as presented within the Envirocheck Report in Appendix A indicates that the site is at high risk of flooding with across the majority of the site with localised areas classified as being at extreme risk of flooding, these are the westernmost part and the north-east of the site.

4.6 LANDFILL SITES

The available data indicates that there are no registered landfill operations within 500m of the site.

4.7 POTENTIAL CONTAMINATION

Previous Uses

The various activities on-site and in the vicinity of the site which may have resulted in ground or water resource contamination on this site are listed below in Table 4 and 5. Reference to Department of the Environment Industry Profiles has been made and a summary of the potential contaminants can be found in the tables.

Table 4: Potential Contaminants		
Land Use: Industrial/other land use		
Material/Process	Contamination/Hazard	Evidence
Historic foundry(and the demolition there of)	Metals, semi-metals, non-metals, polycyclic aromatic hydrocarbons, fuel oils/petroleum hydrocarbons and asbestos.	Historical Maps (Present on earliest records – 1878)
Church	No potential contaminants	Historical Maps (Present on 1918 records)
Unknown infilled land (water)	Metals, semi-metals, non-metals, polycyclic aromatic hydrocarbons, fuel oils/petroleum hydrocarbons, asbestos.	Envirocheck report (Two records on-site)
Land Use: Current		
Material/Process	Contamination/Hazard	Evidence
(Potentially imported) made ground/demolition materials stockpiled in the north-east	Metals, semi metals, non-metals, PAH, asbestos	Site Walkover

Existing Uses

There are no existing site uses with the potential to cause ground contamination, however the stockpile located in the north-east of the site is considered to pose a risk of asbestos contamination.

4.7 POTENTIAL CONTAMINATION (CONTINUED)

Adjacent Site Uses

Table 5 : Potential Contaminants : Adjacent Site Uses		
Potential Contamination Source	Boundary	Associated Contaminants and Hazards
Residential	Northern and eastern	No Potential Contaminants
Industrial including a gas works and old limekiln.	Western and Southern	Largely as per the potential contaminants identified as a result of on-site historic land uses.

4.8 OTHER ENVIRONMENTAL ISSUES

Environmentally sensitive land has not been identified within 1000m of the site.

The Envirocheck Report indicates that there have been four pollution incidents to controlled waters recorded within 250m of the site. One of which, 43m west of the site, was classified as a category 2 (significant) incident, direct discharge of foam/soap suds in 1991. However, several incidents have been recorded within the immediate surrounding area. All other records were classified as minor incidents (category 3).

There have been no substantiated pollution incidents registered within 250m of the site boundary. The closest record is 260m east of the site, pollution by contaminated water in 2015, which resulted in a category 2 (significant) water impact.

There have been no recorded prosecutions related to controlled waters or authorised processes on site or within 500m of the site.

5.0 PRELIMINARY CONCEPTUAL SITE MODEL

5.1 RISK ASSESSMENT FRAMEWORK

In order to be consistent with current UK government policies and legislation, it is necessary to identify, make decisions on, and take appropriate action to deal with land contamination, in accordance with the procedures specified in the Environment Agency document 'Model Procedures for the Management of Land Contamination CLR-11' (Environment Agency 2004).

The risk assessment process is designed to provide a reasoned, structured and pragmatic mechanism for the identification of any potential human health and controlled waters risks associated with land contamination and where necessary to develop a robust remediation strategy to ensure protection of the sensitive receptors (human health of future residents, controlled waters, etc).

In accordance with the CLR-11 framework, risk is defined as:

'a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequence of the occurrence'.

The three essential elements to any risk are defined by CLR-11 as follows:

- A contaminant, or hazard, which is in, on, or under the land and has the potential to cause harm (Source)
- A means by which a receptor can be exposed to, or affected by a contaminant or hazard (Pathway)
- A receptor, i.e. something which could be adversely affected by a contaminant or hazard, such as human health or groundwater (Receptor).

In order for there to be a potential risk, all three of the above elements must be present. If there is a source of contamination and a receptor (for example a resident or site user), then there is only a potential risk if there is a pathway linking the two. Such an active pathway is known as a relevant pollutant linkage. It is possible for the same contaminant to be linked to a receptor via a number of pathways, and hence it is important that all relevant pollutant linkages, to both human health and controlled waters, are separately identified on a site in order that a comprehensive conceptual model can be formed and ultimately a robust remediation strategy designed.

5.1 RISK ASSESSMENT FRAMEWORK (CONTINUED)

Current practice during Generic Quantitative Risk Assessment of land affected by contamination is to use generic soil screening values based on the appropriate proposed end use. These usually comprise risk-based Soil Guideline values (SGVs) or Generic Assessment Criteria (GACs) derived by the Environment Agency's Contaminated Land Exposure Assessment Model (CLEA). The SGVs and the supporting technical guidance were developed in order to assist in the assessment of long-term risk to human health from the exposure to contaminated soils.

Revised Statutory Guidance, published in 2012, to support Part 2A of the Environmental Protection Act 1990, introduced a new four category system for classifying land under Part 2A. Category 1 includes land where the level of risk is clearly unacceptable, and Category 4 includes land where the level of risk posed is considered to be acceptably low. Under Part 2A, land would be determined as contaminated if it falls within Categories 1 or 2.

The revised Part 2A Statutory Guidance was accompanied by an Impact Assessment that identified a role for new 'Category 4 Screening Levels' (C4SLs) that would provide a simple test for determining when land is suitable for use and definitely not contaminated land. A Policy Companion Document including the C4SLs was published in March 2014 (England) and May 2014 (Wales).

The C4SLs have been based on the CLEA methodology and derived using the CLEA model, with modified toxicological and exposure parameters. To date, C4SLs have been released for six substances (arsenic, cadmium, chromium (VI), lead, benzo(a)pyrene and benzene).

The C4SLs have been derived on the assumption that where they exist, they will be used as generic screening criteria within generic quantitative risk assessment.

Following publication of the C4SLs, Land Quality Management (LQM), in conjunction with the Chartered Institute for Environmental Health (CIEH) released Suitable 4 Use Levels (S4ULs) in January 2015.

The S4ULs have been derived in accordance with UK legislation, and using a modified version of the Environment Agency's CLEA software. As such, the S4ULs are based on the concept of minimal or tolerable risk as described in Human Health Toxicological Assessment of Contaminants in Soil (Science Report SR2, Environment Agency 2009a).

S4ULs have been derived for a wider number of substances.

5.1 RISK ASSESSMENT FRAMEWORK (CONTINUED)

In addition to the existing SGVs, C4SLs and S4ULs, Atkins ATRISK^{soil} also provide a set of Soil Screening Values. These are currently intended to be used in conjunction with SGVs, although they intend to update these values in line with the C4SLs in due course.

We have reviewed all sets of values and intend to use the most appropriate assessment criteria as Tier 1 screening values in the first instance. Where a published S4UL is available, and considered appropriate, this will be used in the first instance.

5.2 CONCEPTUAL MODEL FRAMEWORK

The preliminary stage of the risk assessment process is to develop and define a conceptual site model, based on the desk study and any existing site investigation data. This is used to establish any potential contaminant sources, identify existing and future receptors and assess if there are any potentially active pathways by which a potential risk may be present.

The preliminary conceptual site model will be developed and refined as site specific data is gathered, such as actual ground conditions and chemical data, resulting in a more robust conceptual understanding of the site.

5.3 CRITICAL SENSITIVE RECEPTOR – HUMAN HEALTH

The proposed redevelopment of the site is for a residential end use. Therefore, the critical sensitive receptor from a human health perspective is an on-site residential receptor.

In accordance with C4SL and CLEA guidance for a standard residential scenario, the critical sensitive receptor for a residential end use risk assessment is a female child, with exposure from 0 to 6 years.

The standard residential end-use conceptual model defined by C4SL and CLEA is assumed to be suitable for the purposes of this assessment.

5.4 CRITICAL SENSITIVE RECEPTOR – CONTROLLED WATERS

Based on the proposed redevelopment of the site for a residential end use, and the findings of the desk study, the critical sensitive receptor from a controlled water perspective is groundwater within the Secondary 'A' Aquifer of the alluvium and glaciofluvial deposits and the Rhondda Member on-site.

5.4 CRITICAL SENSITIVE RECEPTOR – CONTROLLED WATERS (CONTINUED)

By considering groundwater as the critical sensitive receptor for controlled waters, the groundwater/hydrogeological risk assessment will also be protective of the River Tawe to the south/south-east of the site and associated minor networks.

5.5 POTENTIAL CONTAMINANT SOURCES

As identified in the desk study, the historical land uses at the site since earliest available map records (1878) has resulted in potentially contaminative uses including an iron foundry and associated made ground/demolition materials.

The potential types of contaminants of concern are listed below:

- Metals, semi-metals, and inorganics within the shallow made ground/shallow groundwater
- Polyaromatic hydrocarbons (PAH) within the shallow made ground/shallow groundwater
- Petroleum Hydrocarbons (VPH/EPH) within the shallow made ground/shallow groundwater
- Asbestos within the shallow made ground and stockpiled materials
- Ground gas from made ground or alluvial deposits

5.6 POTENTIAL EXPOSURE PATHWAYS

Potential exposure pathways for the critical receptors (both human health and controlled waters) are listed below:

- Dermal contact with soil and/or soil derived dust
- Ingestion of soil and/or soil attached to home-grown produce
- Ingestion of home-grown produce
- Inhalation of soil derived dust
- Inhalation of vapours – indoor and outdoor air
- Leaching of contaminants from made ground to groundwater
- Transportation of contaminants within groundwater.

In addition, the following exposure pathways have also been considered:

- Ground gas generation and migration
- Building materials durability.

5.7 SUMMARY OF CONCEPTUAL EXPOSURE MODEL

A preliminary conceptual exposure model has been developed for the site. This is based on the findings of the desk study, historical review and site walkover and includes all potential sources, pathways and receptors that may be present on site. Those that have been identified as being potentially active require further investigation in the form of sampling and testing of soils and groundwater, followed by appropriate risk assessment.

The preliminary conceptual exposure model will be reviewed and refined following the completion of the site works and laboratory testing.

The preliminary conceptual exposure model is presented below in Table 6.

Table 6: Preliminary Conceptual Exposure Model				
Source		Receptor	Pathway	Potentially Active Pathway?
Origin	Contaminant			
Made Ground of unknown origin including demolition materials and stockpiled material and historical land uses (iron foundry)	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons, asbestos	Resident – human health	Dermal Contact with made ground/dust	✓
			Ingestion of soil and/or soil attached to home-grown produce	✓
			Ingestion of home-grown produce	✓
			Inhalation of dust	✓
			Inhalation of vapours – indoor/outdoor	✓
	Metals, semi-metals, inorganics, PAH, petroleum hydrocarbons,	Groundwater quality	Leaching from made ground	✓
	Metals, semi-metals, inorganics, PAH, petroleum hydrocarbons,	Surface water quality	Transportation within groundwater	✓
Made Ground of unknown origin and natural ground	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons,	Building Materials Durability	Direct contact	✓
Ground Gas – organic, gas producing materials including made ground and peat	Methane, carbon dioxide	Human health	Accumulation of gases in confined spaces, and/or migration off site, leading to asphyxiation, or risk of explosion	✓

6.0 THE SITE INVESTIGATION

6.1 FIELDWORKS

A site investigation was designed in accordance with BS5930:2015, the Code of Practice for Site Investigations, BS10175:2011, the Code of Practice for Investigation of Potentially Contaminated Sites, and 'Development of Land Affected by Contamination: A Guide for Developers' prepared by Welsh Local Government Association (WLGA)/Natural Resources Wales (NRW) Land Contamination Working Group, 2017.

The site investigation was also designed to provide information to support and refine the preliminary conceptual site model/conceptual exposure model.

May 2007 – Preliminary Site Investigation (Intégral Géotechnique)

An investigation comprising ten trial pits, was undertaken during April 2006, reported in May 2007. The trial pits were located across the site, avoiding the buildings which were present at the time of the investigation, and excavated by a JCB 3CX mechanical excavator to a maximum depth of 4.2m below existing ground level (bgl). During the trial pitting, representative samples were taken for laboratory chemical testing.

February 2019 – Supplementary Site Investigation (Intégral Géotechnique)

An investigation comprising eleven trial pits, stockpile sampling and three cable percussive boreholes was undertaken during February 2019. In order to enable access to the site a bund of material situated in the southernmost access way off Old Foundry Road was cut into and removed. This was replaced upon completion of the intrusive investigation.

The trial pits were located across the site and excavated to depths between 0.80m and 2.90mbgl using a JCB 3CX mechanical excavator. below existing ground level. During the trial pitting, representative samples were taken for laboratory chemical testing.

The three boreholes were drilled to between 15m (BH2 and BH3) and 28mbgl (BH1). The purpose of the boreholes was to provide information on the deeper ground conditions and allow an assessment of the most appropriate foundation type for the proposed development. In situ strength testing (SPT) was carried out in the boreholes at 1m intervals from ground level to 5.0m and 1.5m intervals thereafter. Dual standpipes comprising a shallow ground gas and a deeper groundwater monitoring well in each location, were installed within the boreholes to allow both ground gas and groundwater to be monitored, sampled and tested.

6.1 FIELDWORKS (CONTINUED)

Large scale infiltration testing was completed in one trial pit only (TP104), three repeat cycles were undertaken on 04/02/2019.

Stockpile sampling was undertaken at five locations across the heap in the north-east corner of the site. This was completed by excavating into the side of the spoil heap at locations spread to provide reasonable coverage.

Representative soil samples were taken from the trial pits for laboratory chemical and geotechnical testing and placed in the appropriate sample containers deemed suitable for the analysis required. Strict protocols were adopted during this process to limit the cross contamination of samples.

Dual standpipes were installed into the boreholes in order to allow shallow ground gas monitoring and deeper groundwater monitoring and sampling. The shallow wells comprise 1m of solid piping from ground level to 1m with either 1m or 2m of slotted pipe beneath this. The deeper wells comprise plain piping from ground level to 12m and slotted piping from 12m to 15m bgl. A bentonite seal was implemented at the base of the shallow wells and the boreholes were backfilled with either bentonite (from ground level to 1mbgl), arisings (surrounding plain pipe in deep wells) or a gravel filter (surrounding slotted pipe to create a response zone).

Following the installation of the standpipes, groundwater was sampled for laboratory chemical testing. Eighteen groundwater samples have been tested after three monitoring visits.

A programme of gas monitoring was commenced as soon as the site works were complete. Six visits has been completed and results are summarised in Section 8.4.

The fieldworks were supervised by a qualified Geotechnical Engineer from Intégral Géotechnique (Wales) Limited who also logged the shell and auger boreholes and prepared their detailed engineering logs in accordance with the requirements of BS5930: 2015. The engineering logs provide descriptions of the materials encountered in accordance with BSEN ISO 14688-1 (2002) and 14689-1 (2003) for soils and rocks respectively.

The approximate locations of the exploratory holes and sampling locations are shown on Figure 2, while their logs are presented in Appendices E, D and F. The results of the infiltration tests are presented in Appendix K.

6.2 FIELD OBSERVATIONS

During the intrusive investigation potential Asbestos Containing Material (ACM) was identified in TP104 (synthetic board). This was later confirmed to be free of asbestos, however loose fibres were detected in soils site-wide including at this location; results are discussed in section 8.0.

Made ground soils were described as having a slight organic odour in places (TP101, TP108) and during the excavation of TP110 a hydrocarbon odour was detected when water starting seeping into the pit into the alluvial deposits. Subsequent chemical testing was scheduled on soils collected at these locations and the presence of polycyclic aromatic hydrocarbons and petroleum hydrocarbons were detected in these samples as well as several others.

6.3 LABORATORY CHEMICAL TESTING

Representative soil samples were taken from the trial pits across the site, stored at the appropriate temperature and dispatched to the laboratories of i2 for laboratory chemical testing within 24 hours. Testing was completed on eight samples of made ground, one sample of alluvial silt/clay and five samples of demolition rubble from the stockpile in the north-east.

The samples were tested for a range of contaminants that reflects the historical use of the site, the findings of the desk study and the preliminary conceptual site model/conceptual exposure model. A list of the soil testing carried out is given below:

Beryllium	Cadmium
Total Chromium	Hexavalent Chromium (VI)
Copper	Lead
Mercury	Nickel
Vanadium	Zinc
Arsenic	Boron
Selenium	Elemental Sulphur
Total Cyanide	Total Sulphate
Sulphide	Water Soluble Sulphate
pH	Monohydric Phenol
Polyaromatic Hydrocarbons (PAH)	Petroleum Hydrocarbons (VPH/EPH)
Asbestos	

The potential for leachate generation and migration to groundwater was identified as being active in the preliminary conceptual site model.

6.3 LABORATORY CHEMICAL TESTING (CONTINUED)

Therefore, groundwater samples have been tested for a range of contaminants (as above) including petroleum hydrocarbons.

Chemical testing was also completed as part of the previous investigations on the site, the results of which have been included in the discussion of results, Section 8.0.

The results of all the soil, leachate and groundwater testing are presented in Appendices F, G and H respectively.

6.4 LABORATORY GEOTECHNICAL TESTING

Laboratory geotechnical testing has not been completed as part of this investigation or the previous investigations.

6.5 GROUNDWATER MONITORING

During each groundwater monitoring round, the groundwater levels were checked and recorded. The boreholes were then purged of approximately three times the well volume using a pump. Each well was monitored in situ during purging for groundwater parameters pH, temperature, conductivity, total dissolved solids, salinity, oxidation reduction potential and dissolved oxygen using a Hanna Multi Parameter Water Quality Meter. Representative samples of ground water were then collected and stored in the correct sample bottles during transportation to the laboratory.

The sampling equipment was cleaned between boreholes to prevent cross contamination between boreholes. Care was also taken to ensure the sampling equipment did not become contaminated at the ground surface.

Upon completion of the sampling, the rate of recovery of the groundwater level in the borehole was observed, known as the recharge rate.

Three groundwater monitoring/sampling visits have been completed on 07/02/2019, 09/04/2019 and 24/04/2019.

A copy of the groundwater monitoring results is presented in Appendix I.

6.6 GROUND GAS MONITORING

Gas monitoring standpipes were installed in all three of the shell and auger boreholes and these have been monitored on six occasions following completion of the fieldworks.

The gas monitoring programme commenced on 07/03/2019.

The concentration levels of methane, carbon dioxide and oxygen were measured in the standpipes during each visit by using a GA2000 Landfill Gas Analyser. In addition, gas flow rate and the atmospheric pressure at the time of the field measurements were also recorded. A Photo Ionisation Detector was also used to monitor Volatile Organic Compounds (VOCs).

Gas monitoring was carried out over a range of atmospheric pressures to include at least one reading in low and/or falling pressure, in accordance with the recommendations made in CIRIA Report C665.

The results of the field gas monitoring are presented in Appendix I.

7.0 GROUND CONDITIONS

The site is covered by a layer of made ground/fill, typically shallower in the western part of the site. Coarse rubble is present at ground level site-wide with the exception of, an asphalt and concrete covered road leading from the access point in the north-west corner to the southern access along the southern boundary and along the north of the site, plus an area covered by concrete slabs in the approximate centre of the site. Made ground is underlain by superficial deposits of alluvium/fluvioglacial deposits to significant depths. Weathered bedrock was not encountered during the intrusive investigations.

The old buildings associated with the foundry and the church have been demolished, however not all foundation/obstructions have been grubbed out and removed.

A summary of the ground conditions encountered across the site is presented below in Table 7. The depths outlined in the table refer to the 2019 investigation only.

Table 7 : Summary of Ground Conditions		
Depth (m)		Stratum
From	To	
G.L.	0.8/3.0	<u>Made Ground:</u>
G.L	0.2	Reinforced CONCRETE: TP107 and TP109 only
G.L./0.2	0.6/3.0	MADE GROUND: Greyish brown/dark grey/dark brown, silty clayey gravel/sand with cobbles. Contains concrete, brick, wood fragments, slag, clinker, coal, lime gravel, plastics, metals, ceramic fragments sandstone. - Locally cohesive. - Concrete slab from 1.10m to 1.30m in TP101 only.
0.8/1.3	1.3/2.4	MADE GROUND: Black/dark grey, silty clayey sandy gravel with ash. concrete, brick, coal, burnt shale, clinker and slag. - Also locally encountered within general made ground described above.

7.0 GROUND CONDITIONS (CONTINUED)

Table 7 : Summary of Ground Conditions		
Depth (m)		Stratum
From	To	
0.8/3.0	>15.0/>28.0	<u>Superficial Deposits:</u>
0.9	1.1	Soft to firm, brown, slightly sandy slightly gravelly CLAY/SILT. – West side only, overlying gravels
0.8/4.5	>1.5/6.1	Brown, silty clayey sandy GRAVEL/GRAVEL and COBBLES of sandstone. Typically sub-rounded, but sub-angular and tabular in TP107 and TP109.
1.2/2.1	>2.25/5.7	Very soft to soft peaty SILT/CLAY or PEAT. – Occasional large decaying tree trunks encountered and abundant decaying organics.
1.351/5.7	>1.7/>28.0	Soft to firm (dark) grey and grey SILT/CLAY. Localised gravel of sandstone and siltstone. – Firm and firm to stiff in 2006

The findings of the 2006/2007 investigation largely accord with the summary when accounting for a slight change in levels/increased depth of made ground a since the demolition of the buildings.

It is noted that the trial pits excavated in the western part of the site (TPG, H and I) encountered firm/firm to stiff clays, and that the 2019 investigation found the soils to be soft to firm and firm; the strength of the soils is discussed by comparison to N values in section 7.2.

The 2006/2007 investigation also showed that the ground conditions often alternated between granular and cohesive strata, which was also demonstrated in the boreholes (BH2 and BH3 specifically) during the more recent investigation. Trial pits typically exhibited instability in the granular strata and made ground only, worsened by the occurrence of water ingress in these soils.

7.0 GROUND CONDITIONS (CONTINUED)

Excavation was noticeably difficult in the made ground in places, the soils were particularly dense in the centre of the site. In addition, it became apparent that obstructions still exist in the ground by the presence of a concrete slab (not reinforced) at 1.1mbgl in TP101 and the presence of a concrete slab and old walls/footings in TP111 just below ground level. Occasional disused services were encountered during the investigations as detailed on the trial pit logs.

7.1 MADE GROUND

Made ground soils are present across the whole site, from ground level and encountered to variable depths. The soils were encountered to a maximum depth of 3.0m below ground level (bgl) in BH2.

The general made ground typically comprises “*Greyish brown/dark grey/dark brown, silty clayey gravel/sand with cobbles*” and contains concrete, brick, wood fragments, slag, clinker, coal, (suspected) lime gravel, plastics, metals, ceramic fragments sandstone. This was encountered to between 0.8m and 3.0mbgl.

More locally, dark grey/black ashy gravel/sand was encountered to a maximum of >2.0mbgl in TP102 and locally included within the soils detailed above, described as “*Black/dark grey, silty clayey sandy gravel with ash. concrete, brick, coal, burnt shale, clinker and slag.*”

Made ground soils were noted to be difficult to dig in the central area of the site; trial pits required widening or lengthening in order to make progress. Additionally, obstructions were noted in TP101 (0.2m thick concrete slab) and TP111 (possible old footings/walls immediately below ground level).

7.2 SUPERFICIAL DEPOSITS

Superficial deposits were encountered as either silts/clays, peat or sand/gravels. The deeper boreholes confirmed that silts/clays are the predominant soil, with localised areas of gravel/gravel and cobbles. It is likely that the shallow soils encountered across the site represent alluvial strata, and with depth (some 6m below ground level), the soils are likely to be fluvioglacial deposits.

Granular superficial deposits were typically encountered in the western part of the site and where encountered in the east of the site, were observed at depth in the eastern part.

7.2 SUPERFICIAL DEPOSITS (CONTINUED)

Where the base of the granular soils could be confirmed (where excavation or drilling continued into strata immediately below), the granular soils were observed to a maximum thickness of 1.80m (in BH3). Sandy gravelly silty clays were commonly encountered overlying the gravels in the west.

SPT testing in the granular soils indicates the soils are loose to medium dense with N values of 6 and 20. The observations during trial pitting suggest that this is the case site-wide, with spalling observed in the soils and no record of particularly difficult excavation/hard digging.

Peat deposits were predominantly encountered in the eastern part of the site, with the exception of BH1 which encountered peat lenses within silt/clay. Peat was described as dark brown/orange brown and black peat with abundant decaying organics and occasional large tree trunks as seen in TP101 and BH1. Peat was commonly observed as lenses within the alluvial silts across the site and was observed to a maximum depth of 5.7m in BH1.

As expected, SPT testing in the peat deposits indicates the soils are very low strength, with N values between 2 and 3 (with the exception of a wood obstruction encountered in BH1).

Silts and clays across the site are typically of low compressible strength and alternate between silty clays and clayey silts. Gravel content is rare but occasional sandstone was observed.

The in-situ SPT testing in the cohesive soils indicates the clays and silts to be of low strength, generally soft becoming firm to 15m, with N values ranging between 2 and 9 in BH1, 0 and 18 in BH2 and 1 and 13 in BH3.

However, in soils below 5m, SPT test results indicate N values typically between 4 and 15, and therefore the silts/clays are interpreted to be largely firm between 5m and 15m below ground level. BH1 was continued to 28m depth, and SPT results indicate the soils to be soft to firm below this depth.

Figure 3 presents the corrected (N₆₀) N values calculated from SPT testing versus depth in the cable percussive boreholes.

7.3 STOCKPILED MATERIALS

In the north-east of the site, a stockpile covers an approximate surface area of 1450m² and is up to 4.5m tall. The material largely comprises demolition rubble, with abundant fragmented concrete and bricks, and localised hardstanding gravel.

Five samples were collected, by digging into the side of the stockpile, and subjected to chemical testing. The sampling points were located to provide a spread across the stockpile and enable representative sampling. Sampling locations are detailed on Figure 2.

The material was typically described as demolition rubble logged as follows:

“Made Ground comprising: light grey/buff, slightly silty/clayey, sandy, gravel and cobbles or cobbles and boulders of brick, concrete and breezeblocks. Occasional reinforcing bar, scrap metal, plastic, slate, sandstone, tile fragments and textile (fabric and rope).

Sample B differed very slightly, described as a brownish grey slightly silty/clayey sandy fine to medium gravel of concrete, sandstone and brick, with occasional blacktop and high cobble and boulder content.

Asbestos fibres were detected in four of the five samples, chemical results are discussed in Section 8.2.

7.4 GROUNDWATER

The groundwater conditions are based on observations made at the time of the fieldwork. It should be noted that groundwater levels may vary due to seasonal and other effects.

Water ingress or seepage was typically encountered around 1.0mbgl in the trial pits, ranging from 0.6m to 1.7mbgl during trial pitting in 2019 and between 0.1m and 3.8mbgl in 2006. Groundwater was not encountered in TP104, TP111 and TPG. Ingress was recorded as fast or significant in TP102, TP103, TP107 in 2019 and TPA, TPC, TPD TPE TPH and TPJ in 2006.

Groundwater was encountered at 0.5m in BH1, 4.5m in BH3 and BH2 encountered a perched water strike at 1.1m and another water strike at 4.3mbgl.

Groundwater levels have also been measured during visits to site to sample groundwater. Dual standpipes were installed into the boreholes in order to allow shallow ground gas monitoring and deeper groundwater monitoring and sampling. Details are given in Section 6.1 and on borehole logs.

7.4 GROUNDWATER (CONTINUED)

Note that boreholes labelled “A” refer to the shallow monitoring well and boreholes labelled “B” refer to the deeper.

The depth to groundwater has been converted to a groundwater level with respect to ordnance datum, and a summary provided below in Table 8.

Table 8: Summary of Groundwater Levels						
Borehole	Base depth of well (mbgl)	Depth to Groundwater (mbgl)			Approximate Ground Level (mAOD)	Approximate Groundwater Level (mAOD)
		07/03/2019	09/04/2019	24/04/2019		
BH1A	2.03	1.21	1.18	1.27	31.8	30.59
BH1B	14.16	1.21	1.20	1.25	31.8	30.59
BH2A	2.21	0.53	0.56	0.55	32.2	31.67
BH2B	12.1	0.55	0.58	0.59	32.2	31.65
BH3A	1.43	0.56	0.59	0.58	32.3	31.74
BH3B	10.19	0.61	0.62	0.60	32.3	31.69

7.5 LARGE SCALE INFILTRATION TESTING

Four proposed soakaway locations were provided by the client, however rapid groundwater ingress was observed at three of the locations (TP101, TP102 and TP103) in the eastern part of the site, therefore the pits were not subjected to testing.

TP104, located in the west of the site, encountered made ground to 0.80m bgl underlain by silty clayey sandy gravel to 1.70m and no groundwater seepage or ingress was observed. Accordingly, this location was subjected to three successful repeat infiltration tests, for which infiltration rates are calculated as follows:

Test 1 – 8.4×10^{-5} m/s

Test 2 – 4.1×10^{-5} m/s

Test 3 – 3.0×10^{-5} m/s

It should be noted that this initial testing should only be regarded as indicative. If it should be proposed to use soakaways for this site, then more extensive follow-up tests will be required and should fully comply with BRE 365, in order to confirm the suitability of the site and to satisfy the local authority.

7.5 LARGE SCALE INFILTRATION TESTING (CONTINUED)

Soakaways were initially appraised for the western part of the site, subject to the occurrence of granular strata at sufficient thicknesses beneath the made ground and in the absence of groundwater.

However, based on the currently available groundwater well information, there is considered to be a significant risk of groundwater levels rising in the area of TP104 and inundating any soakaway constructed in that area.

Groundwater has been observed as shallow as 0.5m below ground level in February 2019. For this reason, shallow soakaway drainage is not recommended.

8.0 CONTAMINATION

8.1 AVERAGING AREAS

In order to assess the laboratory test results reliably and in context, the data have been grouped into an averaging area. An averaging area (or area of interest) is that area of soil to which a receptor is exposed or which otherwise contributes to the creation of hazardous conditions. This may be an area of historical industrial usage, a soil type, or a specific proposed end use.

In the case of this analysis, the averaging area has been determined according to the proposed residential end use.

8.2 SOIL CONTAMINATION

The Suitable 4 Use Levels (S4ULs) published by LQM have been adopted as critical concentrations against which soil contaminant concentrations can be compared. In the absence of additional published S4ULs, the Category 4 Screening Levels (C4SLs) derived by DEFRA and Soil Screening Values (SSVs) derived by Atkins ATRISK^{soil} for a residential with the consumption of home grown produce end use have been adopted, where considered appropriate.

Since the results of the testing indicate total organic carbon content (TOC) in the range of 0.8% to 2.6%, the results have been compared to the respective guidelines for 1% soil organic matter content and where applicable, are screened against 2.5% SOM guidelines.

Chemical results from the 2019 investigation have been combined with results from the 2006 investigation and the 2005 investigation for completeness.

The soil test results for all investigations have been summarised and are shown in Appendices G and H.

8.2.1 Made Ground

The results of the laboratory testing indicate several exceedances of metals, several speciated PAH compounds and occasional exceedances of petroleum. Asbestos was detected within eight samples of made ground.

Arsenic concentrations in twenty-three samples of made ground tested as part of the 2005, 2006 and 2019 investigations exceed the S4UL guidance on seven occasions. Results range from 3.1mg/kg to 83mg/kg, the S4UL is 37mg/kg.

8.2 SOIL CONTAMINATION (CONTINUED)

Lead concentrations in twenty-three samples of made ground tested as part of the 2005, 2006 and 2019 investigations exceed the S4UL guidance in ten samples. Results range from 13mg/kg to 950mg/kg, the C4SL is 200mg/kg.

Mercury concentrations in twenty-three samples of made ground tested as part of the 2005, 2006 and 2019 investigations exceed the S4UL for elemental mercury in four samples. Results range from < 0.2mg/kg (Limit of Detection) to 8.8mg/kg, the S4UL is 1.2mg/kg. It should be noted that the results for mercury have been conservatively screened against the S4UL for elemental mercury of 1.2mg/kg in the first instance. It is considered unlikely that the detected mercury is elemental and is more likely to comprise inorganic mercury; the S4UL for inorganic mercury is 40mg/kg.

A single exceedance of nickel was recorded in a sample of made ground from TP2 at 0.1m (ESP – 2005 investigation) with a concentration of 150mg/kg which exceeds the current S4UL of 130mg/kg.

Several polycyclic aromatic hydrocarbon exceedances have been recorded in the twenty-three made ground soil samples as follows.

Benzo(a)pyrene concentrations exceed the S4UL of 2.2mg/kg in four of the samples tested, with a maximum concentration of 5.3mg/kg in TPC at 0.1 – 0.5m (Intégral Géotechnique – 2006 investigation). Benzo(b)fluoranthene concentrations exceed the S4UL in five samples, with a maximum concentration of 6.4mg/kg in a sample from TP102 at 1.1m. Dibenzo(ah)anthracene concentrations exceed the S4UL of 0.2mg/kg in six samples, with a maximum concentration of 0.9mg/kg in a sample collected from TP102 at 1.1m. One single exceedance of naphthalene was recorded in a sample of foundry sand collected during the 2005 investigation by ESP, the concentration measured 4mg/kg and the S4UL is 2.3mg/kg.

When collating the data from the previous investigations and comparing petroleum hydrocarbon concentrations against current LQM S4UL guidance, several TPH/EPH exceedances have been recorded. However, it should be noted that historic testing methods differed from today, and therefore results have been screened on a “worst-case” basis, for example where aliphatic and aromatic results have not been separated in historic test results, the screening process has assumed that all detections are either aromatic or aliphatic, whichever is most stringent. The more up to date test results (2019 investigation) indicate minor detections in five of the six made ground samples tested, none of which exceed the S4UL guidance values for 1%SOM.

8.2 SOIL CONTAMINATION (CONTINUED)

One sample of made ground collected from TPA at 0.40 to 1.0m (Intégral Géotechnique – 2006 investigation) exhibited an unusually high cyanide concentration of 130mg/kg. This result exceeds the Aktins ATRISK screening value of 34mg/kg.

Asbestos has been identified in eight of the thirteen samples of made ground tested as part of the 2019 investigation, four samples of made ground collected below ground level and four sample of stockpiled material (also made ground). Fibres of amosite and chrysotile asbestos were identified and quantified as follows:

- TP101 – 0.7m: Chrysotile - 0.082%
- TP102 – 1.1m: Chrysotile - <0.001%
- TP104 – 0.3m: Chrysotile - 0.003%
- TP195 – 0.2m: Amosite - <0.001%
- Sample A: Chrysotile - <0.001%
- Sample C: Chrysotile - <0.001%
- Sample D: Chrysotile - 0.001%
- Sample E: Chrysotile - <0.001%

No further exceedences were detected within the samples of made ground.

8.2.2 *In-situ Natural Ground*

No visual or olfactory evidence of contamination of the in-situ natural ground was identified during trial pitting, with the exception of a hydrocarbon odour associated with groundwater ingress into alluvial silt in TP110. A sample was collected at 1.70m and analysis detected minor concentrations of aromatic EPH chain lengths C10-C21, but none of the concentrations exceed the relevant S4UL guidelines.

A total of four samples of natural soils, all alluvial silts/clays or peat, have been tested during the 2019, 2006 and 2005 investigations. The results of all testing indicate a single elevated concentration of arsenic in one sample collected from TPC at 0.6 – 1.0m (Intégral Géotechnique – 2006 investigation) with a concentration of 57mg/kg which exceeds the S4UL of 37mg/kg. Additionally, a single exceedance of lead in a sample from TP4 at 1.0m (ESP – 2005 investigation) was recorded with a concentration of 760mg/kg, significantly above the C4SL of 200mg/kg. An exceedance of mercury was recorded in the same sample, with a concentration of 8.8mg/kg, however it is noted that the results has been screened against the elemental mercury S4UL (1.2mg/kg) and is in fact below the inorganic mercury screening value of 40mg/kg.

No further exceedances were detected within the samples of natural ground.

8.3 GROUNDWATER CONTAMINATION

Groundwater samples were taken from three boreholes across the site and analysed at the laboratories of i2 for the same suite of elements and compounds as the soils. Copies of the groundwater test results have been included in Appendix I.

The results have been screened against UK Drinking Water Standards and Freshwater EQS based on the lowest recorded water hardness value of 142mg/l with consideration that the typical hardness values for the River Tawe are 150-200mg/l CaCO₃.

A summary of the groundwater test results and comparison with the screening criteria values is presented in Appendix L.

Most of the results were below the laboratory detection limits of the laboratory. However, three elevated concentrations of vanadium have been recorded in excess of the EQS value and a single elevated concentration of sulphate in excess of the UK Drinking Water Standards have been detected over the three rounds of testing.

Sulphate was recorded at an elevated concentration above the screening value in the first round of testing only.

The vanadium exceedances were recorded in water samples with water hardness ranging between of 193mg/l and 416mg/l. When screening the results against the relevant EQS based on the water hardness of each sample, the vanadium concentrations are less than the guideline values with the exception of one result (22µg/l) in BH2b, which slightly exceeds the screening value of 20µg/l. Elevated concentrations of vanadium were recorded in the first and second rounds of testing only.

No further determinands tested were detected above the adopted guideline values and no organic contaminants have been recorded at levels greater than the Limit of Detection.

It should be noted that no elevated concentrations were detected in the third round of testing.

8.4 GROUND GAS

Ground gas has been monitored on a monthly basis using a GA 2000 Gas Analyser with a total of six rounds completed. The results of the gas monitoring programme are included in Appendix I.

8.4 GROUND GAS (CONTINUED)

Table 9: Summary of Ground Gas Results				
Borehole	Maximum Methane Concentration (%)	Maximum Carbon Dioxide Concentration (%)	Minimum Oxygen Concentration (%)	Gas Flow Rate (l/hr)
1A	<0.5	1.60	18.20	<0.3
2A	<0.5	<0.5	21.10	<0.3
3A	<0.5	0.70	18.90	<0.3

Gas monitoring has been completed in the shallow wells in each of the boreholes.

The results show that methane has not been detected during the monitoring and a maximum carbon dioxide concentration of 1.6% has been recorded. A maximum gas flow rate of <0.3l/hr was measured during the gas monitoring programme.

Carbon monoxide, hydrogen sulphide and volatile organic compounds have not been detected in any of the boreholes.

9.0 REVISED CONCEPTUAL EXPOSURE MODEL

The preliminary conceptual exposure model has been reviewed and revised to reflect the findings of the site investigation and the results of the laboratory testing of soils, soil leachate, groundwater and gas monitoring. Pathways identified as a relevant pollutant linkage require appropriate risk assessment or mitigation measures (see Section 10).

Table 10: Revised Conceptual Exposure Model						
Source		Receptor	Pathway	Preliminary Active Pathway? (see Sect. 5.8)	Relevant Pollutant Linkage	Justification/ Mitigation
Origin	Contaminant					
Made Ground of unknown origin including demolition materials and stockpiled material and historical land uses (iron foundry)	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons, Asbestos	Resident – human health	Dermal Contact with made ground/dust	✓	✓	Elevated concentrations of metals, PAH compounds (and petroleum hydrocarbons) identified within the made ground – risk assess. Elevated concentrations of metals in the natural ground – risk assess.
			Ingestion of soil and/or soil attached to home-grown produce	✓	✓	
			Ingestion of home-grown produce	✓	✓	
			Inhalation of dust	✓	✓	
			Inhalation of vapours – indoor/outdoor	✓	X	No sufficiently volatile contaminants identified.
	Metals, semi-metals, inorganics, PAH, petroleum hydrocarbons	Groundwater quality	Leaching from made ground	✓	✓/X	Slightly elevated concentrations of vanadium and a single exceedance of sulphate – risk assess
	Metals, semi-metals, inorganics, PAH, petroleum hydrocarbons	Surface water quality	Transportation within groundwater	✓	✓/X	Slightly elevated concentrations of vanadium and a single exceedance of sulphate – risk assess

9.0 REVISED CONCEPTUAL EXPOSURE MODEL (CONTINUED)

Table 10: Revised Conceptual Exposure Model						
Source		Receptor	Pathway	Preliminary Active Pathway? (see Sect. 5.8)	Relevant Pollutant Linkage	Justification/ Mitigation
Origin	Contaminant					
Made Ground of unknown origin and natural ground	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons	Building Materials Durability	Direct contact	✓	✓	Building materials will be in contact with made ground – risk assess
Ground Gas – organic, gas producing materials including made ground and peat	Methane, carbon dioxide	Human health	Accumulation of gases in confined spaces, and/or migration off site, leading to asphyxiation, or risk of explosion	✓ Potential gas producing materials present.	X	Gas monitoring has not recorded elevated concentrations– risk assess

10.0 RISK ASSESSMENT

10.1 METHODOLOGY

The risk of pollution, health effects or environmental harm occurring as a result of ground contamination is dependent upon three principal factors:

- The scale of the contamination sources;
- The presence of sensitive “receptors”, eg Humans: health of the general public, site occupiers, redevelopment workers. Environment: flora, fauna, etc;
- The existence of migration pathways by which contaminants can reach the sensitive receptors.

This section assesses each of these factors in order to evaluate the overall level of risk and potential harm to receptors. The receptor may be human, a water resource, an eco-system or construction materials. Pathways connecting a perceived hazard to a receptor are referred to as exposure pathways.

The sources of contamination and the links connecting the hazards to the sensitive receptors will represent the basis for the risk assessment.

10.2 SOURCE-PATHWAY-RECEPTOR MODEL

The preliminary conceptual site model was based on the findings of the desk study. This was later reviewed and refined according to the findings of the site investigation, allowing for the ground conditions encountered and the results of laboratory testing of soil and groundwater. Any pathways considered to be inactive have been removed from the model and all remaining potentially active pathways require risk assessment.

The pathways shown as potentially active in the Revised Conceptual Site Model in Section 9.0 above have been assessed below.

10.3 HUMAN HEALTH RISK ASSESSMENT

10.3.1 *Site in its Present Condition*

The site does not pose any risks to casual visitors or trespassers.

10.3 HUMAN HEALTH RISK ASSESSMENT (CONTINUED)

10.3.2 Future Site Users

The contamination test results and investigation observations show elevated levels of metals, PAHs and TPHs in the made ground and localised metal exceedances in the natural ground. Eight made ground samples were also found to contain asbestos fibres.

Given the elevated lead, arsenic and nickel, PAH and TPH concentrations and the identification of asbestos within the general made ground encountered across the site, it is considered that a potential risk to human health may exist via the following relevant pollutant linkages:

- Dermal contact,
- Ingestion of soil or soil derived dust,
- Ingestion of soil attached to homegrown produce,
- Ingestion of homegrown produce,
- Inhalation of soil borne dust.

The inhalation of vapours pathways (indoor and outdoor air) are not considered to be active since the contaminants of concern identified are not sufficiently volatile and VOCs have not been detected during the gas monitoring period.

It is therefore considered necessary to protect end users from the elevated concentrations metals, PAH, TPH concentrations and asbestos within made ground. It is considered necessary to break the above listed relevant pollutant linkages in order to remove the potential risk. It is noted that Asbestos Containing Material was not encountered during the investigations, however the identification of asbestos fibres and demolition materials at ground level, below ground level and in the stockpile means there is the potential for ACM materials to be present on site.

Based on the findings of the intrusive site investigation, in order to mitigate the risk to future end users, the following preliminary remediation recommendations are advised:

- Following site strip, all exposed formations should be visually inspected and handpicked of any identified ACM. Additionally, any excavated made ground materials, any processed stockpiled soils, any encountered buried foundations, service runs/ducts, pipework etc should also be visually inspected and handpicked of any identified ACM.

10.3 HUMAN HEALTH RISK ASSESSMENT (CONTINUED)

These works should be carried out by a suitably licenced contractor in accordance with an appropriate risk assessment and managed in accordance with the requirements of the Control of Asbestos Regulations (2012).

- Any handpicked ACM should be disposed off-site at a suitable licensed facility as hazardous waste. Daily records and waste transfer notes should be kept in order to document the identification and subsequent removal of any ACM. These records and waste transfer notes should be made available for review as they will be required for potential remediation verification.
- Following the completion of the asbestos remedial works outlined above, all proposed garden areas and areas of soft landscaping that are underlain by made ground should be capped with a minimum thickness of 600mm of clean imported subsoil and topsoil with an underlying hi-visibility, anti-mixing, anti-dig geotextile separation/warning membrane. This would break all the above listed relevant pollutant linkages and removing the potential risk to future end users.

8.3.3 Construction Workers

With future site redevelopment works involving the excavation and removal of made ground, there would be a risk to workers from contaminants (including asbestos) in the soils. Appropriate measures are therefore recommended for works involving the made ground materials which are known to be present beneath the site.

The following practical measures are required:

- Excavations will need to be regularly damped down to prevent any dust that may contain asbestos becoming airborne;
- Any excavated materials should be quarantined and regularly dampened down to prevent any dust may contain asbestos becoming airborne;
- Appropriate PPE/RPE to be worn by all workers;
- Asbestos/dust/air monitoring may be required during early site establishment.

All works to be carried out in accordance with an appropriate risk assessment and managed in accordance with the requirements of the Control of Asbestos Relations 2012.

A suitably licensed contractor will be required to deal with any identified asbestos containing materials and to advise the Health & Safety Executive of any notifiable works being undertaken.

10.3 HUMAN HEALTH RISK ASSESSMENT (CONTINUED)

Additionally, a system should be established by which any 'unusual' materials (including suspected asbestos containing materials) or potential hotspots of contamination that may be encountered are reported rapidly to the site management, so that the appropriate action may be taken, following specialist advice if necessary. An unusual material may be identified on site by colour, odour or physical nature.

Reference should be made to the Health and Safety Executive document "Protection of Workers and the General Public during the development of contaminated land" for further guidance.

With future site development works involving the excavation and removal of the made ground, there would be a risk to workers from contaminants in the soils and also the groundwater if it is encountered. Appropriate measures are therefore recommended for works involving the made ground and natural materials which are known to be present beneath the site.

All excavations should be regularly checked for safe atmospheres.

Normal good hygiene practices should be adequate to protect the health and safety of redevelopment workers, and should include:

- Minimum handling of materials;
- Washing of hands prior to all meal breaks, which should be taken in a designated clean area;
- The use of standard protective clothing such as boots and overalls and gloves, where considered relevant.

In dry weather, inhalation of dust and gases should be avoided preferably by the use of dust suppression techniques to minimise fugitive emissions and minimisation of exposed materials at any particular time.

Additionally, a system should be established by which any 'unusual' materials that may be encountered are reported rapidly to the site management, so that the appropriate action may be taken, following specialist advice if necessary. An unusual material may be identified on site by colour, odour or physical nature.

Reference should be made to the Health and Safety Executive document "Protection of Workers and the General Public during the development of contaminated land" for detailed guidance on these matters.

10.4 RISKS TO VEGETATION

The concentrations of metals, PAHs and TPHs in the shallow made ground materials, indicate the potential for adverse effects to vegetation. Similarly, the physical nature of the existing made ground does not provide a suitable growing medium for vegetation. To ensure viable landscape areas by preventing upward migration of contaminants into the overlying soils, and in order to promote plant growth, any landscaped areas will require the provision of a minimum 600mm thick capping layer of clean, inert subsoil and topsoil materials as specified in the remediation strategy detailed in Section 10.3.

10.5 GROUNDWATER RISK ASSESSMENT

Groundwater sampling and analysis has identified three concentrations of vanadium in excess of the EQS value and a single elevated concentration of sulphate in excess of the UK Drinking Water Standards. No organic contaminants have been recorded at levels greater than the Limit of Detection.

The vanadium exceedances were recorded in water samples with water hardness ranging between 193mg/l and 416mg/l. When screening the results against the relevant EQS based on the water hardness of the specific water samples (150-200 mg/l CaCO_3 and 200-250mg/l CaCO_3), two of the vanadium concentrations are less than the guideline values and one still slightly exceeds the screening value of 20µg/l with a concentration of 22µg/l.

The minor vanadium exceedances are not of significant concern by merit of the range in typical water hardness of the area combined with distance to the nearest watercourse (131m north and against the assumed hydraulic gradient). The River Tawe is located some 230m south of the site.

The elevated sulphate result is not deemed to pose a risk to concrete design when referencing BRE SD1 guidance. The maximum concentration of 354mg/l SO_4 is less than the appropriate EQS value, but exceeds the UK Drinking Water Standards of 250mg/l.

The single exceedance therefore indicates very localised elevated sulphate levels as confirmed by the seventeen other sample concentrations which are all below the relevant threshold concentrations.

10.5 GROUNDWATER RISK ASSESSMENT (CONTINUED)

When looking at the dataset as a whole, sulphate was only detected at an elevated concentration in one borehole in the first round of testing and vanadium was only recorded at elevated concentrations in two boreholes in the first round and one borehole in the second round of monitoring. Samples collected from the final groundwater sampling visit did not record any concentrations at levels greater than the guideline values for both freshwater and drinking water standards. This indicates that over time, once the water has been given time to resume its more natural state, without disturbance from the drilling process, the representative water concentrations are all within acceptable levels.

Accordingly, the general risk to controlled waters is considered to be low.

10.6 GROUND GAS RISK ASSESSMENT

The results of the gas monitoring programme indicated a maximum methane concentration of <0.5% and a maximum carbon dioxide concentration of 1.6%. A maximum gas flow rate of <0.3l/hr was measured during the gas monitoring programme.

In accordance with CIRIA Report C665 a Gas Screening Value (GSV) of <0.0048l/hour for carbon dioxide has been calculated. This GSV and typical maximum peak concentrations correspond to gas characteristic situation 1/green which does not require any special gas protective measures.

A Radon Report was obtained from the British Geological Survey (BGS) as part of the Earth Science Partnerships report (2005), and a copy is included in Appendix D. The report states that no radon protective measures are required for the site.

An Envirocheck Report obtained on 12th March 2019 also states that no radon protective measures are required in the construction of new dwellings.

10.7 RISKS TO BUILDINGS AND MATERIALS DURABILITY

10.7.1 Concrete Classification

A summary of the laboratory chemical test results for the chemicals sulphur, total sulphate, water soluble sulphate, sulphide and pH, which may adversely affect the durability of building materials is presented in Appendix G and H.

10.7 RISKS TO BUILDINGS AND MATERIALS DURABILITY (CONTINUED)

Evidence to date does not indicate any specifically aggressive conditions, but it would be reasonable to expect a degree of sulphate and acidic aggressiveness from the made ground.

Made Ground

In accordance with BRE Digest SD1:2005 and adopting the assessment procedure specified therein for brownfield sites, the laboratory chemical test results (from all investigations) indicate a characteristic value (taking the highest) for water soluble sulphate within the made ground of 930mg/l.

Using Table C2 of BRE Digest SD1:2005, this characteristic value corresponds to Design Sulphate Class DS-2.

The groundwater regime of the site has been assessed as 'mobile' and a characteristic pH value within the made ground of 6.1 has been determined (adopting the lowest of the test results). The Design Sulphate Class has been modified to give a site ACEC class of AC-3z for concrete structures constructed within the made ground.

Natural Ground

In accordance with BRE Digest SD1:2005 and adopting the assessment procedure specified therein for brownfield sites, the laboratory chemical test results (from all investigations) indicate a characteristic value (taking the highest) for water soluble sulphate within the natural ground (alluvium) of 100mg/l.

Using Table C2 of BRE Digest SD1:2005, this characteristic value corresponds to Design Sulphate Class DS-1.

The groundwater regime of the site has been assessed as 'mobile' and a characteristic pH value within the natural ground (alluvium) of 5.4 has been determined (adopting the lowest of the test results). The Design Sulphate Class has been modified to give a site ACEC class of AC-3z for concrete structures constructed within the natural ground.

Groundwater

Groundwater sampling has recorded sulphate concentrations between 56mg/l and 354mg/l with the lowest pH of 6.3. In accordance with BRE Digest SD1:2005 and adopting the assessment procedure specified therein for brownfield sites, these results accord with the design class recommendations detailed above.

10.7 RISKS TO BUILDINGS AND MATERIALS DURABILITY (CONTINUED)

10.7.2 Water Services

Water supply pipes will need to be protected from any contamination present within the ground. In particular, the presence of organic contaminants (such as PAH and TPH/EPH) should be addressed when selecting pipe materials. Measures to protect the pipes will include clean backfill to trenches and possibly alternative material selection. Reference should be made to UKWIR Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites, document No. 10/WM/03/21. The final design and selection of the pipe and associated backfill should be agreed with the appropriate Regulator prior to installation.

Based on current chemical test results, PAH concentrations indicate the requirement for barrier pipe if pipelines are to be constructed within the vicinity of the made ground, with a maximum benzo(a)pyrene concentration of 5.3mg/kg and a maximum naphthalene concentration of 0.88mg/kg (or 4mg/kg when including a sample of foundry sand).

In order to comply with the UKWIR guidance, specific sampling and testing along the actual line of the proposed water supply route may need to be carried out once this has been established.

10.8 WASTE DISPOSAL

Excavated materials generated by the development may be considered as waste and subject to waste controls. Any re-use of excavated materials on-site should be undertaken in accordance with current waste and environmental legislation and which may require the production of an approved Materials Management Plan (MMP) prepared in accordance with the CL:AIRE Code of Practice.

It is recommended that a sustainable development strategy is adopted which reduces to a practicable minimum the generation of waste materials and the need for disposal to a licensed tip. Emphasis should be on recovery and re-use rather than disposal.

However, any waste or surplus materials that are generated will need to be classified in accordance with current EC regulations and Environment Agency guidance prior to disposal. It is the responsibility of the waste producer to classify the waste.

10.8 WASTE DISPOSAL (CONTINUED)

Based on the data obtained from the site investigation works, any waste materials comprising of the existing made ground are likely to be classified as a combination of non-hazardous and hazardous waste dependent on the presence of asbestos or asbestos containing materials. The existing natural ground is likely to be classified as non-hazardous based on current results.

Any asbestos containing materials (ACMs) will be classified as hazardous waste.

This classification is provisional and indicative of the likely waste classification based on the data obtained to date (including chemical composition, moisture content, etc.). It also assumes that the materials tested will be representative of future generated waste.

In order to minimise disposal, the materials generated should be segregated and examined, with appropriate testing as necessary, to enable the materials to be sorted or treated into lower classifications, with the resultant benefit of potentially generating re-use rather than disposal.

Once final waste sources and volumes are known, the waste stockpile to be disposed off-site will need to be classified in accordance with Environment Agency/Natural Resources Wales Waste Classification – Guidance on the Classification and Assessment of Waste Technical Guidance WM3 (2015). This is likely to require additional sampling and testing of the generated waste materials to provide an up to date current basis for classification.

Depending on the waste classification, waste acceptance criteria (WAC) testing may be required, in order to determine which class of landfill site the waste can be sent to.

It is recommended that the results of the waste classification and any WAC test results are sent to the intended licensed waste operator prior to disposal in order to confirm their classification and acceptance.

10.9 UNCERTAINTIES

It is important to recognise that there may be areas of contamination within the site that have not been found or that contaminants may be present at concentrations above those that have been found. It is also important to recognise that contamination may be localised and that no investigation, however comprehensive, is capable of finding such occurrences, other than by chance.

The near-surface drainage patterns have not been fully established.

10.9 UNCERTAINTIES (CONTINUED)

The ground beneath the stockpile in the north-east of the site has not been investigated in 2019 due to accessibility, however trial pits were excavated in this area as part of the historic investigations and ground conditions have been interpreted as a whole.

11.0 ENGINEERING CONSIDERATIONS AND RECOMMENDATIONS

11.1 DETAILS OF PROPOSED DEVELOPMENT

The proposed redevelopment will comprise residential dwellings. A sketch layout provided to Intégral Géotechnique indicates the redevelopment to comprise 28 plots spread across the whole site with associated infrastructure including an access road and gardens.

The proposed slab and external ground levels are unknown at the time of writing.

The following recommendations are based on current site levels and may need to be reviewed and revised once engineering levels have been confirmed.

11.2 SITE PREPARATION

Prior to works commencing on site, any services within the proposed development areas should be identified and either diverted or protected. Any diversion works should be carried out under the supervision of, and to the specification of appropriate Statutory Authorities. The resulting excavations should be backfilled with suitable granular fill material laid and compacted to Department of Transport (DTp) Specification for Earthworks.

The site should be subjected to pest plant survey and suitable eradication works carried out.

During continued demolition/removal of obstructions and construction, further asbestos inspection and subsequent remediation works should be carried out in accordance with the guidance outlined in Section 10.3. The above ground MHCL pipe and supports located in the north of the site should be decommissioned and removed.

A system should be established for identification and dealing with any, unforeseen contaminations encountered during the site works (including identification of any potential asbestos containing materials). Any contamination, or suspected contamination, should be reported to the site manager, so that appropriate action may be taken, following specialist advice if necessary. An unusual material may be identified on site by colour, odour or physical nature.

Any redundant footings, services and surface hardstanding associated with the former buildings will need to be fully broken out and removed, with the resulting debris crushed and screened to a structural specification, typically 150mm maximum particle size.

11.2 SITE PREPARATION (CONTINUED)

All excavated materials should be screened for unsuitable materials such as timber, metal etc. Any deep service chambers, if present should be excavated and obstructions removed.

The resultant voids should be brought back up to the required level with well compacted suitable granular materials, laid and compacted in layers and benched into the surrounding soils. Department of Transport (DTp) Type 1 sub-base or similar approved, could be used and should be compacted in layers, in accordance with DTp Specification for Highway Works.

Should ground levels be proposed to be raised by more than 0.6m, then a review of the settlement characteristics should be undertaken. The outcome of such a review may conclude that settlement mitigation measures, such as surcharge of the ground prior to ground raising activities, may be required to ensure that residual settlement characteristics are within tolerable criteria.

Where mature trees/hedges are within influencing distance of the proposed buildings, allowances should be made for the removal of any associated roots that may become exposed in any proposed nearby earthworks and foundations excavations. Any such works should be conducted in accordance with the code of practice recommended by the National House Building Council (NHBC).

Exposed formations should be protected from site traffic and inclement weather in order to preserve their integrity. Any soft spots/areas should be removed and replaced with well compacted site won or imported granular fill material.

11.3 FOUNDATIONS AND FLOOR SLABS

The ground conditions encountered beneath the site comprise made ground over superficial deposits of predominantly soft to firm silts/clays with localised peat and bands of gravels and sands with cobbles.

Peat was encountered over significant thicknesses in the north-east of the site, and soft to firm compressible strata (alluvial silts/clays) were encountered to great depths site-wide. It is therefore recommended that friction piled foundations should be utilised.

Consideration needs to be given to the retaining wall along the north of the site adjacent the Swansea Canal. Pile design will be significantly influenced by this and should ensure that vibration and hence potential instability to the retaining structure is minimised.

11.3 FOUNDATIONS AND FLOOR SLABS (CONTINUED)

Continuous flight auger piles are considered a viable option for the site, set in the firm silts/clays with localised bands of gravel. The pile capacity should be derived from skin friction only as end bearing piles are not suitable for the site based on the soil strengths. Consideration may also be given to Continuous Helical Displacement (CHD) piling which would enable bored piles without producing any spoil, and therefore avoiding contact and removal of contaminated soils. This method would also allow for increased load capacity due to the compaction of soils in the process.

The alluvial silts/clays with peat are not considered to be a suitable bearing stratum, and therefore pile design should exclude these soils when calculating the friction capacity of the ground. The piles should be implemented into the silts and clays below the peaty soils, the selection of pile length, pile diameter and frequency will affect the allowable pile capacity.

SPT test results indicate N values are typically between 4 and 15 for soils below 5m depth, and therefore the silts/clays are interpreted to be largely firm between 5m and 15m below ground level.

Approximate pile capacity has been estimated based on the description of the soils and groundwater conditions at the site by assuming that the bearing stratum is firm and that the water table sits at approximately 1 metre below ground level.

The following table outlines approximated allowable piling capacities that may be anticipated for the corresponding pile diameter and length shown. The values should be regarded as an estimate and the advice of a specialist piling contractor should be sought in the design of friction piles.

Table 11: Approximated allowable pile capacities in firm clay/silts			
Embedment length (m)	Single pile diameter (mm)		
	300	450	600
5	60	90	120
10	160	240	310

Embedment length refers to the length of the pile in contact with the bearing stratum, which in this case is proposed to initiate 5m below ground level based on the investigation findings of peaty/alluvial soils to a maximum depth of 5.7mbgl. Accordingly, the embedment length plus 5 metres equates to the proposed base depth of the pile below ground level.

11.3 FOUNDATIONS AND FLOOR SLABS (CONTINUED)

It is recommended that the advice of a specialist piling contractor is sought in order to confirm the most appropriate piling technique and for the detailed pile design. Pile selection should take into account the ground conditions; the selection of driven piles in unsuitable soils may result in excessive pile length. Where ground levels are to be raised, allowances should be made in the pile design for negative skin friction.

Allowances should also be made for a suitable period of pile testing.

Allowances should be made for a working platform/piling mat to ensure a uniform load bearing platform. The working platform/piling mat should be designed for the known working loads. Plate loading testing should be carried out to confirm the working loads can be achieved.

Floor slabs should be designed as suspended. No radon protection measures are required for proposed development.

Based on current ground gas results (1 round only), no gas protection measures are required at the site. However, two further visits are scheduled and appropriate recommendations cannot be confirmed until this has been completed.

11.4 EXCAVATIONS AND FORMATIONS

Most of the excavations should be possible with normal soil excavating machinery. However, allowances should be made for the use of pneumatic breaker attachments, or similar tools, for breaking out the concrete slabs and hardstanding and buried obstruction as well as for dealing with cobbles and boulders. Made ground was noted to be dense in places, and excavation progress was slow, particularly in the centre of the site.

Groundwater was encountered between 0.1m and 4.5m below existing ground level during the site investigation. It is considered that any groundwater inflows together with rainfall infiltrations within an excavation could be controlled by the use of conventional pumping techniques to sumps.

The ground conditions are based on observations made at the time of the fieldwork. It should be noted that groundwater levels may vary due to seasonal and other effects.

The sides of the excavations deeper than 1.0m should be supported by trench boxes or temporarily battered at gradients of typically 30°.

11.4 EXCAVATIONS AND FORMATIONS (CONTINUED)

The exposed formations within the in-situ materials will be susceptible to damage, softening and deterioration by wet weather and site traffic.

Any soft spots/areas should be removed and replaced with compacted imported granular material.

11.5 ACCESS ROADS AND CAR PARKING AREAS

Following site strip there are likely to be variations in the strength of the materials at the formation levels. Subject to confirmatory in situ testing, we recommend that for design purposes California Bearing Ratio (CBR) values of less than 1% to 2% could be assumed for the existing made ground deposits.

Any 'soft spots/areas' should be removed and replaced with well compacted imported granular materials. Department of Transport (DTp) Type 1 sub base, or similar approved could be used and should be compacted in layers in accordance with current DTp Specification for Highway Works.

It should be noted that the Highway Authority may insist that field CBR tests should be carried out to confirm the above assumptions. Depending on the outcome of such field tests, the above recommendations may be revised, if necessary, amended.

11.6 DRAINAGE

Large scale infiltration testing was completed in one location in the western part of the site (TP104). Soakaway drainage may be considered a viable option in this area of the site, provided that the depths of granular strata are sufficient and in the absence of groundwater.

If it should be proposed to use soakaways for this site, then more extensive planned soakaway location and depth specific follow-up tests will be required and should fully comply with BRE 365, in order to confirm the suitability of the site and to satisfy the local authority. Testing completed as part of the investigation to date indicates that soakaways are likely to be a viable drainage option for the site if placed in granular horizons. Soakaways are unlikely to be viable in the clay deposits.

A copy of the soakaway test results is included as Appendix K

11.7 RECOMMENDED FURTHER WORKS

CBR testing along the proposed road alignment is recommended in order to gain representative CBR values for the purpose of road construction design.

It is recommended that a stability assessment or similar is completed on the retaining wall and embankment in the north of the site prior to redevelopment. Additionally, when engineering levels are understood, an assessment of the temporary works and permanent works required to ensure the short, medium and long-term stability of the bank and canal is maintained should be completed. This review should also consider the impact and implications of the settlement generated by both the increase in site levels and the applied weight of the proposed apartment block in this area.

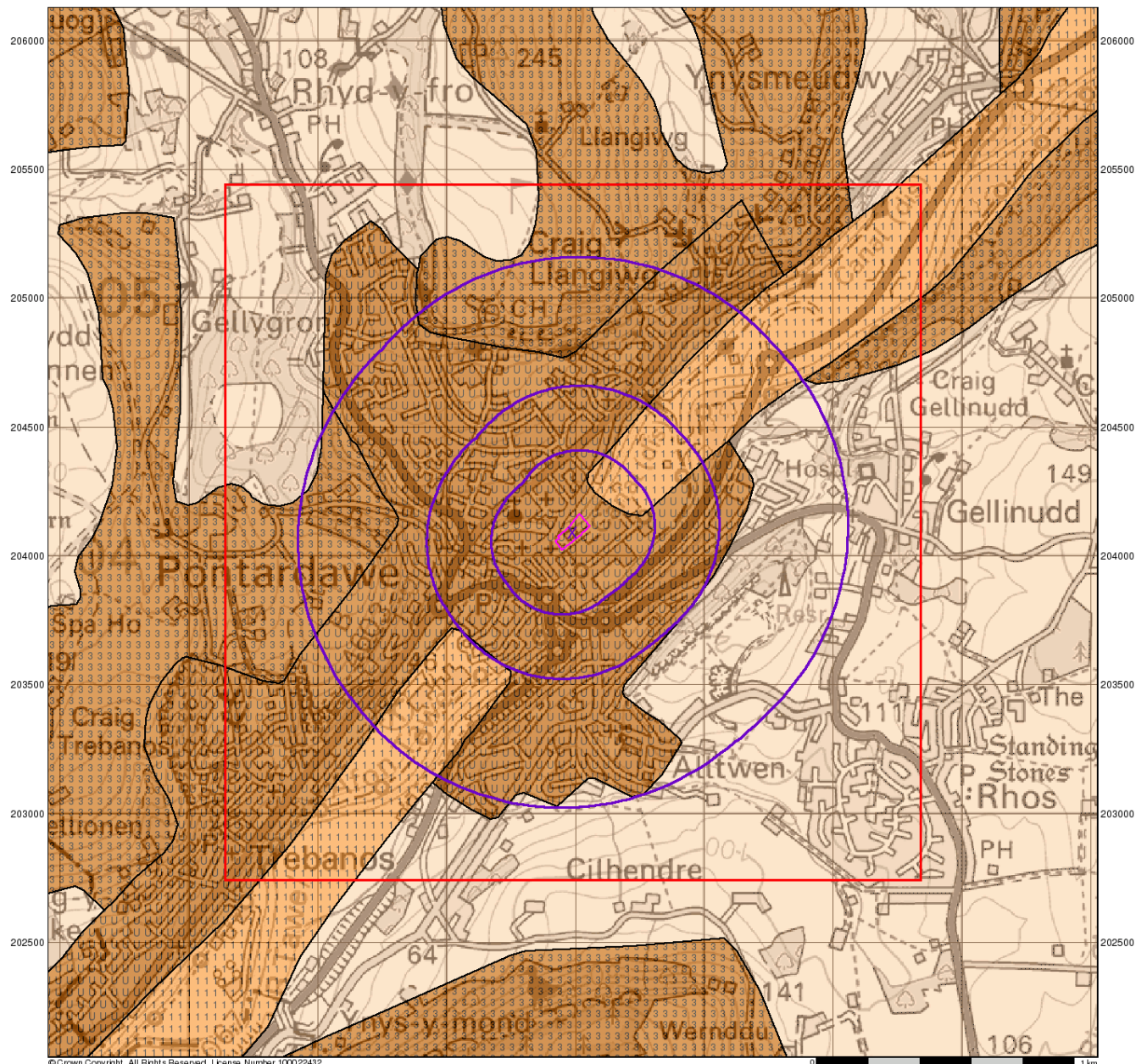
It is recommended that once engineering slab and external levels are known and building loads have been established that a review of the settlement characteristics is carried out in accordance with the advice given in Section 11.2

During construction, plate loading testing should be carried out on the piling mat to confirm the working loads can be achieved.

APPENDIX A

ENVIROCHECK REPORT

270500 271000 271500 272000 272500 273000 273500 274000 274500



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0 1 km

Intégral Géotechnique

Groundwater Vulnerability

General

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

Agency and Hydrological

Geological Classes

**Major Aquifer
(Highly Permeable)**

**Minor Aquifer
(Variably Permeable)**

**Non Aquifer
(Negligibly Permeable)**

Water or Sea

Drift Deposit

Soil Classes

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

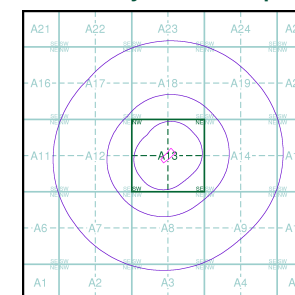
Low

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

Low

Site Sensitivity Context Map - Slice A



Order Details

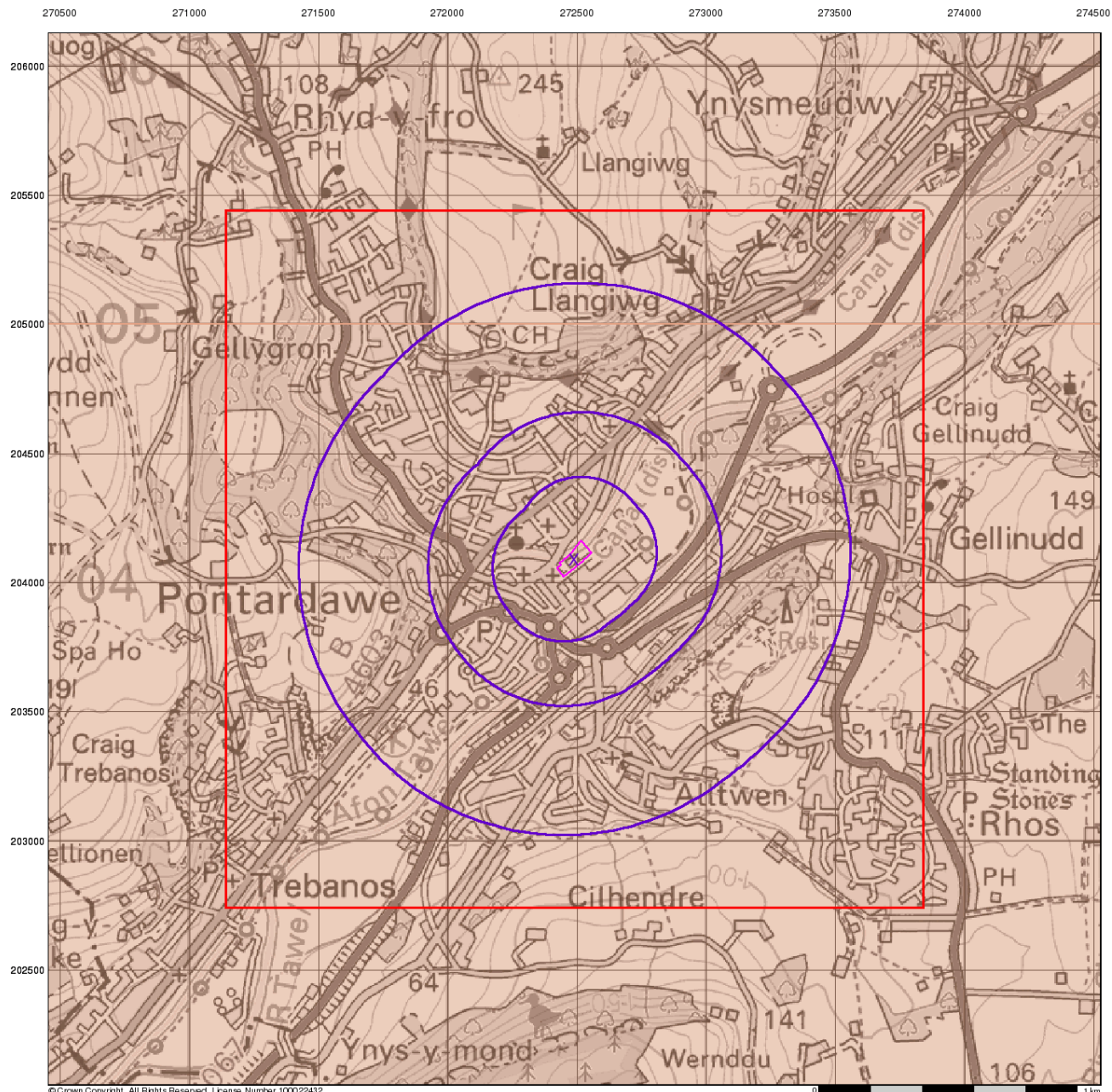
Order Number: 196858831_1_1
 Customer Ref: 12360
 National Grid Reference: 272490, 204090
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
 INFORMATION GROUP

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



Intégral Géotechnique

Bedrock Aquifer Designation

General

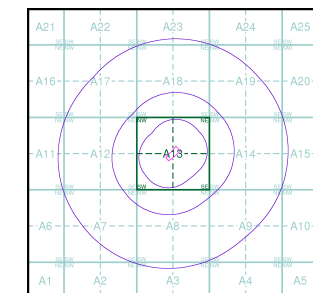
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

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

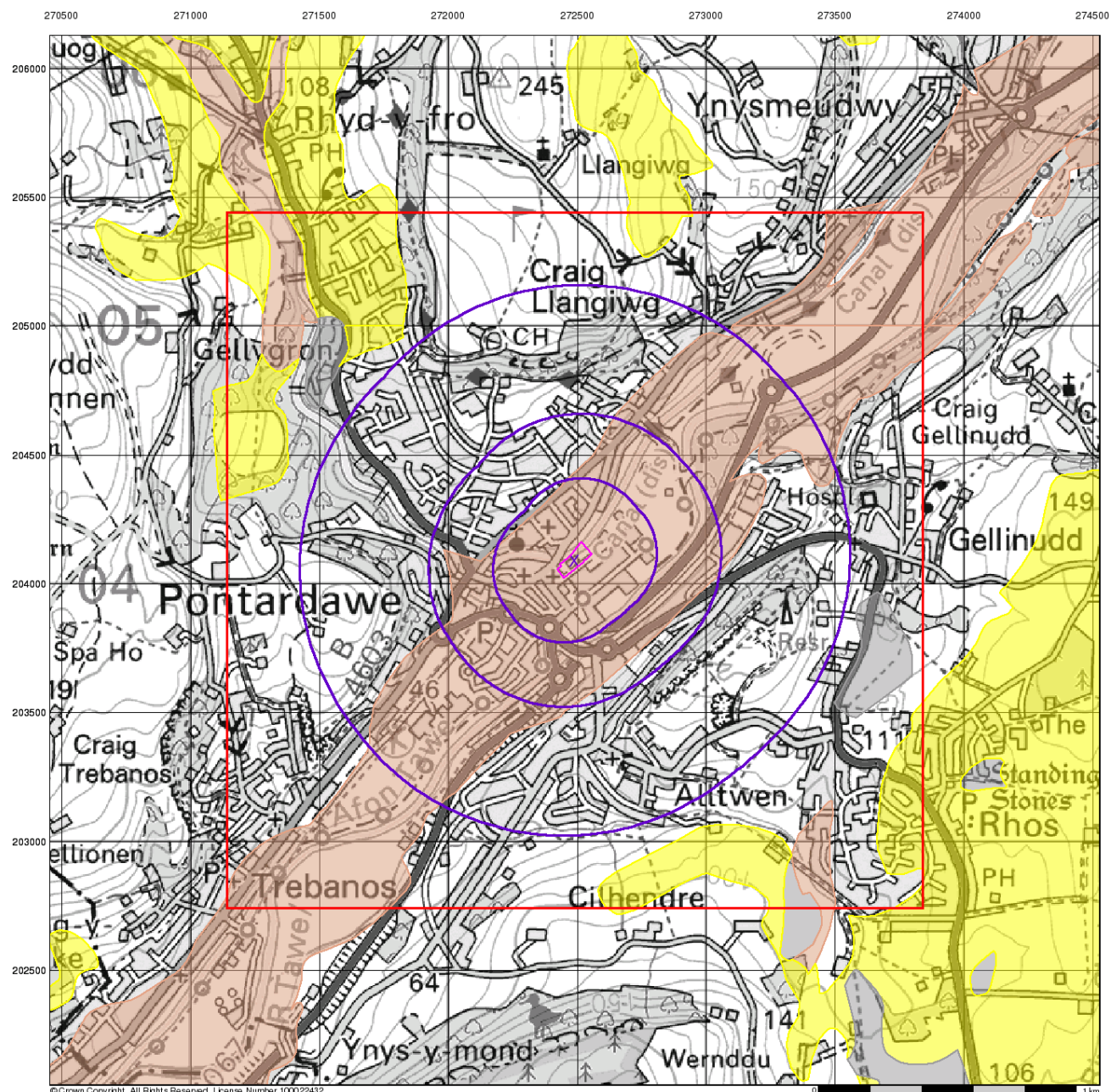
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 Customer Ref: 12360
 National Grid Reference: 272490, 204090
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

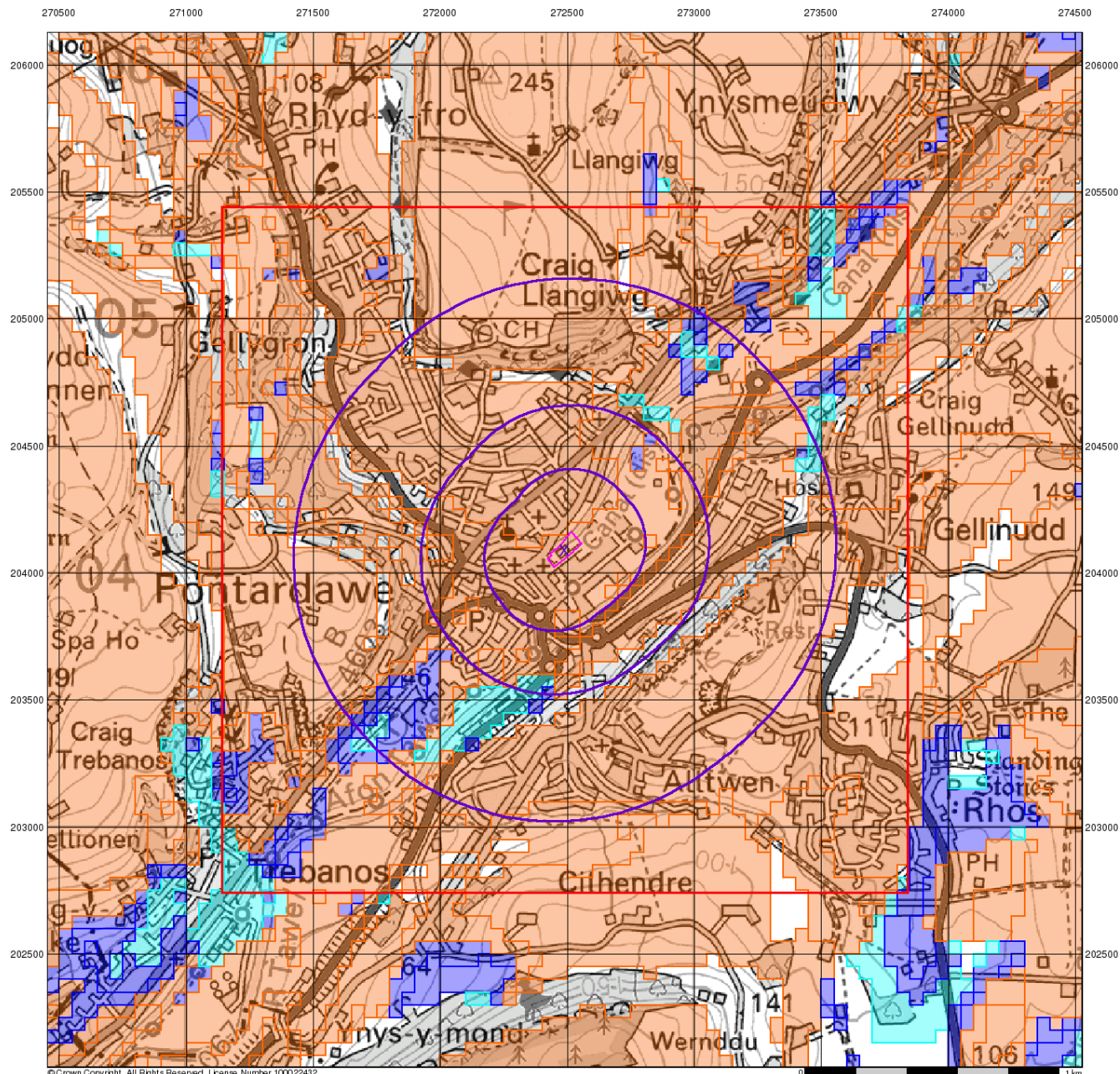
Site Details

Site at 272490, 204090

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Intégral Géotechnique

BGS Flood GFS Data

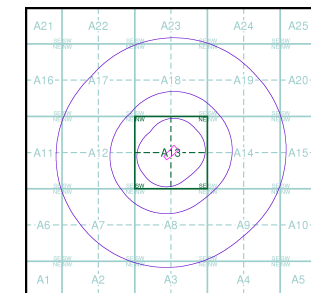
General

- 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: 196858831_1_1
 Customer Ref: 12360
 National Grid Reference: 272490, 204090
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

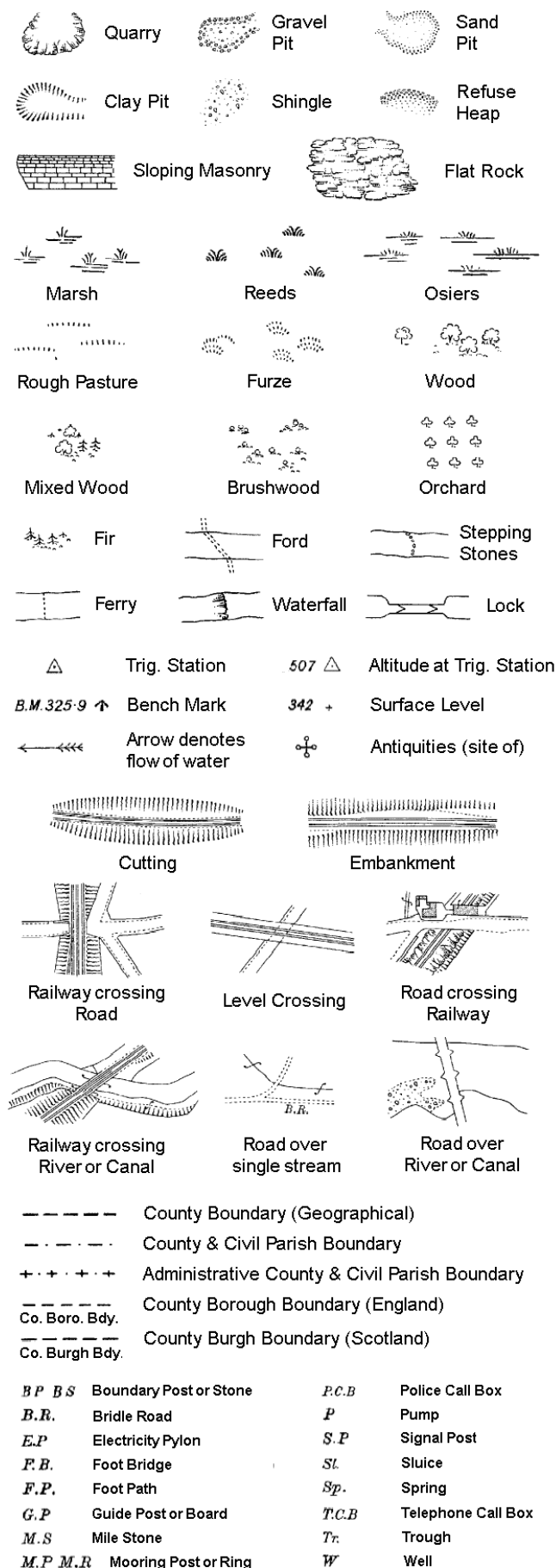
Site at 272490, 204090

Landmark
 INFORMATION GROUP

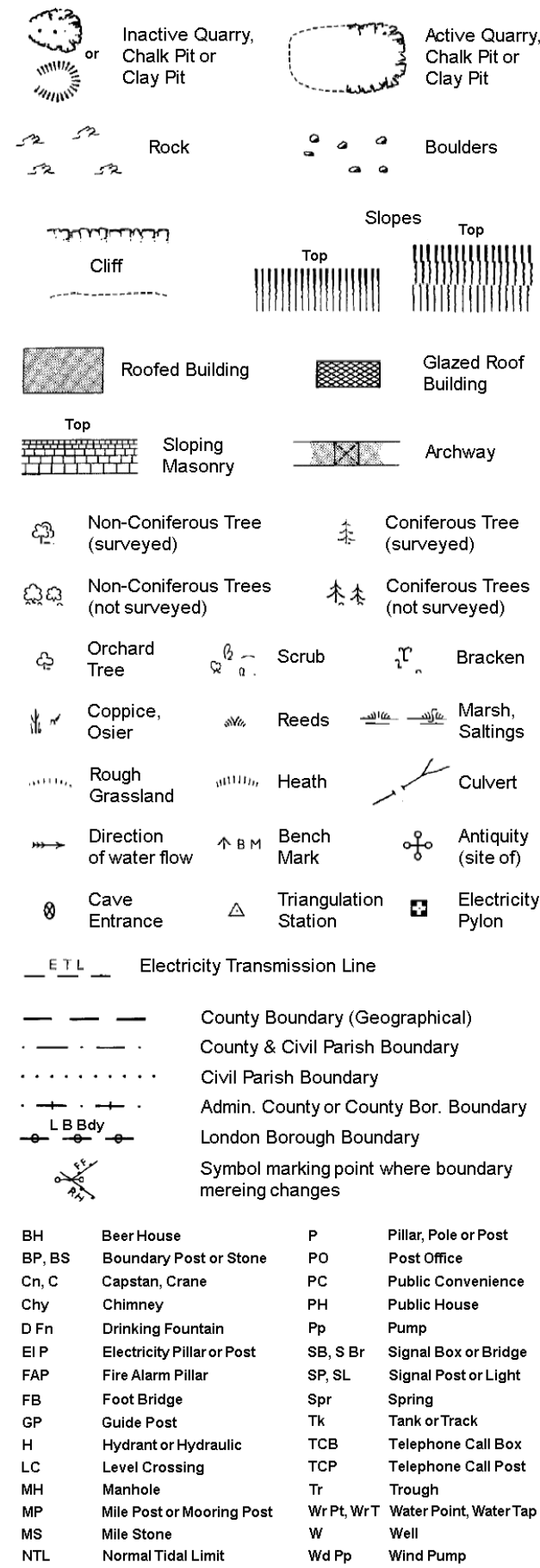
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Historical Mapping Legends

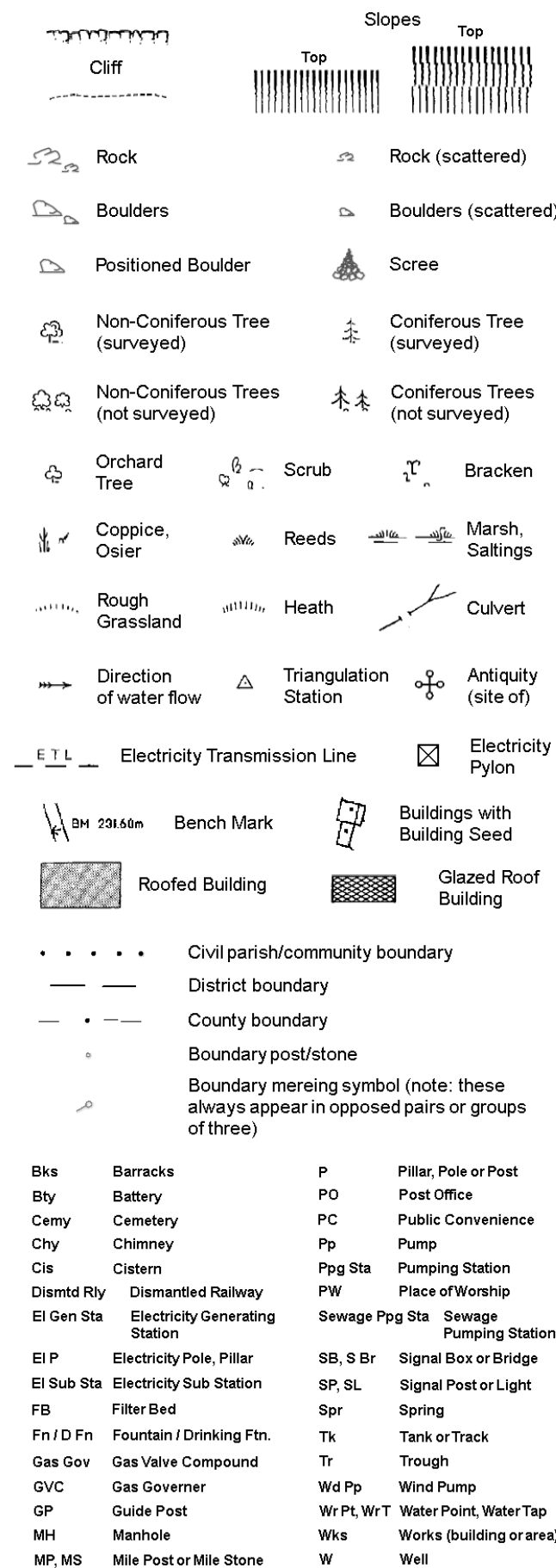
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



Large-Scale National Grid Data 1:2,500 and 1:1,250

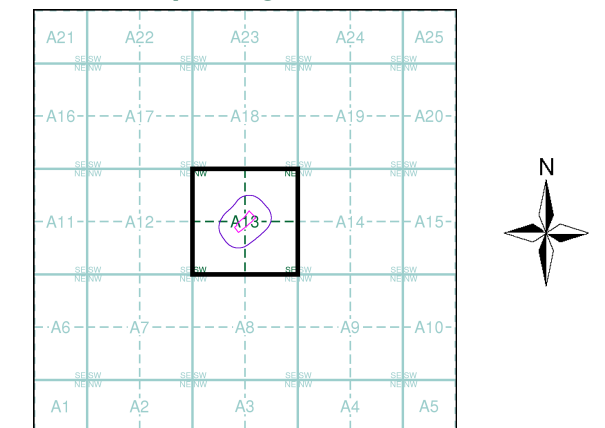


Intégral Géotechnique

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1877 - 1878	2
Glamorganshire	1:2,500	1898	3
Glamorganshire	1:2,500	1918	4
Glamorganshire	1:2,500	1941 - 1942	5
Ordnance Survey Plan	1:2,500	1964 - 1965	6
Ordnance Survey Plan	1:2,500	1973 - 1974	7
Additional SIMs	1:2,500	1978 - 1989	8
Additional SIMs	1:2,500	1984	9
Additional SIMs	1:2,500	1988	10
Ordnance Survey Plan	1:2,500	1989	11
Large-Scale National Grid Data	1:2,500	1993	12
Large-Scale National Grid Data	1:2,500	1994	13
Historical Aerial Photography	1:2,500	2000	14

Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

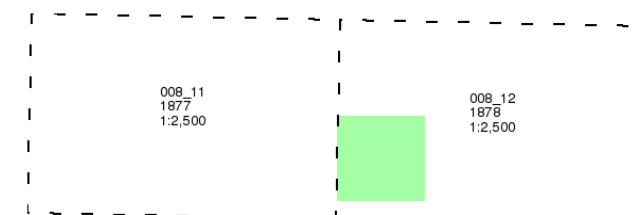
Site at 272490, 204090

Landmark
INFORMATION GROUP

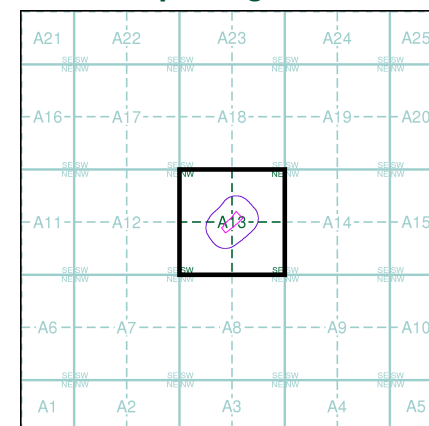
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

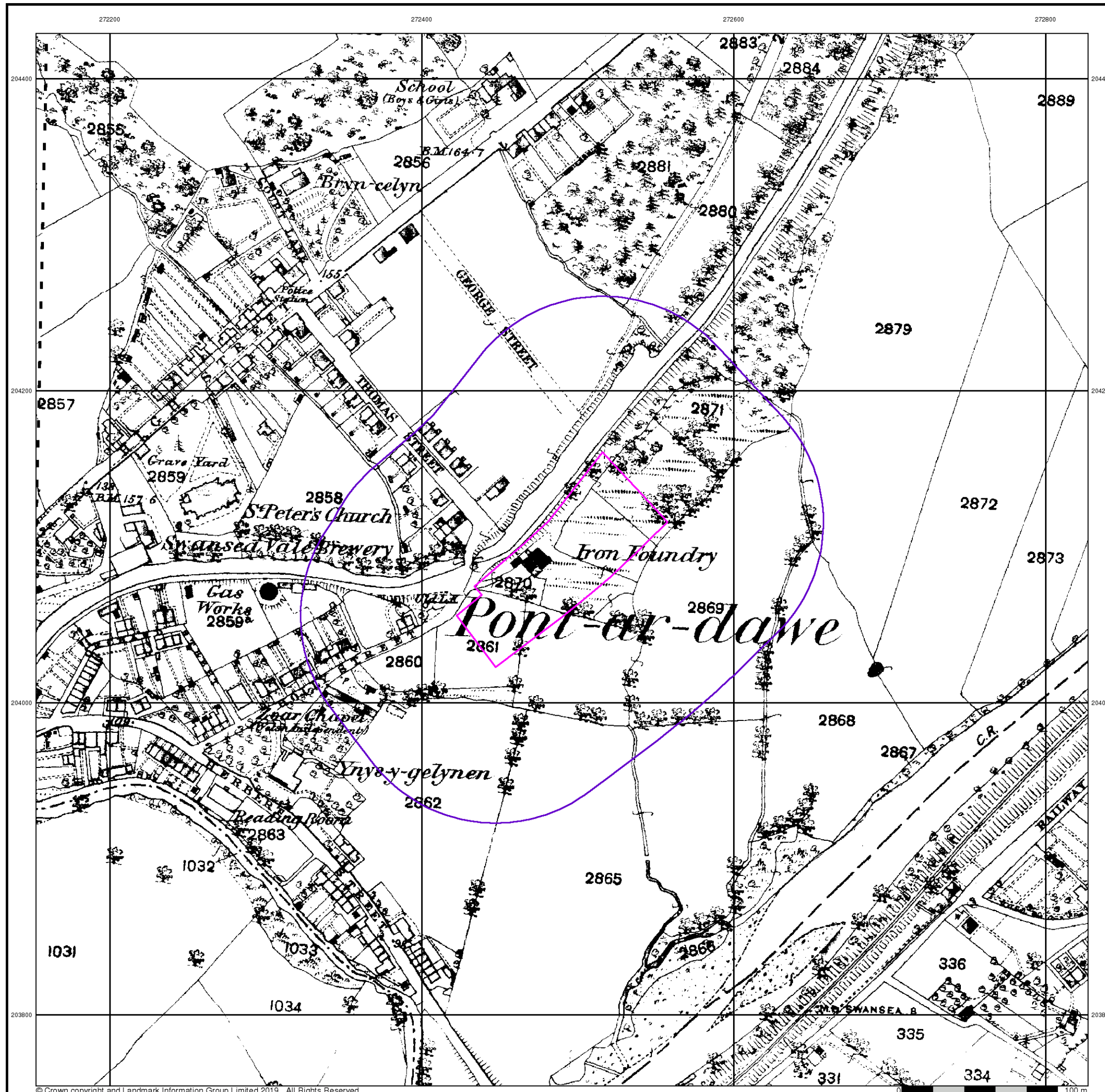


Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090



Intégral Géotechnique

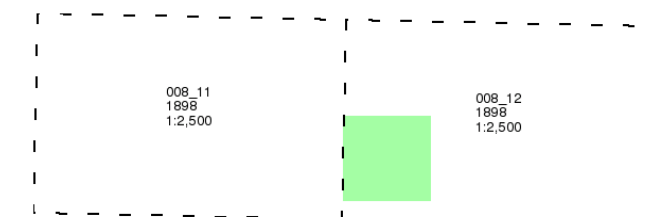
Glamorganshire

Published 1898

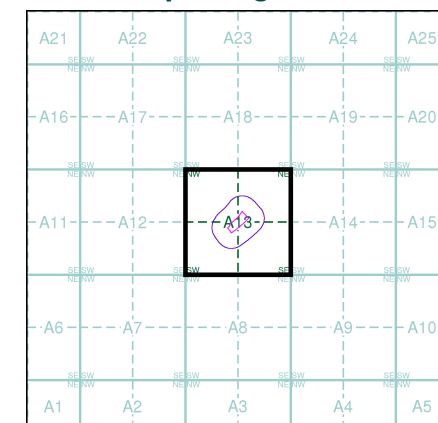
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

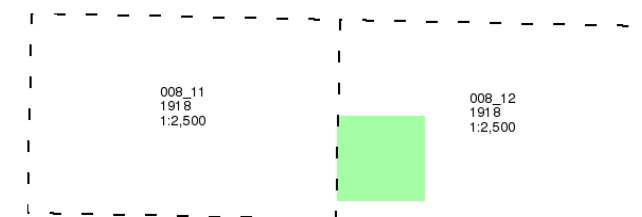
Site at 272490, 204090

Landmark
INFORMATION GROUP

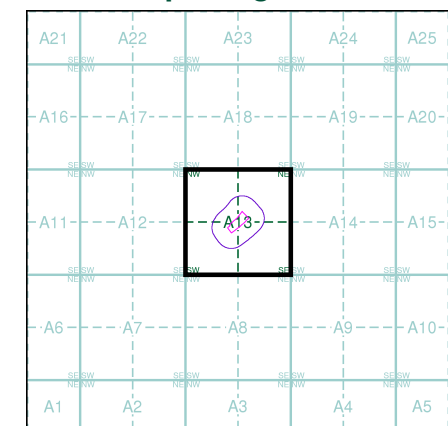
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

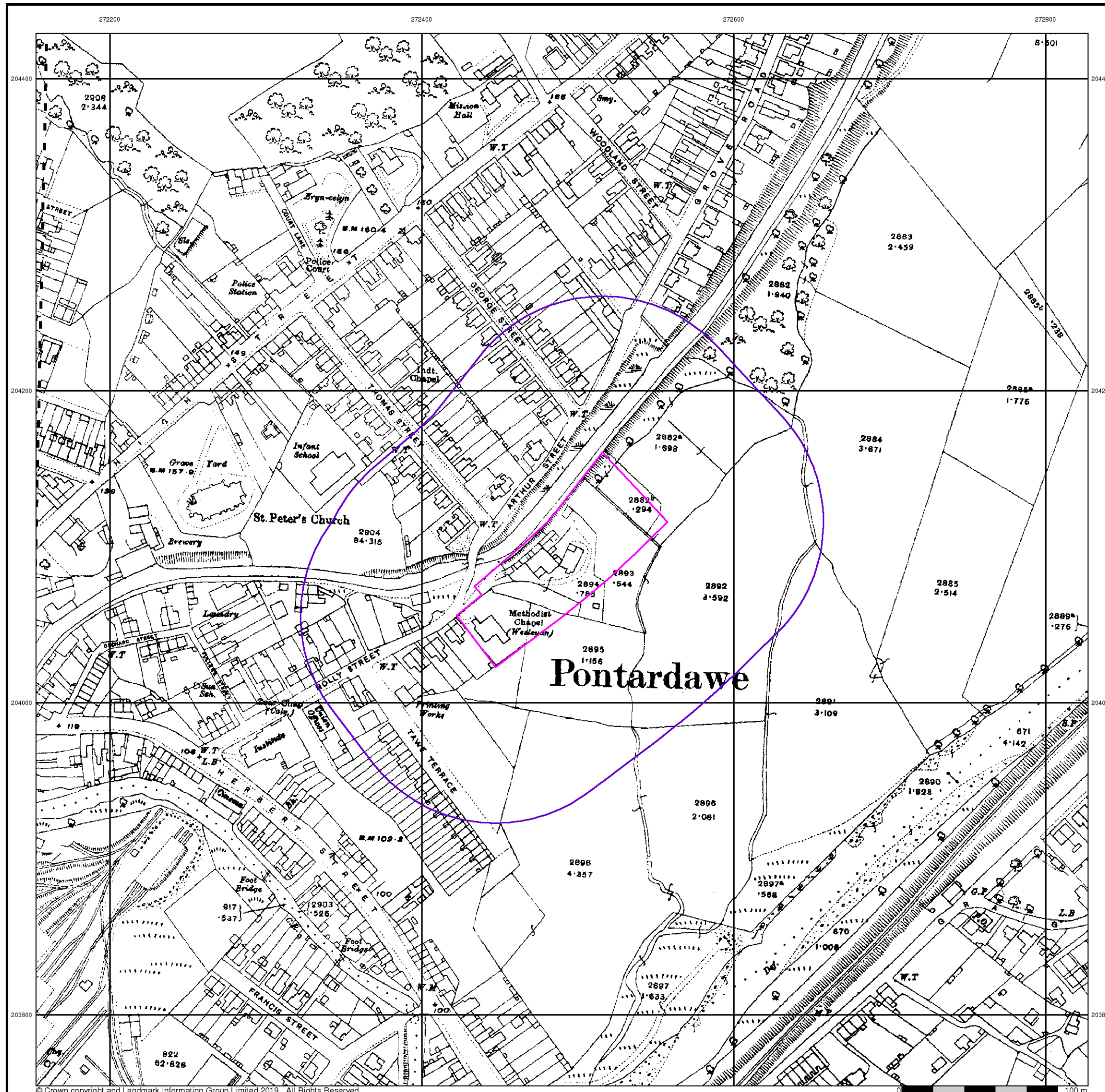


Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

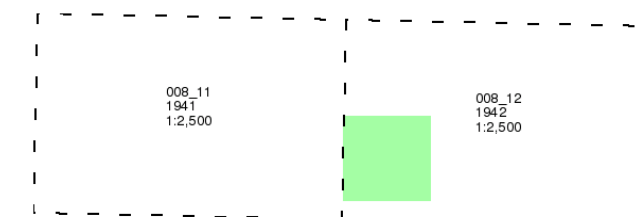
Site Details

Site at 272490, 204090

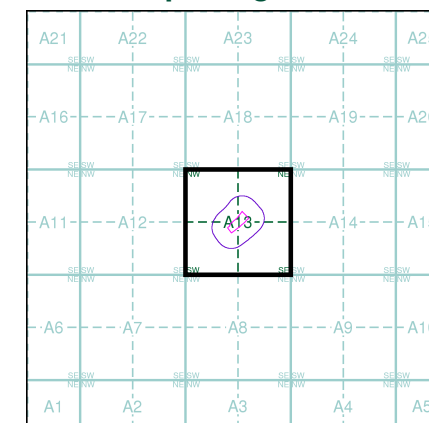


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090

Ordnance Survey Plan

Published 1964 - 1965

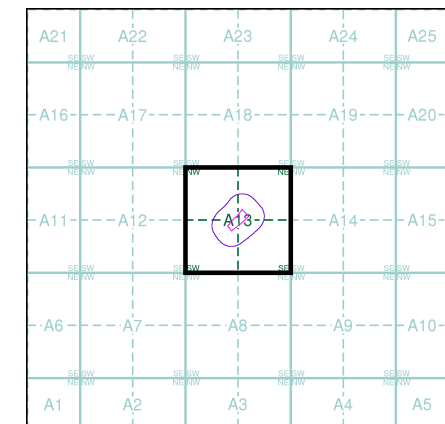
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SN7204
1965
1:2,500
SN7203
1964
1:2,500

Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090

Ordnance Survey Plan

Published 1973 - 1974

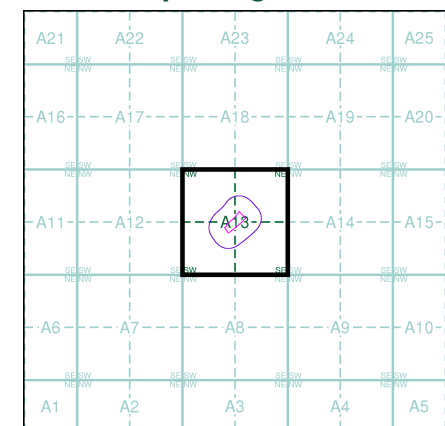
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SN7204
1974
1:2,500
SN7203
1973
1:2,500

Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090

Intégral Géotechnique

Additional SIMs

Published 1978 - 1989

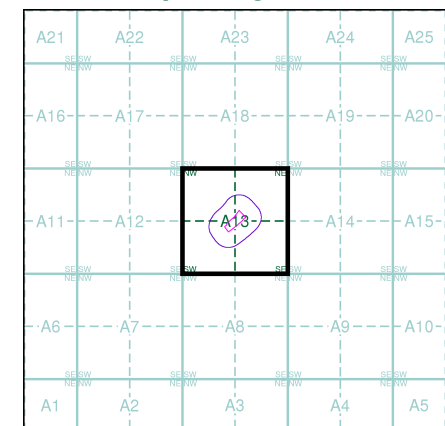
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SN7204	1989	1:2,500
SN7203	1978	1:2,500

Historical Map - Segment A13



Order Details

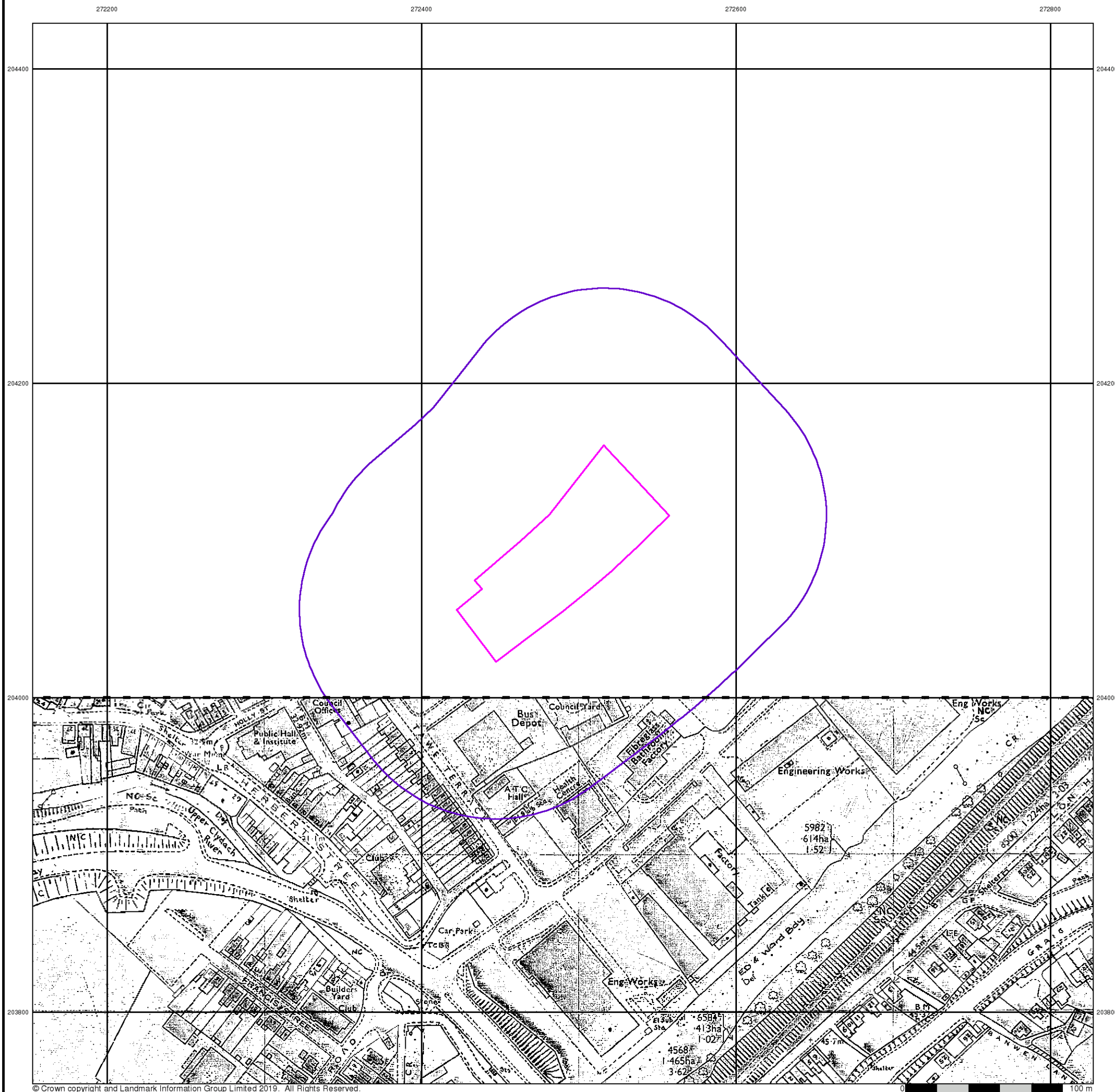
Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

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Intégral Géotechnique

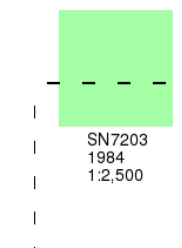
Additional SIMs

Published 1984

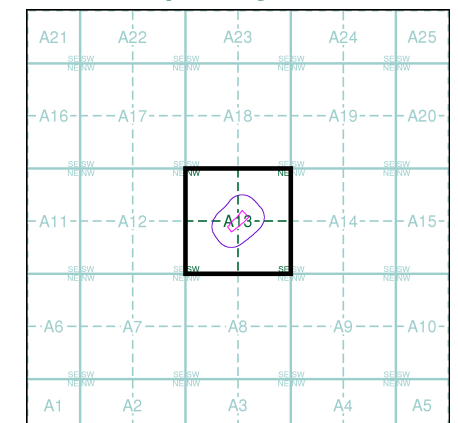
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090

Landmark[®]
INFORMATION GROUP

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Web: www.envirocheck.co.uk

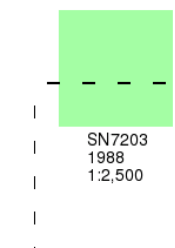
Additional SIMs

Published 1988

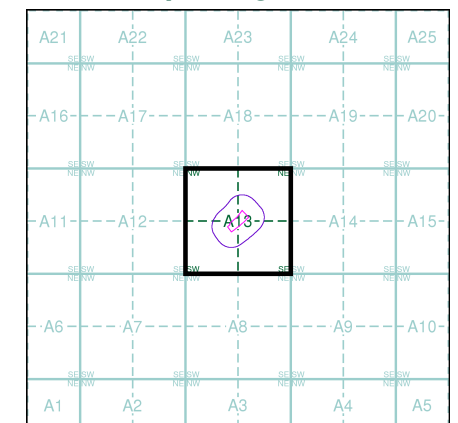
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090

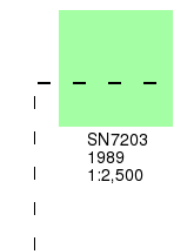
Ordnance Survey Plan

Published 1989

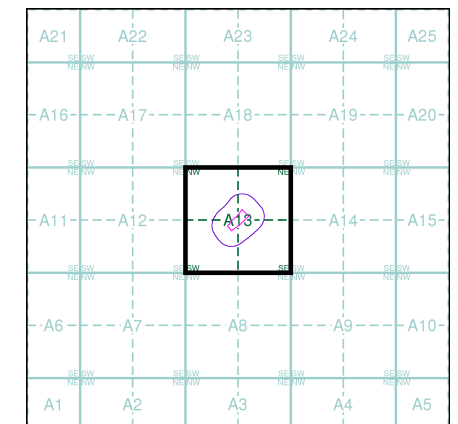
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090



Large-Scale National Grid Data

Published 1993

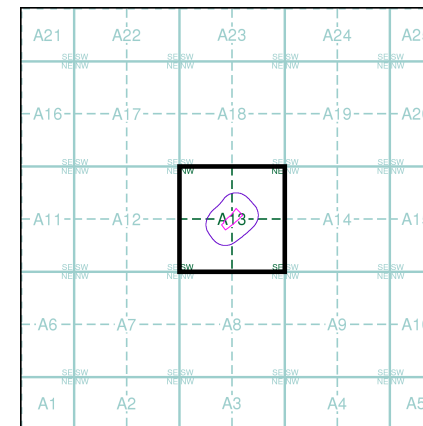
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SN7204	1993	1:2,500
SN7203	1993	1:2,500

Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090



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Fax: 0844 844 9951
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Large-Scale National Grid Data

Published 1994

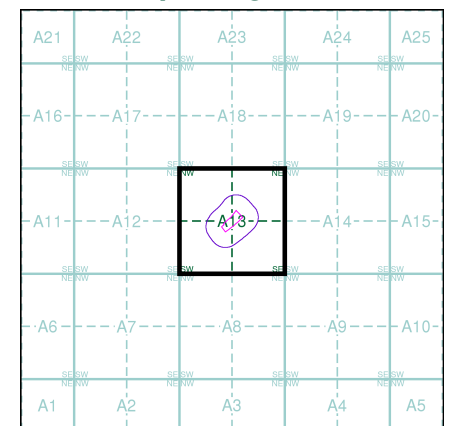
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SN7204	1994	1:2,500
SN7203	1994	1:2,500

Historical Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090



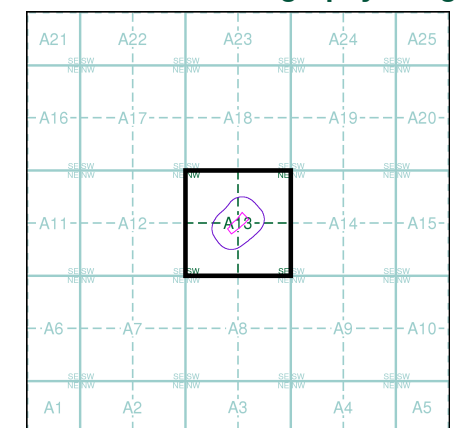
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Site at 272490, 204090

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	•285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

1:10,000 Raster Mapping

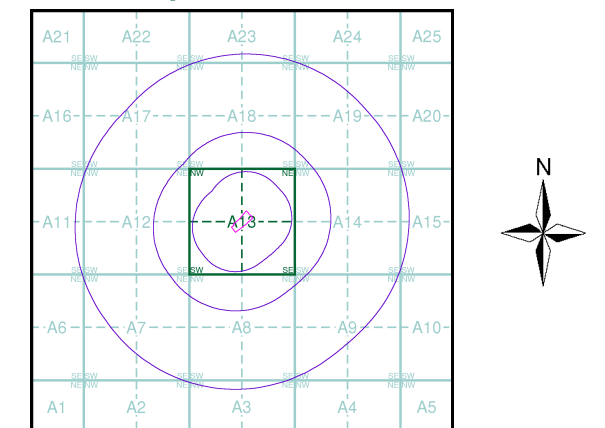
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

Intégral Géotechnique

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1921	6
Glamorganshire	1:10,560	1942 - 1953	7
Glamorganshire	1:10,560	1953	8
Ordnance Survey Plan	1:10,000	1964 - 1965	9
Ordnance Survey Plan	1:10,000	1968	10
Swansea	1:10,000	1976	11
Ordnance Survey Plan	1:10,000	1982	12
Ordnance Survey Plan	1:10,000	1991 - 1992	13
10K Raster Mapping	1:10,000	1999	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2019	16

Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

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

Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Fireproof Building Prominent Fireproof Building

Non-fireproof Building Non-fireproof Building (non-dwelling)

Factory, mill, and flour mill, with chimneys Factory, mill, and flour mill, without chimneys

Power Station, drawn to scale Hydroelectric Power Station

Radio Station, drawn to scale Telephone Station, drawn to scale

Abandoned Open-pit Mine or Quarry Open-pit Salt Mine

Pit Oil Deposit or Well Oil Seepage

Tailings Pile Fuel Storage Tanks Natural Gas Tank

Bench Mark Drill Hole Burial Mound Triangulation Point on Burial Mound

Single-track Railroad Small Bridge Double-track Railroad and Station Building

Coniferous Forest Deciduous Forest Mixed Forest

Lawns Citrus Orchard Wet Ground Scattered Vegetation

243.8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0.2 Velocity of the current, width of river bed, depth of river

180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Partly Demolished Buildings Demolished Buildings

Built-Up Area with Fireproof Buildings Predominant Built-Up Area with Non-Fireproof Buildings Predominant

Individual Fireproof Building Prominent Industrial Building

Individual Dwelling, Fireproof Ruins of an Individual Dwelling

Factory or Mill Chimney Factory or Mill with Chimney Factory or Mill without Chimney Mine or Open Pit Mine

Operating Shaft or Mine Non-Operating Shaft or Mine Salt Mine Tailings Pile

Pit Stone Quarry Gas Pump or Service Station Fuel Storage or Natural Gas Tank

Oil or Natural Gas Derrick Small Hydroelectric Power Station Power Station Transformer Station

Cemetery Burial Mound (height in metres) Triangulation Point on Burial Mound Triangulation Point

Bench Mark Bench Mark (monumented) Telegraph Office Telephone Station

Radio Station Radio Tower Airfield or Seaplane Base Landing Strip

Telegraph/Telephone Lines Main Highway Highway under Construction Improved Dirt Road (former truck road)

Double-track Railroad with First Class Station Dismantled Railroad Railroad Under Construction

Shore Embankment River or Ditch with Embankment Direction and velocity of current Water Gauge Water Level Mark

Well Water Reservoir or Rain Water Pit Spring Isobath with value

Heavy (Index) Contour Line Contour Line and Value Half Contour Line Spot Elevation Value

Coniferous Deciduous Mixed Scrub

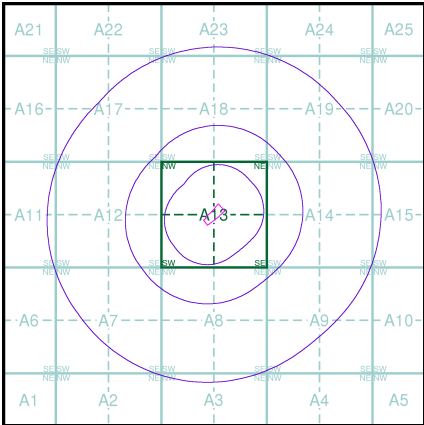
Key to Numbers on Mapping

Intégral Géotechnique

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1921	6
Glamorganshire	1:10,560	1942 - 1953	7
Glamorganshire	1:10,560	1953	8
Ordnance Survey Plan	1:10,000	1964 - 1965	9
Ordnance Survey Plan	1:10,000	1968	10
Swansea	1:10,000	1976	11
Ordnance Survey Plan	1:10,000	1982	12
Ordnance Survey Plan	1:10,000	1991 - 1992	13
10K Raster Mapping	1:10,000	1999	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2019	16

Russian Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

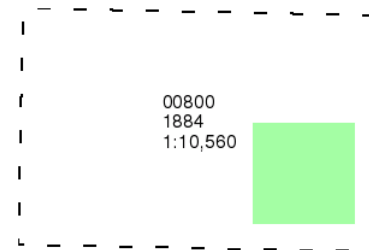
Site at 272490, 204090

Landmark
INFORMATION GROUP

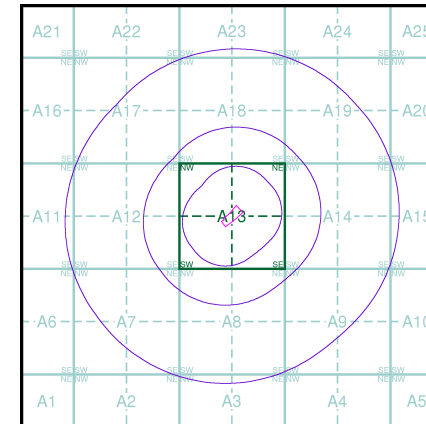
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Intégral Géotechnique

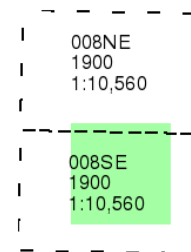
Glamorganshire

Published 1900

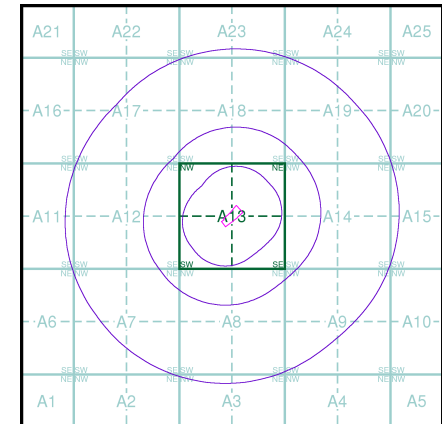
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

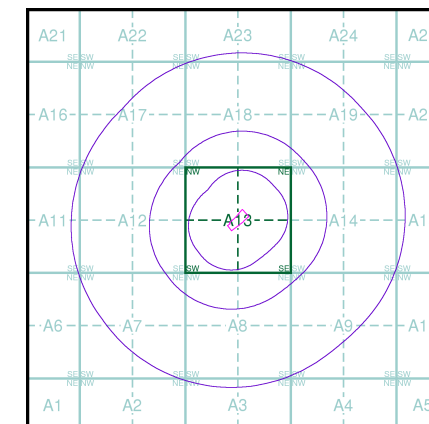
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

008NE
1921
1:10,560
008SE
1921
1:10,560

Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

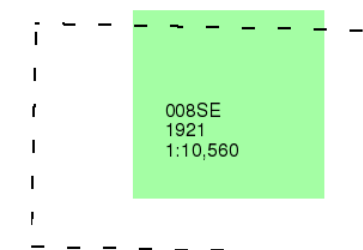
Glamorganshire

Published 1921

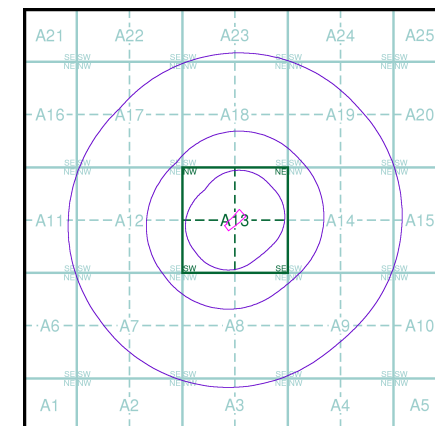
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Intégral Géotechnique

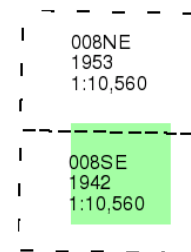
Glamorganshire

Published 1942 - 1953

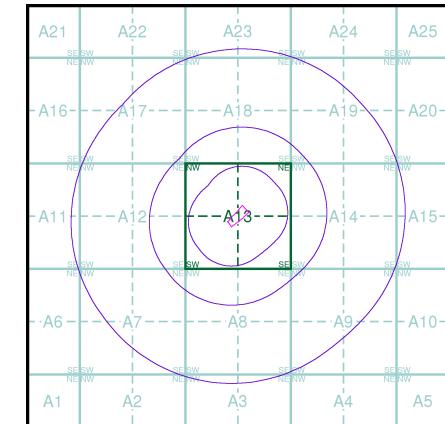
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

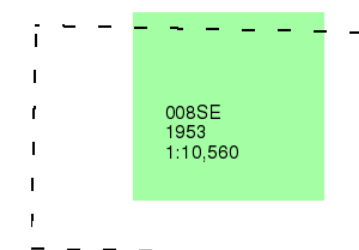
Site at 272490, 204090

Landmark
INFORMATION GROUP

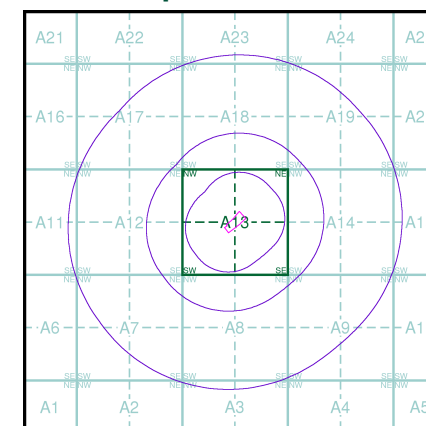
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Ordnance Survey Plan

Published 1964 - 1965

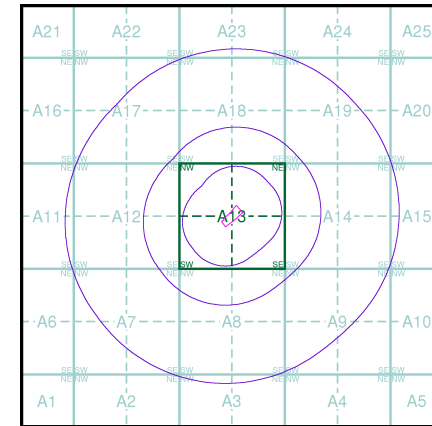
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SN70NW	1965
1:10,560	
SN70SW	1964
1:10,560	

Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

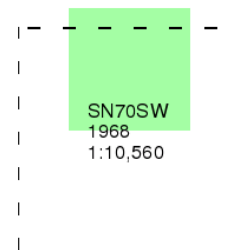
Ordnance Survey Plan

Published 1968

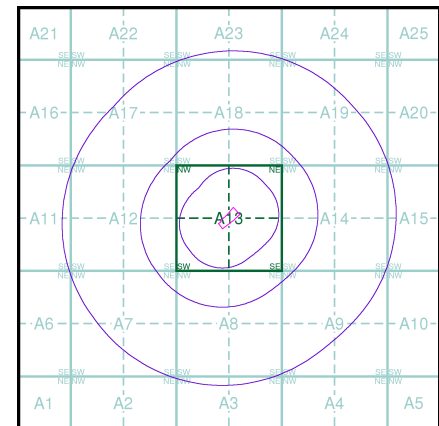
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

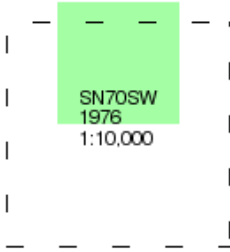
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Customer Ref: 12360
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Slice: A
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Site Details

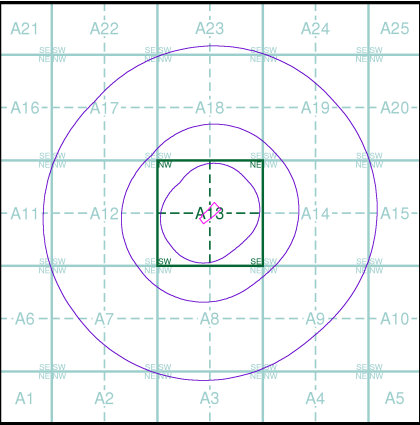
Site at 272490, 204090

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use. They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



Russian Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

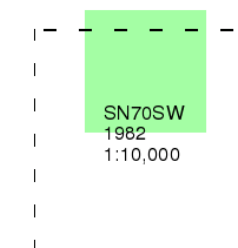
Ordnance Survey Plan

Published 1982

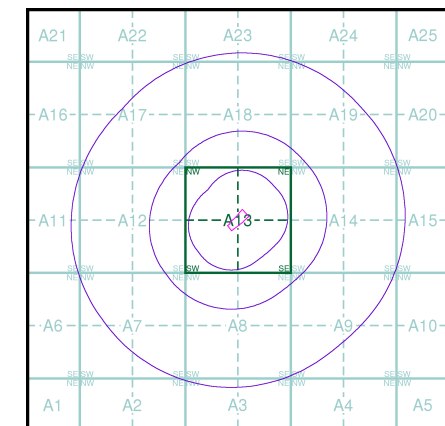
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Ordnance Survey Plan

Published 1991 - 1992

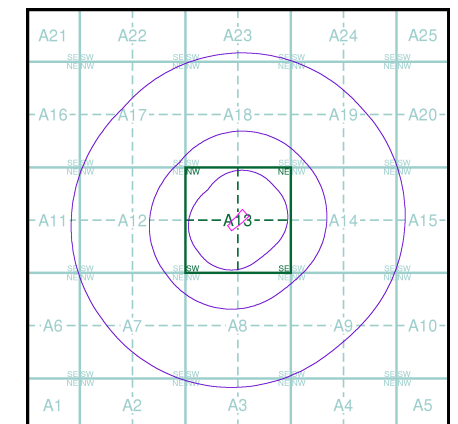
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SN70NW	1991
1:10,000	
SN70SW	1992
1:10,000	

Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

10k Raster Mapping

Published 1999

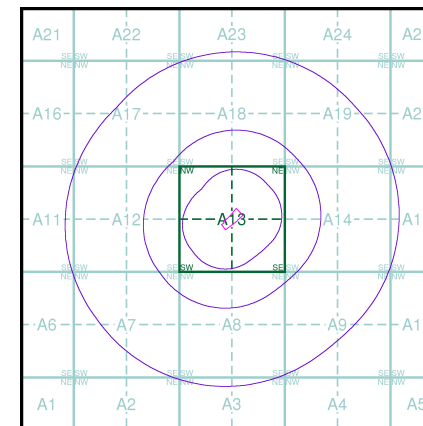
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SN70NW
1999
1:10,000
SN70SW
1999
1:10,000

Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090



10k Raster Mapping

Published 2006

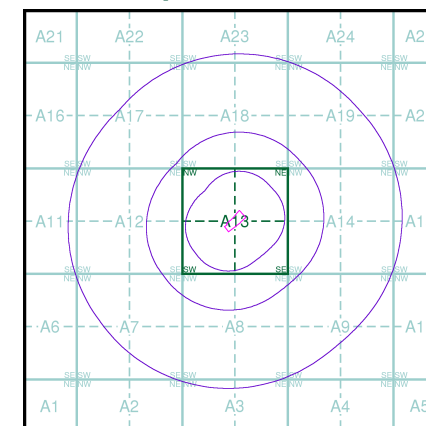
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SN70NW
2006
1:10,000
SN70SW
2006
1:10,000

Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

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



VectorMap Local

Published 2019

Source map scale - 1:10,000

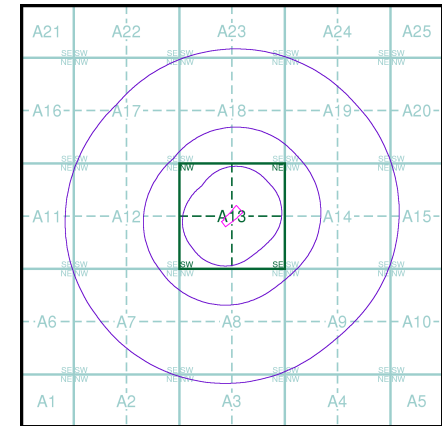
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SN70NW
2019
Variable

SN70SW
2019
Variable

Historical Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090



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

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

196858831_1_1

Customer Reference:

12360

National Grid Reference:

272490, 204090

Slice:

A

Site Area (Ha):

0.75

Search Buffer (m):

1000

Site Details:

Site at 272490, 204090

Client Details:

MR H Pritchard
Integral Geotechnique
Integral House
7 Beddau Way
Castlegate Business Park
Caerphilly
CF83 2AX

Report Section	Page Number
Summary	-
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Useful Contacts	88

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	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2		2	10	10
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices	pg 7				1
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7		2	2	1
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 8		Yes		
Pollution Incidents to Controlled Waters	pg 8		4	58	22
Prosecutions Relating to Authorised Processes	pg 22				2
Registered Radioactive Substances					
River Quality	pg 23		2	1	1
River Quality Biology Sampling Points	pg 23			1	
River Quality Chemistry Sampling Points	pg 24		1	2	
Substantiated Pollution Incident Register	pg 26			1	2
Water Abstractions	pg 27		1		(*5)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 28	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 28	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 28	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 28	Yes	Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 28	Yes		n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences	pg 29		Yes	n/a	n/a
OS Water Network Lines	pg 29		13	31	89

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	pg 45				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 45				2
Local Authority Landfill Coverage	pg 45	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 45			1	9
Potentially Infilled Land (Water)	pg 46	2	10	13	38
Registered Landfill Sites	pg 49				1
Registered Waste Transfer Sites	pg 50				1
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 51	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 51	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 60				22
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 64	Yes	n/a	n/a	n/a
Mining Instability	pg 64	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 64	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 64	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 64	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 64	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 65	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 66	1	45	11	18
Fuel Station Entries	pg 72		2	1	2
Points of Interest - Commercial Services	pg 73		16	4	5
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 75		4	3	9
Points of Interest - Public Infrastructure	pg 76		3	6	7
Points of Interest - Recreational and Environmental	pg 78		1	2	10
Gas Pipelines	pg 79				1
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 80			3	17
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 81			1	
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
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: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	0	1	272488 204091
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	6	1	272488 204150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	173	1	272488 203850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	184	1	272650 203950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	184	1	272700 204000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	219	1	272700 203950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	243	1	272800 204100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	255	1	272700 203900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (SW)	314	1	272150 203900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	335	1	272750 204400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	338	1	272350 203700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	368	1	272900 204250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	373	1	272050 204091
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	377	1	272050 204000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SW)	379	1	272250 203700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (SW)	383	1	272100 203850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	387	1	272550 203650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	408	1	272850 204400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (S)	423	1	272450 203600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	423	1	272488 203600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	443	1	272800 204500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	473	1	272450 203550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	482	1	271950 204150
1	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Ditch Bel Canal Cso Nr Arthur Terr, Dithc Below Canal Cso, Nr Arthur Terrace, Pontardawe, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bw2302701 Permit Version: 2 Effective Date: 7th March 2005 Issued Date: 7th March 2005 Revocation Date: 31st March 2007 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Unknown Water Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A13NE (N)	43	2	272500 204200
1	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Ditch Bel Canal Cso Nr Arthur Terr, Dithc Below Canal Cso, Nr Arthur Terrace, Pontardawe, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: River Tawe Reference: BW2302701 Permit Version: 1 Effective Date: 20th October 1989 Issued Date: 20th October 1989 Revocation Date: 6th March 2005 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Unnamed Stream Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A13NE (N)	43	2	272500 204200
2	Discharge Consents Operator: West Glamorgan County Council Property Type: Undefined Or Other Location: Swansea Valley A4067 Glais To Ponta, A4067 Glais To Pontardawe Outfall, Glais To Pontardawe Outfall C Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bp0032203 Permit Version: 1 Effective Date: 1st December 1986 Issued Date: 1st December 1986 Revocation Date: 2nd November 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Upper Clydach Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A13SW (S)	258	2	272400 203770
3	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Dilwyn Arms Pontardawe Cross Npt, Pontardawe Cross, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: UPPER CLYDACH - HEADWATERS TO CONFLUENCE WITH Tawe Reference: Bp0343601 Permit Version: 2 Effective Date: 31st March 2009 Issued Date: 6th March 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Upper Clydach Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	277	2	272172 203939

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Sso Pontardawe No. 2 Swansea Authority: Natural Resources Wales Catchment Area: River Tawe Reference: BC0016801 Permit Version: 1 Effective Date: 22nd July 1966 Issued Date: 22nd July 1966 Revocation Date: 30th March 2007 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Tawe Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A8NE (S)	281	2	272510 203750
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pontardawe 2 To R Tawe Cso Swansea, Pontardawe No 2 Into R Tawe Cso, Trebanos Authority: Natural Resources Wales Catchment Area: TAWNE -CONFLUENCE WITH TWRCH TO TIDAL LIMIT Reference: Bc0016801 Permit Version: 2 Effective Date: 31st March 2007 Issued Date: 21st March 2007 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Tawe Status: Effective Positional Accuracy: Located by supplier to within 10m	A8NW (S)	296	2	272482 203729
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Swo Alloy Industrial Site Soc 19 Authority: Natural Resources Wales Catchment Area: TAWNE -CONFLUENCE WITH TWRCH TO TIDAL LIMIT Reference: BW2302901 Permit Version: 1 Effective Date: 22nd July 1966 Issued Date: 22nd July 1966 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Tawe Status: Surrendered Positional Accuracy: Located by supplier to within 100m	A8NW (S)	315	2	272464 203709
6	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Dilwyn Arms Pontardawe Cross Npt, Pontardawe Cross, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0343601 Permit Version: 1 Effective Date: 31st March 2008 Issued Date: 7th March 2005 Revocation Date: 30th March 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Upper Clydach Status: Consent without application (Water Resources Act 1991, Schedule 10) Positional Accuracy: Located by supplier to within 10m	A12SE (W)	356	2	272068 204020

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Discharge Consents Operator: West Glamorgan County Council Property Type: Undefined Or Other Location: Swansea Valley A4067 Glais To Ponta, A4067 Glais To Pontardawe Outfal, Glais To Pontardawe Outfall B Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bp0032202 Permit Version: 1 Effective Date: 1st December 1986 Issued Date: 1st December 1986 Revocation Date: 2nd November 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Tawe Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A8NW (S)	396	2	272400 203630
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: James Street Cso, Pontardawe, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: UPPER CLYDACH - HEADWATERS TO CONFLUENCE WITH TAWE Reference: Wqd005714 Permit Version: 1 Effective Date: 31st March 2009 Issued Date: 28th January 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Upper Clydach River Status: Effective Positional Accuracy: Located by supplier to within 10m	A12NE (W)	438	2	271993 204139
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: James Street Cso, Pontardawe, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Npswqd005714 Permit Version: 1 Effective Date: 31st March 2009 Issued Date: 28th January 2009 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Upper Clydach River Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A12NE (W)	438	2	271993 204139
9	Discharge Consents Operator: Lliw Valley Borough Council Property Type: Undefined Or Other Location: Pontardawe Glanrhyd Site Nr Pontard, Glanrhyd Site Nr Pontardawe Inds, Nr Pontardawe Indst Es Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bp0009006 Permit Version: 1 Effective Date: 10th February 1986 Issued Date: 10th February 1986 Revocation Date: 29th September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Tawe Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	446	2	272900 204400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Discharge Consents Operator: Lliw Valley Borough Council Property Type: Undefined Or Other Location: Pontardawe Glanrhyd Site Nr Pontard, Glanrhyd Site Nr Pontardawe Inds, Nr Pontardawe Indst Est Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bp0009004 Permit Version: 1 Effective Date: 10th February 1986 Issued Date: 10th February 1986 Revocation Date: 29th September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Tawe Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	725	2	273000 204700
11	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Water Supply Grid Location: Brynllwellyn Chl.Overf Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0174001 Permit Version: 1 Effective Date: 2nd October 1989 Issued Date: 2nd October 1989 Revocation Date: 14th March 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: To Land Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	852	2	273300 203700
12	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works Location: Pontardawe Leis Centre Cso Swansea, Pontarrdawe Leisure Centre, Ynysderw Road, Trebanos, Sa8 4eg Authority: Natural Resources Wales Catchment Area: TAW - CONFLUENCE WITH TWRCH TO TIDAL LIMIT Reference: Bw4108701 Permit Version: 3 Effective Date: 31st March 2007 Issued Date: 21st March 2007 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Tawe Status: Effective Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	860	2	271976 203304
13	Discharge Consents Operator: Lliw Valley Borough Council Property Type: Undefined Or Other Location: Pontardawe Glanrhyd Site Nr Pontard, Glanrhyd Site Nr Pontardawe Inds, Indst Est Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bp0009005 Permit Version: 1 Effective Date: 10th February 1986 Issued Date: 10th February 1986 Revocation Date: 29th September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Nant Cwm Sion Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	869	2	273200 204700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Water Supply Grid Location: Rhos S.Res Chl.Overflow Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0199101 Permit Version: 1 Effective Date: 2nd October 1989 Issued Date: 2nd October 1989 Revocation Date: 16th March 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: To Land Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A14SE (E)	900	2	273400 203800
15	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: 100m D/S Pontardawe Leis Centre Npt, 100m D/S Pontardawe Leisure Cent, Pontardawe, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bw4108701 Permit Version: 2 Effective Date: 7th March 2005 Issued Date: 7th March 2005 Revocation Date: 30th March 2007 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Tawe Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	912	2	271980 203240
15	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: 100m D/S Pontardawe Leis Centre Npt, 100m D/S Pontardawe Leisure Cent, Pontardawe, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: River Tawe Reference: BW4108701 Permit Version: 1 Effective Date: 20th October 1989 Issued Date: 20th October 1989 Revocation Date: 6th March 2005 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Tawe Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	912	2	271980 203240
15	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Swo. Alltwen (Soc 18) Authority: Natural Resources Wales Catchment Area: TAWE -CONFLUENCE WITH TWRCH TO TIDAL LIMIT Reference: BW2303001 Permit Version: 1 Effective Date: 22nd July 1966 Issued Date: 22nd July 1966 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Tawe Status: Surrendered Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	912	2	271979 203241

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	Discharge Consents Operator: Lliw Valley Borough Council Property Type: Undefined Or Other Location: Pontardawe Glanrhyd Site Nr Pontard, Glanrhyd Site Nr Pontardawe In Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bp0009002 Permit Version: 1 Effective Date: 10th February 1986 Issued Date: 10th February 1986 Revocation Date: 29th September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Nant Cwm Sion Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A19NE (NE)	937	2	273200 204800
17	Discharge Consents Operator: Lliw Valley Borough Council Property Type: Undefined Or Other Location: Pontardawe Glanrhyd Site Nr Pontard, Glanrhyd Site Nr Pontardawe Inds, Indst Est Authority: Natural Resources Wales Catchment Area: River Tawe Reference: Bp0009003 Permit Version: 1 Effective Date: 10th February 1986 Issued Date: 10th February 1986 Revocation Date: 29th September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Tawe Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	945	2	273300 204700
18	Prosecutions Relating to Controlled Waters Location: Pontardawe Leisure Centre, Ynysderw Road, Pontardawe, SWANSEA, West Glamorgan, SA8 4EG Prosecution Text: EA News Release 01/03/1999 (Case 2 of 2), Polluting River Tawe with sewage on 18th March 1998 due to a blocked sewer. Prosecution Act: WRA91 s85(6) Hearing Date: 26th February 1999 Verdict: Guilty Fine: 1000 Cost: 240 Positional Accuracy: Manually positioned to the road within the address or location	A8NW (SW)	393	4	272272 203672
18	Prosecutions Relating to Controlled Waters Location: Pontardawe Leisure Centre, Ynysderw Road, Pontardawe, SWANSEA, West Glamorgan, SA8 4EG Prosecution Text: EA News Release 12/04/1999, (Case 1 of 2), Polluting River Tawe with sewage on 18th March 1998 due to a blocked sewer. Prosecution Act: WRA91 s85(3) Hearing Date: 7th April 1999 Verdict: Guilty Fine: 2000 Cost: 400 Positional Accuracy: Manually positioned to the road within the address or location	A8NW (SW)	397	4	272272 203667
19	Enforcement and Prohibition Notices Location: Lon Hir, Alltwn, Pontadawe, SWANSEA, SA8 3DE Permit Reference: Not Supplied Enforcement Date: 21st March 2002 Details: Notice Served For Required Improvements To Site Security, Infrastructure & Reduction Of Waste Quantity. Positional Accuracy: Manually positioned to the address or location	A14NE (NE)	668	4	273170 204382
20	Local Authority Pollution Prevention and Controls Name: Pontardawe Foundry & Engineering Co Ltd Location: Holly Street, Pontardawe, SWANSEA, West Glamorgan, SA Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: e3/1/22 Dated: 22nd August 1994 Process Type: Local Authority Air Pollution Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes Status: Authorisation has varied Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	18	3	272405 204056

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	Local Authority Pollution Prevention and Controls Name: Wall Colmonoy Limited Location: Alloy Industrial Estate, Pontardawe, SWANSEA, West Glamorgan, SA8 4HL Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/56 Dated: 18th November 1997 Process Type: Local Authority Air Pollution Control Description: PG6/35 Metal and other thermal spraying processes Status: Authorised Positional Accuracy: Automatically positioned to the address	A13NE (E)	176	3	272719 204184
22	Local Authority Pollution Prevention and Controls Name: Economic Packaging Limited Location: Ynisderw Road, Pontardawe, SWANSEA, West Glamorgan, SA8 4EH Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/55 Dated: 9th May 1997 Process Type: Local Authority Air Pollution Control Description: PG6/15 Coating in drum manufacturing and reconditioning processes Status: Authorisation has varied Positional Accuracy: Automatically positioned to the address	A8NW (SW)	423	3	272193 203685
23	Local Authority Pollution Prevention and Controls Name: Tesco Stores Ltd Location: Gwyns Drift, Pontardawe, Sa8 4bz Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/109 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Located by supplier to within 10m	A8NW (S)	486	3	272356 203546
24	Local Authority Pollution Prevention and Controls Name: Avenue GarageD W M Ltd Location: Swansea Road, Pontardawe, SWANSEA, West Glamorgan, SA8 4AA Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/81 Dated: 8th April 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address	A7NW (SW)	917	3	271737 203443
	Nearest Surface Water Feature	A13NW (W)	3	-	272455 204096
25	Pollution Incidents to Controlled Waters Property Type: Road Location: PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Foam/Soap Suds Note: Deliberate Act Incident Date: 17th January 1991 Incident Reference: 4018 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13NW (W)	43	4	272400 204100
26	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Pontardawe Square Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 29th December 1997 Incident Reference: 34393 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	162	4	272300 203950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	Pollution Incidents to Controlled Waters Property Type: Miscellaneous Premises: Surface Runoff Location: A & M Transport, Ynisderw Road Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Deliberate Act Incident Date: 6th May 1992 Incident Reference: 4585 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (S)	173	4	272450 203850
28	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Leisure Centre, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 9th October 1995 Incident Reference: 26513 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (S)	230	4	272500 203800
29	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Fforwdd Tawe, Opposite Pelican Public House, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 3rd April 1996 Incident Reference: 27835 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	253	4	272300 204295
29	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Surface Water Outfall Location: Fforwdd Tawe, Opposite Somerfield Supermarket Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 3rd April 1996 Incident Reference: 27835 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	256	4	272300 204300
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Outside Paradise Nightclub, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Sewage Debris/Litter Note: Upper Clydach; Overflow Incident Date: 11th February 1998 Incident Reference: 34779 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	258	4	272210 203910
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Paradise Nightclub, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	261	4	272210 203905

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Rear Of Paradise Nightclub, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	262	4	272205 203910
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Rear Of Dillwyn Arms, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 13th September 1997 Incident Reference: 33674 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	264	4	272210 203900
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Paradise Nightclub, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blockage Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	265	4	272205 203905
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Behind Dillwyn Arms, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 13th September 1997 Incident Reference: 33674 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	267	4	272210 203895
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: At Pontardawe Cross Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blockage Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	268	4	272205 203900
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Aqueduct, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blockage Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	269	4	272200 203905

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Canal Aqueduct, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 13th September 1997 Incident Reference: 33674 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	270	4	272210 203890
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Rear Dillwyn Arms, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 13th July 1996 Incident Reference: 29208 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	271	4	272205 203895
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Upper Clydach Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Blocked Sewer Incident Date: 13th July 1996 Incident Reference: 29208 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	272	4	272200 203900
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Rear Of Paradise Nightclub, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blockage Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	273	4	272195 203905
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Pontardawe Cross, Pontardawe, SWANSEA Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 13th September 1997 Incident Reference: 33674 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	274	4	272205 203890
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Dillwyn Arms, Protection Station Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 13th July 1996 Incident Reference: 29208 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	275	4	272200 203895

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Aqueduct, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	276	4	272195 203900
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: At Pontardawe Cross, Seen From Bridge, By Traffic Lights Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 3rd June 1997 Incident Reference: 32453 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	278	4	272200 203890
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Under Canal Aqueduct By, The Paradise Nightclub Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 21st August 1997 Incident Reference: 33308 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	279	4	272195 203895
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: In Pontardawe, Close To Cross Behind, Dillwyn Arms Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 21st August 1997 Incident Reference: 33308 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	282	4	272195 203890
31	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Clydach, TREBANOS Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Deliberate Act Incident Date: 23rd August 1994 Incident Reference: 20682 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	265	4	272305 203800
31	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Glais Bridge, And Upstream Authority: Environment Agency, Welsh Region Pollutant: Agricultural: Silage Liquor Note: Deliberate Act Incident Date: 23rd August 1994 Incident Reference: 20682 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	268	4	272300 203800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Glais, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Deliberate Act Incident Date: 25th August 1994 Incident Reference: 20686 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	269	4	272305 203795
31	Pollution Incidents to Controlled Waters Property Type: Not Given Location: GLAIS Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Deliberate Act Incident Date: 23rd August 1994 Incident Reference: 20682 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	272	4	272300 203795
32	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Gwyn Hotel, St Marys Church, PONTARDULAI Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Not Supplied Incident Date: 18th July 1996 Incident Reference: 29201 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	303	4	272700 204400
33	Pollution Incidents to Controlled Waters Property Type: Not Given Location: PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Weather Incident Date: 9th June 1991 Incident Reference: 787 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	326	4	272100 204100
34	Pollution Incidents to Controlled Waters Property Type: Not Given Location: The Crossroads, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Not Supplied Incident Date: 15th July 1991 Incident Reference: 1034 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	327	4	272100 204000
35	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Old Bridge, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 6th December 1991 Incident Reference: 1661 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	328	4	272500 203700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	Pollution Incidents to Controlled Waters Property Type: Road Location: Bridge, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Poor Operational Practise Incident Date: 2nd July 1991 Incident Reference: 960 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Effluent Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	333	4	272500 203695
36	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Graig Road, Garw Valley, Pontardawe, SWANSEA Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Deliberate Act Incident Date: 21st February 1996 Incident Reference: 27421 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (N)	335	4	272500 204495
36	Pollution Incidents to Controlled Waters Property Type: Domestic/Residential Location: Graig Road, Gellinudd, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Deliberate Act Incident Date: 21st February 1996 Incident Reference: 27421 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (N)	340	4	272500 204500
37	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Rear Of Dilwyn Hotel, Close To The Aqueduct Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 12th August 1997 Incident Reference: 33221 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	352	4	272105 203905
37	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Dilwyn Arms Crude Sewage Overflow Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 9th February 1998 Incident Reference: 34738 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	354	4	272105 203900
37	Pollution Incidents to Controlled Waters Property Type: Not Given Location: 500 Yards U/S Picnic Site Above Cwmgiedd, Enters On Left Bank Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 13th October 1997 Incident Reference: 34337 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	356	4	272105 203895

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
37	Pollution Incidents to Controlled Waters Property Type: Not Given Location: PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Upper Clydach; Overflow Incident Date: 3rd October 1997 Incident Reference: 33966 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	356	4	272100 203905
37	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewerage Location: Upper Clydach Authority: Environment Agency, Welsh Region Pollutant: Natural Foam Note: Poor Operational Practise Incident Date: 3rd May 1996 Incident Reference: 28324 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	358	4	272100 203900
37	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Upper Clydach Authority: Environment Agency, Welsh Region Pollutant: Natural Foam Note: Poor Management Control Incident Date: 3rd May 1996 Incident Reference: 28324 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	360	4	272100 203895
38	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Leisure Centre, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Weather Incident Date: 3rd March 1995 Incident Reference: 23194 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	355	4	272300 203700
38	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Confluence Of, Upper Clydach And Tawe Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 18th September 1994 Incident Reference: 21167 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	360	4	272300 203695
39	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Pontardawe At, Cinders Pool Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: River Tawe Incident Date: 20th April 1998 Incident Reference: 35536 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	372	4	272800 204400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Between, Rhydyfro And Pontardawe Authority: Environment Agency, Welsh Region Pollutant: Sewage - Septic Tank Effluent Note: Not Supplied Incident Date: 22nd April 1991 Incident Reference: 180 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	377	4	272050 204000
40	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Castle Hotel, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 27th February 1995 Incident Reference: 23324 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	413	4	272010 204030
40	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Canal Overflow, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blockage Incident Date: 7th January 1997 Incident Reference: 30798 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	422	4	272005 203995
40	Pollution Incidents to Controlled Waters Property Type: Coal Location: Road Bridge, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Cement/Mortar Note: Poor Operational Practise Incident Date: 4th January 1991 Incident Reference: 2238 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	426	4	272000 204000
40	Pollution Incidents to Controlled Waters Property Type: Coal Location: Confluence, With Tawe Authority: Environment Agency, Welsh Region Pollutant: Foam/Soap Suds Note: Weather Incident Date: 13th February 1991 Incident Reference: 2020 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	427	4	272000 203995
41	Pollution Incidents to Controlled Waters Property Type: Not Given Location: PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Deliberate Act Incident Date: 31st August 1994 Incident Reference: 20705 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	425	4	272000 204100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: Leisure Centre, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Blocked Sewer Incident Date: 27th December 1991 Incident Reference: 1843 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	427	4	272500 203600
43	Pollution Incidents to Controlled Waters Property Type: Not Given Location: River, To Pontardawe, Leisure Centre Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 25th September 1995 Incident Reference: 26331 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (S)	448	4	272300 203600
44	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Fire water / Foam Note: Not Supplied Incident Date: 20th August 1995 Incident Reference: 25791 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	450	4	272000 203900
44	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Cso/Pipe, Dingle Farm, Near Nightclub Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Blocked Sewer Incident Date: 21st September 1996 Incident Reference: 30126 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	452	4	272000 203895
45	Pollution Incidents to Controlled Waters Property Type: Not Given Location: 89 Graig Road, Gellinidal Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Not Supplied Incident Date: 30th May 1995 Incident Reference: 24221 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	458	4	273000 204000
45	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Ponty Bypass, Rear Snack Bar, Lt Bank-Stream From Alltwen Side Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Tributary Of River Tawe; Overflow Incident Date: 16th December 1997 Incident Reference: 34396 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	459	4	273000 203995

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
46	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Cwmdu Glan Area, Pontabraham And Tycroes, Rear Of Jones Street, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Rubble/Litter Or Solids Note: Blocked Sewer Incident Date: 6th March 1996 Incident Reference: 27731 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	459	4	271985 204195
46	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Pontardawe Past Traffic Lights, 20 Yards Up Road To The Estate Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 6th March 1996 Incident Reference: 27731 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	461	4	271985 204200
46	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 6th March 1996 Incident Reference: 27731 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	464	4	271980 204195
46	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: Cwmdu Glan Area, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Rubble/Litter Or Solids Note: Blocked Sewer Incident Date: 6th March 1996 Incident Reference: 27731 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	466	4	271980 204200
47	Pollution Incidents to Controlled Waters Property Type: Not Given Location: PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Upper Clydach Incident Date: 16th March 1998 Incident Reference: 35075 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	486	4	272000 204295

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Crude Sewage Overflow Up From, Pontardawe On Ammanford Road, 200 Yards On Left Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 26th February 1997 Incident Reference: 31376 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	488	4	272000 204300
48	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Opposite Baird Wear Factory Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Blocked Sewer Incident Date: 18th July 1996 Incident Reference: 29211 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	542	4	271900 204200
49	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: Stone Shelter Near, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Weather Incident Date: 11th March 1995 Incident Reference: 23326 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	579	4	272200 203500
50	Pollution Incidents to Controlled Waters Property Type: Council Premises Location: A4 Crossing, Tawe Below, Lonhrr Industrial Estate Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Blocked Sewer Incident Date: 2nd September 1991 Incident Reference: 1456 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	613	4	273100 204400
51	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: Opposite Morris Cohen Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Blocked Sewer Incident Date: 19th August 1991 Incident Reference: 1393 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	667	4	271800 204295
51	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: George, Cohne Factory, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Blocked Sewer Incident Date: 18th September 1994 Incident Reference: 21270 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	669	4	271800 204300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
52	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Pontardawe, 250 Yards Up Road Towards, AMMANFORD Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 23rd March 1997 Incident Reference: 31634 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (NW)	712	4	271800 204400
53	Pollution Incidents to Controlled Waters Property Type: Not Given Location: ABERNANT Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 27th September 1995 Incident Reference: 26350 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	716	4	272800 203400
54	Pollution Incidents to Controlled Waters Property Type: Not Given Location: At Alltwen, Old Peoples Home, Graig Road Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blockage Incident Date: 17th April 1997 Incident Reference: 31869 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	748	4	273300 204200
55	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Opposite Leisure Centre, Playing Field On Left Bank Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: River Tawe; Overflow Incident Date: 12th November 1997 Incident Reference: 34213 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	767	4	272000 203400
55	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Storm Water Outlet On, The Alltwen Side, Opposite Leisure Centre Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: River Tawe; Overflow Incident Date: 28th October 1997 Incident Reference: 34084 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	771	4	272000 203395
56	Pollution Incidents to Controlled Waters Property Type: Not Given Location: ALLTWEN Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Not Supplied Incident Date: 13th April 1995 Incident Reference: 23755 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	825	4	272500 203200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Alltwen - Forth Layby From, Pontardawe Roadbridge To, Rhos (A474) Footpath Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: River Tawe - Unnamed Tributary ; Leakage Incident Date: 30th January 1998 Incident Reference: 34981 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Neglect Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	847	4	273400 204200
58	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Below Hospital In Alltwen, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Nant Gellinedd; Leakage Incident Date: 1st April 1998 Incident Reference: 35251 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A14NE (E)	890	4	273400 204400
59	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewerage Location: Adjacent To 81 Graig, Road Gelli Nedd, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Blocked Sewer Incident Date: 25th March 1992 Incident Reference: 3865 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	947	4	273500 204200
60	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Not Supplied Incident Date: 25th December 1991 Incident Reference: 1800 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	961	4	273500 204300
61	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Graig Road, Alltwen Where Pipe, Crosses Over River Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: River Tawe; Leakage Incident Date: 5th February 1998 Incident Reference: 34965 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	984	4	273500 204395
61	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Oils - Other Oil Note: Not Supplied Incident Date: 13th June 1991 Incident Reference: 907 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	985	4	273500 204400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Footpath Of Main Road, From Alltwen To Rhos, Forth Layby On Left Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: River Tawe - Nant Gelli Nedd; Leakage Incident Date: 23rd February 1998 Incident Reference: 34938 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A15NW (E)	988	4	273505 204395
62	Pollution Incidents to Controlled Waters Property Type: Not Given Location: 200M Down From, Leisure Centre, PONTARDAWE Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: River Tawe; Overflow Incident Date: 15th March 1998 Incident Reference: 35678 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	989	4	271900 203200
63	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Downstream Of Footbridge At, Primary School Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Blocked Sewer Incident Date: 8th July 1996 Incident Reference: 29115 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	992	4	273000 203200
63	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Near Westlake Public House, From Rhos To, ALLTWEN Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 8th July 1996 Incident Reference: 29115 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	996	4	273000 203195
63	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Rear Of Garden Of, 200M Upstream Of Sun Inn, ALLTWEN Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 8th July 1996 Incident Reference: 29115 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	999	4	273005 203195
64	Prosecutions Relating to Authorised Processes Location: Old Aladdin Works, Alltwen, Pontardwe, Swansea, Mid Glamorgan, Sa8 3de Prosecution Text: Skips Full Of Waste Left Outside The Site Prosecution Act: Epa90 S33(1)(A) & S33(1)(B) Hearing Date: 20th February 1812 Verdict: Guilty Fine: 6000 Costs: 1596 Positional Accuracy: Manually positioned to the road within the address or location	A14NW (E)	627	4	273138 204352

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	Prosecutions Relating to Authorised Processes Location: Alladin Works, Alltwen, Pontardawe, Swansea, SA8 3 Prosecution Text: Failing To Comply With A Condition Of His Waste Management Licence And Disposing Of Controlled Waste Except Under And In Accordance With A Waste Management Licence. Prosecution Act: Epa90s33 Hearing Date: 4th December 2001 Verdict: Guilty Fine: 500 Costs: 1096 Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	741	4	272654 203312
	River Quality Name: Swansea Canal GQA Grade: River Quality A Reach: Outfall To Tawe - Intake From Tawe Estimated Distance (km): 10.5 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A13NW (NW)	140	4	272376 204226
	River Quality Name: Tawe GQA Grade: River Quality A Reach: Conf. Upper Clydach-Conf.Nant Cwm Ddu Estimated Distance (km): 2.8 Flow Rate: Flow less than 10 cumecs Flow Type: River Year: 2000	A13SE (SE)	197	4	272669 203950
	River Quality Name: Upper Clydach GQA Grade: River Quality B Reach: Conf.Afon Tawe - Conf. A. Egel Estimated Distance (km): 2.9 Flow Rate: Flow less than 1.25 cumecs Flow Type: River Year: 2000	A13SW (SW)	347	4	272203 203777
	River Quality Name: Tawe GQA Grade: River Quality A Reach: Above Trebanos Stw - Conf Upper Clydach Estimated Distance (km): 1.8 Flow Rate: Flow less than 20 cumecs Flow Type: River Year: 2000	A8NW (SW)	518	4	272253 203543
66	River Quality Biology Sampling Points Name: Tawe Reach: Above Trebanos Sewage Treatment Works To Confluence Upper Clydach Estimated Distance: 1.80 Positional Accuracy: Located by supplier to within 100m Year: 1990 GQA Grade: River Quality Biology GQA Grade B - Good Year: 1995 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2000 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2002 GQA Grade: River Quality Biology GQA Grade Not Supplied Year: 2003 GQA Grade: River Quality Biology GQA Grade Not Supplied Year: 2004 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2005 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2006 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2007 GQA Grade: River Quality Biology GQA Grade A - Very Good Year: 2008 GQA Grade: River Quality Biology GQA Grade A - Very Good Year: 2009 GQA Grade: River Quality Biology GQA Grade A - Very Good	A8NW (S)	426	4	272400 203600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	River Quality Chemistry Sampling Points Name: Upper Clydach Reach: Confluence Afon Tawe To Confluence A. Egel Estimated Distance: 2.90 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied	A13SW (S)	227	4	272387 203804

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	River Quality Chemistry Sampling Points Name: Tawe Reach: Confluence Upper Clydach To Confluence Nant Cwm Ddu Estimated Distance: 2.80 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied	A8NW (S)	314	4	272474 203711

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	River Quality Chemistry Sampling Points Name: Tawe Reach: Confluence Nant Cwm Ddu To Confluence Afon Twrch Estimated Distance: 4.70 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied	A8NW (S)	314	4	272474 203711
69	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 3rd March 2015 Incident Reference: 1317716 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Contaminated Water: Suspended Solids	A13SE (E)	260	2	272798 204018
70	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 15th January 2002 Incident Reference: 52488 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m Pollutant: Inert : Other	A14NE (NE)	703	2	273200 204400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 13th July 2001 Incident Reference: 28798 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: General Biodegradable : Other	A14NE (NE)	719	2	273212 204413
71	Water Abstractions Operator: British Waterways Board Licence Number: 22/59/1/0107 Permit Version: 100 Location: Swansea Canal Swansea Valley Authority: Environment Agency, Welsh Region Abstraction: Water Supply Related: Effluent/Slurry Dilution Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Swansea Canal Swansea Valley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th August 1992 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (W)	7	4	272430 204080
	Water Abstractions Operator: Pontardawe Golf Club Licence Number: 22/59/1/0111 Permit Version: 100 Location: Trib Of The Upper Clydach Authority: Environment Agency, Welsh Region Abstraction: Golf Courses: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Trib Of The Upper Clydach Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A22SE (N)	1126	4	272060 205190
	Water Abstractions Operator: Pontardawe Golf Club Licence Number: 22/59/1/0111 Permit Version: 101 Location: Trib Of The Upper Clydach Authority: Natural Resources Wales Abstraction: Golf Courses: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 29th August 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (N)	1133	2	272090 205210
	Water Abstractions Operator: Nacap Land & Marine Licence Number: 22/59/1/0129 Permit Version: 1 Location: River Tawe At Pontardawe Authority: Environment Agency, Welsh Region Abstraction: Petrochemicals: Hydraulic Testing Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 6th March 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2NW (SW)	1324	4	271590 203015

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr B Thomas Licence Number: 22/59/1/0014 Permit Version: 100 Location: Underground Source At Gellyfowy Authority: Environment Agency, Welsh Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Underground Source At Gellyfowy Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st December 1965 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1868	4	273050 205950
	Water Abstractions Operator: Mr H Price Licence Number: 22/59/1/0029 Permit Version: 100 Location: Disused Coal Level At Penylan Farm Authority: Environment Agency, Welsh Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Disused Coal Level At Penylan Farm Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 31st January 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(NW)	1982	4	270620 204880
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 35 West Glamorgan Scale: 1:100,000	A13SW (W)	0	4	272488 204091
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (W)	0	2	272488 204091
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (W)	0	2	272488 204091
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	0	2	272488 204091
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	0	2	272534 204106
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	33	2	272390 204058
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	0	2	272436 204091
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	0	2	272488 204091
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flood Defences Type: Flood Defences Reference: 0	A13SW (SW)	194	2	272278 203925
	Flood Defences Type: Flood Defences Reference: 0	A13SW (SW)	195	2	272303 203892
	Flood Defences Type: Flood Defences Reference: 0	A13SW (SW)	201	2	272332 203859
	Flood Defences Type: Flood Defences Reference: 0	A13SW (SW)	210	2	272332 203848
	Flood Defences Type: Flood Defences Reference: 0	A13SW (SW)	211	2	272369 203828
	Flood Defences Type: Flood Defences Reference: 0	A13SW (SW)	220	2	272364 203819
	Flood Defences Type: Flood Defences Reference: 0	A13SE (SE)	231	2	272670 203903
	Flood Defences Type: Flood Defences Reference: 0	A13SE (SE)	234	2	272650 203884
72	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 1234.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Swansea Canal Catchment Name: Tawe Primacy: 1	A13NW (NW)	5	5	272466 204109
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 383.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (N)	131	5	272443 204277
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 100.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A13SW (SW)	199	5	272273 203921
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 218.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A13SW (SW)	205	5	272329 203857
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13SW (SW)	205	5	272324 203860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 138.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A13SW (SW)	206	5	272255 203936
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A13SW (SW)	206	5	272258 203933
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 266.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NE (N)	210	5	272590 204357
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	221	5	272288 204240
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 65.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NE (NE)	223	5	272661 204330
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 342.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NE (NE)	226	5	272755 204225
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	231	5	272282 204247
84	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 509.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Tawe Catchment Name: Tawe Primacy: 1	A13SE (SE)	249	5	272679 203888
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	268	5	272256 204275

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 93.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (N)	284	5	272412 204425
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 100.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NE (NE)	288	5	272698 204383
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A8NW (S)	296	5	272478 203729
89	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	297	5	272236 204295
90	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 45.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NW (E)	297	5	272854 204099
91	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A8NW (S)	309	5	272487 203717
92	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 125.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Tawe Catchment Name: Tawe Primacy: 1	A8NW (S)	309	5	272487 203717
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 250.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Tawe Catchment Name: Tawe Primacy: 1	A14SW (E)	311	5	272862 204057
94	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: Underground Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12SE (SW)	324	5	272122 203936

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	331	5	272219 204326
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12SE (W)	332	5	272113 203938
97	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 1146.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Swansea Canal Catchment Name: Tawe Primacy: 1	A12SE (SW)	336	5	272126 203899
98	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A8NW (S)	353	5	272389 203675
99	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A8NW (S)	355	5	272389 203673
100	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.6 Watercourse Level: Underground Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12SE (W)	369	5	272049 204066
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18SW (N)	371	5	272354 204494
102	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 204.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12SE (W)	373	5	272050 204068
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 700.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Tawe Catchment Name: Tawe Primacy: 1	A8NW (S)	378	5	272393 203649

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 140.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18SE (NE)	387	5	272747 204470
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 117.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18SE (NE)	387	5	272747 204470
106	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	388	5	272182 204368
107	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	398	5	272173 204374
108	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 109.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A13NW (NW)	410	5	272161 204380
109	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 183.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12SE (W)	410	5	272013 204061
110	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18SW (N)	441	5	272322 204556
111	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 239.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18SE (N)	451	5	272667 204585
112	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 177.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Tawe Catchment Name: Tawe Primacy: 1	A14NW (E)	454	5	272988 204260

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
113	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 192.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Gelli-nedd Catchment Name: Tawe Primacy: 1	A14NW (E)	454	5	272988 204260
114	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 401.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Tawe Catchment Name: Tawe Primacy: 1	A19SW (NE)	485	5	272922 204434
115	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NW (NE)	493	5	272938 204429
116	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 191.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NE (NW)	504	5	272055 204406
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18SW (N)	543	5	272459 204700
118	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 104.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12NE (W)	543	5	271896 204191
119	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 96.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18SE (N)	551	5	272491 204711
120	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NW (NE)	602	5	273082 204411
121	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 422.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Gelli-nedd Catchment Name: Tawe Primacy: 1	A14NW (NE)	602	5	273082 204411

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
122	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17SE (NW)	638	5	272065 204613
123	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 144.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	642	5	272442 204798
124	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12NW (W)	644	5	271805 204240
125	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 154.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	644	5	272482 204803
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A12NW (W)	644	5	271805 204240
127	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A12NW (W)	645	5	271806 204245
128	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SW (NE)	676	5	272880 204730
129	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 138.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SW (NE)	676	5	272880 204730
130	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17SE (NW)	685	5	271923 204530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
131	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 51.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Swansea Canal Catchment Name: Tawe Primacy: 1	A19SW (NE)	689	5	272928 204712
132	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A12NW (W)	698	5	271769 204299
133	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12NW (W)	702	5	271764 204299
134	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 95.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (W)	713	5	271782 204370
135	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (NW)	718	5	271803 204419
136	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 33.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NE (N)	727	5	272757 204847
137	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12NW (W)	728	5	271749 204332
138	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 74.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (NW)	729	5	271790 204418
139	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	731	5	272392 204880

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
140	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NE (N)	735	5	272796 204839
141	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SW (NE)	738	5	272958 204751
142	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17NE (NW)	740	5	272137 204795
143	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 54.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Swansea Canal Catchment Name: Tawe Primacy: 1	A19SW (NE)	740	5	272963 204749
144	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 170.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A17SE (NW)	742	5	271897 204586
145	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 93.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17SE (NW)	742	5	271897 204586
146	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17NE (NW)	749	5	272118 204794
147	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 144.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NE (N)	751	5	272783 204862
148	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 71.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17SE (NW)	756	5	271951 204662

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
149	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 121.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NE (E)	768	5	273320 204201
150	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 50.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NE (E)	769	5	273323 204182
151	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 59.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NE (E)	773	5	273307 204302
152	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 119.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SE (NE)	777	5	273212 204533
153	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 162.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SW (NE)	792	5	273124 204669
154	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 652.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Tawe Catchment Name: Tawe Primacy: 1	A19SW (NE)	792	5	273124 204669
155	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	792	5	272380 204940
156	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 82.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19NW (NE)	793	5	273001 204787
157	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 223.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Swansea Canal Catchment Name: Tawe Primacy: 1	A19NW (NE)	793	5	273001 204787

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
158	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	809	5	272376 204957
159	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 185.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (W)	810	5	271650 204301
160	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	811	5	272388 204961
161	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NE (E)	816	5	273337 204353
162	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 152.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17SE (NW)	823	5	271916 204723
163	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 20.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12NW (W)	823	5	271658 204361
164	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 387.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Upper Clydach River Catchment Name: Tawe Primacy: 1	A12NW (W)	843	5	271638 204364
165	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 202.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A12NW (W)	843	5	271638 204364
166	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NE (E)	844	5	273354 204393

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
167	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A14NE (E)	852	5	273349 204429
168	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SE (E)	854	5	273344 204445
169	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SE (E)	855	5	273345 204446
170	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	869	5	272365 205016
171	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	869	5	272365 205016
172	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (W)	875	5	271562 204210
173	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 83.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17NE (NW)	884	5	271979 204862
174	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SE (NE)	884	5	273372 204459
175	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (W)	886	5	271555 204235

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
176	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	887	5	272367 205034
177	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	887	5	272367 205034
178	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 206.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Gelli-nedd Catchment Name: Tawe Primacy: 1	A19SE (NE)	891	5	273378 204461
179	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 33.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19SE (NE)	907	5	273311 204620
180	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A18NW (N)	917	5	272336 205059
181	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A18NW (N)	917	5	272336 205059
182	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 167.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A18NW (N)	919	5	272315 205056
183	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (W)	936	5	271500 204215
184	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 30.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 2	A12NW (W)	936	5	271500 204215

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A7SE (SW)	946	5	271996 203191
186	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (W)	949	5	271485 204206
187	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 111.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant y Llechau Catchment Name: Tawe Primacy: 1	A3NE (S)	953	5	272505 203072
188	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A12NW (W)	954	5	271481 204203
189	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A11NE (W)	957	5	271477 204202
190	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19NW (NE)	959	5	272974 205002
191	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 249.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant y Llechau Catchment Name: Tawe Primacy: 1	A3NW (S)	959	5	272389 203067
192	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A11NE (W)	961	5	271473 204200
193	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 226.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant y Llechau Catchment Name: Tawe Primacy: 1	A3NE (S)	964	5	272633 203077

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
194	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant y Llechau Catchment Name: Tawe Primacy: 1	A3NW (S)	968	5	272445 203056
195	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19NW (NE)	972	5	272967 205020
196	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A3NW (S)	972	5	272416 203052
197	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 181.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A3NE (S)	975	5	272563 203055
198	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 255.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A9NE (SE)	976	5	273406 203634
199	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 117.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A3NW (S)	978	5	272470 203046
200	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 271.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A19NW (NE)	983	5	273077 204967
201	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 236.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A15SW (E)	987	5	273542 204055
202	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A3NW (S)	988	5	272420 203036

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
203	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 250.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A17NE (NW)	990	5	272057 205038
204	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Tawe Primacy: 1	A7SE (SW)	992	5	271947 203167

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	Historical Landfill Sites Licence Holder: W H Edwards Location: Trebanos Name: Danygraig House Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD13879 First Input Date: 23rd March 1984 Last Input Date: 30th June 1986 Specified Waste: Deposited Waste included Inert, Industrial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6930/0004 BGS Ref: Not Supplied Other Ref: 1/84	A7NE (SW)	807	2	271819 203516
206	Licensed Waste Management Facilities (Locations) Licence Number: 34107 Location: Old Aladdin Works, Lon Hir, Alltwen, Pontardawe, SA8 3DE Operator Name: D B C Site Services 2005 Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Vehicle Dismantlers) Licence Status: Surrendered Issued: 29th September 1994 Last Modified: 11th June 2007 Expires: 5th April 2007 Suspended: Not Supplied Revoked: Not Supplied Surrendered: 6th July 2015 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	702	2	273191 204416
206	Licensed Waste Management Facilities (Locations) Licence Number: XP3698FJ Location: D B C Site Services, Lon Hir, Alltwen, Pontardawe, N P T, Neath Port Talbot, SA8 3DE Operator Name: D B C Site Services 2005 Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Not Supplied Licence Status: Surrendered Issued: 29th September 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 6th July 2015 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	720	2	273217 204404
	Local Authority Landfill Coverage Name: Neath Port Talbot County Borough Council - Has supplied landfill data		0	3	272488 204091
207	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A8NW (S)	500	8	272296 203547
208	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A8NE (SE)	534	8	272787 203610
209	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A14SE (E)	620	8	273168 204013
210	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A8NE (S)	663	8	272741 203427
211	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NE (N)	671	8	272513 204831

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
212	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A14NE (E)	671	8	273213 204254
213	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NE (N)	712	8	272555 204871
214	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A7SE (SW)	924	8	272094 203169
215	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A18NE (N)	950	8	272681 205096
216	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A3NE (S)	982	8	272647 203062
217	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A13NE (NE)	0	8	272516 204130
218	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A13SW (SW)	0	8	272468 204069
219	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NE (E)	18	8	272574 204120
220	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NE (NE)	40	8	272564 204167
221	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A13SE (E)	79	8	272628 204079
222	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NE (E)	87	8	272642 204134
223	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1942	A13SW (SW)	199	8	272294 203897
224	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A13NW (NW)	211	8	272358 204300
225	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1942	A13SW (S)	215	8	272378 203820
226	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A13NW (NW)	237	8	272275 204249
227	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A13NW (N)	240	8	272415 204378
228	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A13NW (NW)	245	8	272304 204286
229	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A13NW (NW)	273	8	272344 204373
230	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A13NW (NW)	297	8	272239 204299

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
231	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12SE (W)	306	8	272125 203983
232	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A12NE (W)	313	8	272120 204136
233	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A14NW (NE)	341	8	272871 204250
234	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A14NW (E)	347	8	272904 204112
235	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1942	A12SE (SW)	356	8	272105 203894
236	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A14NW (E)	370	8	272916 204205
237	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A12SE (W)	373	8	272052 204013
238	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A14NW (E)	382	8	272935 204169
239	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (NW)	424	8	272100 204335
240	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A12NE (NW)	459	8	272085 204371
241	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A8NW (SW)	496	8	272215 203585
242	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A7NE (SW)	504	8	272150 203616
243	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12SE (SW)	509	8	271986 203795
244	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8NW (S)	512	8	272423 203512
245	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SE (NE)	517	8	272791 204598
246	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SE (N)	520	8	272572 204677
247	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SE (NE)	556	8	272744 204667
248	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A12NE (NW)	559	8	271999 204426
249	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SE (N)	563	8	272720 204685
250	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A8NE (S)	578	8	272507 203449
251	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1942	A17SE (NW)	584	8	272108 204579

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (W)	634	8	271850 204327
253	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	637	8	271916 204445
254	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (W)	658	8	271827 204334
255	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A12SW (W)	664	8	271759 204027
256	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A14NE (E)	667	8	273215 204225
257	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A17SE (NW)	669	8	271892 204466
258	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (W)	675	8	271818 204356
259	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A17SE (NW)	710	8	272130 204756
260	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9NW (SE)	744	8	272986 203500
261	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8SW (S)	781	8	272255 203266
262	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A12NW (W)	782	8	271718 204396
263	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	791	8	271998 203373
264	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8SE (S)	822	8	272503 203203
265	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A7NW (SW)	822	8	271805 203510
266	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A19NW (NE)	850	8	272856 204939
267	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A19NW (NE)	855	8	272903 204922
268	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1942	A17SW (NW)	863	8	271734 204580
269	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A8SE (S)	864	8	272510 203162
270	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	872	8	271933 203319
271	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A17SW (NW)	884	8	271745 204628
272	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1942	A14SE (E)	893	8	273445 204018

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
273	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A17SW (NW)	922	8	271647 204555
274	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A7SE (SW)	924	8	271868 203303
275	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A19NW (NE)	935	8	272891 205017
276	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A19NW (NE)	941	8	272922 205008
277	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A19NW (NE)	979	8	272958 205033
278	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A9SE (SE)	984	8	273199 203368
279	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A3NE (S)	985	8	272720 203077
280	Registered Landfill Sites Licence Holder: W H J Edwards Licence Reference: 1/84 Site Location: Danycraig House, Trebanos, Pontardawe, Swansea, West Glamorgan Licence Easting: 271800 Licence Northing: 203500 Operator Location: 5 Francis Street, Pontardawe, West Glamorgan Authority: Environment Agency Wales, South West Area Site Category: Landfill Max Input Rate: Undefined Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st February 1984 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Accuracy: Not Applicable Authorised Waste: Hardcore And Rubble Inert Waste Prohibited Waste: Animal Or Fish Waste Biodegradable/Putrescible Waste Carcasses And Flesh Corrosive Material Explosive Waste Highly Flammable Material Toxic/Poisonous Wastes	A7NE (SW)	732	4	271877 203564

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
281	Registered Waste Transfer Sites Licence Holder: J Hole - Matthews Skip Hire Services Licence Reference: 2/94 Site Location: Old Aladdin Works Lonhir, Alltwen, Pontardawe, SWANSEA, West Glamorgan, SA8 3DE Operator Location: As Site Address Authority: Environment Agency Wales, South West Area Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 29th September 1994 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Baled Card Max.Stor Baled Paper Max.Stor Baled Shredded Plastic Max.Stor Baled Shredded Timber Max.Stor Electrical Fitting/Fixture/Appliance Glass - Brown Max.Stor Glass - Green Max.Stor Glass - White Max.Stor Light Iron Max.Stor Max.Waste Permitted By Licence Non-Ferrous Metal Scrap Max.Stor Non-Recoverable Waste Over Average Ferrous Max.Stor Plasterboard Rubber & Latex Solidified Tar/Pitch/Bitumen Sw Wales Cat. A 'Non-Decomp' Sw Wales Cat. B 'Slowly Decomp' Elemental Sodium/Potassium Highly Flam./Lpg Regs'72 Subs Metal In Fine Powder Form Percussive/Explosive/Similar Waste Refrigerators Spec.Waste (Epa'90:S62/1996 Regs) Sub'S Control. Radioactive Subs Act'60 Transformers/Capacitors/Elect'L Equip. Tyres Waste Likely/Contain Pcb's Incl. Waste N.O.S. Prohibited Waste	A14NE (E)	635	4	273170 204280

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: South Wales Upper Coal Measures Formation	A13SW (W)	0	1	272488 204091
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	0	1	272472 204113
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (W)	0	1	272488 204091
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: 3.0 - 6.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (S)	50	1	272500 204000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NW (NW)	207	1	272328 204268
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: 3.0 - 6.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	283	1	272706 203867
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SW (E)	309	1	272843 204000

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 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8NE (S)	341	1	272500 203686
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 3.0 - 6.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13SE (SE)	401	1	272775 203771
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 3.0 - 6.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NE (S)	406	1	272623 203652
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NE (S)	407	1	272500 203620
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	415	1	272007 204041
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12NE (W)	422	1	272002 204093

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 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	423	1	272000 204069
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12SE (W)	423	1	272000 204090
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	424	1	272000 204091
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NE (W)	424	1	272000 204095
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	428	1	271996 204084
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NW (S)	442	1	272364 203590

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 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SW (E)	443	1	273000 204091
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14NW (E)	449	1	273000 204187
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14SW (E)	472	1	273014 204000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NE (S)	487	1	272500 203539
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NW (S)	523	1	272447 203500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NW (S)	523	1	272488 203500

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 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	527	1	271908 203941
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SE (NE)	539	1	272734 204653
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	542	1	271883 204000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SE (N)	544	1	272672 204681
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SE (NE)	546	1	272812 204619
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NW (S)	558	1	272254 203500

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 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	559	1	271880 203920
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (SW)	566	1	271922 203791
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SE (W)	580	1	271845 204000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SE (NE)	592	1	272783 204688
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SE (N)	599	1	272716 204725
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7NE (SW)	629	1	272099 203500

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 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SW (W)	631	1	271801 203947
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SW (W)	704	1	271721 204000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19SE (NE)	742	1	273203 204481
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NW (SE)	753	1	273000 203500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7SE (SW)	774	1	272141 203312
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A7SE (SW)	774	1	272000 203392

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 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19NW (NE)	801	1	273000 204798
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A17NE (NW)	810	1	272000 204785
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 30 - 45 mg/kg Concentration:	A17NE (NW)	845	1	272000 204829
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A19NW (NE)	846	1	273001 204853
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A19NW (NE)	846	1	273000 204854
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A19NW (NE)	848	1	273037 204829

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 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A19NW (NE)	850	1	272917 204909
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19NW (NE)	892	1	273011 204902
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19NW (NE)	892	1	273000 204909
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SW (W)	924	1	271500 204000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14SE (E)	943	1	273500 204091
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A19NW (NE)	944	1	273000 204970

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 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A7SE (SW)	964	1	272000 203170
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19NW (NE)	970	1	273000 205000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A17NE (NW)	986	1	272000 205000
282	BGS Recorded Mineral Sites Site Name: Glyn-Meirch Wood Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151597 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A12SE (W)	572	1	271871 203905
283	BGS Recorded Mineral Sites Site Name: Alltwen Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151642 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	582	1	272840 203590
284	BGS Recorded Mineral Sites Site Name: Ty'N-Y-Graig Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151595 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	622	1	273169 204005

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
285	BGS Recorded Mineral Sites Site Name: Coed Alltchan Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151613 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A18NW (N)	653	1	272407 204804
286	BGS Recorded Mineral Sites Site Name: Ty'N-Y-Graig Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151629 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NE (E)	680	1	273222 204255
287	BGS Recorded Mineral Sites Site Name: Alltwn Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151646 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	682	1	272718 203398
288	BGS Recorded Mineral Sites Site Name: Glyn-Meirch Wood Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151596 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A12SW (W)	703	1	271723 203983
289	BGS Recorded Mineral Sites Site Name: Coed Alltchan Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151612 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A18NE (N)	706	1	272562 204865
290	BGS Recorded Mineral Sites Site Name: Alltwn Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151664 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	709	1	273111 203673

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
291	BGS Recorded Mineral Sites Site Name: Coed Alltchan Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151614 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A18NE (N)	782	1	272740 204909
292	BGS Recorded Mineral Sites Site Name: Craig-Glyn-Meirch Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151640 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A8SW (SW)	782	1	272153 203299
293	BGS Recorded Mineral Sites Site Name: Ty'N-Y-Graig Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151627 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A14SE (E)	831	1	273385 204042
294	BGS Recorded Mineral Sites Site Name: Alltwen Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151643 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	843	1	273046 203421
295	BGS Recorded Mineral Sites Site Name: Glyn-Meirch Wood Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151632 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A12NW (W)	875	1	271550 204122
296	BGS Recorded Mineral Sites Site Name: Craig-Glyn-Meirch Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151637 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	898	1	271673 203561

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
297	BGS Recorded Mineral Sites Site Name: Ty'N-Y-Graig Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151628 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	908	1	273420 203833
298	BGS Recorded Mineral Sites Site Name: Alltwen-Isaf Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151638 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	922	1	272097 203171
299	BGS Recorded Mineral Sites Site Name: Glyn-Meirch Wood Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151631 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A12NW (W)	926	1	271505 204179
300	BGS Recorded Mineral Sites Site Name: Alltwen Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151644 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	927	1	273092 203351
301	BGS Recorded Mineral Sites Site Name: Cefnllan-Isaf Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151590 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NE (N)	946	1	272715 205085
302	BGS Recorded Mineral Sites Site Name: Glyn-Meirch Wood Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151630 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A11NE (W)	977	1	271450 204148

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
303	BGS Recorded Mineral Sites Site Name: Alltwn Location: Pontardawe, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151645 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A3NE (S)	982	1	272650 203063
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SW (W)	0	6	272488 204091
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (W)	0	-	272488 204091
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	272488 204091
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	272472 204113
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	272472 204113
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	272488 204091
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	272488 204091
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	272488 204091
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	28	1	272539 204176
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	195	1	272660 204291
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	242	1	272691 203907
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	272472 204113
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	272488 204091
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	207	1	272328 204268

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	272472 204113
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	272488 204091
	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	A13SW (W)	0	1	272488 204091
	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	A13SW (W)	0	1	272488 204091

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
304	Contemporary Trade Directory Entries Name: Pontardawe Foundry & Engineering Co Ltd Location: Holly Street, Pontardawe, Swansea, SA8 4ET Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (W)	0	-	272470 204089
305	Contemporary Trade Directory Entries Name: A R C S Ltd Location: Unit 3, Cwmtawe Business Park, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EZ Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (E)	45	-	272602 204122
305	Contemporary Trade Directory Entries Name: Westward Energy Services Location: Energy House, Alloy Industrial Estate, Pontardawe, SWANSEA, SA8 4EN Classification: Boilers - Servicing, Replacements & Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	50	-	272580 204164
305	Contemporary Trade Directory Entries Name: Itt Flygt Ltd Location: Alloy Indust Est, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Pumps - Sales, Servicing & Repairs Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	50	-	272580 204164
305	Contemporary Trade Directory Entries Name: Living Stone Cmt Location: Unit 5, Cwmtawe Business Park, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EZ Classification: Laboratories Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (E)	60	-	272612 204139
305	Contemporary Trade Directory Entries Name: Trademate Window & Door Systems Location: Unit 9, Cwmtawe Business Park, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EZ Classification: PVC-U Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (E)	74	-	272628 204094
306	Contemporary Trade Directory Entries Name: Plaztec Windows Location: Tawe Terrace, Pontardawe, Swansea, West Glamorgan, SA8 4HA Classification: PVC-U Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	49	-	272394 204013
306	Contemporary Trade Directory Entries Name: Brother Engineering Ltd Location: 1, Tawe Terrace, Pontardawe, Swansea, SA8 4HA Classification: Engineering Machine Services Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (SW)	83	-	272375 203981
307	Contemporary Trade Directory Entries Name: A S Gunter Location: Unit 7/8, Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	53	-	272539 204027
307	Contemporary Trade Directory Entries Name: Dawn Pontardawe Location: Unit 7, Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Meat Product Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	53	-	272539 204027
307	Contemporary Trade Directory Entries Name: Swansea Valley M O T Centre Location: Unit 7-8, Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	53	-	272539 204027

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
307	Contemporary Trade Directory Entries Name: Twfoam Location: Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Foam Products - Rubber & Plastics Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	54	-	272528 204017
307	Contemporary Trade Directory Entries Name: Easycaddy Location: Unit 3, Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Sports Equipment Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	56	-	272566 204047
307	Contemporary Trade Directory Entries Name: Tc Tuning Location: Unit 6, Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Classification: Electrical goods - servicing & repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	57	-	272550 204032
307	Contemporary Trade Directory Entries Name: Valley Radiators Location: Unit 3-5, Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Classification: Car Radiator Servicing & Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	63	-	272569 204040
307	Contemporary Trade Directory Entries Name: Quality Auto Finishes Location: Unit 6, Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	63	-	272552 204025
307	Contemporary Trade Directory Entries Name: Turner Bros Location: Pontardawe, SA8 4HR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	63	-	272563 204035
307	Contemporary Trade Directory Entries Name: P E Controls Ltd Location: Unit 2B, Alloy Court Business Centre, Alloy Ind Est, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Control Panels Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	77	-	272569 204021
308	Contemporary Trade Directory Entries Name: First Cymru Co Ltd Location: Tawe Terrace, Pontardawe, Swansea, West Glamorgan, SA8 4HA Classification: Bus & Coach Operators & Stations Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (S)	53	-	272448 203970
309	Contemporary Trade Directory Entries Name: Group 4 Engineering Location: Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	103	-	272545 203968
310	Contemporary Trade Directory Entries Name: Contract Deliveries Location: Alloy Ind Est, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	104	-	272613 204026
310	Contemporary Trade Directory Entries Name: Contract Deliveries Location: Alloy Ind Est, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	104	-	272613 204026

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
310	Contemporary Trade Directory Entries Name: East End Accident Repair Centre Location: Unit 2 Alloy Industrial Estate, Swansea, West Glamorgan, SA8 4EN Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13SE (E)	106	-	272637 204046
310	Contemporary Trade Directory Entries Name: Lliw Building Supplies Ltd Location: Lliw Building Supplies Ltd, Alloy Industrial Estate, Pontardawe, SA8 4EN Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (E)	106	-	272637 204046
311	Contemporary Trade Directory Entries Name: Gms Location: Unit 1, Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Classification: Motor Cycle Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	115	-	272606 204003
311	Contemporary Trade Directory Entries Name: Pontardawe Refrigeration Plant Ltd Location: Darren House, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Refrigeration Equipment Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	159	-	272639 203974
312	Contemporary Trade Directory Entries Name: R G Tooling Location: Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Cutting Tools & Machinery Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (E)	123	-	272680 204105
312	Contemporary Trade Directory Entries Name: Eurogrind Location: Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (E)	123	-	272680 204105
313	Contemporary Trade Directory Entries Name: Fabacraft Ltd Location: Unit 2, Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Lamination & Encapsulation Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	169	-	272690 204012
313	Contemporary Trade Directory Entries Name: Fabricater Ltd Location: Unit 5, Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Steel Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	169	-	272690 204012
313	Contemporary Trade Directory Entries Name: A & M Transport Location: Unit 1, Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	169	-	272690 204012
313	Contemporary Trade Directory Entries Name: Solar Roof Control Location: Unit 2, Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	169	-	272690 204012
313	Contemporary Trade Directory Entries Name: A & M Logistics Ltd Location: Unit 1, Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	169	-	272690 204012

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
313	Contemporary Trade Directory Entries Name: Pontardawe Refrigeration Location: Alloy Ind Est, Pontardawe, Swansea, West Glamorgan, SA8 4EN Classification: Refrigeration Equipment - Commercial Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13SE (E)	185	-	272721 204030
313	Contemporary Trade Directory Entries Name: Celtic Electrical S Y S Ltd Location: Unit 2a, Ema Evans Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Control Panels Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	188	-	272698 203991
313	Contemporary Trade Directory Entries Name: Horses & Hamsters Auto'S Location: Unit 2a, Ema Evans Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Classification: Car Breakdown & Recovery Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	188	-	272698 203991
314	Contemporary Trade Directory Entries Name: Linde Refrigeration Location: Tawe House, Alloy Industrial Estate, Pontardawe, SA8 4EN Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	172	-	272591 203916
314	Contemporary Trade Directory Entries Name: M & L Upholstery Location: Unit F,Lon Hir Ind Est,Lon Hir, Alltwn/Pontardawe, Swansea, West Glamorgan, SA8 3DE Classification: Upholstery Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	197	-	272625 203912
315	Contemporary Trade Directory Entries Name: Wall Colmonoy Ltd Location: Alloy Industrial Estate, Pontardawe, Swansea, SA8 4HL Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (E)	176	-	272719 204184
316	Contemporary Trade Directory Entries Name: B A W Precision Engineering Ltd Location: Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EZ Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	185	-	272657 204280
317	Contemporary Trade Directory Entries Name: D C Autos Location: Rear Workshop, High Street, Pontardawe, Swansea, SA8 4HU Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (W)	212	-	272214 204092
317	Contemporary Trade Directory Entries Name: Pontardawe Car Sales Location: High Street, Pontardawe, Swansea, West Glamorgan, SA8 4HU Classification: Car Dealers - Used Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (W)	233	-	272197 204113
317	Contemporary Trade Directory Entries Name: Pontardawe Service Station Location: Pontardawe Garage, High Street, Pontardawe, Swansea, SA8 4HU Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (W)	242	-	272191 204125
317	Contemporary Trade Directory Entries Name: The Clothes Clinic Location: Unit 3, High Street, Pontardawe, Swansea, SA8 4HU Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (W)	252	-	272175 204097

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
317	Contemporary Trade Directory Entries Name: Kingfisher Blinds & Canopies Location: 20, High Street, Pontardawe, Swansea, SA8 4HU Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	289	-	272141 204119
318	Contemporary Trade Directory Entries Name: R J & M T Usher Location: Herbert St, Pontardawe, Swansea, West Glamorgan, SA8 4EB Classification: Cabinet Makers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	221	-	272212 203988
318	Contemporary Trade Directory Entries Name: Tower House Launderette Location: 26, Herbert Street, Pontardawe, Swansea, SA8 4EB Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (W)	249	-	272181 203997
319	Contemporary Trade Directory Entries Name: Canning Brett Location: Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EP Classification: Steel Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (S)	225	-	272521 203811
320	Contemporary Trade Directory Entries Name: South Wales Electrical Repairs Location: Unit 24 Abernant Business Enterprise, Pontardawe, Swansea, West Glamorgan, SA8 4TA Classification: Electrical Engineers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13NW (W)	291	-	272160 204182
321	Contemporary Trade Directory Entries Name: Grafix Products Ltd Location: 5, Herbert Street, Pontardawe, Swansea, SA8 4EB Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	325	-	272104 203992
322	Contemporary Trade Directory Entries Name: Windowline Location: 2, High Street, Pontardawe, Swansea, SA8 4HU Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	352	-	272071 204044
322	Contemporary Trade Directory Entries Name: West Wales Gun Co Location: 6, James Street, Pontardawe, Swansea, SA8 4LR Classification: Gunsmiths Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	375	-	272048 204046
323	Contemporary Trade Directory Entries Name: Economic Packaging Ltd Location: Ynysderw Road, Pontardawe, Swansea, SA8 4EH Classification: Steel Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (SW)	423	-	272193 203685
324	Contemporary Trade Directory Entries Name: Pontardawe Tyre Service Location: Works Road, Pontardawe, Swansea, West Glamorgan, SA8 4AF Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (SW)	435	-	272029 203871
324	Contemporary Trade Directory Entries Name: Tudor Hall Garage Location: Works Road, Pontardawe, Swansea, West Glamorgan, SA8 4AF Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (SW)	465	-	272006 203848

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
325	Contemporary Trade Directory Entries Name: Kleenix Location: 25, Bronywawr, Pontardawe, Swansea, SA8 4JY Classification: Janitorial Equipment - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	451	-	272235 204513
326	Contemporary Trade Directory Entries Name: Dm Painting & Decorating Location: 70, Brecon Road, Pontardawe, Swansea, SA8 4PD Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	498	-	272706 204620
327	Contemporary Trade Directory Entries Name: Sabre Location: 33, Alltwen Hill, Pontardawe, Swansea, SA8 3AB Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (S)	538	-	272613 203511
328	Contemporary Trade Directory Entries Name: Miller Mccowan & Thorny Coft Ltd Location: 10, Coedcae, Pontardawe, Swansea, SA8 4PE Classification: Confectionery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	585	-	272718 204709
329	Contemporary Trade Directory Entries Name: Hour Glass & Glazing Location: Unit 23 Abernant, Pontardawe, Swansea, West Glamorgan, SA8 4LF Classification: Glass Products - Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A12NE (NW)	603	-	271913 204378
330	Contemporary Trade Directory Entries Name: Simply Suction Ltd Location: Unit D Lon Hir, Alltwen/Pontardawe, Swansea, West Glamorgan, SA8 3DQ Classification: Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	631	-	273160 204300
330	Contemporary Trade Directory Entries Name: Living Stone Construction Materials Testing Ltd Location: Unit D, Lon Hir Industrial Estate, Lon Hir, Alltwen, Pontardawe, Swansea, West Glamorgan, SA8 3DE Classification: Laboratories Status: Inactive Positional Accuracy: Manually positioned to the address or location	A14NW (E)	633	-	273151 204336
330	Contemporary Trade Directory Entries Name: Valley Upholsterers Location: Unit F, Lon Hir Industrial Estate, Lon Hir, Alltwen, Pontardawe, Swansea, West Glamorgan, SA8 3DE Classification: Upholstery Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A14NE (E)	640	-	273170 204302
330	Contemporary Trade Directory Entries Name: S & M Industrial Services Location: Unit C, Lon Hir Industrial Estate, Lon Hir, Pontardawe, SWANSEA, SA8 3DE Classification: Steam Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	645	-	273165 204330
330	Contemporary Trade Directory Entries Name: World Glass Design Location: Unit A, Lon Hir Industrial Estate, Lon Hir, Alltwen, Pontardawe, Swansea, West Glamorgan, SA8 3DE Classification: Glass Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	657	-	273181 204322
331	Contemporary Trade Directory Entries Name: Shorts Accident Repair Centre Location: 26-28, New Road, Pontardawe, SWANSEA, SA8 4PJ Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	734	-	272894 204789

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
332	Contemporary Trade Directory Entries Name: Tesco Filling Station Location: Gwyn'S Driveift, Pontardawe, Swansea, West Glamorgan, SA8 3AZ Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	769	-	272075 203350
333	Contemporary Trade Directory Entries Name: Pontardawe Chiropractic Clinic Location: 2, Penygraig Road, Pontardawe, Swansea, SA8 3BS Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	821	-	272840 203303
334	Contemporary Trade Directory Entries Name: Vericlean Location: 64, Alltywerin, Pontardawe, Swansea, SA8 4ND Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	824	-	271882 204687
335	Contemporary Trade Directory Entries Name: Goulds Vehicle Service & Repair Location: 26-28, New Road, Pontardawe, Swansea, SA8 4PJ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A19NW (NE)	857	-	272929 204911
336	Contemporary Trade Directory Entries Name: My Perfume Location: Tyn Y Cae, Pontardawe, Swansea, West Glamorgan, SA8 3DJ Classification: Perfume Suppliers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	860	-	272532 203168
337	Contemporary Trade Directory Entries Name: C R Installations Location: Haulfryn, Graig Llanguicke, Pontardawe, Swansea, SA8 4PS Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	878	-	272876 204961
338	Contemporary Trade Directory Entries Name: K J Cleaning Services Location: 111, Parc Gilbertson, Pontardawe, Swansea, SA8 4PT Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	904	-	271794 204713
339	Contemporary Trade Directory Entries Name: Avenue Self Serve Location: Swansea Road, Pontardawe, Swansea, SA8 4AL Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	917	-	271737 203443
340	Contemporary Trade Directory Entries Name: Alltwn Domestic Repairs Location: 164, Tyn y Cae, Pontardawe, Swansea, West Glamorgan, SA8 3DN Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	945	-	272405 203080
341	Fuel Station Entries Name: Pontardawe Service Station Location: High Street , Pontardawe , Neath, Neath Port Talbot, SA8 4HU Brand: Unbranded Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A13NW (W)	201	-	272227 204100
341	Fuel Station Entries Name: Gelligron Garage Location: Gelligron Road , Pontardawe , Neath, Neath Port Talbot, SA8 4NR Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Manually positioned to the address or location	A13NW (W)	234	-	272196 204113

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
342	Fuel Station Entries Name: Tesco Pontardawe Location: Gwyns Dryft , Pontardawe , Neath, Neath Port Talbot, SA8 3AZ Brand: Tesco Premises Type: Hypermarket Status: Open Positional Accuracy: Manually positioned to the address or location	A8NW (S)	460	-	272380 203568
343	Fuel Station Entries Name: Avenue Garage Location: Swansea Road , Pontardawe , Neath, Neath Port Talbot, SA8 4AL Brand: Unbranded Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A7NW (SW)	917	-	271737 203443
343	Fuel Station Entries Name: Western Garage Location: Swansea Road , Pontardawe , Swansea, Neath Port Talbot, SA8 4AL Brand: UK Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A7NW (SW)	917	-	271737 203443
344	Points of Interest - Commercial Services Name: Swansea Valley M O T Centre Location: Unit 7/8 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	53	7	272539 204027
344	Points of Interest - Commercial Services Name: Swansea Valley M O T Centre Location: Unit 7-8 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	53	7	272539 204027
344	Points of Interest - Commercial Services Name: Swansea Valley M O T Centre Location: Unit 7-8 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	53	7	272539 204027
344	Points of Interest - Commercial Services Name: Turner Bros Location: Unit 3/5 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	56	7	272566 204047
344	Points of Interest - Commercial Services Name: A & M Transport Ltd Location: Unit 3-4 Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	56	7	272566 204047
344	Points of Interest - Commercial Services Name: Turner Bros Location: Unit 3-5 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	56	7	272565 204046
344	Points of Interest - Commercial Services Name: Quality Auto Finishes Location: Unit 6 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	56	7	272549 204031

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
344	Points of Interest - Commercial Services Name: Quality Auto Finishes Location: Unit 6 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	57	7	272550 204032
344	Points of Interest - Commercial Services Name: Valley Radiators Location: Unit 3-5 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	63	7	272569 204040
344	Points of Interest - Commercial Services Name: Gms Location: Unit 1 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	115	7	272606 204003
344	Points of Interest - Commercial Services Name: Glamorgan Motorcycle Services Location: Unit 1 Alloy Court, Pontardawe Industrial Estate, Pontardawe, Swansea, SA8 4HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	115	7	272606 204003
345	Points of Interest - Commercial Services Name: A & M Transport Location: Unit 1 Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (E)	169	7	272690 204012
345	Points of Interest - Commercial Services Name: A & M South Wales Ltd Location: Unit 1 Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (E)	169	7	272690 204012
345	Points of Interest - Commercial Services Name: A & M Garages Location: Unit 1-2 Alloy Court Business Centre, Alloy Industrial Estate, Pontardawe, Swansea, SA8 4EN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (E)	169	7	272690 204012
346	Points of Interest - Commercial Services Name: D C Autos Location: Rear Workshop, High Street, Pontardawe, Swansea, SA8 4HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (W)	213	7	272214 204097
346	Points of Interest - Commercial Services Name: D C Location: High Street, Pontardawe, Swansea, SA8 4HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (W)	233	7	272197 204113
347	Points of Interest - Commercial Services Name: Tesco Pontardawe Location: Gwyns Dryft, Pontardawe, Neath, SA8 4PZ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NW (S)	456	7	272389 203571
347	Points of Interest - Commercial Services Name: Car Wash Location: Gwyns Dryft, Pontardawe, Neath, West Glamorgan, SA8 4PZ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NW (S)	460	7	272380 203568

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
348	Points of Interest - Commercial Services Name: Tudor Hall Garage Location: Works Road, Pontardawe, Swansea, SA8 4AF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	465	7	272006 203848
348	Points of Interest - Commercial Services Name: Tudor Hall Garage Location: Works Road, Pontardawe, Swansea, SA8 4AF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	465	7	272006 203848
349	Points of Interest - Commercial Services Name: Absolute Man Power Solutions Location: Unit C Lon Hir Industrial Estate, Lon Hir, Alltwen, Pontardawe, Swansea, SA8 3DE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14NE (E)	645	7	273165 204330
350	Points of Interest - Commercial Services Name: Shorts Accident Repair Centre Location: 26-28 New Road, Pontardawe, Swansea, SA8 4PJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19NW (NE)	734	7	272894 204789
350	Points of Interest - Commercial Services Name: Shorts Accident Repair Centre Location: 26-28 New Road, Pontardawe, Swansea, SA8 4PJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19NW (NE)	734	7	272894 204789
351	Points of Interest - Commercial Services Name: Goulds Vehicle Service & Repair Location: 26-28 New Road, Pontardawe, Swansea, SA8 4PJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19NW (NE)	857	7	272929 204911
352	Points of Interest - Commercial Services Name: Westend Car Wash Location: Swansea Road, Pontardawe, Swansea, SA8 4AL Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7NW (SW)	917	7	271737 203443
353	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	A13SW (SW)	54	7	272392 204007
353	Points of Interest - Manufacturing and Production Name: Wks Location: SA8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	54	7	272392 204007
354	Points of Interest - Manufacturing and Production Name: Industrial Estate Location: SA8 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13NE (E)	81	7	272633 204142
354	Points of Interest - Manufacturing and Production Name: Tank Location: SA8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	98	7	272608 204204
355	Points of Interest - Manufacturing and Production Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	399	7	272044 204183

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
355	Points of Interest - Manufacturing and Production Name: Factory Location: SA8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12NE (W)	407	7	272038 204189
356	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	A8NW (SW)	443	7	272179 203671
357	Points of Interest - Manufacturing and Production Name: Alltwn Industrial Estate Location: SA8 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	615	7	273154 204261
358	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: SA8 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A9NW (SE)	726	7	273111 203647
359	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: SA8 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A9NW (SE)	765	7	273056 203535
360	Points of Interest - Manufacturing and Production Name: Tank Location: SA8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	866	7	271580 204256
361	Points of Interest - Manufacturing and Production Name: Tanks Location: SA8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	868	7	273351 204466
361	Points of Interest - Manufacturing and Production Name: Tank Location: SA8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A19SE (NE)	878	7	273356 204479
361	Points of Interest - Manufacturing and Production Name: Tank Location: SA8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A19SE (NE)	881	7	273361 204475
362	Points of Interest - Manufacturing and Production Name: B T G Services Ltd Location: 60 Gwyn Street, Pontardawe, Swansea, SA8 3AN Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A8SW (S)	910	7	272315 203123
363	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: SA8 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	916	7	273088 203361
364	Points of Interest - Public Infrastructure Name: First Cymru Co Ltd Location: Tawe Terrace, Pontardawe, Swansea, SA8 4HA Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A13SW (S)	53	7	272447 203970

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
365	Points of Interest - Public Infrastructure Name: Pontardawe Service Station Location: High Street, Pontardawe, Swansea, SA8 4HU Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (W)	233	7	272197 204113
366	Points of Interest - Public Infrastructure Name: Pontardawe Police Station Location: Pontardawe Police Station, High Street, Pontardawe, Swansea, SA8 4JN Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	236	7	272311 204282
367	Points of Interest - Public Infrastructure Name: Weir Location: SA8 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	333	7	272117 203923
368	Points of Interest - Public Infrastructure Name: Pontardawe Location: Alltacham Drive, Pontardawe, Swansea, SA8 4JR Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A12NE (NW)	430	7	272052 204273
368	Points of Interest - Public Infrastructure Name: Pontardawe Fire Station Location: Fire Station, Allt-y-Cham Drive, Pontardawe, Swansea, SA8 4JR Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A12NE (NW)	430	7	272052 204273
368	Points of Interest - Public Infrastructure Name: Pontardawe Fire Station Location: Alltacham Drive, Pontardawe, Swansea, SA8 4JR Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A12NE (NW)	431	7	272051 204273
369	Points of Interest - Public Infrastructure Name: Tesco Pontardawe Location: Gwyns Dryft, Pontardawe, Neath, SA8 4PZ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8NW (S)	460	7	272380 203568
370	Points of Interest - Public Infrastructure Name: Sluice Location: SA8 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	492	7	271940 204152
370	Points of Interest - Public Infrastructure Name: Sluice Location: SA8 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	554	7	271884 204185
371	Points of Interest - Public Infrastructure Name: Weir Location: SA8 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	561	7	271879 204193
371	Points of Interest - Public Infrastructure Name: Burial Ground Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	654	7	271781 204184
371	Points of Interest - Public Infrastructure Name: Burial Ground Location: SA8 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	655	7	271781 204185

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
372	Points of Interest - Public Infrastructure Name: Tesco Petrol Filling Station Location: Gwyn's Drift, Pontardawe, Swansea, SA8 3AZ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SW)	769	7	272075 203350
373	Points of Interest - Public Infrastructure Name: Avenue Garage Location: Swansea Road, Pontardawe, Swansea, SA8 4AL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7NW (SW)	917	7	271737 203443
374	Points of Interest - Public Infrastructure Name: Weir Location: SA8 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A3NE (S)	976	7	272613 203062
375	Points of Interest - Recreational and Environmental Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	56	7	272367 204062
376	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	A12NE (NW)	445	7	272124 204394
376	Points of Interest - Recreational and Environmental Name: Playground Location: Alltcham Drive, SA8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NE (NW)	445	7	272125 204394
377	Points of Interest - Recreational and Environmental Name: Play Area Location: (Brynmorgrug), SA8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NE (E)	680	7	273224 204250
377	Points of Interest - Recreational and Environmental Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	682	7	273226 204248
378	Points of Interest - Recreational and Environmental Name: Playground Location: (Heol Glanllechau), SA8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	681	7	272323 203354
378	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	A8SW (S)	682	7	272324 203353
379	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	A7NE (SW)	775	7	271869 203507
379	Points of Interest - Recreational and Environmental Name: Playground Location: Nr Swansea Road, SA8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	775	7	271870 203507

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
380	Points of Interest - Recreational and Environmental Name: Playground Location: (Lon Tanyrallt), SA8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A7SE (SW)	866	7	272094 203233
380	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	A7SE (SW)	891	7	272084 203210
381	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	A19NW (NE)	932	7	272971 204973
381	Points of Interest - Recreational and Environmental Name: Playground Location: Old Road, SA8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	933	7	272971 204974
382	Gas Pipelines Name: FM28 - Felindre to Cilfrew Nat Grid: Owned By National Grid Diameter (mm): 1200 Building Proximity: 132 Distance (m): Status: Active Pipe Length (m): 17048.8 Pipe Number: Feeder 28	A7NW (W)	992	8	271491 203714

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
383	Ancient Woodland Name: Not Supplied Reference: 18411 Area(m²): 5000.57 Type: Ancient and Semi-Natural Woodland	A13NW (NW)	267	2	272313 204343
384	Ancient Woodland Name: Not Supplied Reference: 18413 Area(m²): 55862.11 Type: Ancient and Semi-Natural Woodland	A12SE (W)	379	2	272046 204090
385	Ancient Woodland Name: Not Supplied Reference: 7515 Area(m²): 51386.71 Type: Ancient and Semi-Natural Woodland	A14SW (SE)	489	2	272917 203784
386	Ancient Woodland Name: Not Supplied Reference: 18477 Area(m²): 7574.93 Type: Ancient and Semi-Natural Woodland	A18SE (NE)	512	2	272825 204568
387	Ancient Woodland Name: Not Supplied Reference: 23194 Area(m²): 66055.43 Type: Restored Ancient Woodland Site	A12SE (W)	518	2	271929 203898
388	Ancient Woodland Name: Not Supplied Reference: 23215 Area(m²): 17975.21 Type: Restored Ancient Woodland Site	A18SE (NE)	526	2	272802 204601
389	Ancient Woodland Name: Not Supplied Reference: 18410 Area(m²): 46642.04 Type: Ancient and Semi-Natural Woodland	A12NE (W)	578	2	271851 204144
390	Ancient Woodland Name: Not Supplied Reference: 18414 Area(m²): 1968.95 Type: Ancient and Semi-Natural Woodland	A18SE (N)	604	2	272533 204763
391	Ancient Woodland Name: Not Supplied Reference: 11367 Area(m²): 98658.93 Type: Restored Ancient Woodland Site	A18NW (N)	633	2	272389 204781
392	Ancient Woodland Name: Not Supplied Reference: 23198 Area(m²): 6221.07 Type: Restored Ancient Woodland Site	A18NW (N)	645	2	272325 204777
393	Ancient Woodland Name: Not Supplied Reference: 10124 Area(m²): 23219.73 Type: Ancient and Semi-Natural Woodland	A12SW (W)	671	2	271754 203996
394	Ancient Woodland Name: Not Supplied Reference: 11366 Area(m²): 29715.14 Type: Restored Ancient Woodland Site	A12NW (W)	733	2	271766 204381
395	Ancient Woodland Name: Not Supplied Reference: 18417 Area(m²): 13630.31 Type: Ancient and Semi-Natural Woodland	A18NW (N)	758	2	272283 204881
396	Ancient Woodland Name: Not Supplied Reference: 48073 Area(m²): 9940.67 Type: Ancient Woodland Site of Unknown Category	A18NE (N)	767	2	272649 204916

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
397	Ancient Woodland Name: Not Supplied Reference: 48848 Area(m²): 16039.67 Type: Ancient Woodland Site of Unknown Category	A7NW (SW)	831	2	271679 203686
398	Ancient Woodland Name: Not Supplied Reference: 10126 Area(m²): 26563.86 Type: Ancient and Semi-Natural Woodland	A12NW (W)	845	2	271634 204360
399	Ancient Woodland Name: Not Supplied Reference: 23214 Area(m²): 7256.12 Type: Restored Ancient Woodland Site	A18NW (N)	886	2	272429 205042
400	Ancient Woodland Name: Not Supplied Reference: 13676 Area(m²): 4815.06 Type: Ancient and Semi-Natural Woodland	A19NW (N)	896	2	272852 204990
401	Ancient Woodland Name: Not Supplied Reference: 12560 Area(m²): 10124.18 Type: Ancient and Semi-Natural Woodland	A3NE (S)	952	2	272506 203074
402	Ancient Woodland Name: Not Supplied Reference: 23195 Area(m²): 4255.11 Type: Restored Ancient Woodland Site	A11NE (W)	975	2	271455 204173
403	Local Nature Reserves Name: Cwm Du Glen & Glanrhyd Plantation Multiple Area: N Area (m2): 153719.51 Source: Neath Port Talbot County Borough Council Designation Date: Not Supplied	A12SE (W)	374	9	272049 204085

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	January 2015 March 2015	Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Welsh Region Natural Resources Wales	August 2014 January 2019	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Welsh Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - Welsh Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - Welsh Region Natural Resources Wales	January 2019 January 2019	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Swansea Bay Port Health Authority Neath Port Talbot County Borough Council - Environmental Health Department City and County of Swansea - Environmental Health Department	April 2014 August 2012 June 2014	Variable Variable Variable
Local Authority Pollution Prevention and Controls Swansea Bay Port Health Authority City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	April 2014 June 2014 March 2014	Annually Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Swansea Bay Port Health Authority City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	April 2014 June 2014 March 2014	Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	January 2019	
Pollution Incidents to Controlled Waters Environment Agency - Welsh Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	Annual Rolling Update Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	Annual Rolling Update Annual Rolling Update
Registered Radioactive Substances Natural Resources Wales Environment Agency - Welsh Region	January 2015 June 2016	Annually
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
Substantiated Pollution Incident Register Environment Agency Wales - South West Area Natural Resources Wales	January 2019 October 2018	Quarterly Quarterly
Water Abstractions Natural Resources Wales Environment Agency - Welsh Region	February 2019 January 2019	Quarterly Quarterly

Agency & Hydrological	Version	Update Cycle
Water Industry Act Referrals Natural Resources Wales Environment Agency - Welsh Region	January 2019 October 2017	Quarterly Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations Natural Resources Wales	January 2018	Annually
Superficial Aquifer Designations Natural Resources Wales	January 2018	Annually
Source Protection Zones Natural Resources Wales	November 2016	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	February 2019	Quarterly
Flooding from Rivers or Sea without Defences Natural Resources Wales	February 2019	Quarterly
Areas Benefiting from Flood Defences Natural Resources Wales	February 2019	Quarterly
Flood Water Storage Areas Natural Resources Wales	February 2019	Quarterly
Flood Defences Natural Resources Wales	February 2019	Quarterly
OS Water Network Lines Ordnance Survey	October 2018	Quarterly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water Suitability Natural Resources Wales	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 Natural Resources Wales	July 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - South West Area Natural Resources Wales	July 2018 July 2018	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency Wales - South West Area Natural Resources Wales	January 2019 January 2019	Quarterly Quarterly
Local Authority Landfill Coverage City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	May 2000 May 2000	Not Applicable Not Applicable
Local Authority Recorded Landfill Sites City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	May 2000 September 2003	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 Wales - South West Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency Wales - South West Area	March 2003	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 City and County of Swansea - Planning Department Neath Port Talbot County Borough Council - Planning Department	January 2016 October 2015	Variable Variable
Planning Hazardous Substance Consents City and County of Swansea - Planning Department Neath Port Talbot County Borough Council - Planning Department	January 2016 October 2015	Variable 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 2018	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	January 2019	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 2019	Quarterly
Fuel Station Entries Catalist Ltd - Experian	March 2019	Quarterly
Gas Pipelines National Grid	July 2014	
Points of Interest - Commercial Services PointX	November 2018	Quarterly
Points of Interest - Education and Health PointX	November 2018	Quarterly
Points of Interest - Manufacturing and Production PointX	November 2018	Quarterly
Points of Interest - Public Infrastructure PointX	November 2018	Quarterly
Points of Interest - Recreational and Environmental PointX	November 2018	Quarterly
Underground Electrical Cables National Grid	December 2015	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural Resources Wales	August 2018	Bi-Annually
Areas of Adopted Green Belt City and County of Swansea	August 2018	As notified
Areas of Outstanding Natural Beauty Natural Resources Wales	August 2018	Bi-Annually
Environmentally Sensitive Areas The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves City and County of Swansea Neath Port Talbot County Borough Council	August 2018 August 2018	Bi-Annually Bi-Annually
Marine Nature Reserves Natural Resources Wales	August 2018	Bi-Annually
National Nature Reserves Natural Resources Wales	August 2018	Bi-Annually
National Parks Natural Resources Wales	August 2018	Annually
Nitrate Vulnerable Zones Natural Resources Wales The National Assembly for Wales - GI Services (Department of Planning & Countryside)	July 2017 October 2005	Bi-Annually
Ramsar Sites Natural Resources Wales	February 2019	Bi-Annually
Sites of Special Scientific Interest Natural Resources Wales	February 2018	Bi-Annually
Special Areas of Conservation Natural Resources Wales	August 2018	Bi-Annually
Special Protection Areas Natural Resources Wales	August 2018	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	
Peter Brett Associates	

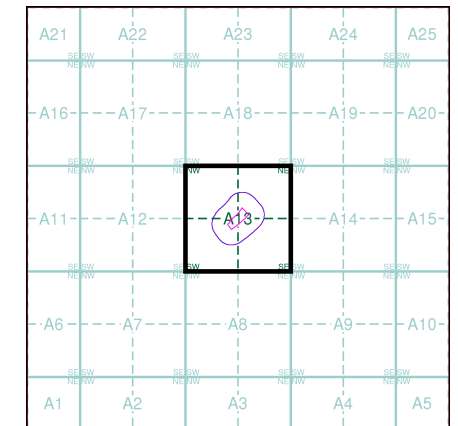
Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Natural Resources Wales Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	Neath Port Talbot County Borough Council - Environmental Health Department Room 322, Neath Civic Centre, Neath, West Glamorgan, SA11 3QZ	Telephone: 01639 763333 Fax: 01693 763444 Website: www.neath-porttalbot.gov.uk
4	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
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	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
7	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk
9	Neath Port Talbot County Borough Council Civic Centre, Port Talbot, West Glamorgan, SA13 1PJ	Telephone: 01639 763333 Fax: 01693 763444 Website: www.neath-porttalbot.gov.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.

General

- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- ### Agency and Hydrological
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention and Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- ### Hazardous Substances
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - BGS Recorded Mineral Site
- ### Waste
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- ### Geological
- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Plot Buffer (m): 100

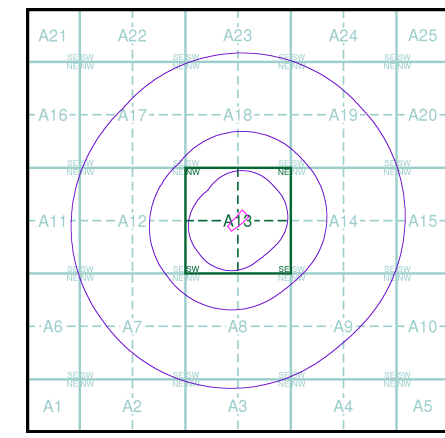
Site Details

Site at 272490, 204090

Intégral Géotechnique

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - BGS Recorded Mineral Site
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
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 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



Order Details

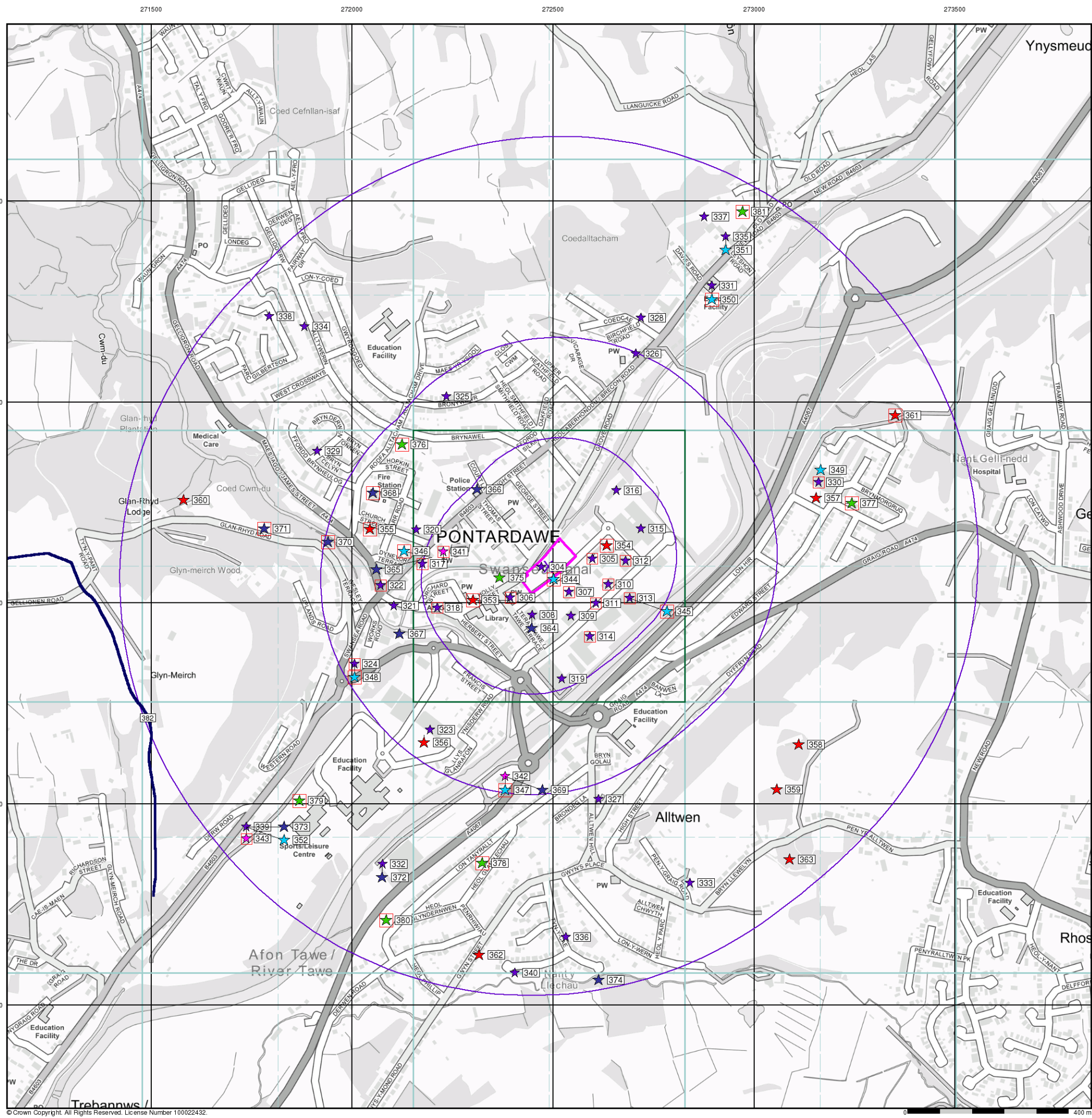
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Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

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



Intégral Géotechnique

Industrial Land Use Map

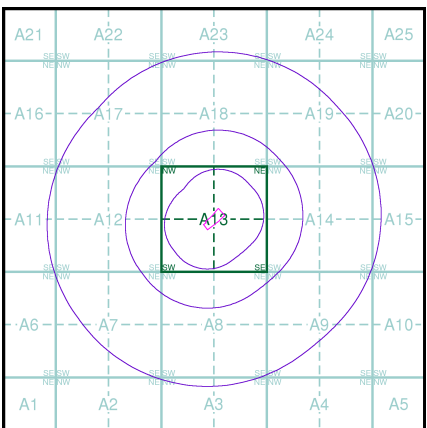
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

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

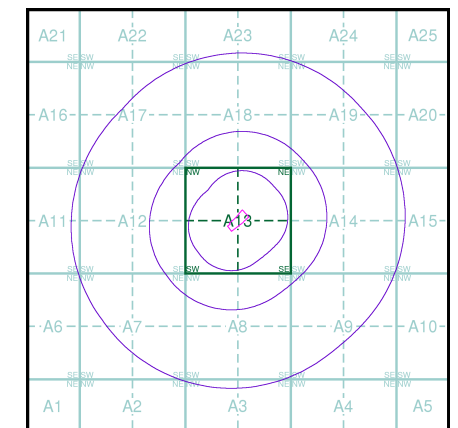
General

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

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

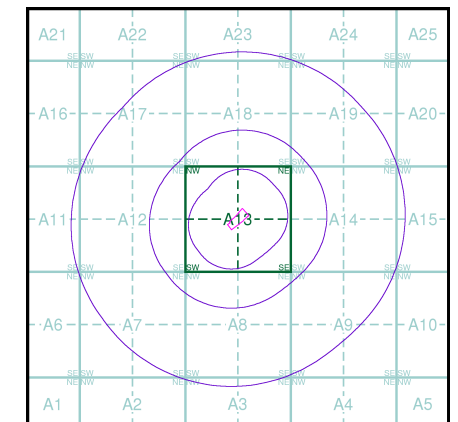
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Intégral Géotechnique

General

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

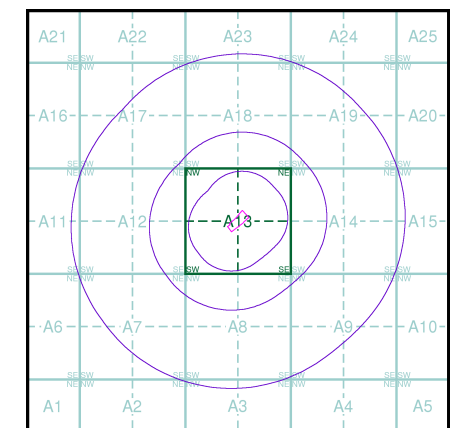
OS Water Network Data

- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

Contours (height in meters)

- Standard Contour 105 100 95
- Master Contour 105 100 95
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

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General

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

Risk of Flooding from Surface Water

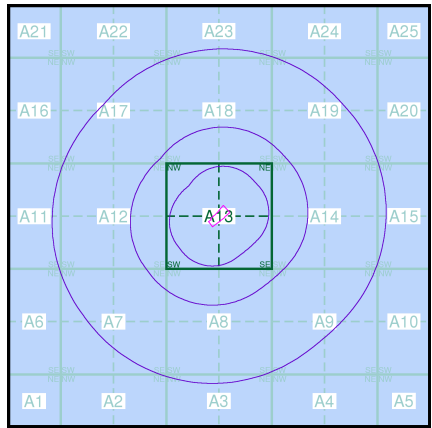
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EANRW Suitability Map - Slice A



Order Details

Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

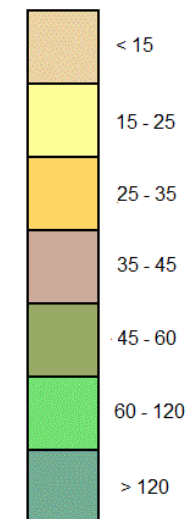


General

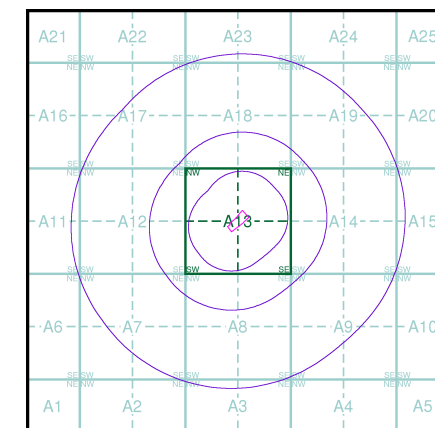
 Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details:	196858831_1_1
Customer Ref:	12360
National Grid Reference:	272490, 204090
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details

Site at 272490, 204090

Landmark®
INFORMATION GROUP

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

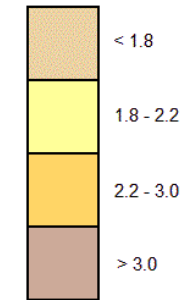
Intégral Géotechnique

General

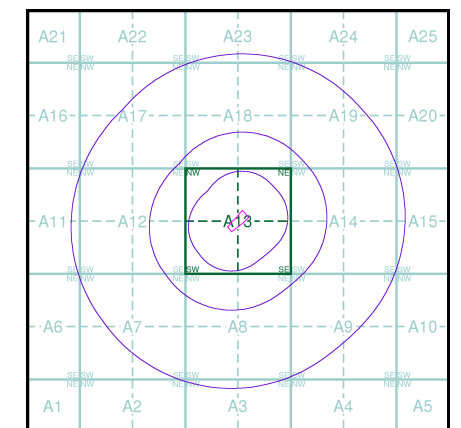
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

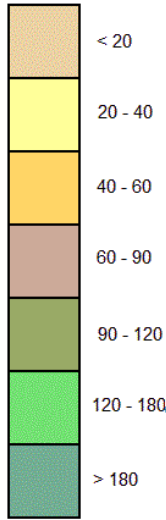
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

General

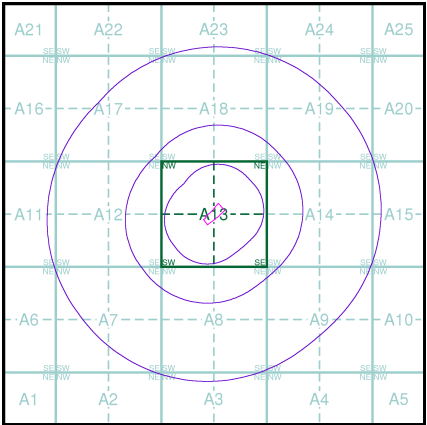
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

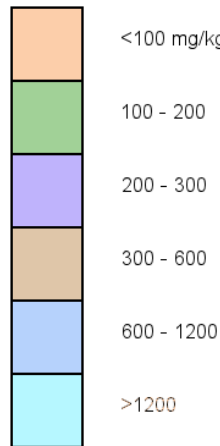
Site at 272490, 204090

General

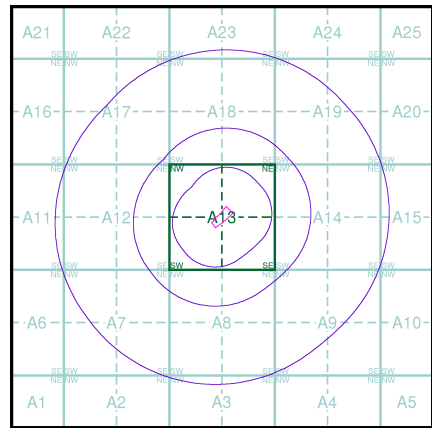
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

Order Details: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

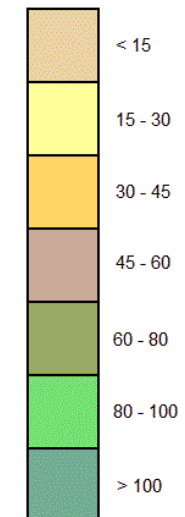
Intégral Géotechnique

General

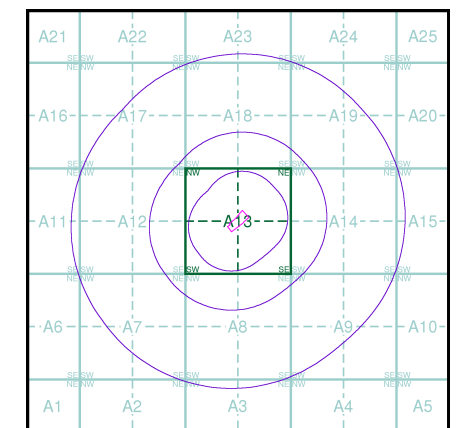
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Site at 272490, 204090

Landmark
INFORMATION GROUP

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

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	Unknown/Unclassified Entry	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFICD	Glaciofluvial Ice Contact Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	ALF	Alluvial Fan Deposits	Sand and Gravel	Not Supplied - Quaternary
	PEAT	Peat	Peat	Not Supplied - Quaternary
	RTDU	River Terrace Deposits (Undifferentiated)	Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	BD	Brithdir Member	Sandstone	Not Supplied - Westphalian
	BD	Brithdir Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	H	Hughes Member	Sandstone	Not Supplied - Westphalian
	SW	Swansea Member	Sandstone	Not Supplied - Westphalian
	GDB	Grovesend Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	H	Hughes Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SW	Swansea Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	GDB	Grovesend Formation	Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	LLFB	Llynfi Member	Sandstone	Not Supplied - Westphalian
	LLFB	Llynfi Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
		Faults		
		Rock Segments		

Intégral Géotechnique

Geology 1:50,000 Maps

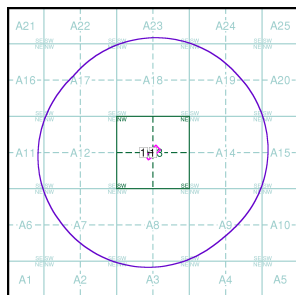
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published 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:	230
Map Name:	Ammanford
Map Date:	1977
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

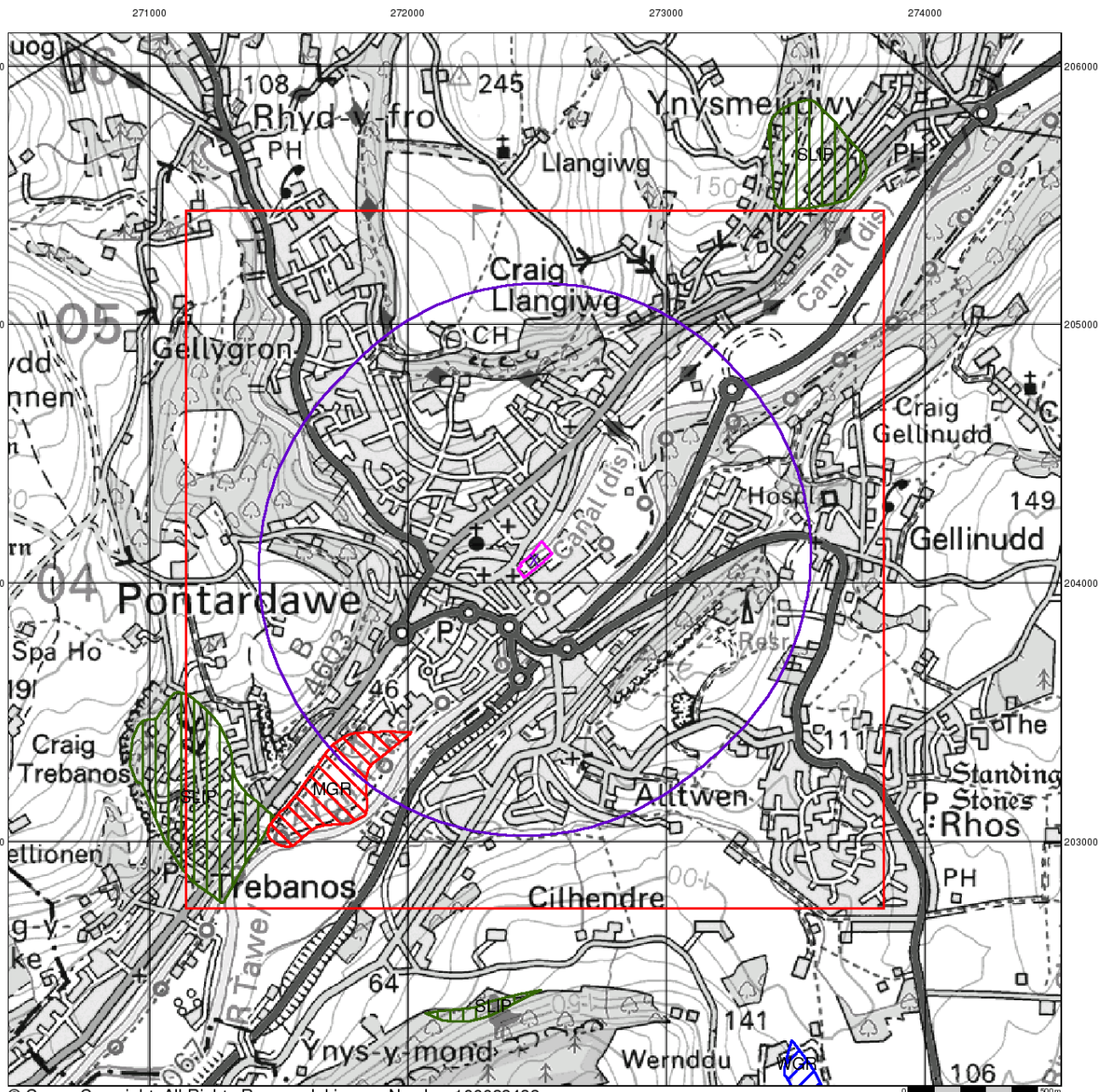


Order Details:

Order Number:	196858831_1_1
Customer Reference:	12360
National Grid Reference:	272490, 204090
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details:

Site at 272490, 204090



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Intégral Géotechnique

Artificial Ground and Landslip

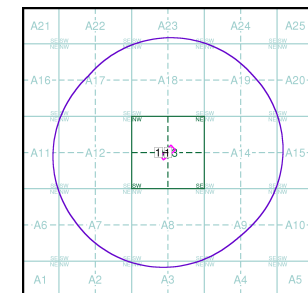
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

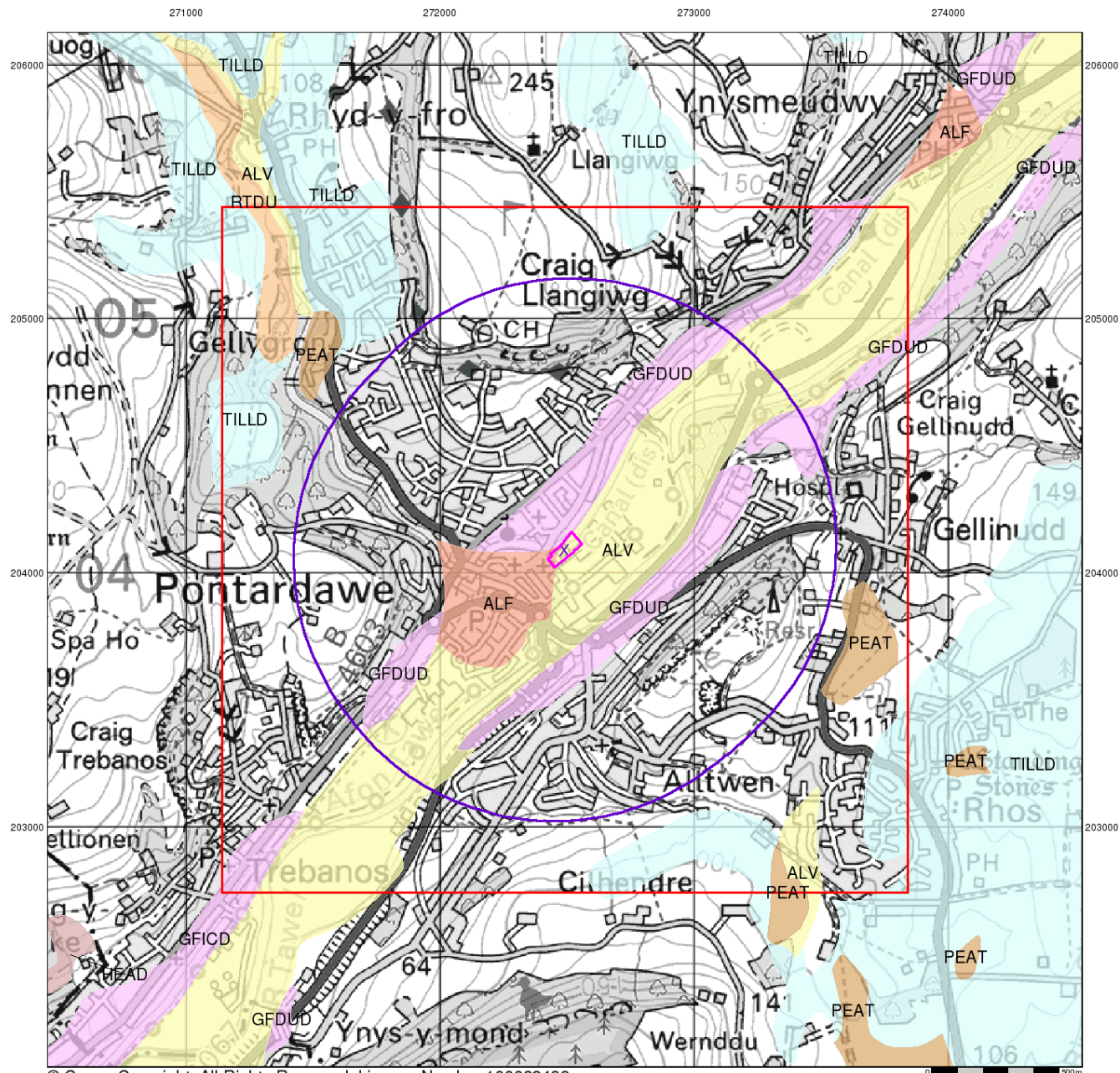
Order Number: 196858831_1_1
Customer Reference: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details:

Site at 272490, 204090

Landmark
INFORMATION GROUP

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



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Intégral Géotechnique

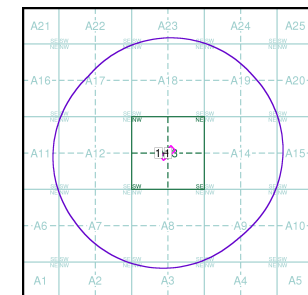
Superficial Geology

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: 196858831_1_1
Customer Reference: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details:

Site at 272490, 204090

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

Intégral Géotechnique

Bedrock and Faults

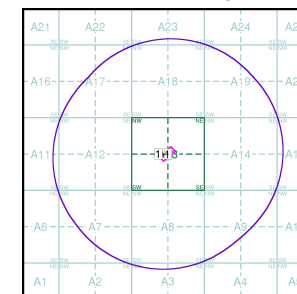
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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: 196858831_1_1
Customer Reference: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details:

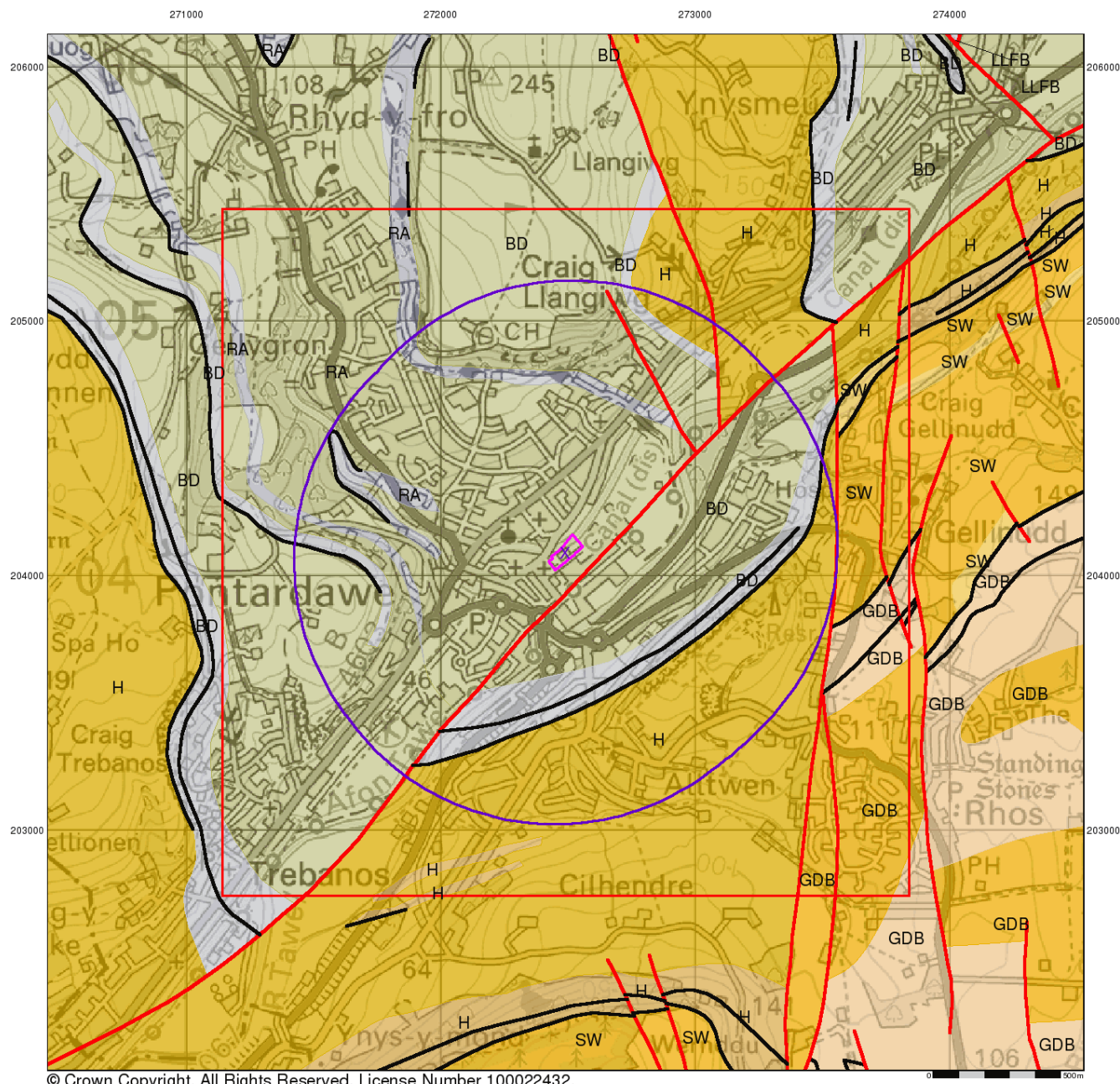
Site at 272490, 204090

Landmark
INFORMATION GROUP

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

v15.0 12-Mar-2019

Page 4 of 5



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Intégral Géotechnique

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.

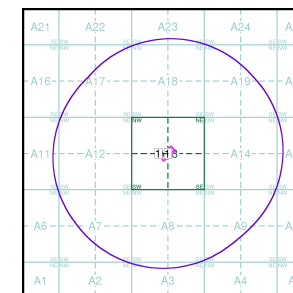
Additional Information

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



Order Details:

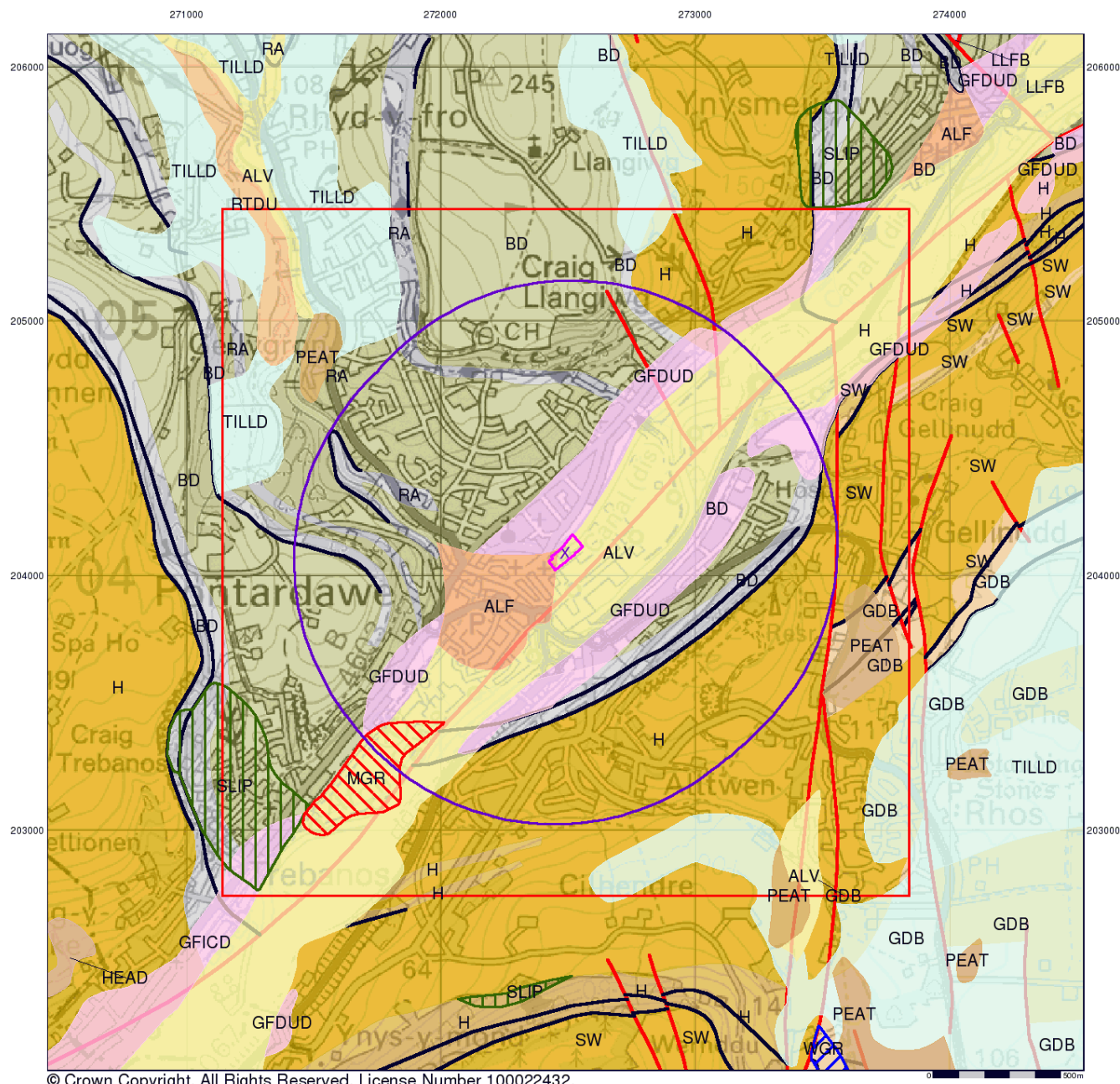
Order Number: 196858831_1_1
Customer Reference: 12360
National Grid Reference: 272490, 204090
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

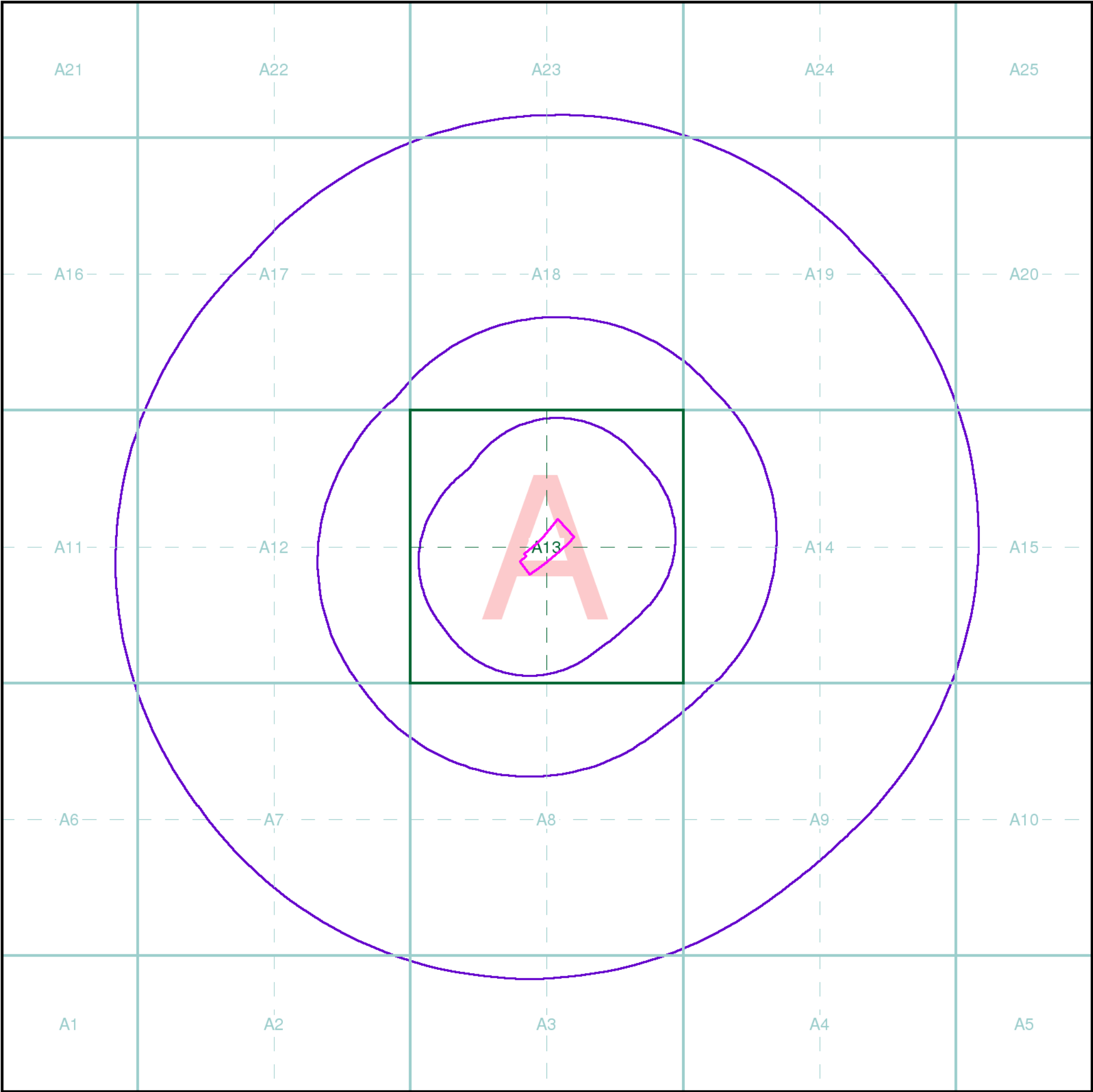
Site Details:

Site at 272490, 204090

Landmark
INFORMATION GROUP

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





Intégral Géotechnique

Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details
MR H Pritchard, Integral Geotechnique, Integral House, 7 Beddau Way, Castlegate Business Park, Caerphilly, CF83 2AX

Order Details
Order Number: 196858831_1_1
Customer Ref: 12360
National Grid Reference: 272490, 204090
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details
Site at 272490, 204090

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show/515>

APPENDIX B

BGS RADON REPORT

Radon (RPM) Report - Standard

Report prepared for:

Marcus France
Earth Science Partnership
33 Cardiff Road
Taffs Well
Cardiff
CF15 7RB

Radon Protective Measures Site Report – Standard

Advisory report on the requirement for radon protective measures in new dwellings and extensions including a BR211 (1999) Stage 2 Geological Assessment

Client's Reference:

3316S PONTARDAWE FOUNDRY

Radon (RPM) Report - Standard

Section 2: Requirement for radon protective measures

The determination below follows the two stages described in *BR211 Radon: Guidance on protective measures for new dwellings (1999 edition)*, which also provides guidance on what to do if the result indicates that protective measures are required.

Stage 1

Stage 1 (Annex A) of the BR211 (1999) procedure indicates that the minimum level of protection for the report area is **NO** radon protective measures.

Stage 2

The Stage 2 geological assessment carried out for this report indicates **NO** radon protective measures are required for the report area. This assessment was derived automatically from the BGS Radon Protective Measures GIS (RPM-GIS) from 1:250,000 scale digital data. Results of the geological search are described in Section 3, and more detail on the assessment procedure is outlined in Section 4.

Result

The BR211 (1999) two-stage procedure indicates that **NO** protective measures are required for the site. This is the higher of the two levels of protection indicated by Stage 1 and Stage 2.

Section 3: Geological units within the search area

Below is a listing, if available, of the possible combinations of Bedrock (Solid) Geology units and overlying Superficial (Drift) Geology units within the total search area derived automatically by the RPM-GIS.

These have been derived (as indicated) from searches of either:

- a) Combined 1:250,000 Bedrock (Solid) and 1:625,000 Superficial (Drift) geology maps
- b) 1:50,000 Bedrock (Solid), Superficial (Drift) and Artificial geology maps

1:250,000 data

1. LOWER PENNANT SANDSTONES(SANDSTONE 3D00); No drift
2. LOWER PENNANT SANDSTONES(SANDSTONE AND [SUBEQUAL/SUBORDINATE] ARGILLACEOUS ROCKS, INTERBEDDED);

Radon (RPM) Report - Standard

The geological assessment in this report is produced by the BGS Radon Protective Measures Geographical Information System (RPM GIS), which has been developed to provide Stage 2 Geological Assessments (RPM Site Reports). The assessment is derived from a geologically based interpretation of radon measurements in dwellings which were provided to the BGS by the NRPB without prejudicing confidentiality undertakings to householders and the Department of the Environment, Food and Rural Affairs (DEFRA). The reliability of a geological radon potential assessment is approximately proportional to the number of radon measurements available and the scale of the geological maps.

The RPM GIS currently comprises 1:250,000 scale data with more detailed information for twenty 1:50,000 scale geological map sheets covering the most radon-prone parts of Derbyshire, Northamptonshire, Nottinghamshire, Leicestershire, Lincolnshire, Oxfordshire, Shropshire, Somerset and Yorkshire. The RPM-GIS is being upgraded to 1:50,000 scale over the next 12 months as new digital maps become available through the BGS DiGMapGB programme.

The search area (circle or rectangle) for a site is increased by a buffer zone of 50 m in areas with 1:50,000 scale data and 500m in areas with 1:250,000 scale data. This is to allow for potential inaccuracies in the position of the geological boundaries. In many cases a number of combinations of bed rock and drift with differing geological radon potentials will occur within the total search area. Following the precautionary principle, the requirement for protective measures is derived from the highest geological radon potential encountered within the total search area.

Radon (RPM) Report - Standard

Section 5: Follow-up Detailed Radon Protective Measures site report

For most parts of the UK, a higher resolution assessment of radon protective measures requirements can also be provided by BGS. This will comprise:

- i. Assessment by a qualified geologist of the relevant 10,000, 1:10,560 or 1:50,000 scale geological map(s) covering the total search area from BGS archives.
- ii. Identification of the level of radon protective measures indicated for all geological units encountered within the site and the immediately surrounding area.

The basic charge for a Detailed Radon Protective Measures Report is **£210 (incl. VAT & Delivery)**. Reports for very large or geologically complex sites may, however, have to be supplemented with additional charge – in such cases, enquiry staff will confirm the charge with the client before proceeding.

The Radon follow-up reports can be ordered from:-

Geological Enquiries, British Geological Survey, Keyworth, Nottingham NG12 5GG; Tel: 0115-936-3192; Fax: 0115-936-3192; e-mail: geohelp@bgs.ac.uk. An on-line ordering facility is available on the BGS Website: www.bgs.ac.uk/georeports.

Section 6: What is radon ?

Radon is a naturally occurring radioactive gas, which is produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Radon released from rocks and soils is quickly diluted in the atmosphere. Concentrations in the open air are normally very low and do not present a hazard. Radon that enters poorly ventilated enclosed spaces such as some basements, buildings, caves, mines, and tunnels may reach high concentrations in some circumstances. The construction method and degree of ventilation will influence radon levels in individual buildings. A person's exposure to radon will also vary according to how particular buildings and spaces are used.

Inhalation of the radioactive decay products of radon gas increases the chance of developing lung cancer. If individuals are exposed to high concentrations for significant periods of time, there may be cause for concern. In order to limit the risk to individuals, the Government has adopted an Action Level for radon in homes of 200 becquerels per cubic metre (Bq m⁻³). The Government advises householders that, where the radon level exceeds the Action Level, measures should be taken to reduce the concentration.

APPENDIX C

COAL AUTHORITY MINING REPORT

APPENDIX D

TRIAL PIT LOGS (2019 INVESTIGATION)



EARTH SCIENCE PARTNERSHIP,
33 CARDIFF ROAD,
TAFFS WELL,
CARDIFF,
CF15 7RB

This matter is being dealt with by Phil Huddleston

Our Ref: **10168061-05**

Your Ref:

Electronic Ref:

RRUID: 007.00006438320001

Date: 12 May 2005

Dear Sir,

Coal Mining Report
PONTARDAWE FOUNDRY, PONTARDAWE

I refer to the enquiry dated 11th May 2005, received 11th May 2005, in connection with the above.

This report is based on and limited to the records in the possession of The Coal Authority at the time the search is answered.

Ordnance Survey (O.S.) is undertaking a Positional Accuracy Improvement Programme of its mapping data. The Coal Authority (CA) has no control over the timing of issue of Positionally Improved mapping data by O.S. or over users of that data. In some instances the relative position between surface features and coal mining features may alter as a consequence of this programme. The CA will ensure that the integrity of its database is maintained by replottting some mining information to sustain the relationship between that mining information and the improved O.S. surface positions, some of which are now being released. However, mining reports are currently being produced against pre improved O.S. mapping whilst the Authority updates its database in line with the O.S. changes.

Past Underground Mining

According to the records in our possession, the property is not within the zone of likely physical influence on the surface from past underground coal workings.

Present Underground Mining

The property is not within the zone of likely physical influence on the surface from any present underground coal workings.

Future Underground Mining

The property is not within a geographical area for which a licence to extract coal by underground methods is awaiting determination by the Coal Authority.

The property is not within a geographical area for which a licence to extract coal by underground methods has been granted.

The property is not within the zone of likely physical influence at the surface from plans of future workings in our possession.

However reserves of coal exist in the locality which could be worked at some time in the future subject to feasibility, licences, and planning consents.

We have no record of any notice of the risk of the land being affected by subsidence being given under S.46 of the Coal Mining Subsidence Act 1991.

Shafts and Adits

We have no knowledge of any mine entries within, or within 20 metres of, the boundary of the property.

Surface Geology

Records in our possession do not disclose any fault or other line of weakness at the surface as having affected the stability of the property.

Past Opencast Mining

The property is not located within the geographical boundary of an opencast site from which coal has been extracted by opencast methods.

Present Opencast Mining

The property does not lie within 200 metres of the geographical boundary of an opencast site within which coal is being extracted by opencast methods.

Future Opencast Mining

The property is not within 800 metres of the geographical boundary of an opencast site for which a licence to extract coal by opencast methods is awaiting determination.

The property is not within 800 metres of the geographical site boundary of an opencast site for which a licence to extract coal by opencast methods has been granted.

Subsidence

The records in our possession do not disclose any damage notice or claim having been given, made or pursued in respect of the property since 1 January 1984.

The records in our possession do not disclose any current "Stop Notice" affecting the property.

The records in our possession do not show any request having been made to execute preventative works under S.33 of the Coal Mining Subsidence Act 1991.

Withdrawal of Support

The property does not lie within a geographical area in respect of which a notice of entitlement to withdraw support has been published.

The property does not lie within a geographical area in respect of which a notice has been given under S.41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working Facilities Orders

The property is not within a geographical area that is the subject of an Order made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

The property is not within an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Additional Remarks

These replies are prepared in accordance with the 2003 editions of the Coal Authority's Terms and Conditions, User Guide and the Law Society's Guidance Notes.

Copyright in coal mining reports and certificates belongs to the Coal Authority. Information used to compile this report is protected by the Coal Authority's database right. All rights are reserved and unauthorised use is prohibited. Copyright and other intellectual property is not transferred to external parties by possession of a mining report or certificate, however those for whom the report is supplied have the right to use it.

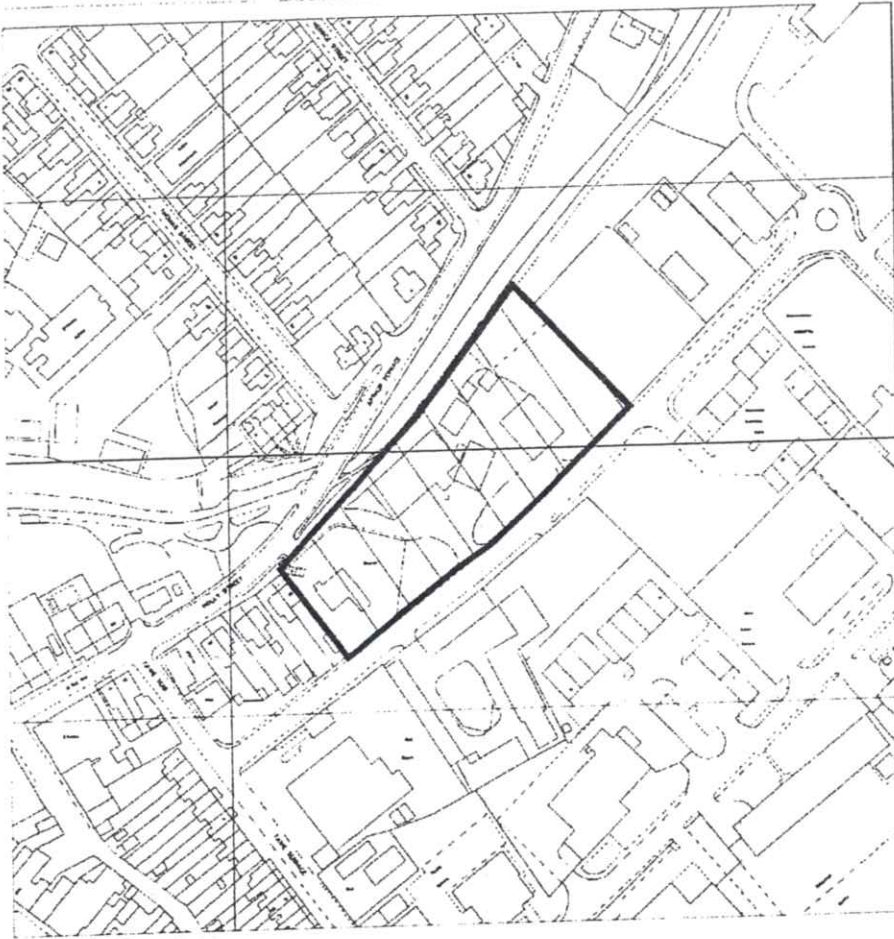
We acknowledge the receipt of your remittance in payment of our fee.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Pennell', with a stylized flourish at the end.

Stephen Pennell

Director of Mining Information and Services



Crown Copyright.

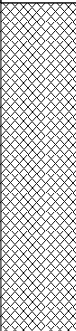
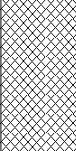
PLAN NOT TO SCALE

This map is reproduced from the Ordnance Survey material by The Coal Authority [or division thereof] with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number: ALS1060A001.

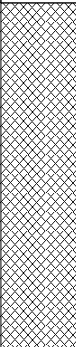
This is a plan of the boundaries of the property in respect of which this report has been prepared. It is the responsibility of the user to ensure that the boundaries shown correspond with those of the property.

APPROXIMATE POSITION OF ENQUIRY BOUNDARY SHOWN



 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Old Foundry, Pontardawe			Project No.: 12360		Trial Pit No.: TP101 Sheet 1 of 1	
Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX			Coordinates:			Dimensions Depth : 2.90m 1.30m 2.50m			
Date Excavated: 04/02/2019			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.70	ES					Grass/weeds over MADE GROUND comprising: Very compact/dense brownish grey, silty clayey sandy GRAVEL with high cobble content. Gravel comprises sub-angular concrete, slag, brick with occasional wood fragments, plastic and reinforcing bar, Cobbles are of brick and concrete.			
			1.10			MADE GROUND comprising: Concrete slab (no reinforcing bar encountered). <i>1.10m: Pipeline running east to west in north face of the pit. Approximately 20 to 30mm, appears to be metal.</i>			
1.30	ES		1.30			MADE GROUND comprising: Black, silty clayey sandy GRAVEL. Gravel comprises concrete, coal, burnt shale, sandstone and brick. (Wet)			
1.60	B		1.50			MADE GROUND comprising: Black, very silty very clayey sandy GRAVEL with occasional pieces of metal (possible old iron tools) and an organic odour. Gravel comprises brick, sandstone and slag. (Wet)			
			1.70			MADE GROUND comprising: Black, silty clayey sandy GRAVEL and COBBLES with occasional lenses of soft dark grey silty clay. Gravel and cobbles comprise sandstone, brick, concrete, metasiltstone and occasional ceramic fragments. Slight organic odour and very slight sheen on water. (Very wet)			
2.00	B								
			2.40			Very soft to soft, dark brown silty clayey PEAT. Abundant decaying organics. Large decaying tree trunk at 2.70m (approximately 2.0m*0.5m). (Alluvium)			
			2.90			End of Trialpit at 2.90 m			
Remarks: Concrete slab encountered at 1.10m. Pit widened, but slab extends across the whole of the base of the pit.			Groundwater: Water seepage from approximately 1.0mbgl. Increased flow below concrete layer, pooling at base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Minor spalling.						

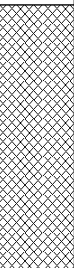
Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Old Foundry, Pontardawe			Project No.: 12360		Trial Pit No.: TP102 Sheet 1 of 1	
Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB3CX			Coordinates:			Dimensions 2.30m			
Date Excavated: 04/02/2019			Level:			Depth : 2.00m 0.90m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.20	ES		1.00			Grass/weeds over MADE GROUND comprising: Very compact/dense, brownish grey, silty clayey sandy GRAVEL with high cobble content. Gravel and cobbles comprise sub-angular concrete, sandstone, brick and siltstone with occasional wood fragments and reinforcing bar. Abundant roots and rootlets in initial 0.20m and more dark brown.			
1.10	ES					MADE GROUND comprising: Dark grey/black, very silty very clayey sandy GRAVEL with lenses of soft clay and ashy debris, coal and burnt shale. Gravel comprises sub-angular concrete, sandstone, brick and siltstone with occasional wood fragments and occasional rounded to sub-rounded chert and quartz.			
1.40	ES								
1.80	D		2.00			1.60m to 2.00m: Recovering dark grey/black silty clayey sandy GRAVEL of concrete, brick, slate, sandstone and chert. (Very difficult to log due to abundant water)			
End of Trialpit at 2.00 m									
Remarks: Area surrounding TP dug to 0.40m in order to allow progress in dense Made Ground. TP ceased at 2.0m due to groundwater.						Groundwater: Water seepage from approximately 1.0mbgl. Rapid ingress. Groundwater standing at 1.50m after 1minute.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
Stability: Sides generally stable, some spalling associated with cobbles.									

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Old Foundry, Pontardawe			Project No.: 12360		Trial Pit No.: TP103 Sheet 1 of 1	
Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX			Coordinates:			Dimensions 2.20m			
Date Excavated: 04/02/2019			Level:			Depth : 2.40m 0.90m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
1.20	D ES		1.15			Weeds over MADE GROUND comprising: Very compact/dense, brownish grey, silty clayey sandy GRAVEL with high cobble content. Gravel and cobbles comprise sub-angular concrete. sandstone, brick and siltstone with occasional wood fragments and reinforcing bar. Abundant roots and rootlets in initial 0.20m and more dark brown.			
1.20				2.10		Very soft to stiff, grey and brown gravelly SILT/CLAY with high cobble content. Gravel comprises sandstone and siltstone, locally stained black. (Made Ground/possible alluvium)			
			2.40		Very soft, dark grey and black PEAT with abundant (decaying) wood fragments and organic debris. (Alluvium)				
						End of Trialpit at 2.40 m			
Remarks:						Groundwater: Water seepage from approximately 1.0mbgl. Very rapid ingress. Groundwater standing at 1.10m after several minutes. Stability: Sides generally stable, some spalling associated with cobbles.			
Trial pit ceased due to groundwater.						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			



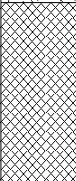
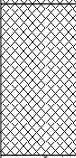
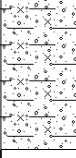
Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com						Project Name: Old Foundry, Pontardawe						Project No.: 12360		Trial Pit No.: TP104 Sheet 1 of 1			
Location: Swansea						Client: Blue Field Land Ltd						Logged By: RAH		Scale 1:25			
Equipment: JCB 3CX						Coordinates:						Dimensions Depth : 1.70m 0.80m 2.20m					
Date Excavated: 04/02/2019						Level:											
Samples & In-situ Testing						Depth (m)	Level (m AOD)	Legend	Stratum Description								
Depth (m)		Type	Results														
0.30		ES			0.80		[Cross-hatch pattern]	Grass/weeds over MADE GROUND comprising: Very compact/dense, grey, silty clayey very sandy GRAVEL with high cobble content. Gravel and cobbles comprise sub-angular concrete, sandstone, brick and slate with occasional wood fragments, roots, plastics and synthetic board fragments. Abundant roots and rootlets in initial 0.20m and more dark brown.									
0.40		ES					[Circular pattern]	Compact, brown, silty clayey sandy GRAVEL with medium to high cobble content and occasional boulder. Gravel , cobbles and boulders comprise sub-rounded sandstone and quartzite. (Alluvium)									
					1.70		[End of trial pit symbol]	End of Trialpit at 1.70 m									
Remarks: Trial pit ceased in order to undertake infiltration testing. 3 large scale infiltration test cycles completed on 04/02/2019.						Groundwater: No groundwater encountered.						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample					
						Stability: Sides generally stable in the short term.											

Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com						Project Name: Old Foundry, Pontardawe						Project No.: 12360		Trial Pit No.: TP105 Sheet 1 of 1	
Location: Swansea						Client: Blue Field Land Ltd						Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX						Coordinates:						Dimensions 2.70m Depth : 1.50m 1.10m			
Date Excavated: 04/02/2019						Level:									
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description									
Depth (m)	Type	Results													
0.20	ES		0.60		[Pattern]	Weeds over MADE GROUND comprising: Brownish grey, silty clayey sandy very gravelly COBBLES. Gravel and cobbles comprise brick, concrete, sandstone and slag with occasional ceramic, wood fragments. roots, plastic fragments and wire.									
					[Pattern]	Soft to firm, brown, slightly fine sandy, slightly gravelly SILT/CLAY with occasional cobbles. Gravel and cobbles comprise sub-rounded sandstone. (Alluvium)									
					[Pattern]	Brown, very silty very clayey sandy GRAVEL with low cobble content. Gravel and cobbles comprise sub-rounded to rounded sandstone. (Alluvium)									
					[Pattern]										
						End of Trialpit at 1.50 m									
Remarks:						Groundwater: Slight seepage from north end at 0.60mbgl.						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
Target depth reached.						Stability: Sides stable in the short term.									

Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Old Foundry, Pontardawe			Project No.: 12360		Trial Pit No.: TP106 Sheet 1 of 1	
Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX			Coordinates:			Dimensions 2.20m			
Date Excavated: 04/02/2019			Level:			Depth : 1.10m 0.80m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.90			Grass and weeds over MADE GROUND comprising: Grey, very silty very clayey sandy GRAVEL with medium to high cobble content and occasional wood and plastic fragments. Gravel comprises concrete, brick and sandstone. Abundant roots and rootlets in initial 0.2m.			
			1.10			Soft to firm, brown, slightly fine sandy slightly gravelly SILT/CLAY. Gravel comprises sub-rounded sandstone. (Alluvium)			
						End of Trialpit at 1.10 m			
Remarks: Target depth reached.			Groundwater: Water seepage at 0.80mbgl and pooling at the base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Sides stable in the short term.						

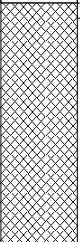
 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Old Foundry, Pontardawe			Project No.: 12360		Trial Pit No.: TP107 Sheet 1 of 1	
Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX			Coordinates:			Dimensions 2.80m			
Date Excavated: 04/02/2019			Level:			Depth : 1.70m 0.90m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.80	ES		0.20		 Lightly reinforced CONCRETE. 4mm rebar approximately every 10cm (maximum).				
				 MADE GROUND comprising: Dark brown and dark grey silty clayey sandy GRAVEL with low to high cobble content. Gravel and cobbles comprise brick, concrete, sandstone, coal, slag, and white, chalky gravel. Black and ashy in final 0.10m/0.20m. <i>Cast iron pipe encountered below concrete, approximately 120mm in diameter, trending south-east to north-west.</i>					
				 Uncompact, brown, silty clayey sandy GRAVEL and COBBLES of sub-angular to angular sandstone and quartzite. (Very wet).					
			1.70		End of Trialpit at 1.70 m				
Remarks: Reinforced concrete encountered at ground level. Broken with hydraulic breaker. Trial pit ceased due to groundwater.			Groundwater: Significant groundwater ingress at approximately 1.0mbgl. Pooling at base and standing at 1.50m after 1minute. Stability: Spalling in brown granular soils.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Old Foundry, Pontardawe			Project No.: 12360		Trial Pit No.: TP108 Sheet 1 of 1	
Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX			Coordinates:			Dimensions 2.25m			
Date Excavated: 04/02/2019			Level:			Depth : 1.70m 0.95m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.50	ES					MADE GROUND comprising: Dark grey and dark brown, locally black, silty clayey very sandy GRAVEL with low to medium cobble content and scrap metal and ceramic fragments. Gravel comprises concrete, bricks, sandstone, quartzite and slag. Slight organic odour.			
			1.35			Very soft to firm, light grey slightly fine sandy SILT/CLAY.			
			1.70			End of Trialpit at 1.70 m			
Remarks: Target depth reached.			Groundwater: Very slight seepage at 1.20m in the north face.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Spalling in Made Ground.						

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Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX			Coordinates:			Dimensions m			
Date Excavated: 04/02/2019			Level:			Depth : 1.80m E			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.60	ES		0.20			Lightly reinforced CONCRETE. 4mm rebar approximately every 10cm (maximum).			
			0.80			MADE GROUND comprising: Dark brown very silty very clayey sandy GRAVEL /gravelly SAND with low cobble content, and occasional glass shards and plastic fragments. Locally tending to clay. Gravel and cobbles comprise concrete, sandstone, slag, burnt shale, slate, clinker, siltstone and occasional brick.			
			1.30			MADE GROUND comprising: Black, sandy GRAVEL of fine to medium, angular to sub-angular ash, clinker, burnt shale and slag.			
			1.80			Brown, silty clayey slightly sandy fine to medium GRAVEL of mudstone, quartz and sandstone/quartzite tending to very soft very gravelly silty clay.			
						End of Trialpit at 1.80 m			
Remarks: Reinforced concrete encountered at ground level. Broken with hydraulic breaker. Trial pit ceased due to groundwater.						Groundwater: Water ingress at approximately 1.30m, pooling at base. Water standing at 1.0m after 1.0minute. Stability: Sides generally stable in the short term.			
						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			



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Location: Swansea			Client: Blue Field Land Ltd			Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX			Coordinates:			Dimensions 2.50m			
Date Excavated: 04/02/2019			Level:			Depth : 2.25m 0.80m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.60	ES		1.20			Grass over MADE GROUND comprising: dark brown and dark grey, slightly gravelly silty clayey fine SAND tending to sandy silty clay. Gravel comprises sub-angular sandstone, white (suspected lime) gravel and occasional brick. Cobbles are of brick and concrete.			
1.70	ES					Very soft to soft, light blue grey, very slightly gravelly slightly fine sandy SILT/CLAY with occasional cobbles and occasional lenses of brown PEAT. Gravel comprises sandstone.			
			2.25		End of Trialpit at 2.25 m				
Remarks: Target depth reached.			Groundwater: Stability:			Water seepage from 1.70m in south-east corner, initially fast then slowing. Malodorous when water entered the trial pit (hydrocarbons/fuels). Sides stable in the short term.			
						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Old Foundry, Pontardawe		Project No.: 12360		Trial Pit No.: TP111 Sheet 1 of 1	
Location: Swansea				Client: Blue Field Land Ltd		Logged By: RAH		Scale 1:25	
Equipment: JCB 3CX				Coordinates:		Dimensions Depth : 0.80m 2.50m			
Date Excavated: 04/02/2019				Level:					
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.60	ES		0.80			MADE GROUND comprising: Soft, dark brown, sandy gravelly silty CLAY with occasional plastic fragment. Gravel comprises brick, concrete, white (suspected lime) gravel and slag. <i>Concrete obstruction encountered from ground level in north-west corner and possible old walls/ footing encountered just below ground level in north east corner and eastern face.</i>			
End of Trialpit at 0.80 m									
						1			
						2			
						3			
						4			
						5			
Remarks: Concrete slab encountered immediately east of the trial pit and large concrete boulder recovered in initial 0.10mbgl. Trial terminated due to obstructions and contamination samples successfully obtained.				Groundwater: No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
				Stability: Sides stable in the short term.					

APPENDIX E

TRIAL PIT LOGS (2006 INVESTIGATION)

RECORD OF TRIAL PIT A

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface		
0.4		TOPSOIL: Firm brown sandy CLAY with some to many fine roots	0.4 - 1.0	
1.0		MADE GROUND: Loose to medium dense black and dark grey fine to coarse SAND and fine to coarse sub angular GRAVELS of slag, some metal, old pipe, cables		
		Soft brown clayey SILT/silty CLAY	1.2 - 1.5	
2.9		END OF TRIAL PIT AT 2.9m		

REMARKS:

1. Unable to excavate below 2.9m, pit collapsing and filling with water.
2. Hydrocarbon odour and oily sheen in Made Ground

Equipment: Tracked excavator**Date excavated:** 11.04.06**Pit dimensions:** 1.5 x 2.5m**Groundwater:** Fast inflows below 0.4m, pit filling with water**Stability:** Sides collapsing in Made Ground below 0.4m

RECORD OF TRIAL PIT B

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface	0.2 - 0.5	
		MADE GROUND: Loose brown fine to medium SAND with some to many fine to coarse angular gravels of slag (foundry sand)		
0.8		MADE GROUND: Dense dark grey and dark brown possibly fused slag (recovered as fine to coarse angular gravels)		
1.5		MADE GROUND: Loose to medium dense slightly sandy fine to coarse angular GRAVELS of brick, some to much metal		
3.0		END OF TRIAL PIT AT 3.0m		

REMARKS:

1. Unable to excavate below 3.0m, pit collapsing and filling with water

2. Hydrocarbon odour and oily sheen below 1.5m

Equipment: Tracked excavator**Date excavated:** 11.04.06**Pit dimensions:** 1.5 x 2.5m**Groundwater:** Groundwater standing at 1.8m**Stability:** Sides collapsing below 1.5m

RECORD OF TRIAL PIT C

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

Intégral Géotechnique

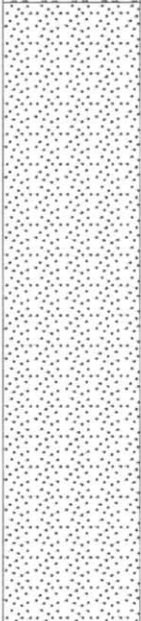
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Cardiff CF11 9LL

Tel: 029 2022 0462

Fax: 029 2034 0789

e mail: mail@integralgeotec.com

Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface	0.1 - 0.5	
0.5		MADE GROUND: Medium dense black and dark brown fine to coarse SAND and fine to coarse angular GRAVELS of slag		
1.4		Soft orange brown fibrous organic clayey PEAT with many large tree stumps/branches	0.6 - 1.0	
3.5		Soft grey brown clayey SILT	1.6 - 2.0	
4.0		Medium dense and dense sandy fine to coarse sub rounded GRAVEL and COBBLES	3.6 - 3.8	
		END OF TRIAL PIT AT 4.0m		

REMARKS:

Equipment: Tracked excavator

Date excavated: 11.04.06

Pit dimensions: 1.5 x 2.5m

Groundwater: Very fast inflow below 0.5m

Stability: Sides locally unstable and collapsing

RECORD OF TRIAL PIT D

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface		
0.4		MADE GROUND: Loose brown fine to medium SAND with some to many fine to coarse sub angular gravels of slag (foundry sand)		
0.9		MADE GROUND: Medium dense and dense dark grey and dark brown possibly fused slag (recovered as fine to coarse sub angular gravels)		
1.0		Firm dark brown organic clayey SILT with some fine roots (Possible buried topsoil)		
		Soft orange brown fibrous clayey PEAT with occasional lenses of gravel		
4.0		END OF TRIAL PIT AT 4.0m		
REMARKS:			Equipment: Tracked excavator Date excavated: 11.04.06 Pit dimensions: 1.5 x 2.5m Groundwater: Very fast inflow below 0.9m Stability: Sides stable	

RECORD OF TRIAL PIT E

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface	0.1 - 0.4	
0.1		MADE GROUND: CONCRETE		
		MADE GROUND: Loose to medium dense and medium dense dark grey and dark brown to black sandy fine to coarse sub angular GRAVELS		
0.4				
		Firm brown gravelly silty CLAY with many fine to coarse sub rounded cobbles, grading to boulders at the base		
1.4				
		Soft brown silty CLAY		
4.0		Medium dense and dense fine to coarse sub rounded GRAVEL and COBBLES		
4.2		END OF TRIAL PIT AT 4.2m		

REMARKS:

1. Hydrocarbon odour and oily sheen from 0.1m to 0.4m

Equipment: Tracked excavator

Date excavated: 11.04.06

Pit dimensions: 1.5 x 2.5m

Groundwater: Medium fast inflow between 0.1-0.4m

Stability: Sides locally unstable and collapsing in Made Ground

RECORD OF TRIAL PIT F

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface		
0.1		MADE GROUND: CONCRETE		
		MADE GROUND: Medium dense dark grey and dark brown to black fine to ocarse SAND and fine to coarse angular GRAVELS of slag, some metal		
0.9		MADE GROUND: Medium dense fine to coarse sub rounded COBBLES and BOULDERS		
1.2		Soft orange brown fibrous clayey PEAT with some to many pieces of plant remains, some branches		
2.9		Soft and soft to firm brown and grey brown silty CLAY		
3.8		Medium dense and dense sandy fine to coarse sub rounded GRAVEL and COBBLES		
4.2		END OF TRIAL PIT AT 4.2m		

REMARKS:

- Hydrocarbon odour and oily sheen from 0.1m to 0.4m

Equipment: Tracked excavator

Date excavated: 11.04.06

Pit dimensions: 1.5 x 2.5m

Groundwater: Groundwater standing at 3.8m

Stability: Sides stable

RECORD OF TRIAL PIT G

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface		
0.1		MADE GROUND: HARDCORE		
		Medium dense orange brown clayey fine to coarse SAND, fine to coarse sub rounded GRAVEL and COBBLES, occasional boulders		
1.8		Firm and firm to stiff grey silty CLAY with some fine to coarse sub rounded gravels and cobbles		
3.5		END OF TRIAL PIT AT 3.5m		

REMARKS:

Equipment: Tracked excavator

Date excavated: 11.04.06

Pit dimensions: 1.5 x 2.5m

Groundwater: No water

Stability: Sides stable

RECORD OF TRIAL PIT H

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

Intégral Géotechnique

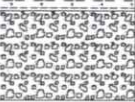
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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface		
		MADE GROUND: Loose and loose to medium dense brown fine to coarse SAND and fine to coarse sub rounded GRAVELS		
0.9		Medium dense orange brown clayey fine to coarse SAND, fine to coarse sub rounded GRAVEL and COBBLES		
1.7		Firm and firm to stiff grey silty CLAY		
3.5		Medium dense and dense orange brown sandy fine to coarse sub rounded GRAVEL and COBBLES		
3.8		END OF TRIAL PIT AT 3.8m		

REMARKS:

Equipment: Tracked excavator

Date excavated: 11.04.06

Pit dimensions: 1.5 x 2.5m

Groundwater: Medium fast inflow at 3.5m

Stability: Sides stable

RECORD OF TRIAL PIT I

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface		
		MADE GROUND: Medium dense dark grey and brown sandy fine to coarse sub angular GRAVELS and COBBLES of slag, brick, some metal		
2.4		Firm grey clayey SILT		
4.0		END OF TRIAL PIT AT 4.0m		
REMARKS:			Equipment: Tracked excavator Date excavated: 11.04.06 Pit dimensions: 1.5 x 2.5m Groundwater: Groundwater standing at 2.8m Stability: Sides stable	

RECORD OF TRIAL PIT J

Client: Bluefield Land

Site Name: Pontardawe Foundry

Ground Level mOD:

Co-ordinates:

Project Engineer: RB

Project Number: 9534

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Depth (m)	Legend	Description	Sample Depth (m)	Comments
0.0		Ground Surface		
0.1		MADE GROUND: CONCRETE		
			0.2 - 1.0	
		MADE GROUND: Dense dark grey and dark brown possibly fused slag (recovered as fine to coarse angular gravels)		
1.8				
		Soft grey and grey brown clayey SILT		
3.0				
3.2		Medium dense and dense sandy fine to coarse sub rounded GRAVEL and COBBLES		
		END OF TRIAL PIT AT 3.2m		

REMARKS:

1. Old pipe at 1.8m

Equipment: Tracked excavator

Date excavated: 11.04.06

Pit dimensions: 1.5 x 2.5m

Groundwater: Fast inflow at 3.0m

Stability: Sides stable

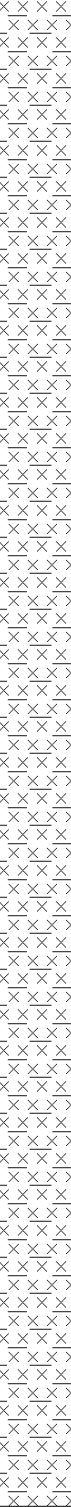
APPENDIX F

BOREHOLE LOGS

Intégral Géotechnique		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Old Foundry, Pontardawe			Project No.: 12360		Borehole No.: BH01 Sheet 1 of 3	
Location: Swansea				Client: Blue Field Land Ltd			Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200+150mm			Level:		Scale 1:50	
Diameter of Boring: 200+150mm				Depth of Casing: 15.00+28.00m			Dates 05/02/2019 - 11/02/2019		Logged By: MB/RAH	
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description		
		Depth (m)	Type	Results						
								MADE GROUND comprising: Dark grey/brown/black, sandy clay/gravels with clay pipe fragments, scrap metal, slag and concrete. Soft dark brown/black PEAT/clayey PEAT with abundant decaying organic (roots and wood fragments). Soft, dark grey/ black peaty CLAY with large wood obstruction at 3.3mbgl (decaying tree). Soft, dark grey silty CLAY/clayey SILT with occasional sub-angular sandstone gravel and cobbles. Soft to firm, dark grey, clayey SILT/silty CLAY.		
		1.00	C	N=4 (3,2/1,1,1,1)						
		2.00	C	N=3 (1,4/1,0,1,1)	2.00 2.10					
		3.00	S	N=20 (1,0/1,3,6,10)						
		4.00	C	N=3 (2,2/1,1,0,1)						
		5.00	S	N=2 (1,0/0,1,0,1)						
					5.70					
		6.50	S	N=4 (1,0/1,0,1,2)	6.50					
		8.00	S	N=5 (1,0/1,1,1,2)						
		9.50	S	N=4 (1,1/1,1,1,1)						
Remarks: Dual standpipe installed: GW pipe to 15.0mbgl (Plain pipe from GL to 12.0m and slotted pipe from 12.0m to 15.0mbgl) and gas monitoring well to 2.0mbgl (plain pipe from GL to 1.0m and slotted pipe from 1.0m to 2.0m). Finished with raised tophat steel cover.								Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		



		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Old Foundry, Pontardawe			Project No.: 12360		Borehole No.: BH01 Sheet 2 of 3	
Location: Swansea				Client: Blue Field Land Ltd			Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200+150mm			Level:		Scale 1:50	
Diameter of Boring: 200+150mm				Depth of Casing: 15.00+28.00m			Dates 05/02/2019 - 11/02/2019		Logged By: MB/RAH	

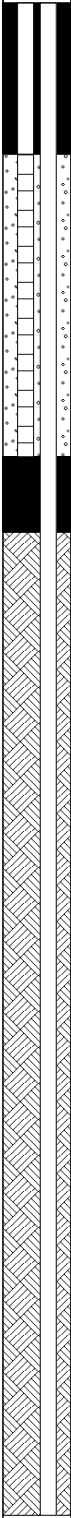
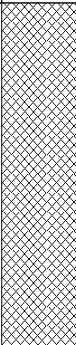
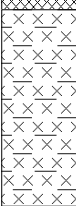
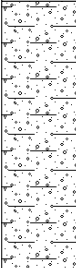
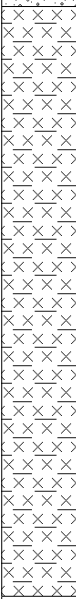
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00	S	N=6 (1,1/1,2,1,2)					11
		12.50	S	N=9 (1,2/2,2,2,3)					12
		14.00	S	N=7 (1,1/1,2,2,2)					13
		15.50	S	N=5 (1,1/1,1,2,1)					14
		17.00	S	N=6 (1,1/1,2,1,2)					15
		18.50	S	N=4 (1,1/1,1,1,1)					16
		20.00	S	N=5 (1,1/1,1,1,2)				17	

Remarks: Dual standpipe installed: GW pipe to 15.0mbgl (Plain pipe from GL to 12.0m and slotted pipe from 12.0m to 15.0mbgl) and gas monitoring well to 2.0mbgl (plain pipe from GL to 1.0m and slotted pipe from 1.0m to 2.0m). Finished with raised tophat steel cover.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Old Foundry, Pontardawe			Project No.: 12360		Borehole No.: BH01 Sheet 3 of 3	
Location: Swansea				Client: Blue Field Land Ltd			Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200+150mm			Level:		Scale 1:50	
Diameter of Boring: 200+150mm				Depth of Casing: 15.00+28.00m			Dates 05/02/2019 - 11/02/2019		Logged By: MB/RAH	

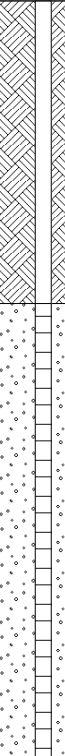
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		21.50	S	N=4 (1,0/1,1,1,1)					21
		23.00	S	N=5 (1,2/1,1,1,2)					23
		24.50	S	N=7 (1,1/1,2,2,2)					24
		26.00	S	N=4 (1,1/1,1,1,1)					26
		27.50	S	N=4 (1,0/1,1,1,1)					27
					28.00			End of Borehole at 28.00 m	28
									29
									30

Remarks: Dual standpipe installed: GW pipe to 15.0mbgl (Plain pipe from GL to 12.0m and slotted pipe from 12.0m to 15.0mbgl) and gas monitoring well to 2.0mbgl (plain pipe from GL to 1.0m and slotted pipe from 1.0m to 2.0m). Finished with raised tophat steel cover.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Old Foundry, Pontardawe			Project No.: 12360		Borehole No.: BH02 Sheet 1 of 2	
Location: Swansea			Client: Blue Field Land Ltd			Coordinates:		Hole Type: CP	
Equipment: +Dando 2000			Diameter of Casing: 200mm			Level:		Scale 1:50	
Diameter of Boring: 200mm			Depth of Casing: 15.00m			Dates 20/02/2019 - 21/02/2019		Logged By: MB/RAH	
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00	C	N=8 (3,2/1,2,3,2)				MADE GROUND comprising: Dark grey silty clayey gravelly SAND. Gravel comprises brick, concrete and sandstone.	
		2.00	S	N=2 (3,8/1,1,0,0)	2.30				
		3.00	S	N=0 (1,0/0,0,0,0)	3.00			Soft, grey silty CLAY.	
		4.00	S	N=7 (1,0/0,1,3,3)	4.30				
		5.00	S	N=20 (6,3/5,4,4,7)				Medium dense slightly silty slightly clayey sandy GRAVEL of sub-angular to sub-rounded sandstone and siltstone. .	
		6.50	S	N=4 (1,0/1,1,1,1)	6.10				
		8.00	S	N=12 (1,2/3,3,3,3)					
		9.50	S	N=14 (2,2/3,3,4,4)				Soft to firm dark grey clayey SILT.	
		Remarks: Dual standpipe installed: GW pipe to 15.0mbgl (Plain pipe from GL to 12.0m and slotted pipe from 12.0m to 15.0mbgl) and gas monitoring well to 3.0mbgl (plain pipe from GL to 1.0m and slotted pipe from 1.0m to 3.0m). Finished with raised tophat steel cover.							
Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation									
									

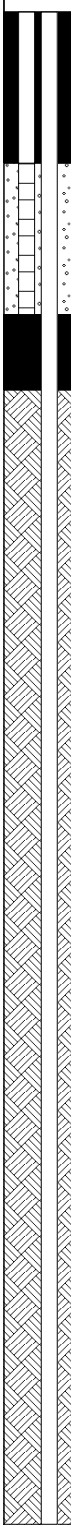
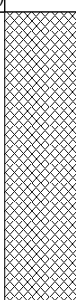


 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name:		Project No.:		Borehole No.:	
		Old Foundry, Pontardawe		12360		BH02 Sheet 2 of 2	
Location:		Client:		Coordinates:		Hole Type:	
Swansea		Blue Field Land Ltd				CP	
Equipment: +Dando 2000		Diameter of Casing: 200mm		Level:		Scale	
						1:50	
Diameter of Boring: 200mm		Depth of Casing: 15.00m		Dates		Logged By:	
				20/02/2019 - 21/02/2019		MB/RAH	

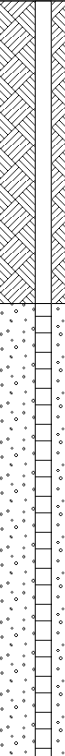
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00	C	N=16 (2,2/3,4,4,5)					11
		12.50	S	N=12 (2,2/2,3,3,4)					12
		14.00	S	N=15 (1,3/4,3,4,4)					13
		15.00	S	N=18 (1,3/4,5,5,4)	15.00				14
									15
									16
									17
									18
									19
									20

Remarks: Dual standpipe installed: GW pipe to 15.0mbgl (Plain pipe from GL to 12.0m and slotted pipe from 12.0m to 15.0mbgl) and gas monitoring well to 3.0mbgl (plain pipe from GL to 1.0m and slotted pipe from 1.0m to 3.0m). Finished with raised tophat steel cover.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation	
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Intégral Géotechnique		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Old Foundry, Pontardawe			Project No.: 12360		Borehole No.: BH03 Sheet 1 of 2								
Location: Swansea				Client: Blue Field Land Ltd			Coordinates:		Hole Type: CP								
Equipment: Dando 2000				Diameter of Casing: 200mm			Level:		Scale 1:50								
Diameter of Boring: 200mm				Depth of Casing: 15.00m			Dates 21/02/2019 - 22/02/2019		Logged By: MB/RAH								
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description									
		Depth (m)	Type	Results													
		1.00	C	N=5 (1,6/2,1,1,1)	2.00	4.50		MADE GROUND comprising: Dark grey/black, sandy, ash and sandy slightly gravelly to gravelly silty CLAY with concrete fragments, brick fragments, slag and ash.									
		2.00	S	N=3 (1,0/0,1,1,1)													
		3.00	S	N=2 (1,0/0,1,0,1)													
		4.00	S	N=1 (1,0/0,1,0,0)													
		5.00	C	N=6 (1,2/1,2,1,2)													
		6.50	S	N=1 (1,0/0,1,0,0)													
		8.00	S	N=8 (1,1/1,2,2,3)													
		9.50	S	N=13 (1,2/3,3,3,4)													
		Remarks: Dual standpipe installed: GW pipe to 15.0mbgl (Plain pipe from GL to 12.0m and slotted pipe from 12.0m to 15.0mbgl) and gas monitoring well to 2.0mbgl (plain pipe from GL to 1.0m and slotted pipe from 1.0m to 2.0m). Finished with raised tophat steel cover.															
		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation															
																	

		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Old Foundry, Pontardawe			Project No.: 12360		Borehole No.: BH03 Sheet 2 of 2	
Location: Swansea				Client: Blue Field Land Ltd			Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm			Level:		Scale 1:50	
Diameter of Boring: 200mm				Depth of Casing: 15.00m			Dates 21/02/2019 - 22/02/2019		Logged By: MB/RAH	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00	C	N=7 (1,1/1,2,2,2)					11
		12.50	S	N=9 (1,2/1,2,3,3)					12
		14.00	S	N=13 (1,2/2,3,4,4)					13
		15.00	S	N=11 (2,2/2,2,3,4)	15.00				14
									15
									16
									17
									18
									19
									20

Remarks: Dual standpipe installed: GW pipe to 15.0mbgl (Plain pipe from GL to 12.0m and slotted pipe from 12.0m to 15.0mbgl) and gas monitoring well to 2.0mbgl (plain pipe from GL to 1.0m and slotted pipe from 1.0m to 2.0m). Finished with raised tophat steel cover.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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APPENDIX G

LABORATORY CHEMICAL TEST RESULTS (2019)



Rebecca Hitt
Integral Geotechnique
Integral House
7 Beddau Way
Castlegate Business Park
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i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
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Analytical Report Number : 19-28020

Replaces Analytical Report Number : 19-28020, issue no. 2

Project / Site name:	Holly Street, Pontardawe	Samples received on:	08/02/2019
Your job number:	12360	Samples instructed on:	08/02/2019
Your order number:	12360	Analysis completed by:	01/03/2019
Report Issue Number:	3	Report issued on:	04/03/2019
Samples Analysed:	1 bulk sample - 14 soil samples		

Signed:

Rexona Rahman
Head of Customer Services
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 19-28020
Project / Site name: Holly Street, Pontardawe
Your Order No: 12360

Lab Sample Number				1150365	1150366	1150367	1150368	1150369
Sample Reference				TP101	TP102	TP104	TP105	TP107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.10	0.30	0.20	0.80
Date Sampled				04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	36	< 0.1	< 0.1	53	< 0.1
Moisture Content	%	N/A	NONE	9.9	16	16	11	19
Total mass of sample received	kg	0.001	NONE	0.46	0.48	0.50	0.46	0.45

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.082	< 0.001	0.003	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.082	< 0.001	0.003	< 0.001	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	10.9	10.1	8.6	10.8	11.1
Total Cyanide	mg/kg	1	MCERTS	< 1	21	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	11000	11000	1300	3100	1200
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.37	0.37	0.12	0.17	0.15
Sulphide	mg/kg	1	MCERTS	17	16	18	15	12
Total Sulphur	mg/kg	50	MCERTS	4900	4000	660	1800	930
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.5	2.6	1.6	0.8	2.5
Loss on Ignition @ 450°C	%	0.2	MCERTS	3.4	11.3	4.6	3.8	9.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.86	< 0.05	< 0.05	0.42
Acenaphthylene	mg/kg	0.05	MCERTS	0.21	0.56	< 0.05	< 0.05	0.21
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.26
Phenanthrene	mg/kg	0.05	MCERTS	0.73	6.0	1.2	1.3	2.1
Anthracene	mg/kg	0.05	MCERTS	0.16	0.57	0.21	0.25	0.42
Fluoranthene	mg/kg	0.05	MCERTS	1.2	9.0	1.2	1.4	3.8
Pyrene	mg/kg	0.05	MCERTS	1.1	6.9	1.1	1.2	2.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.75	3.8	0.65	0.75	2.4
Chrysene	mg/kg	0.05	MCERTS	0.66	5.1	0.65	0.67	2.6
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.90	6.4	0.89	0.82	3.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.30	2.8	0.28	0.27	1.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.67	4.3	0.68	0.64	2.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.35	2.6	0.35	0.33	1.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.90	< 0.05	< 0.05	0.61
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.41	2.8	0.45	0.44	1.5

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	7.40	52.6	7.60	8.14	26.1
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	83	50	20	29
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.40	0.53	0.48	0.56	0.75
Boron (water soluble)	mg/kg	0.2	MCERTS	5.3	2.5	1.0	2.0	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	3.2	1.6	1.4	0.9
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	160	24	18	24
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27	260	90	85	290
Lead (aqua regia extractable)	mg/kg	1	MCERTS	91	950	390	140	190
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.0	< 0.3	0.7	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	96	47	28	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21	54	22	28	47
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	890	630	130	250

Analytical Report Number: 19-28020
Project / Site name: Holly Street, Pontardawe
Your Order No: 12360

Lab Sample Number				1150365	1150366	1150367	1150368	1150369
Sample Reference				TP101	TP102	TP104	TP105	TP107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.10	0.30	0.20	0.80
Date Sampled				04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics & Oxygenates

Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
Toluene	ug/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
Ethylbenzene	ug/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
p & m-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
o-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	8.0	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	2.1	8.2	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	51	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	53	320	-	-	15
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	53	370	-	-	15
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	13	100	-	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	61	380	-	-	15
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	74	490	-	-	15
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	8.9	-	-	2.8
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	82	-	-	33
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	25	280	-	-	91
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	87	-	-	25
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	150	-	-	51
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	33	370	-	-	130
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	33	520	-	-	180
TPH Total C5 - C44	mg/kg	10	NONE	110	1000	-	-	190



Analytical Report Number: 19-28020
Project / Site name: Holly Street, Pontardawe
Your Order No: 12360

Lab Sample Number				1150370	1150371	1150372	1150373	1150374
Sample Reference				TP108	TP109	TP110	TP110	Sample A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.60	0.60	1.70	None Supplied
Date Sampled				04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	61
Moisture Content	%	N/A	NONE	13	16	17	20	11
Total mass of sample received	kg	0.001	NONE	0.41	0.45	0.53	0.53	2.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	< 0.001

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	8.2	10.1	9.6	8.9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2700	940	220	230	1600
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.93	0.061	0.062	0.10	0.14
Sulphide	mg/kg	1	MCERTS	2.2	1.5	1.1	3.6	8.7
Total Sulphur	mg/kg	50	MCERTS	1700	660	150	330	810
Total Organic Carbon (TOC)	%	0.1	MCERTS	2.0	2.1	0.8	1.1	1.8
Loss on Ignition @ 450°C	%	0.2	MCERTS	7.5	7.1	2.2	2.8	5.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.24	0.24	< 0.05	1.1	0.50
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.37	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.1	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.1	1.2	< 0.05	3.1	0.73
Anthracene	mg/kg	0.05	MCERTS	0.26	0.19	< 0.05	1.4	0.12
Fluoranthene	mg/kg	0.05	MCERTS	2.4	1.6	< 0.05	1.9	0.98
Pyrene	mg/kg	0.05	MCERTS	2.0	1.3	< 0.05	1.4	0.83
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.6	1.1	< 0.05	0.97	0.47
Chrysene	mg/kg	0.05	MCERTS	1.6	1.2	< 0.05	0.98	0.62
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.6	1.4	< 0.05	0.86	0.63
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.95	0.79	< 0.05	0.57	0.28
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9	1.1	< 0.05	0.66	0.49
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.2	0.60	< 0.05	0.27	0.27
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.46	0.25	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	0.62	< 0.05	0.22	0.33

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	17.5	11.5	< 0.80	14.9	6.25
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	38	34	9.0	3.1	14
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	0.69	0.68	0.33	0.51
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.5	1.7	0.5	2.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.0	1.3	0.7	< 0.2	0.4
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	59	23	12	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	300	240	14	43
Lead (aqua regia extractable)	mg/kg	1	MCERTS	410	230	97	19	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	52	62	19	12	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	64	120	40	15	30
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	250	380	200	30	210

Analytical Report Number: 19-28020
 Project / Site name: Holly Street, Pontardawe
 Your Order No: 12360

Lab Sample Number	1150370	1150371	1150372	1150373	1150374
Sample Reference	TP108	TP109	TP110	TP110	Sample A
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	0.60	0.60	1.70	None Supplied
Date Sampled	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Toluene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Ethylbenzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
p & m-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
o-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	22	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10	22	< 10	< 10	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	23	< 10	< 10	-
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	23	< 10	< 10	-

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.1	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	2.5	< 2.0	5.1	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	16	12	< 10	13	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	41	18	< 10	< 10	-
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	16	< 8.4	< 8.4	< 8.4	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	58	33	< 10	28	-
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	74	33	< 10	28	-

TPH Total C5 - C44	mg/kg	10	NONE	74	56	< 10	28	-
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Analytical Report Number: 19-28020
 Project / Site name: Holly Street, Pontardawe
 Your Order No: 12360

Lab Sample Number				1150375	1150376	1150377	1150378	
Sample Reference				Sample B	Sample C	Sample D	Sample E	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				04/02/2019	04/02/2019	04/02/2019	04/02/2019	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	6.6	15	21	21	
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	Chrysotile	Chrysotile	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Detected	
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	0.001	< 0.001	
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	0.001	< 0.001	

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.9	9.2	10.6	9.0	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2000	14000	38000	6600	
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.51	1.5	0.64	0.43	
Sulphide	mg/kg	1	MCERTS	310	4.3	3.8	4.2	
Total Sulphur	mg/kg	50	MCERTS	1400	5700	13000	2400	
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.5	0.9	0.7	1.0	
Loss on Ignition @ 450°C	%	0.2	MCERTS	1.2	3.3	4.0	3.2	

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.30	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.16	< 0.05	< 0.05	
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.21	< 0.05	< 0.05	
Phenanthrene	mg/kg	0.05	MCERTS	0.27	1.6	< 0.05	< 0.05	
Anthracene	mg/kg	0.05	MCERTS	0.13	0.12	< 0.05	< 0.05	
Fluoranthene	mg/kg	0.05	MCERTS	0.55	1.5	< 0.05	< 0.05	
Pyrene	mg/kg	0.05	MCERTS	0.48	1.1	< 0.05	< 0.05	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.61	0.55	< 0.05	< 0.05	
Chrysene	mg/kg	0.05	MCERTS	0.77	0.79	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.0	0.80	< 0.05	< 0.05	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.54	0.44	< 0.05	< 0.05	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.81	0.57	< 0.05	< 0.05	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.45	0.33	< 0.05	< 0.05	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.53	0.40	< 0.05	< 0.05	

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	6.14	8.86	< 0.80	< 0.80	
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.7	24	8.9	9.5	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.84	0.24	0.23	0.33	
Boron (water soluble)	mg/kg	0.2	MCERTS	3.6	1.4	3.2	4.0	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2	0.4	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	12	14	57	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	46	11	19	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	24	150	67	570	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.6	12	13	110	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	8.4	16	17	25	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51	100	59	50	

Analytical Report Number: 19-28020
Project / Site name: Holly Street, Pontardawe
Your Order No: 12360

Lab Sample Number				1150375	1150376	1150377	1150378	
Sample Reference				Sample B	Sample C	Sample D	Sample E	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				04/02/2019	04/02/2019	04/02/2019	04/02/2019	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	ug/kg	1	MCERTS	-	-	-	-	
Toluene	ug/kg	1	MCERTS	-	-	-	-	
Ethylbenzene	ug/kg	1	MCERTS	-	-	-	-	
p & m-xylene	ug/kg	1	MCERTS	-	-	-	-	
o-xylene	ug/kg	1	MCERTS	-	-	-	-	
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	-	-	-	-	

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	-	-	-	

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	-	-	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	-	-	-	
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	-	-	-	

TPH Total C5 - C44	mg/kg	10	NONE	-	-	-	-	
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Analytical Report Number: **19-28020**
Project / Site name: **Holly Street, Pontardawe**
Your Order No: **12360**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1150365	TP101	0.70	67	Loose Fibrous Debris	Chrysotile	0.082	0.082
1150366	TP102	1.10	116	Loose Fibres	Chrysotile	< 0.001	< 0.001
1150367	TP104	0.30	77	Loose Fibrous Debris	Chrysotile	0.003	0.003
1150368	TP105	0.20	57	Loose Fibres	Amosite	< 0.001	< 0.001
1150374	Sample A		178	Loose Fibres	Chrysotile	< 0.001	< 0.001
1150376	Sample C		222	Loose Fibres	Chrysotile	< 0.001	< 0.001
1150377	Sample D		151	Loose Fibrous Debris	Chrysotile	0.001	0.001
1150378	Sample E		174	Loose Fibres	Chrysotile	< 0.001	< 0.001

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



Analytical Report Number: 19-28020

Project / Site name: Holly Street, Pontardawe

Lab Sample Number				1150379				
Sample Reference				TP104				
Sample Number				None Supplied				
Depth (m)				0.40				
Date Sampled				04/02/2019				
Time Taken				None Supplied				
Analytical Parameter (Bulk Analysis)								
Asbestos Identification Name				No Asbestos Detected				
	Units	Limit of detection	Accreditation Status					
	Type	N/A	ISO 17025					

Analytical Report Number : 19-28020

Project / Site name: Holly Street, Pontardawe

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1150365	TP101	None Supplied	0.70	Brown gravelly sand with stones.
1150366	TP102	None Supplied	1.10	Black gravelly sand.
1150367	TP104	None Supplied	0.30	Brown loam and clay with gravel and vegetation.
1150368	TP105	None Supplied	0.20	Brown loam and gravel with stones and vegetation.
1150369	TP107	None Supplied	0.80	Brown loam and gravel.
1150370	TP108	None Supplied	0.50	Brown sandy gravel with clinker. **
1150371	TP109	None Supplied	0.60	Brown loam and clay with gravel and clinker
1150372	TP110	None Supplied	0.60	Brown sandy clay.
1150373	TP110	None Supplied	1.70	Grey sandy clay.
1150374	Sample A	None Supplied	None Supplied	Brown sandy gravel with stones. **
1150375	Sample B	None Supplied	None Supplied	Grey sand with gravel.
1150376	Sample C	None Supplied	None Supplied	Grey sandy clay with gravel.
1150377	Sample D	None Supplied	None Supplied	Light grey sandy gravel. **
1150378	Sample E	None Supplied	None Supplied	Light brown sand with gravel and rubble.

** Non MCerts Matrix

Analytical Report Number : 19-28020

Project / Site name: Holly Street, Pontardawe

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0738-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests ^{***}	L009-PL	D	MCERTS

Iss No 19-28020-3 Holly Street, Pontardawe 12360

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The results included within the report are representative of the samples submitted for analysis.

Page 11 of 12

Analytical Report Number : 19-28020

Project / Site name: Holly Street, Pontardawe

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/cleanup.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

APPENDIX H

LABORATORY CHEMICAL TEST RESULTS (2005 AND 2006)

Report Summary



1314
0897
1229
1510



STL

Mr Rob Bathurst
Integral Geotechnique

50 Cathedral Road

Cardiff

CF1 9LL

Report Number : LL/339691/2006 Issue 1

Job Description : General Analysis

Job Location : 9534 Pontardawe Foundry

Number of Samples
included in report **7**

Job Received : **13 April 2006**

Number of test results
included in report **294**

Analysis Commenced : **18 April 2006**

Signed : *L. Powney*

Name : **L. Powney** Date : **10 May 2006**

Title : **Sample Extraction Manager**

STL was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request

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

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory

MCerts accreditation refers to analysis carried out at our Lockhurst Lane site only

Analysis carried out on air-dried and ground test portion of the sample(s), unless otherwise stated. Air drying is carried out at not greater than 30 degrees C. Samples are not preserved on site, unless otherwise stated. All results are reported on an air-dried basis

Certificate of Analysis



STL

Matrix : Soil

Sample 1 Laboratory Number : 354702

of 7 Report Number : LL /339691/2006 Issue 1

Sample Source : Integral Geotechnique

Sample Point Description Integral Geotechnique

Sample Description : 9534/TPA//0.4-1.0

Visual Description : Dark brown loam with occasional roots and gravel

Sample Date : 13 April 2006

Sample Time : 1

Sample Received : 13 April 2006

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Stones BG 2.6/3.0	20	%	21/04/2006		* L	Stones
Moisture content at 30 C	71	%	21/04/2006		* L	33A
Arsenic as As, dry weight	19	mg/kg	27/04/2006		M L	30/30C
Boron as B, hot water sol dw	2.0	mg/kg	25/04/2006		M L	6
Cadmium as Cd, dry weight	0.81	mg/kg	25/04/2006		M L	30
Chromium as Cr, dry weight	24	mg/kg	25/04/2006		M L	30
Copper as Cu, dry weight	160	mg/kg	25/04/2006		M L	30
Lead as Pb, dry weight	59	mg/kg	25/04/2006		M L	30
Mercury as Hg, dry weight	<0.20	mg/kg	25/04/2006		M L	30C
Nickel as Ni, dry weight	60	mg/kg	25/04/2006		M L	30
Selenium as Se, dry weight	0.64	mg/kg	25/04/2006		M L	30C
Zinc as Zn, dry weight	230	mg/kg	25/04/2006		M L	30
Cyanide (Total), dry weight	130	mg/kg	21/04/2006		L	14
Monohydric phenols dw	16	mg/kg	21/04/2006		L	40A
Sulphate Total as SO4 DW	700	mg/kg	25/04/2006		M L	45
Sulphate as SO4, Water Soluble	0.72	g/l	03/05/2006		M L	46
Sulphide	Comment	mg/kg	05/05/2006		M L	47
pH	7.8	pH Units	24/04/2006		L	39
Sulphur (Elemental)	1600	mg/kg	25/04/2006		M L	51
TPH >C6-C8	<5.0	mg/kg	20/04/2006		M L	314
TPH >C8-C10	17.9	mg/kg	20/04/2006		M L	314
TPH >C10-C16	72	mg/kg	20/04/2006		M L	314
TPH >C16-C24	448	mg/kg	20/04/2006		M L	314
TPH >C24-C40	690	mg/kg	20/04/2006		M L	314
TPH >C6-C40	1241	mg/kg	20/04/2006		M L	314
Naphthalene	0.50	mg/kg	26/04/2006		L	313
Acenaphthylene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthene	<0.50	mg/kg	26/04/2006		M L	313
Fluorene	<0.50	mg/kg	26/04/2006		M L	313
Phenanthrene	1.0	mg/kg	26/04/2006		M L	313
Anthracene	<0.50	mg/kg	26/04/2006		M L	313
Fluoranthene	2.6	mg/kg	26/04/2006		M L	313
Pyrene	2.0	mg/kg	26/04/2006		M L	313
Benzo(a)anthracene	1.1	mg/kg	26/04/2006		M L	313
Chrysene	1.1	mg/kg	26/04/2006		M L	313
Benzo(b)fluoranthene	1.3	mg/kg	26/04/2006		M L	313
Benzo(k)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)pyrene	0.90	mg/kg	26/04/2006		M L	313

Certificate of Analysis



STL

Matrix : Soil

Sample **1** Laboratory Number : **354702**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPA//0.4-1.0**

Visual Description : **Dark brown loam with occasional roots and gravel**

Sample Date : **13 April 2006**

Sample Time : **1**

Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Indeno(123cd)pyrene	0.77	mg/kg	26/04/2006		M L	313
Dibenzo(ah)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(ghi)perylene	0.67	mg/kg	26/04/2006		L	313
PAH total	12	mg/kg	26/04/2006		L	313

Analyst Comment for 354702 : This sample is non-homogenous for sulphide in land. The mean result of the analyses is 190mg/kg, this result is not accredited.

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted, M = MCerts

For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered.

I/S = Insufficient sample

Certificate of Analysis



STL

Matrix : Soil

Sample **2** Laboratory Number : **354703**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPA/1.2-1.5**

Visual Description : **Light brown clay**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **2** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Stones BG 2.6/3.0	52	%	21/04/2006		* L	Stones
Moisture content at 30 C	27	%	21/04/2006		* L	33A
Arsenic as As, dry weight	7.9	mg/kg	27/04/2006		M L	30/30C
Boron as B, hot water sol dw	0.53	mg/kg	25/04/2006		M L	6
Cadmium as Cd, dry weight	<0.50	mg/kg	25/04/2006		M L	30
Chromium as Cr, dry weight	13	mg/kg	25/04/2006		M L	30
Copper as Cu, dry weight	13	mg/kg	25/04/2006		M L	30
Lead as Pb, dry weight	25	mg/kg	25/04/2006		M L	30
Mercury as Hg, dry weight	<0.20	mg/kg	25/04/2006		M L	30C
Nickel as Ni, dry weight	14	mg/kg	25/04/2006		M L	30
Selenium as Se, dry weight	0.61	mg/kg	25/04/2006		M L	30C
Zinc as Zn, dry weight	39	mg/kg	25/04/2006		M L	30
Cyanide (Total), dry weight	<2.0	mg/kg	21/04/2006		L	14
Monohydric phenols dw	<0.50	mg/kg	21/04/2006		L	40A
Sulphate Total as SO4 DW	<240	mg/kg	25/04/2006		M L	45
Sulphate as SO4, Water Soluble	<0.060	g/l	26/04/2006		M L	46
Sulphide	5.8	mg/kg	26/04/2006		M L	47
pH	5.4	pH Units	24/04/2006		L	39
Sulphur (Elemental)	<100	mg/kg	25/04/2006		M L	51
TPH >C6-C8	<5.0	mg/kg	20/04/2006		M L	314
TPH >C8-C10	<5.0	mg/kg	20/04/2006		M L	314
TPH >C10-C16	<10	mg/kg	20/04/2006		M L	314
TPH >C16-C24	<10	mg/kg	20/04/2006		M L	314
TPH >C24-C40	<25	mg/kg	20/04/2006		M L	314
TPH >C6-C40	36	mg/kg	20/04/2006		M L	314
Naphthalene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthylene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthene	<0.50	mg/kg	26/04/2006		M L	313
Fluorene	<0.50	mg/kg	26/04/2006		M L	313
Phenanthrene	<0.50	mg/kg	26/04/2006		M L	313
Anthracene	<0.50	mg/kg	26/04/2006		M L	313
Fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Pyrene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Chrysene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(b)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(k)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)pyrene	<0.50	mg/kg	26/04/2006		M L	313

Certificate of Analysis



STL

Matrix : Soil

Sample **2** Laboratory Number : **354703**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPA//1.2-1.5**

Visual Description : **Light brown clay**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **2** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Indeno(123cd)pyrene	<0.50	mg/kg	26/04/2006		M L	313
Dibenzo(ah)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(ghi)perylene	<0.50	mg/kg	26/04/2006		L	313
PAH total	<5.0	mg/kg	26/04/2006		L	313

Accreditation Codes * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted, M = MCerts.

For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered.

I/S = Insufficient sample

Certificate of Analysis



STL

Matrix : Soil

Sample **3** Laboratory Number : **354704**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPB//0.2-0.5**

Visual Description : **Brown sand with occasional gravel**

1314
0897
1229
1510

Sample Date : **13 April 2006**

Sample Time : **3**

Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Stones BG 2.6/3.0	38	%	21/04/2006		* L	Stones
Moisture content at 30 C	6.3	%	21/04/2006		* L	33A
Arsenic as As, dry weight	2.5	mg/kg	27/04/2006		M L	30/30C
Boron as B, hot water sol dw	0.26	mg/kg	25/04/2006		M L	6
Cadmium as Cd, dry weight	3.7	mg/kg	25/04/2006		M L	30
Chromium as Cr, dry weight	23	mg/kg	25/04/2006		M L	30
Copper as Cu, dry weight	15	mg/kg	25/04/2006		M L	30
Lead as Pb, dry weight	18	mg/kg	25/04/2006		M L	30
Mercury as Hg, dry weight	<0.20	mg/kg	25/04/2006		M L	30C
Nickel as Ni, dry weight	53	mg/kg	25/04/2006		M L	30
Selenium as Se, dry weight	<0.30	mg/kg	25/04/2006		M L	30C
Zinc as Zn, dry weight	54	mg/kg	25/04/2006		M L	30
Cyanide (Total), dry weight	<2.0	mg/kg	21/04/2006		L	14
Monohydric phenols dw	<0.50	mg/kg	21/04/2006		L	40A
Sulphate Total as SO4 DW	470	mg/kg	25/04/2006		M L	45
Sulphate as SO4, Water Soluble	<0.060	g/l	26/04/2006		M L	46
Sulphide	<5.0	mg/kg	26/04/2006		M L	47
pH	8.2	pH Units	24/04/2006		L	39
Sulphur (Elemental)	<100	mg/kg	25/04/2006		M L	51
TPH >C6-C8	<5.0	mg/kg	20/04/2006		M L	314
TPH >C8-C10	<5.0	mg/kg	20/04/2006		M L	314
TPH >C10-C16	<10	mg/kg	20/04/2006		M L	314
TPH >C16-C24	17	mg/kg	20/04/2006		M L	314
TPH >C24-C40	61	mg/kg	20/04/2006		M L	314
TPH >C6-C40	81	mg/kg	20/04/2006		M L	314
Naphthalene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthylene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthene	<0.50	mg/kg	26/04/2006		M L	313
Fluorene	<0.50	mg/kg	26/04/2006		M L	313
Phenanthrene	<0.50	mg/kg	26/04/2006		M L	313
Anthracene	<0.50	mg/kg	26/04/2006		M L	313
Fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Pyrene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Chrysene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(b)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(k)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)pyrene	<0.50	mg/kg	26/04/2006		M L	313

Certificate of Analysis



STL

Matrix : Soil

Sample **3** Laboratory Number : **354704**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPB//0.2-0.5**

Visual Description : **Brown sand with occasional gravel**

Sample Date : **13 April 2006** Sample Time : **3** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Indeno(123cd)pyrene	<0.50	mg/kg	26/04/2006		M L	313
Dibenzo(ah)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(ghi)perylene	<0.50	mg/kg	26/04/2006		L	313
PAH total	<5.0	mg/kg	26/04/2006		L	313

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted, M = MCerts

For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered.

I/S = Insufficient sample

Certificate of Analysis



STL

Matrix : Soil

Sample **4** Laboratory Number : **354705**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPC//0.1-0.5**

Visual Description : **Dark brown loam with many gravel**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **4** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Stones BG 2.6/3.0	66	%	21/04/2006		* L	Stones
Moisture content at 30 C	28	%	21/04/2006		* L	33A
Arsenic as As, dry weight	37	mg/kg	27/04/2006		M L	30/30C
Boron as B, hot water sol dw	2.0	mg/kg	25/04/2006		M L	6
Cadmium as Cd, dry weight	5.2	mg/kg	25/04/2006		M L	30
Chromium as Cr, dry weight	28	mg/kg	25/04/2006		M L	30
Copper as Cu, dry weight	380	mg/kg	25/04/2006		M L	30
Lead as Pb, dry weight	550	mg/kg	25/04/2006		M L	30
Mercury as Hg, dry weight	0.31	mg/kg	25/04/2006		M L	30C
Nickel as Ni, dry weight	110	mg/kg	25/04/2006		M L	30
Selenium as Se, dry weight	1.5	mg/kg	25/04/2006		M L	30C
Zinc as Zn, dry weight	800	mg/kg	25/04/2006		M L	30
Cyanide (Total), dry weight	<2.0	mg/kg	21/04/2006		L	14
Monohydric phenols dw	<0.50	mg/kg	21/04/2006		L	40A
Sulphate Total as SO4 DW	<240	mg/kg	25/04/2006		M L	45
Sulphate as SO4, Water Soluble	0.13	g/l	26/04/2006		M L	46
Sulphide	6.4	mg/kg	26/04/2006		M L	47
pH	6.6	pH Units	24/04/2006		L	39
Sulphur (Elemental)	140	mg/kg	25/04/2006		M L	51
TPH >C6-C8	<5.0	mg/kg	20/04/2006		M L	314
TPH >C8-C10	<5.0	mg/kg	20/04/2006		M L	314
TPH >C10-C16	<10	mg/kg	20/04/2006		M L	314
TPH >C16-C24	60	mg/kg	20/04/2006		M L	314
TPH >C24-C40	111	mg/kg	20/04/2006		M L	314
TPH >C6-C40	181	mg/kg	20/04/2006		M L	314
Naphthalene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthylene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthene	<0.50	mg/kg	26/04/2006		M L	313
Fluorene	<0.50	mg/kg	26/04/2006		M L	313
Phenanthrene	5.1	mg/kg	26/04/2006		M L	313
Anthracene	1.7	mg/kg	26/04/2006		M L	313
Fluoranthene	12	mg/kg	26/04/2006		M L	313
Pyrene	9.4	mg/kg	26/04/2006		M L	313
Benzo(a)anthracene	5.1	mg/kg	26/04/2006		M L	313
Chrysene	4.9	mg/kg	26/04/2006		M L	313
Benzo(b)fluoranthene	6.3	mg/kg	26/04/2006		M L	313
Benzo(k)fluoranthene	2.1	mg/kg	26/04/2006		M L	313
Benzo(a)pyrene	5.3	mg/kg	26/04/2006		M L	313

Certificate of Analysis



STL

Matrix : Soil

Sample **4** Laboratory Number : **354705**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPC//0.1-0.5**

Visual Description : **Dark brown loam with many gravel**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **4** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Indeno(123cd)pyrene	4.5	mg/kg	26/04/2006		M L	313
Dibenzo(ah)anthracene	0.72	mg/kg	26/04/2006		M L	313
Benzo(ghi)perylene	4.2	mg/kg	26/04/2006		L	313
PAH total	61	mg/kg	26/04/2006		L	313

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted, M = MCerts
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered. I/S = Insufficient sample

Certificate of Analysis



STL

Matrix : Soil

Sample **5** Laboratory Number : **354706**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPC//0.6-1.0**

Visual Description : **Dark brown loam**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **5** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Stones BG 2.6/3.0	41	%	21/04/2006		* L	Stones
Moisture content at 30 C	53	%	21/04/2006		* L	33A
Arsenic as As, dry weight	57	mg/kg	27/04/2006		M L	30/30C
Boron as B, hot water sol dw	4.3	mg/kg	25/04/2006		M L	6
Cadmium as Cd, dry weight	0.85	mg/kg	25/04/2006		M L	30
Chromium as Cr, dry weight	6.0	mg/kg	25/04/2006		M L	30
Copper as Cu, dry weight	62	mg/kg	25/04/2006		M L	30
Lead as Pb, dry weight	80	mg/kg	25/04/2006		M L	30
Mercury as Hg, dry weight	<0.20	mg/kg	25/04/2006		M L	30C
Nickel as Ni, dry weight	15	mg/kg	25/04/2006		M L	30
Selenium as Se, dry weight	1.0	mg/kg	25/04/2006		M L	30C
Zinc as Zn, dry weight	57	mg/kg	25/04/2006		M L	30
Cyanide (Total), dry weight	<2.0	mg/kg	21/04/2006		L	14
Monohydric phenols dw	<0.50	mg/kg	21/04/2006		L	40A
Sulphate Total as SO4 DW	3100	mg/kg	25/04/2006		M L	45
Sulphate as SO4, Water Soluble	<0.060	g/l	26/04/2006		M L	46
Sulphide	8.0	mg/kg	26/04/2006		M L	47
pH	6.1	pH Units	24/04/2006		L	39
Sulphur (Elemental)	<100	mg/kg	25/04/2006		M L	51
TPH >C6-C8	<5.0	mg/kg	20/04/2006		M L	314
TPH >C8-C10	<5.0	mg/kg	20/04/2006		M L	314
TPH >C10-C16	<10	mg/kg	20/04/2006		M L	314
TPH >C16-C24	28	mg/kg	20/04/2006		M L	314
TPH >C24-C40	255	mg/kg	20/04/2006		M L	314
TPH >C6-C40	298	mg/kg	20/04/2006		M L	314
Naphthalene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthylene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthene	<0.50	mg/kg	26/04/2006		M L	313
Fluorene	<0.50	mg/kg	26/04/2006		M L	313
Phenanthrene	<0.50	mg/kg	26/04/2006		M L	313
Anthracene	<0.50	mg/kg	26/04/2006		M L	313
Fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Pyrene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Chrysene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(b)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(k)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)pyrene	<0.50	mg/kg	26/04/2006		M L	313

Certificate of Analysis



STL

Matrix : Soil

Sample **5** Laboratory Number : **354706**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPC//0.6-1.0**

Visual Description : **Dark brown loam**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **5** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Indeno(123cd)pyrene	<0.50	mg/kg	26/04/2006		M L	313
Dibenzo(ah)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(ghi)perylene	<0.50	mg/kg	26/04/2006		L	313
PAH total	<5.0	mg/kg	26/04/2006		L	313

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted, M = MCerts
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered, I/S = Insufficient sample

Certificate of Analysis



STL

Matrix : Soil

1314
0897
1229
1510

Sample **6** Laboratory Number : **354707**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPE//0.1-0.4**

Visual Description : **Brown loam with occasional roots and gravel**

Sample Date : **13 April 2006** Sample Time : **6** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Stones BG 2.6/3.0	28	%	21/04/2006		* L	Stones
Moisture content at 30 C	23	%	21/04/2006		* L	33A
Arsenic as As, dry weight	47	mg/kg	27/04/2006		M L	30/30C
Boron as B, hot water sol dw	1.7	mg/kg	25/04/2006		M L	6
Cadmium as Cd, dry weight	1.3	mg/kg	25/04/2006		M L	30
Chromium as Cr, dry weight	21	mg/kg	25/04/2006		M L	30
Copper as Cu, dry weight	73	mg/kg	25/04/2006		M L	30
Lead as Pb, dry weight	84	mg/kg	25/04/2006		M L	30
Mercury as Hg, dry weight	<0.20	mg/kg	25/04/2006		M L	30C
Nickel as Ni, dry weight	110	mg/kg	25/04/2006		M L	30
Selenium as Se, dry weight	1.0	mg/kg	25/04/2006		M L	30C
Zinc as Zn, dry weight	290	mg/kg	25/04/2006		M L	30
Cyanide (Total), dry weight	<2.0	mg/kg	21/04/2006		L	14
Monohydric phenols dw	1.4	mg/kg	21/04/2006		L	40A
Sulphate Total as SO4 DW	730	mg/kg	25/04/2006		M L	45
Sulphate as SO4, Water Soluble	0.31	g/l	26/04/2006		M L	46
Sulphide	15	mg/kg	26/04/2006		M L	47
pH	6.8	pH Units	24/04/2006		L	39
Sulphur (Elemental)	1800	mg/kg	25/04/2006		M L	51
TPH >C6-C8	<5.0	mg/kg	20/04/2006		M L	314
TPH >C8-C10	<5.0	mg/kg	20/04/2006		M L	314
TPH >C10-C16	60	mg/kg	20/04/2006		M L	314
TPH >C16-C24	468	mg/kg	20/04/2006		M L	314
TPH >C24-C40	545	mg/kg	20/04/2006		M L	314
TPH >C6-C40	1078	mg/kg	20/04/2006		M L	314
Naphthalene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthylene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthene	<0.50	mg/kg	26/04/2006		M L	313
Fluorene	<0.50	mg/kg	26/04/2006		M L	313
Phenanthrene	<0.50	mg/kg	26/04/2006		M L	313
Anthracene	<0.50	mg/kg	26/04/2006		M L	313
Fluoranthene	1.0	mg/kg	26/04/2006		M L	313
Pyrene	0.81	mg/kg	26/04/2006		M L	313
Benzo(a)anthracene	0.59	mg/kg	26/04/2006		M L	313
Chrysene	0.73	mg/kg	26/04/2006		M L	313
Benzo(b)fluoranthene	0.94	mg/kg	26/04/2006		M L	313
Benzo(k)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)pyrene	0.60	mg/kg	26/04/2006		M L	313

Certificate of Analysis



STL

Matrix : Soil
 Sample **6** Laboratory Number : **354707**
 of **7** Report Number : **LL /339691/2006** Issue **1**

1314
 0897
 1229
 1510

Sample Source : **Integral Geotechnique**
 Sample Point Description **Integral Geotechnique**
 Sample Description : **9534/TPE//0.1-0.4**
 Visual Description : **Brown loam with occasional roots and gravel**

Sample Date : **13 April 2006** Sample Time : **6** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Indeno(123cd)pyrene	0.58	mg/kg	26/04/2006		M L	313
Dibenzo(ah)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(ghi)perylene	<0.50	mg/kg	26/04/2006		L	313
PAH total	5.3	mg/kg	26/04/2006		L	313

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted, M = MCerts
 For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered. I/S = Insufficient sample

Certificate of Analysis



STL

Matrix : Soil

Sample **7** Laboratory Number : **354708**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPJ//0.2-1.0**

Visual Description : **Brown loam with many gravel**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **7** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Stones BG 2.6/3.0	73	%	21/04/2006		* L	Stones
Moisture content at 30 C	16	%	21/04/2006		* L	33A
Arsenic as As, dry weight	25	mg/kg	27/04/2006		M L	30/30C
Boron as B, hot water sol dw	1.8	mg/kg	25/04/2006		M L	6
Cadmium as Cd, dry weight	1.1	mg/kg	25/04/2006		M L	30
Chromium as Cr, dry weight	28	mg/kg	25/04/2006		M L	30
Copper as Cu, dry weight	190	mg/kg	25/04/2006		M L	30
Lead as Pb, dry weight	840	mg/kg	25/04/2006		M L	30
Mercury as Hg, dry weight	<0.20	mg/kg	25/04/2006		M L	30C
Nickel as Ni, dry weight	46	mg/kg	25/04/2006		M L	30
Selenium as Se, dry weight	1.4	mg/kg	25/04/2006		M L	30C
Zinc as Zn, dry weight	1100	mg/kg	25/04/2006		M L	30
Cyanide (Total), dry weight	<2.0	mg/kg	21/04/2006		L	14
Monohydric phenols dw	<0.50	mg/kg	21/04/2006		L	40A
Sulphate Total as SO4 DW	<240	mg/kg	25/04/2006		M L	45
Sulphate as SO4, Water Soluble	0.092	g/l	26/04/2006		M L	46
Sulphide	14	mg/kg	26/04/2006		M L	47
pH	7.7	pH Units	24/04/2006		L	39
Sulphur (Elemental)	140	mg/kg	25/04/2006		M L	51
TPH >C6-C8	<5.0	mg/kg	20/04/2006		M L	314
TPH >C8-C10	<5.0	mg/kg	20/04/2006		M L	314
TPH >C10-C16	<10	mg/kg	20/04/2006		M L	314
TPH >C16-C24	23	mg/kg	20/04/2006		M L	314
TPH >C24-C40	52	mg/kg	20/04/2006		M L	314
TPH >C6-C40	85	mg/kg	20/04/2006		M L	314
Naphthalene	7.5	mg/kg	26/04/2006		L	313
Acenaphthylene	<0.50	mg/kg	26/04/2006		L	313
Acenaphthene	<0.50	mg/kg	26/04/2006		M L	313
Fluorene	<0.50	mg/kg	26/04/2006		M L	313
Phenanthrene	0.69	mg/kg	26/04/2006		M L	313
Anthracene	<0.50	mg/kg	26/04/2006		M L	313
Fluoranthene	1.4	mg/kg	26/04/2006		M L	313
Pyrene	1.1	mg/kg	26/04/2006		M L	313
Benzo(a)anthracene	0.88	mg/kg	26/04/2006		M L	313
Chrysene	0.86	mg/kg	26/04/2006		M L	313
Benzo(b)fluoranthene	1.0	mg/kg	26/04/2006		M L	313
Benzo(k)fluoranthene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(a)pyrene	0.75	mg/kg	26/04/2006		M L	313

Certificate of Analysis



STL

Matrix : Soil

Sample **7** Laboratory Number : **354708**

of **7** Report Number : **LL /339691/2006** Issue **1**

Sample Source : **Integral Geotechnique**

Sample Point Description **Integral Geotechnique**

Sample Description : **9534/TPJ//0.2-1.0**

Visual Description : **Brown loam with many gravel**

1314
0897
1229
1510

Sample Date : **13 April 2006** Sample Time : **7** Sample Received : **13 April 2006**

Test Description	Result	Units	Analysis Date	UoM %	Accreditation	Method
Indeno(123cd)pyrene	0.60	mg/kg	26/04/2006		M L	313
Dibenzo(ah)anthracene	<0.50	mg/kg	26/04/2006		M L	313
Benzo(ghi)perylene	0.51	mg/kg	26/04/2006		L	313
PAH total	15	mg/kg	26/04/2006		L	313

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted, M = MCerts
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered. I/S = Insufficient sample

Signed : *L. Powney*

Name : **L. Powney** Date : **10 May 2006**

Title : **Sample Extraction Manager**

METHOD COMMENTS FOR REPORT LL/339691/2006

Method	Statement
14	The cyanides in the sample are determined in two stages. The free cyanide is liberated by heating with pH 4 buffer and the resulting gas collected in sodium hydroxide solution. Complex cyanide is liberated using phosphoric acid under the same conditions. the two portions of sodium hydroxide are then analysed for cyanide content using a discrete autoanalyser.
30	Metals are extracted from land samples by boiling with hydrochloric/nitric acids (3:1 ratio). The measurement of metal concentrations is determined directly on an ICP-OES at defined wavelengths.
30/30C	Metals are extracted from land samples by boiling with hydrochloric/nitric acids (3:1 ratio). For the measurement of metal concentrations is determined on an ICP-OES at defined wavelengths. Where a result is 25mg/kg or above results are obtained directly. Otherwise results are obtained via hydride generation.
30C	Metals are extracted from land samples by boiling with hydrochloric/nitric acid (3:1 ratio). The measurement of metal concentrations is determined by means of hydride generation / atomic vapour on an ICP-OES at defined wavelengths.
313	PAH's are extracted from land samples using Dichloromethane, and sonication. An aliquot of the supernatant liquid is then transferred to a separate vial and analysed by GC-MS.
314	Hydrocarbons are extracted from land samples using pentane. The samples are shaken mechanically, sonicated, before being centrifuged. After separation an aliquot of the pentane layer is transferred to a separate vial and spiked with internal standard. Hydrocarbon content of this extract is then determined by GC- flame ionisation (FID). This analysis is carried out on an as received portion of sample.
33A	Moisture Content is the weight difference between an as received sample and the air dried sample at 30°C.
39	The test is carried out by extraction using deionised water with agitation. The pH of this suspension is read directly from an electronic pH meter.
40A	This method determines steam distillable phenolic compounds in land materials. Phenol is extracted from air dried soil using steam distillation. The pH adjusted distillate is measured colorimetrically at a defined wavelength.
45	The sulphates are extracted from land samples using boiling hydrochloric acid solution. After cooling and filtration the determination of sulphate is obtained from an aliquot of solution, via a turbidimetric measurement.
46	Water soluble sulphate is content of land samples is extracted by shaking with deionised water. The resultant solution is filtered and the determination of sulphate is obtained turbidimetrically from this filtrate via a reaction with barium chloride.
47	The sulphide content of land samples is determined via extraction with dilute sulphuric acid and steam distillation into zinc acetate solution and sodium hydroxide. The distillate is then titrated against sodium thiosulphate solution using iodine indicator.
51	Elemental sulphur is extracted from land samples using dichloromethane by microwave assisted extraction. Samples are cooled, centrifuged and transferred to separate vials before analysis by HPLC.
6	Boron is extracted from land samples using boiling deionised water followed by vacuum filtration. The measurement of boron in the filtrate is then determined directly by ICP-OES at the defined wavelength.

Method	Statement
Stones	The percentage weight of the stones that are naturally occurring and are greater than 10mm in diameter of the total weight of sample.

VOC's - Soils

ESP /B6438
Pontardawe Foundary
Your Reference:- 3316s/sche
Your Order:- ESP/0540

CAS Number:			661169	661170	661172
Sample Ref			TP3a	TP4	Foundary
Detname	Method	Units	0.40m	1.00m	Sand
11-dichloroethene	327	mg/kg	< 0.10	< 0.10	< 0.10
dichloromethane	327	mg/kg	< 0.10	< 0.10	< 0.10
trans-12-dichloroethene	327	mg/kg	< 0.10	< 0.10	< 0.10
11-dichloroethane	327	mg/kg	< 0.10	< 0.10	< 0.10
2,2-dichloropropane	327	mg/kg	< 0.10	< 0.10	< 0.10
cis-12-dichloroethene	327	mg/kg	< 0.10	< 0.10	< 0.10
bromochloromethane	327	mg/kg	< 0.10	< 0.10	< 0.10
chloroform	327	mg/kg	< 0.10	< 0.10	< 0.10
111-trichloroethane	327	mg/kg	< 0.10	< 0.10	< 0.10
carbon tetrachloride	327	mg/kg	< 0.10	< 0.10	< 0.10
1,1-dichloropropene	327	mg/kg	< 0.10	< 0.10	< 0.10
benzene	327	mg/kg	< 0.10	< 0.10	< 0.10
12-dichloroethane	327	mg/kg	< 0.10	< 0.10	< 0.10
trichloroethylene	327	mg/kg	< 0.10	< 0.10	< 0.10
12-dichloropropane	327	mg/kg	< 0.10	< 0.10	< 0.10
dibromomethane	327	mg/kg	< 0.10	< 0.10	< 0.10
bromodichloromethane	327	mg/kg	< 0.10	< 0.10	< 0.10
trans-13-dichloropropene	327	mg/kg	< 0.10	< 0.10	< 0.10
toluene	327	mg/kg	< 0.10	< 0.10	< 0.10
cis-13-dichloropropene	327	mg/kg	< 0.10	< 0.10	< 0.10
112-trichloroethane	327	mg/kg	< 0.10	< 0.10	< 0.10
tetrachloroethylene	327	mg/kg	< 0.10	< 0.10	< 0.10
13-dichloropropane	327	mg/kg	< 0.10	< 0.10	< 0.10
dibromochloromethane	327	mg/kg	< 0.10	< 0.10	< 0.10
12-dibromoethane	327	mg/kg	< 0.10	< 0.10	< 0.10
chlorobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
1112-tetrachloroethane	327	mg/kg	< 0.10	< 0.10	< 0.10
ethylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
mp-xylene	327	mg/kg	< 0.10	< 0.10	< 0.10
o-xylene	327	mg/kg	< 0.10	< 0.10	< 0.10
styrene	327	mg/kg	< 0.10	< 0.10	< 0.10
bromoform	327	mg/kg	< 0.10	< 0.10	< 0.10
isopropylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
bromobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
123-trichloropropane	327	mg/kg	< 0.10	< 0.10	< 0.10
1122-tetrachloroethane	327	mg/kg	< 0.10	< 0.10	< 0.10
n-propylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
2-chlorotoluene	327	mg/kg	< 0.10	< 0.10	< 0.10
4-chlorotoluene	327	mg/kg	< 0.10	< 0.10	< 0.10
135-trimethylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
tert-butylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
sec-butylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
13-dichlorobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
14-dichlorobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
p-isopropyltoluene	327	mg/kg	< 0.10	< 0.10	< 0.10
12-dichlorobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
n-butylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
12-dibromo3chloropropane	327	mg/kg	< 0.10	< 0.10	< 0.10
135-trichlorobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10

Key
STL Midlands
Insufficient Sample
Rayner House, 80 Lockhurst Lane,
Coventry CV6 5PZ United Kingdom

Tel +44 (0)24 7658 4800
Fax +44 (0)24 7658 4848
info@stl-ltd.com

VOC's - Soils

ESP /B6438
Pontardawe Foundary
Your Reference:- 3316s/sche
Your Order:- ESP/0540

CAS Number:			661169	661170	661172
Sample Ref			TP3a	TP4	Foundary
Detname	Method	Units	0.40m	1.00m	Sand
124-trichlorobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
124-trimethylbenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
hexachlorobutadiene	327	mg/kg	< 0.10	< 0.10	< 0.10
123-trichlorobenzene	327	mg/kg	< 0.10	< 0.10	< 0.10
vinyl chloride	327	mg/kg	< 0.10	< 0.10	< 0.10

Key
STL Midlands
1/5 - Insufficient Sample
Rayner House, 80 Lockhurst Lane,
Coventry CV6 5PZ United Kingdom

Tel +44 (0)24 7658 4800
Fax +44 (0)24 7658 4848
info@stl-ltd.com



SVOC's - Soils

ESP /B6438
Pontardawe Foundary
Your Reference:- 3316s/sche
Your Order:- ESP/0540

CAS Number:			661169	661170	661172
Sample Ref			TP3a	TP4	Foundary
Detname	Method	Units	0.40m	1.00m	Sand
phenol	325	mg/kg	< 1.0	< 1.0	< 1.0
analine	325	mg/kg	< 1.0	< 1.0	< 1.0
2-picoline	325	mg/kg	< 1.0	< 1.0	< 1.0
2-chlorophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
13-dichlorobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
14-dichlorobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
benzyl alcohol	325	mg/kg	< 1.0	< 1.0	< 1.0
12-dichlorobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
2-methylphenol	325	mg/kg	< 1.0	< 1.0	< 1.0
bis(2chloroisopropyl)eth	325	mg/kg	< 1.0	< 1.0	< 1.0
4-methylphenol	325	mg/kg	< 1.0	< 1.0	< 1.0
acetophenone	325	mg/kg	< 1.0	< 1.0	< 1.0
n-nitrosodi-n-propylamin	325	mg/kg	< 1.0	< 1.0	< 1.0
hexachloroethane	325	mg/kg	< 1.0	< 1.0	< 1.0
nitrobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
n-nitrosopiperidine	325	mg/kg	< 1.0	< 1.0	< 1.0
isophorone	325	mg/kg	< 1.0	< 1.0	< 1.0
2-nitrophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
benzoic acid	325	mg/kg	< 1.0	< 1.0	< 1.0
24-dimethylphenol	325	mg/kg	< 1.0	< 1.0	< 1.0
bis(2chloroethoxy)methan	325	mg/kg	< 1.0	< 1.0	< 1.0
bis(2-chloroethyl)ether	325	mg/kg	< 1.0	< 1.0	< 1.0
24-dichlorophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
124-trichlorobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
naphthalene	325	mg/kg	< 1.0	< 1.0	< 1.0
4-chloroaniline	325	mg/kg	< 1.0	< 1.0	< 1.0
26-dichlorophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
hexachlorobutadiene	325	mg/kg	< 1.0	< 1.0	< 1.0
n-nitrosodibutylamine	325	mg/kg	< 1.0	< 1.0	< 1.0
4-chloro-3-methylphenol	325	mg/kg	< 1.0	< 1.0	< 1.0
2-methylnaphthalene	325	mg/kg	< 1.0	< 1.0	< 1.0
1245-tetrachlorobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
hexachlorocyclopentadien	325	mg/kg	< 1.0	< 1.0	< 1.0
246-trichlorophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
245-trichlorophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
2-chloronaphthalene	325	mg/kg	< 1.0	< 1.0	< 1.0
2-nitroaniline	325	mg/kg	< 1.0	< 1.0	< 1.0
24-dinitrotoluene	325	mg/kg	< 1.0	< 1.0	< 1.0
acenaphthylene	325	mg/kg	< 1.0	< 1.0	< 1.0
3-nitroaniline	325	mg/kg	< 1.0	< 1.0	< 1.0
acenaphthene	325	mg/kg	< 1.0	< 1.0	< 1.0
4-nitrophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
dibenzofuran	325	mg/kg	< 1.0	< 1.0	< 1.0
26-dinitrotoluene	325	mg/kg	< 1.0	< 1.0	< 1.0
24-dinitrophenol	325	mg/kg	< 1.0	< 1.0	< 1.0
12-diphenylhydrazine	325	mg/kg	< 1.0	< 1.0	< 1.0
1-naphthylamine	325	mg/kg	< 1.0	< 1.0	< 1.0
2-naphthylamine	325	mg/kg	< 1.0	< 1.0	< 1.0
2346-tetrachlorophenol	325	mg/kg	< 1.0	< 1.0	< 1.0

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SVOC's - Soils

ESP/B6438

Pontardawe Foundary

Your Reference:- 3316s/sche

Your Order:- ESP/0540

CAS Number:			661169	661170	661172
Sample Ref			TP3a	TP4	Foundary
Detname	Method	Units	0.40m	1.00m	Sand
diethyl phthalate	325	mg/kg	< 1.0	< 1.0	< 1.0
4chlorophenylphentlether	325	mg/kg	< 1.0	< 1.0	< 1.0
fluorene	325	mg/kg	< 1.0	< 1.0	< 1.0
4-nitroaniline	325	mg/kg	< 1.0	< 1.0	< 1.0
2-methyl-4,6-dinitropheno	325	mg/kg	< 1.0	< 1.0	< 1.0
diphenylamine	325	mg/kg	< 1.0	< 1.0	< 1.0
n-nitrosodiphenylamine	325	mg/kg	< 1.0	< 1.0	< 1.0
phenacetin	325	mg/kg	< 1.0	< 1.0	< 1.0
4bromophenylphenyl ether	325	mg/kg	< 1.0	< 1.0	< 1.0
hexachlorobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
4-aminobiphenyl	325	mg/kg	< 1.0	< 1.0	< 1.0
pentachlorophenol	325	mg/kg	< 1.0	< 1.0	3.7
phenanthrene	325	mg/kg	< 1.0	< 1.0	1.1
anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0
di-n-butyl phthalate	325	mg/kg	< 1.0	< 1.0	3.8
fluoranthene	325	mg/kg	< 1.0	< 1.0	< 1.0
benzidine	325	mg/kg	< 1.0	< 1.0	2.7
pyrene	325	mg/kg	< 1.0	< 1.0	< 1.0
dimethylaminoazobenzene	325	mg/kg	< 1.0	< 1.0	< 1.0
butyl benzyl phthalate	325	mg/kg	< 1.0	< 1.0	< 1.0
3,3-dichlorobenzidine	325	mg/kg	< 1.0	< 1.0	1.3
benzo(a)anthracene	325	mg/kg	< 1.0	< 1.0	1.5
chrysene	325	mg/kg	< 1.0	< 1.0	< 1.0
bis(2ethylhexyl)phthalat	325	mg/kg	< 1.0	< 1.0	< 1.0
di-n-octyl phthalate	325	mg/kg	< 1.0	< 1.0	2.2
benzo(b)fluoranthene	325	mg/kg	< 1.0	< 1.0	< 1.0
benzo(k)fluoranthene	325	mg/kg	< 1.0	< 1.0	< 1.0
7,12-dimethylbenz(a)anth	325	mg/kg	< 1.0	< 1.0	1.4
benzo(a)pyrene	325	mg/kg	< 1.0	< 1.0	< 1.0
3-methylcholanthrene	325	mg/kg	< 1.0	< 1.0	1.2
indeno(123cd)pyrene	325	mg/kg	< 1.0	< 1.0	< 1.0
dibenzo(ah)anthracene	325	mg/kg	< 1.0	< 1.0	1.3
benzo(ghi)perylene	325	mg/kg	< 1.0	< 1.0	

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Soil Analysis

ESP /B6438
Pontardawe Foundary
Your Reference:- 3316s/sche
Your Order:- ESP/0540

CAS Number:			661167	661168	661169	661170
Sample Ref			TP1	TP2	TP3a	TP4
Detname			0.50m	0.10m	0.40m	1.00m
Method	Units					
30/30C	mg/kg		47	58	31	32
30	mg/kg		2.8	3.5	1.7	1.8
30	mg/kg		22	25	190	17
30	mg/kg		320	320	100	760
30C	mg/kg		1.3	1.4	8.3	8.8
30	mg/kg		110	150	68	45
30C	mg/kg		1.4	2.2	1.5	0.76
14	mg/kg		< 0.50	< 0.50	< 0.50	< 0.50
40	mg/kg		N/S	N/S	N/S	N/S
40A	mg/kg		< 0.50	0.8	1.7	1.3
39	pH units		7.5	6.6	8.5	7.1
>> TPH SUITE <<			N/S	N/S	.	.
317	mg/kg		N/S	N/S	< 50	83
317	mg/kg		N/S	N/S	< 50	730
317	mg/kg		N/S	N/S	94	1600
317	mg/kg		N/S	N/S	94	2400
>> PAH SUITE <<			.	.	.	.
307	mg/kg		0.69	1.3	1.6	2.1
307	mg/kg		< 0.50	< 0.50	< 0.50	< 0.50
307	mg/kg		< 0.50	< 0.50	< 0.50	0.76
307	mg/kg		< 0.50	< 0.50	0.54	0.61
307	mg/kg		0.73	1.2	3.5	4.6
307	mg/kg		< 0.50	< 0.50	0.58	1
307	mg/kg		1.3	1.7	3.3	4.8
307	mg/kg		0.89	1.2	3	4.8
307	mg/kg		0.63	0.67	0.97	1.8
307	mg/kg		1.1	1.3	1.3	3
307	mg/kg		0.92	0.91	3.3	2.3
307	mg/kg		< 0.50	< 0.50	0.64	0.91
307	mg/kg		0.65	0.79	1.6	2.2
307	mg/kg		< 0.50	< 0.50	< 0.50	< 0.50
307	mg/kg		< 0.50	0.61	1.3	1.4
307	mg/kg		< 0.50	0.52	0.88	1.2
307	mg/kg		9	12	23	32

Key

N/S - Not Scheduled

I/S - Insufficient Sample

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Soil Analysis

ESP /B6438
Pontardawe Foundary
Your Reference:- 3316s/sche
Your Order:- ESP/0540

CAS Number:			661171	661172
Sample Ref			TP5	Foundary
Detname	Method	Units	0.50m	Sand
Arsenic (Total)	30/30C	mg/kg	43	3.2
Cadmium (Total)	30	mg/kg	0.73	< 0.50
Chromium (Total)	30	mg/kg	19	22
Lead (Total)	30	mg/kg	770	13
Mercury (Total)	30C	mg/kg	1.4	< 0.20
Nickel (Total)	30	mg/kg	64	78
Selenium (Total)	30C	mg/kg	1.8	0.31
Cyanide (Total)	14	mg/kg	< 0.50	< 0.50
Phenols (Monohydric)*	40	mg/kg	N/S	< 0.25
Phenols (Total)	40A	mg/kg	0.97	N/S
pH	39	pH units	7.7	10
>> TPH SUITE <<			N/S	.
TPH by GC (>C6-C10)	317	mg/kg	N/S	< 50
TPH by GC (>C10 - C20)	317	mg/kg	N/S	86
TPH by GC (>C20-C40)	317	mg/kg	N/S	120
TPH by GC (>C6 - C40)	317	mg/kg	N/S	200
>> PAH SUITE <<			.	.
naphthalene	307	mg/kg	0.88	4
acenaphthylene	307	mg/kg	< 0.50	1.3
acenaphthene	307	mg/kg	< 0.50	< 0.50
fluorene	307	mg/kg	< 0.50	1.4
phenanthrene	307	mg/kg	1.4	11
anthracene	307	mg/kg	< 0.50	2.6
fluoranthene	307	mg/kg	1.8	13
pyrene	307	mg/kg	1.3	8.5
benzo(a)anthracene	307	mg/kg	0.8	4
chrysene	307	mg/kg	1.2	4.2
benzo(b)fluoranthene	307	mg/kg	0.84	3.3
benzo(k)fluoranthene	307	mg/kg	< 0.50	1.9
benzo(a)pyrene	307	mg/kg	0.7	4
dibenzo(ah)anthracene	307	mg/kg	< 0.50	0.52
benzo(ghi)perylene	307	mg/kg	< 0.50	4.1
indeno(123cd)pyrene	307	mg/kg	< 0.50	3.4
PAH (Total)	307	mg/kg	11	68

Key

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APPENDIX I

IN-SITU GAS MONITORING RESULTS

FIELD GAS MONITORING RESULTS - SUMMARY

Job No.: 12360
Site: Old Foundry Pontadawe

Maximum Methane Concentration (%v/v)	Maximum Carbon Dioxide Concentration (%v/v)	Maximum Gas Concentration (%v/v)	Maximum Gas Flow Rate (l/hr)	GSV (l/hr)
<0.5	1.60	1.60	<0.3	<0.0048

Methane							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
BH 1A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50
BH 2A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50
BH 3A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50

Carbon Dioxide							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
BH 1A	1.50	1.60	1.50	1.20	1.20	1.40	1.60
BH 2A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50
BH 3A	0.70	0.60	0.70	0.70	0.50	0.50	0.70

Oxygen							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Minimum
BH 1A	18.20	18.90	19.10	18.80	19.80	19.10	18.20
BH 2A	21.10	20.40	20.20	21.10	20.10	20.10	20.10
BH 3A	20.80	19.90	19.70	20.30	20.20	18.90	18.90

Gas Flow Rate							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
BH 1A	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30
BH 2A	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30
BH 3A	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30

FIELD GAS MONITORING RESULTS

Job No.: 12360
 Site: Old Foundry Pontadawe
 Monitoring Date: 07.03.19
 Monitoring Round: 1

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 8 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 990
 During Monitoring: 990
 End of Monitoring: 990

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 1A	2.03	1.21	<0.5	<0.5			18.20	18.20	1.50	1.50	<1	<1	<0.3	<0.1
BH 2A	2.21	0.53	<0.5	<0.5			21.10	21.30	<0.5	<0.5	<1	<1	<0.3	<0.1
BH 3A	1.43	0.56	<0.5	<0.5			20.80	20.90	0.70	0.70	<1	<1	<0.3	<0.1
Typical Instrument Accuracy: %CH ₄ 0-70% +/- 0.5% CO 0-500ppm +/- 2% FS %CO ₂ 0-60% +/- 0.5% H ₂ S 0-5000ppm +/- 2.0% FS %O ₂ 0-25% +/- 1.0% Flow from borehole +/- 0.3l/h LEL = Lower Explosive Limit N/R = No Reading Taken FS = Full Scale														
Notes: 														

FIELD GAS MONITORING RESULTS

Job No.: 12360
 Site: Old Foundry Pontadawe
 Monitoring Date: 20.03.19
 Monitoring Round: 2

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 8 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 1002
 During Monitoring: 1002
 End of Monitoring: 1002

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 1A	2.03	1.19	<0.5	<0.5			18.90	18.90	1.60	1.40	<1	<1	<0.3	<0.1
BH 2A	2.21	0.57	<0.5	<0.5			20.40	20.40	<0.5	<0.5	<1	<1	<0.3	<0.1
BH 3A	1.43	0.58	<0.5	<0.5			19.90	20.10	0.60	0.60	<1	<1	<0.3	<0.1

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 12360
 Site: Old Foundry Pontadawe
 Monitoring Date: 09.04.19
 Monitoring Round: 3

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 9 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 1002
 During Monitoring: 1002
 End of Monitoring: 1002

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 1A	2.03	1.18	<0.5	<0.5			19.10	19.10	1.50	1.50	<1	<1	<0.3	<0.1
BH 2A	2.21	0.56	<0.5	<0.5			20.20	20.30	<0.5	<0.5	<1	<1	<0.3	<0.1
BH 3A	1.43	0.59	<0.5	<0.5			19.70	19.70	0.70	0.60	<1	<1	<0.3	<0.1

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 12360
 Site: Old Foundry Pontadawe
 Monitoring Date: 24.04.19
 Monitoring Round: 4

Monitoring Conditions

Weather: Raining
 Ambient Temp: 9 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 987
 During Monitoring: 987
 End of Monitoring: 987

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 1A	2.03	1.27	<0.5	<0.5			18.80	18.80	1.20	1.20	<1	<1	<0.3	<0.1
BH 2A	2.21	0.55	<0.5	<0.5			21.10	21.30	<0.5	<0.5	<1	<1	<0.3	<0.1
BH 3A	1.43	0.58	<0.5	<0.5			20.30	20.40	0.70	0.70	<1	<1	<0.3	<0.1

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 12360
 Site: Old Foundry Pontadawe
 Monitoring Date: 23.05.19
 Monitoring Round: 5

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 15 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 997
 During Monitoring: 997
 End of Monitoring: 997

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 1A	2.03	1.14	<0.5	<0.5			19.80	19.80	1.20	1.20	<1	<1	<0.3	<0.1
BH 2A	2.21	0.61	<0.5	<0.5			20.10	20.00	<0.5	<0.5	<1	<1	<0.3	<0.1
BH 3A	1.43	0.63	<0.5	<0.5			20.20	20.20	0.50	0.40	<1	<1	<0.3	<0.1

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 12360
 Site: Old Foundry Pontadawe
 Monitoring Date: 18.06.19
 Monitoring Round: 6

Monitoring Conditions

Weather: Sunny
 Ambient Temp: 18 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 997
 During Monitoring: 997
 End of Monitoring: 997

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 1A	2.03	1.15	<0.5	<0.5			19.10	19.10	1.40	1.40	<1	<1	<0.3	<0.1
BH 2A	2.21	0.59	<0.5	<0.5			20.10	20.10	<0.5	<0.5	<1	<1	<0.3	<0.1
BH 3A	1.43	0.52	<0.5	<0.5			18.90	19.10	0.50	0.50	<1	<1	<0.3	<0.1

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

APPENDIX J

SUMMARY OF CHEMICAL RESULTS

SUMMARY OF LABORATORY SOIL TEST RESULTS

METALS AND SEMI-METALS

Job No.: 12360 (including results from 9903)
Site: Pontardawe Foundry
Soil Type: Made Ground
Soil Organic Matter: 1%

No.	Location	Depth (m)	Arsenic (mg/kg)	Boron (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (Elemental) (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Stratum	Investigation	
1	TP101	0.70	13	5.3	0.40	0.4	17	< 4.0	27	91	1.0	19	< 1.0	21	230	Made Ground	Intégral Géotechnique - 2019	
2	TP102	1.10	83	2.5	0.53	3.2	160	< 4.0	260	950	< 0.3	96	< 1.0	54	890	Made Ground		
3	TP104	0.30	50	1.0	0.48	1.6	24	< 4.0	90	390	0.7	47	< 1.0	22	630	Made Ground		
4	TP105	0.20	20	2.0	0.56	1.4	18	< 4.0	85	140	< 0.3	28	< 1.0	28	130	Made Ground		
5	TP107	0.80	29	0.9	0.75	0.9	24	< 4.0	290	190	< 0.3	35	< 1.0	47	250	Made Ground		
6	TP108	0.50	38	0.7	1.0	1.0	26	< 4.0	110	410	< 0.3	52	< 1.0	64	250	Made Ground		
7	TP109	0.60	34	0.5	0.69	1.3	59	< 4.0	300	230	< 0.3	62	< 1.0	120	380	Made Ground		
8	TP110	0.60	9.0	1.7	0.68	0.7	23	< 4.0	240	97	< 0.3	19	< 1.0	40	200	Made Ground		
9	TP110	1.70	3.1	0.5	0.33	< 0.2	12	< 4.0	14	19	< 0.3	12	< 1.0	15	30	Peaty clay/silt		
10	Sample A		14	2.9	0.51	0.4	19	< 4.0	43	110	< 0.3	31	< 1.0	30	210	Stockpile		
11	Sample B		4.7	3.6	0.84	0.4	10	< 4.0	11	24	< 0.3	9.6	< 1.0	8.4	51	Stockpile		
12	Sample C		24	1.4	0.24	< 0.2	12	< 4.0	46	150	< 0.3	12	< 1.0	16	100	Stockpile		
13	Sample D		8.9	3.2	0.23	< 0.2	14	< 4.0	11	67	< 0.3	13	< 1.0	17	59	Stockpile		
14	Sample E		9.5	4.0	0.33	0.4	57	< 4.0	19	570	< 0.3	110	< 1.0	25	50	Stockpile		
15	TP1	0.5	47	-	-	2.8	22	-	-	320	1.3	110	1.4	-	-	Made Ground	Earth Science Partnerships - 2005	
16	TP2	0.1	58	-	-	3.5	25	-	-	320	1.4	150	2.2	-	-	Made Ground		
17	TP3a	0.4	31	-	-	1.7	190	-	-	100	8.3	68	1.5	-	-	Made Ground		
18	TP4	1.0	32	-	-	1.8	17	-	-	760	8.8	45	0.76	-	-	Alluvial Silt		
19	TP5	0.5	43	-	-	0.73	19	-	-	770	1.4	64	1.8	-	-	Made Ground		
20	Foundry Sand		3.2	-	-	< 0.5	22	-	-	13	< 0.2	78	0.31	-	-	Foundry Sand	Intégral Géotechnique - 2007	
21	TPA	0.4-1.0	19	2	-	0.81	24	-	160	59	0.2	60	0.64	-	230	Made Ground		
22	TPA	1.2-1.5	7.9	0.53	-	0.5	13	-	13	25	0.2	14	0.61	-	39	Clay/silt		
23	TPB	0.2-0.5	2.5	0.26	-	3.7	23	-	15	18	0.2	53	0.3	-	54	Made Ground		
24	TPC	0.1-0.5	37	2	-	5.2	28	-	380	550	0.31	110	1.5	-	800	Made Ground		
25	TPC	0.6-1.0	57	4.3	-	0.85	6	-	62	80	0.2	15	1	-	57	Peaty clay/silt		
26	TPE	0.1-0.4	47	1.7	-	1.3	21	-	73	84	0.2	110	1	-	290	Made Ground		
27	TPJ	0.2-1.0	25	1.8	-	1.1	28	-	190	840	0.2	46	1.4	-	1100	Made Ground		
Screening Criteria Value			37.0	290.0	1.7	11.0	-	6.0	2400.0	200.0	1.2	130.0	250.0	410.0	3700.0			
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	-	S4UL	S4UL	C4SL	S4UL	S4UL	S4UL	S4UL	S4UL			

Inorganic
Mercury is
40mg/kg)

SUMMARY OF LABORATORY SOIL TEST RESULTS

Job No.: 12360 (including results from 9903)
 Site: Pontardawe Foundry
 Soil Type: Made Ground
 Soil Organic Matter: 1%

INORGANIC CHEMICALS & OTHERS

No.	Location	Depth (m)	Cyanide (mg/kg)	Loss on ignition, dried solids (%)	Moisture content at 30 C (%)	Phenol (mg/kg)	pH (pH units)	Water Soluble Sulphate (g/l)	Sulphate Total as SO4 (mg/kg)	Sulphide (mg/kg)	Total Sulphur (mg/kg)	TOC by Ignition in O2 (%)	Equivalent SOM (%)	Asbestos in Soil	Asbestos Quantification (%)	Stratum	Investigation
1	TP101	0.70	< 1	3.4	9.9	< 1.0	10.9	0.37	11000	17	4900	0.5	0.86	Detected	0.082	Made Ground	Intégral Géotechnique - 2019
2	TP102	1.10	21	11.3	16	< 1.0	10.1	0.37	11000	16	4000	2.6	4.47	Detected	< 0.001	Made Ground	
3	TP104	0.30	< 1	4.6	16	< 1.0	8.6	0.12	1300	18	660	1.6	2.75	Detected	0.00	Made Ground	
4	TP105	0.20	< 1	3.8	11	< 1.0	10.8	0.17	3100	15	1800	0.8	1.38	Detected	< 0.001	Made Ground	
5	TP107	0.80	< 1	9.2	19	< 1.0	11.1	0.15	1200	12	930	2.5	4.30	Not-detected	-	Made Ground	
6	TP108	0.50	< 1	7.5	13	< 1.0	8.2	0.93	2700	2.2	1700	2.0	3.44	Not-detected	-	Made Ground	
7	TP109	0.60	< 1	7.1	16	< 1.0	8.2	0.061	940	1.5	660	2.1	3.61	Not-detected	-	Made Ground	
8	TP110	0.60	< 1	2.2	17	< 1.0	10.1	0.062	220	1.1	150	0.8	1.38	Not-detected	-	Made Ground	
9	TP110	1.70	< 1	2.8	20	< 1.0	9.6	0.10	230	3.6	330	1.1	1.89	Not-detected	-	Peaty clay/silt	
10	Sample A		< 1	5.2	11	< 1.0	8.9	0.14	1600	8.7	810	1.8	3.10	Detected	< 0.001	Stockpile	
11	Sample B		< 1	1.2	6.6	< 1.0	8.9	0.51	2000	310	1400	0.5	0.86	Not-detected	-	Stockpile	
12	Sample C		< 1	3.3	15	< 1.0	9.2	1.5	14000	4.3	5700	0.9	1.55	Detected	< 0.001	Stockpile	
13	Sample D		< 1	4.0	21	< 1.0	10.6	0.64	38000	3.8	13000	0.7	1.20	Detected	0.001	Stockpile	
14	Sample E		< 1	3.2	21	< 1.0	9.0	0.43	6600	4.2	2400	1.0	1.72	Detected	< 0.001	Stockpile	
15	TP1	0.5	0.5	-	-	0.50	7.5	-	-	-	-	-	-	-	-	-	Earth Science Partnerships - 2005
16	TP2	0.1	0.5	-	-	0.80	6.6	-	-	-	-	-	-	-	-	Made Ground	
17	TP3a	0.4	0.5	-	-	1.70	8.5	-	-	-	-	-	-	-	-	Made Ground	
18	TP4	1.0	0.5	-	-	1.30	7.1	-	-	-	-	-	-	-	-	Alluvial Silt	
19	TP5	0.5	0.5	-	-	0.97	7.7	-	-	-	-	-	-	-	-	Made Ground	
20	Foundry Sand		< 0.5	-	-	N/S	10.0	-	-	-	-	-	-	-	-	-	Foundry Sand
21	TPA	0.4-1.0	130.0	-	71	16	7.8	0.72	700	190	1600 (Elemental)	-	-	-	-	-	Made Ground
22	TPA	1.2-1.5	2.0	-	27	1	5.4	0.06	240	6	<100 (Elemental)	-	-	-	-	-	Clay/silt
23	TPB	0.2-0.5	2.0	-	6	1	8.2	0.06	470	5	<100 (Elemental)	-	-	-	-	-	Made Ground
24	TPC	0.1-0.5	2.0	-	28	1	6.6	0.13	240	6	140 (Elemental)	-	-	-	-	-	Made Ground
25	TPC	0.6-1.0	2.0	-	53	1	6.1	0.06	3100	8	<100 (Elemental)	-	-	-	-	-	Peaty clay/silt
26	TPE	0.1-0.4	2.0	-	23	1	6.8	0.31	730	15	1800 (Elemental)	-	-	-	-	-	Made Ground
27	TPJ	0.2-1.0	2.0	-	16	1	7.7	0.09	240	14	140 (Elemental)	-	-	-	-	-	Made Ground
	Screening Criteria Value		34.0	-	-	280.0	-	-	-	-	-	-	-	-	0.001		
	Source of Screening Criteria Value		ATRISK	-	-	S4UL	-	-	-	-	-	-	-	-	IOM		

SUMMARY OF LABORATORY SOIL TEST RESULTS

Job No.: 12360 (including results from 9903)
 Site: Pontardawe Foundry
 Soil Type: Made Ground
 Soil Organic Matter: 1%

POLYAROMATIC HYDROCARBONS (PAH)

No.	Location	Depth (m)	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(ghi)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(123cd)pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	Stratum	Investigation	
1	TP101	0.70	< 0.05	0.21	0.16	0.75	0.67	0.90	0.41	0.30	0.66	< 0.05	1.2	< 0.05	0.35	< 0.05	0.73	1.1	Made Ground	Intégral Géotechnique - 2019	
2	TP102	1.10	< 0.05	0.56	0.57	3.8	4.3	6.4	2.8	2.8	5.1	0.90	9.0	< 0.05	2.6	< 0.05	0.86	6.0	6.9		Made Ground
3	TP104	0.30	< 0.05	< 0.05	0.21	0.65	0.68	0.89	0.45	0.28	0.65	< 0.05	1.2	< 0.05	0.35	< 0.05	1.2	1.1	Made Ground		
4	TP105	0.20	< 0.05	< 0.05	0.25	0.75	0.64	0.82	0.44	0.27	0.67	< 0.05	1.4	< 0.05	0.33	< 0.05	1.3	1.2	Made Ground		
5	TP107	0.80	< 0.05	0.21	0.42	2.4	2.5	3.4	1.5	1.6	2.6	0.61	3.8	0.26	1.4	0.42	2.1	2.9	Made Ground		
6	TP108	0.50	< 0.05	< 0.05	0.26	1.6	1.9	2.6	1.3	0.95	1.6	0.46	2.4	< 0.05	1.2	0.24	1.1	2.0	Made Ground		
7	TP109	0.60	< 0.05	< 0.05	0.19	1.1	1.1	1.4	0.62	0.79	1.2	0.25	1.6	< 0.05	0.60	0.24	1.2	1.3	Made Ground		
8	TP110	0.60	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	Made Ground		
9	TP110	1.70	< 0.05	0.37	1.4	0.97	0.66	0.86	0.22	0.57	0.98	< 0.05	1.9	1.1	0.27	1.1	3.1	1.4	Peaty clay/silt		
10	Sample A		< 0.05	< 0.05	0.12	0.47	0.49	0.63	0.33	0.28	0.62	< 0.05	0.98	< 0.05	0.27	0.50	0.73	0.83	Stockpile		
11	Sample B		< 0.05	< 0.05	0.13	0.61	0.81	1.0	0.53	0.54	0.77	< 0.05	0.55	< 0.05	0.45	< 0.05	0.27	0.48	Stockpile		
12	Sample C		< 0.05	0.16	0.12	0.55	0.57	0.80	0.40	0.44	0.79	< 0.05	1.5	0.21	0.33	0.30	1.6	1.1	Stockpile		
13	Sample D		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	Stockpile		
14	Sample E		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	Stockpile		
15	TP1	0.5	< 0.5	< 0.5	< 0.5	0.63	0.65	0.92	< 0.5	< 0.5	1.1	< 0.5*	1.3	< 0.5	< 0.5	< 0.5	0.73	0.89	Made Ground	Earth Science Partnerships - 2005	
16	TP2	0.1	< 0.5	< 0.5	< 0.5	0.67	0.79	0.91	0.61	< 0.5	1.3	< 0.5*	1.7	< 0.5	0.52	< 0.5	1.2	1.2	Made Ground		
17	TP3a	0.4	< 0.5	< 0.5	0.58	0.97	1.6	3.3	1.3	0.64	1.3	< 0.5*	3.3	0.54	0.88	< 0.5	3.5	3	Made Ground		
18	TP4	1.0	0.76	< 0.5	1	1.8	2.2	2.3	1.4	0.91	3	< 0.5*	4.8	0.61	1.2	< 0.5	4.6	4.8	Alluvial Silt		
19	TP5	0.5	< 0.5	< 0.5	< 0.5	0.8	0.7	0.84	< 0.5	< 0.5	1.2	< 0.5*	1.8	< 0.5	< 0.5	0.88	1.4	1.3	Made Ground		
20	Foundry Sand		< 0.5	1.3	2.6	4	4	3.3	4.1	1.9	4.2	0.52	13	1.4	3.4	4	11	8.5	Foundry Sand	Intégral Géotechnique - 2007	
21	TPA	0.4-1.0	< 0.5	< 0.5	< 0.5	1.1	0.9	1.3	0.67	< 0.5	1.1	< 0.5*	2.6	< 0.5	0.77	< 0.5	1	2	Made Ground		
22	TPA	1.2-1.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5*	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Clay/silt		
23	TPB	0.2-0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5*	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Made Ground		
24	TPC	0.1-0.5	< 0.5	< 0.5	1.7	5.1	5.3	6.3	4.2	2.1	4.9	0.72	12	< 0.5	4.5	< 0.5	5.1	9.4	Made Ground		
25	TPC	0.6-1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5*	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Peaty clay/silt		
26	TPE	0.1-0.4	< 0.5	< 0.5	< 0.5	0.59	0.6	0.94	< 0.5	< 0.5	0.73	< 0.5*	1	< 0.5	0.58	< 0.5	< 0.5	0.81	Made Ground		
27	TPJ	0.2-1.0	< 0.5	< 0.5	< 0.5	0.88	0.75	1	0.51	< 0.5	0.86	< 0.5*	1.4	< 0.5	0.6	< 0.5	0.69	1.1	Made Ground		
Screening Criteria Value			210.0	170.0	2400.0	7.2	2.2	2.6	320.0	77.0	15.0	0.2	280.0	170.0	27.0	2.3	95.0	620.0			
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL		

* Note: The Limit of Detection (LoD) for the indicated determinands is greater than the current S4UL.

SUMMARY OF LABORATORY SOIL TEST RESULTS

Job No.: 12360 (including results from 9903)
 Site: Pontardawe Foundry
 Soil Type: Made Ground
 Soil Organic Matter: 1%

PETROLEUM HYDROCARBONS

No.	Location	Depth (m)	Aliphatic C5-C6 (mg/kg)	Aliphatic C6-C8 (mg/kg)	Aliphatic C8-C10 (mg/kg)	Aliphatic C10- C12 EPH (mg/kg)	Aliphatic C12- C16 EPH (mg/kg)	Aliphatic C16-C35 EPH (mg/kg)	Aliphatic C35- C44 EPH (mg/kg)	Aromatic C5-C7 (mg/kg)	Aromatic C7-C8 (mg/kg)	Aromatic C8-C10 (mg/kg)	Aromatic C10- C12 EPH (mg/kg)	Aromatic C12- C16 EPH (mg/kg)	Aromatic C16- C21 EPH (mg/kg)	Aromatic C21- C35 EPH (mg/kg)	Aromatic C35- C40 EPH (mg/kg)	Stratum	Investigation	
1	TP101	0.70	< 0.001	< 0.001	< 0.001	< 1.0	2.1	53	13	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	< 10	25	< 8.4	Made Ground	Intégral Géotechnique 2019	
2	TP102	1.10	< 0.001	< 0.001	< 0.001	8.0	8.2	370	100	< 0.001	< 0.001	< 0.001	< 1.0	8.9	82	280	150	Made Ground		
3	TP104	0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Made Ground		
4	TP105	0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Made Ground		
5	TP107	0.80	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	15	< 8.4	< 0.001	< 0.001	< 0.001	< 1.0	2.8	33	91	51	Made Ground		
6	TP108	0.50	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	< 10	< 8.4	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	16	41	16	Made Ground		
7	TP109	0.60	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	22	< 8.4	< 0.001	< 0.001	< 0.001	< 1.0	2.5	12	18	< 8.4	Made Ground		
8	TP110	0.60	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	< 10	< 8.4	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	< 10	< 10	< 8.4	Made Ground		
9	TP110	1.70	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	< 10	< 8.4	< 0.001	< 0.001	< 0.001	1.1	5.1	13	< 10	< 8.4	Peaty clay/silt		
10	Sample A		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Stockpile		
11	Sample B		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Stockpile		
12	Sample C		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Stockpile		
13	Sample D		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Stockpile		
14	Sample E		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Stockpile		
15	TP1	0.5																Made Ground	Earth Science Partnership - 2005	
16	TP2	0.1																Made Ground		
17	TP3a	0.4	<50*	<50	<50*	<50	<50	94	94	<50*	<50	<50*	<50	<50	94	94	94	Made Ground		
18	TP4	1.0	83	83	83	730	730	2330	1600	83	83	83	730	730	2330	1600	1600	Alluvial Silt		
19	TP5	0.5																Made Ground	Intégral Géotechnique 2007	
	Foundry Sand		<50*	< 50	<50*	86	86	206	120	<50*	< 50	<50*	86	86	206	120	120	Made Ground		
20	TPA	0.4-1.0	5	5	17.9	72	72	1138	690	5	5	17.9	72	72	448	1138	690	Made Ground		
21	TPA	1.2-1.5	5	5	5	10	10	35	25	5	5	5	10	10	35	25	25	Clay/silt		
22	TPB	0.2-0.5	5	5	5	10	10	78	61	5	5	5	10	10	17	78	61	Made Ground		
23	TPC	0.1-0.5	5	5	5	10	10	171	111	5	5	5	10	10	60	171	111	Made Ground		
24	TPC	0.6-1.0	5	5	5	10	10	283	255	5	5	5	10	10	28	283	255	Peaty clay/silt		
25	TPE	0.1-0.4	5	5	5	10	10	1013	545	5	5	5	10	10	468	1013	545	Made Ground		
26	TPJ	0.2-1.0	5	5	5	10	10	75	52	5	5	5	10	10	23	75	52	Made Ground		
Screening Criteria Value			42.0	100.0	27.0	130.0	1100.0	65000.0	65000.0	0.1	130.0	34.0	74.0	140.0	260.0	1100.0	1100.0			
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL			

* Note: The Limit of Detection (LoD) for the indicated determinands is greater than the current S4UL.

Results from 2006 testing have been compared against respective chain lengths on a "worst case" scenario due to previous results being reported as different chain length groups to current S4UL guidance.

APPENDIX K

SOIL INFILTRATION TEST RESULTS

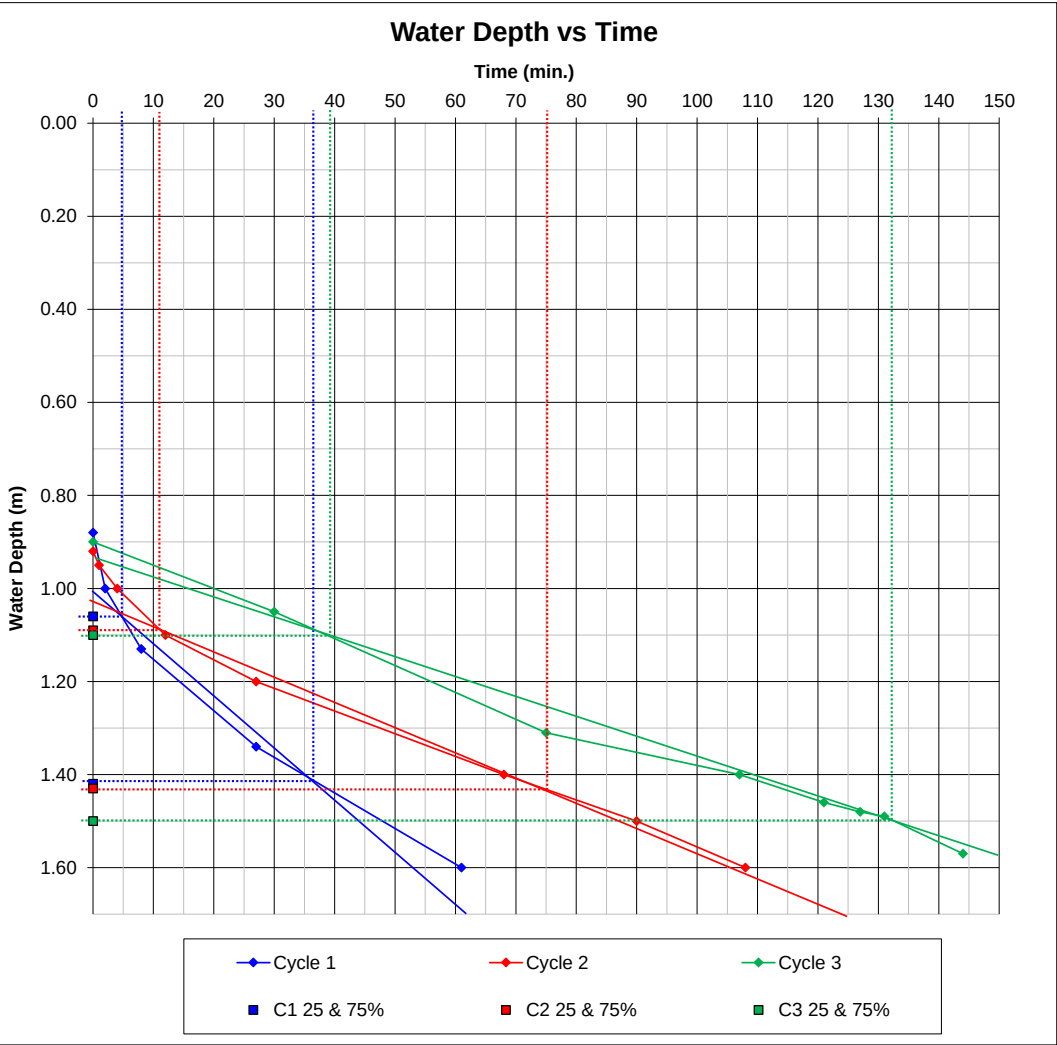
BRE365 SOIL INFILTRATION RATE TEST - TP104

12360 Job Name

Trial Pit Information	
Length (m)	2.20
Width (m)	0.80
Depth (m)	1.70
Groundwater	Dry
Weather Conditions	Cloudy
Date	04-Feb-19

Remarks
Three full cycles completed and pit backfilled with arisings.

	Cycle 1	Cycle 2	Cycle 3
Final Excavation Depth (m)			
At end of testing cycle	1.60	1.60	1.70
Water Depths (m)			
Water depth at start of test	0.88	0.92	0.90
Water depth at end of test	1.60	1.60	1.57
Effective depth (measured)	0.72	0.68	0.67
% Effective storage depth	1.00	1.00	0.84
Effective Storage Depths (m)			
Effective storage depth (100%)	0.72	0.68	0.80
Effective storage depth (75%)	0.54	0.51	0.60
Effective storage depth (50%)	0.36	0.34	0.40
Effective storage depth (25%)	0.18	0.17	0.20
Outflow Time (min)			
Time for measured outflow	61	108	144
Time for 100% outflow	61	108	150
Time for 75-25% outflow	32	64	93
Volume of Outflow (m³)			
Over measured effective depth	1.27	1.20	1.18
Over 100% effective depth	1.27	1.20	1.41
From 75% - 25% effective depth	0.63	0.60	0.70
Surface Area (m²)			
For 100% effective storage	6.08	5.84	6.56
For 50% effective storage	3.92	3.90	4.16
Over measured depth	6.08	5.84	5.78
Soil Infiltration Rate (m/s)			
Over 100% effective depth	5.7E-05	3.2E-05	2.4E-05
Over measured depth	5.7E-05	3.2E-05	2.4E-05
Over 75% - 25% effective depth	8.4E-05	4.1E-05	3.0E-05



Design Soil Infiltration Rate: 3.0E-05 m/s

APPENDIX L

CHEMICAL TEST RESULTS ON WATERS (2019)



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Analytical Report Number : 19-32224

Project / Site name:	Old Foundry Pontadawe	Samples received on:	11/03/2019
Your job number:	12360	Samples instructed on:	11/03/2019
Your order number:		Analysis completed by:	19/03/2019
Report Issue Number:	1	Report issued on:	19/03/2019
Samples Analysed:	6 water samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.



Analytical Report Number: 19-32224

Project / Site name: Old Foundry Pontadawe

Lab Sample Number	1173254	1173255	1173256	1173257	1173258
Sample Reference	BH 1a	BH 1b	BH 2a	BH 2b	BH 3a
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	07/03/2019	07/03/2019	07/03/2019	07/03/2019	07/03/2019
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.3	7.4	10.1	9.2	6.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO ₄	µg/l	45	ISO 17025	22900	69500	354000	170000	62000
Total Sulphur	µg/l	15	NONE	7600	23000	120000	57000	21000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	2.93	2.79	2.80	3.54	1.69
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	280	256	416	232	250

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 19-32224

Project / Site name: Old Foundry Pontadawe

Lab Sample Number	1173254	1173255	1173256	1173257	1173258
Sample Reference	BH 1a	BH 1b	BH 2a	BH 2b	BH 3a
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	07/03/2019	07/03/2019	07/03/2019	07/03/2019	07/03/2019
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	2.4	< 1.0	6.2	6.8	3.6
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	63	30	50	51	60
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Calcium (dissolved)	mg/l	0.012	ISO 17025	100	84	170	91	86
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4	10	6.4	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	2.5	0.9	9.1	4.8	2.3
Lead (dissolved)	µg/l	1	ISO 17025	1.5	< 1.0	2.5	2.1	< 1.0
Magnesium (dissolved)	mg/l	0.005	ISO 17025	6.6	11	0.67	0.92	8.4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	5.8	3.2	0.4	0.6	9.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7	34	21	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	27	29	1.5	1.0	22

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 19-32224

Project / Site name: Old Foundry Pontadawe

Lab Sample Number	1173254	1173255	1173256	1173257	1173258
Sample Reference	BH 1a	BH 1b	BH 2a	BH 2b	BH 3a
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	07/03/2019	07/03/2019	07/03/2019	07/03/2019	07/03/2019
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 19-32224

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1173259				
Sample Reference				BH 3b				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				07/03/2019				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	6.4				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO ₄	µg/l	45	ISO 17025	55600				
Total Sulphur	µg/l	15	NONE	19000				
Sulphide	µg/l	5	NONE	< 5.0				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	1.21				
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	142				

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				
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Analytical Report Number: 19-32224

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1173259				
Sample Reference				BH 3b				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				07/03/2019				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	3.4				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	0.3				
Boron (dissolved)	µg/l	10	ISO 17025	60				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Calcium (dissolved)	mg/l	0.012	ISO 17025	44				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Copper (dissolved)	µg/l	0.7	ISO 17025	3.7				
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	7.9				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	12				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7				
Zinc (dissolved)	µg/l	0.4	ISO 17025	45				

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				



Analytical Report Number: 19-32224

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1173259				
Sample Reference				BH 3b				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				07/03/2019				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10				
TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 19-32224

Project / Site name: Old Foundry Pontadawe

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L0738-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L1028-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Sample ID	Other ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
BH 1a		W	19-32224	1173254	c	pH at 20oC in water (automated)	L099-PL	c
BH 1b		W	19-32224	1173255	c	pH at 20oC in water (automated)	L099-PL	c
BH 2a		W	19-32224	1173256	c	pH at 20oC in water (automated)	L099-PL	c
BH 2b		W	19-32224	1173257	c	pH at 20oC in water (automated)	L099-PL	c
BH 3a		W	19-32224	1173258	c	pH at 20oC in water (automated)	L099-PL	c
BH 3b		W	19-32224	1173259	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 19-36925

Project / Site name:	Old Foundry Pontadawe	Samples received on:	11/04/2019
Your job number:	12360	Samples instructed on:	11/04/2019
Your order number:		Analysis completed by:	23/04/2019
Report Issue Number:	1	Report issued on:	23/04/2019
Samples Analysed:	6 water samples		

Signed: 

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 19-36925

Project / Site name: Old Foundry Pontadawe

Lab Sample Number	1198151	1198152	1198153	1198154	1198155
Sample Reference	BH 1a	BH 1b	BH 2a	BH 2b	BH 3a
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	09/04/2019	09/04/2019	09/04/2019	09/04/2019	09/04/2019
Time Taken	1305	1325	1355	1425	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.2	7.4	8.9	8.7	7.0
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO ₄	µg/l	45	ISO 17025	23000	53400	192000	199000	54900
Total Sulphur	µg/l	15	NONE	7700	18000	64000	66000	18000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	1.30	1.51	4.18	2.69	1.01
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	164	221	206	193	178

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 19-36925

Project / Site name: Old Foundry Pontadawe

Lab Sample Number	1198151	1198152	1198153	1198154	1198155
Sample Reference	BH 1a	BH 1b	BH 2a	BH 2b	BH 3a
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	09/04/2019	09/04/2019	09/04/2019	09/04/2019	09/04/2019
Time Taken	1305	1325	1355	1425	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.20	< 0.15	7.43	4.65	0.44
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron (dissolved)	µg/l	10	ISO 17025	70	12	77	65	61
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	< 0.02	< 0.02	< 0.02	0.11
Calcium (dissolved)	mg/l	0.012	ISO 17025	58	67	82	76	57
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.2	3.8	0.3
Copper (dissolved)	µg/l	0.5	ISO 17025	3.9	1.8	5.9	6.9	3.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.3	< 0.2	0.3
Magnesium (dissolved)	mg/l	0.005	ISO 17025	4.7	13	0.66	0.65	8.5
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	11	2.2	1.5	2.0	8.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.8	0.6	1.0	0.9	1.2
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	9.0	22	1.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	20	23	0.9	2.0	9.8

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 19-36925

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1198156				
Sample Reference				BH 3b				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				09/04/2019				
Time Taken				1505				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	6.4				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO ₄	µg/l	45	ISO 17025	49000				
Total Sulphur	µg/l	15	NONE	16000				
Sulphide	µg/l	5	NONE	< 5.0				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	0.56				
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	112				

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				
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Analytical Report Number: 19-36925

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1198156				
Sample Reference				BH 3b				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				09/04/2019				
Time Taken				1505				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.16				
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1				
Boron (dissolved)	µg/l	10	ISO 17025	54				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.20				
Calcium (dissolved)	mg/l	0.012	ISO 17025	33				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	10				
Lead (dissolved)	µg/l	0.2	ISO 17025	0.8				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	7.2				
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05				
Nickel (dissolved)	µg/l	0.5	ISO 17025	16				
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.4				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Zinc (dissolved)	µg/l	0.5	ISO 17025	32				

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10				

TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10				
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 19-36925

Project / Site name: Old Foundry Pontadawe

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L0738-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 *for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L1028-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



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Analytical Report Number : 19-38739

Project / Site name:	Old Foundry Pontadawe	Samples received on:	26/04/2019
Your job number:	12360	Samples instructed on:	26/04/2019
Your order number:		Analysis completed by:	07/05/2019
Report Issue Number:	1	Report issued on:	07/05/2019
Samples Analysed:	6 water samples		

Signed: 

Zina Abdul Razzak
Assistant Quality/Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 19-38739

Project / Site name: Old Foundry Pontadawe

Lab Sample Number	1208327	1208328	1208329	1208330	1208331
Sample Reference	BH1a	BH1b	BH2a	BH2b	BH3a
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	24/04/2019	24/04/2019	24/04/2019	24/04/2019	24/04/2019
Time Taken	1305	1325	1355	1425	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.5	7.3	8.5	8.8	6.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO ₄	µg/l	45	ISO 17025	17200	42800	187000	225000	41700
Total Sulphur	µg/l	15	NONE	5700	14000	62000	75000	14000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	0.82	1.66	3.60	2.86	0.26
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	130	183	170	192	174

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 19-38739

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1208327	1208328	1208329	1208330	1208331
Sample Reference				BH1a	BH1b	BH2a	BH2b	BH3a
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/04/2019	24/04/2019	24/04/2019	24/04/2019	24/04/2019
Time Taken				1305	1325	1355	1425	1445
Analytical Parameter (Water Analysis)								
	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.23	< 0.15	7.61	3.91	< 0.15
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron (dissolved)	µg/l	10	ISO 17025	67	24	67	61	52
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.05	0.02	< 0.02	< 0.02	0.17
Calcium (dissolved)	mg/l	0.012	ISO 17025	44	55	67	76	56
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	2.1	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	2.3	< 0.5	1.9	2.0	1.2
Lead (dissolved)	µg/l	0.2	ISO 17025	0.9	< 0.2	0.4	< 0.2	0.2
Magnesium (dissolved)	mg/l	0.005	ISO 17025	5.1	11	0.84	0.67	8.6
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.3	2.5	1.5	1.4	9.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.8	3.8	3.0	< 0.6	< 0.6
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	3.2	16	0.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	28	8.3	3.2	2.0	19

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 19-38739

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1208332				
Sample Reference				BH3b				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				24/04/2019				
Time Taken				1505				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	6.3				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO ₄	µg/l	45	ISO 17025	41200				
Total Sulphur	µg/l	15	NONE	14000				
Sulphide	µg/l	5	NONE	< 5.0				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	0.35				
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	90.5				

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				
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Analytical Report Number: 19-38739

Project / Site name: Old Foundry Pontadawe

Lab Sample Number				1208332				
Sample Reference				BH3b				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				24/04/2019				
Time Taken				1505				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	< 0.15				
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1				
Boron (dissolved)	µg/l	10	ISO 17025	53				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.14				
Calcium (dissolved)	mg/l	0.012	ISO 17025	23				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	2.2				
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	8.2				
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05				
Nickel (dissolved)	µg/l	0.5	ISO 17025	12				
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Zinc (dissolved)	µg/l	0.5	ISO 17025	39				

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10				

TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10				
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 19-38739

Project / Site name: Old Foundry Pontadawe

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L0738-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 *for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L1028-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Iss No 19-38739-1 Old Foundry Pontadawe 12360

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The results included within the report are representative of the samples submitted for analysis.

Page 6 of 6

APPENDIX M

SUMMARY OF CHEMICAL TESTING ON WATERS

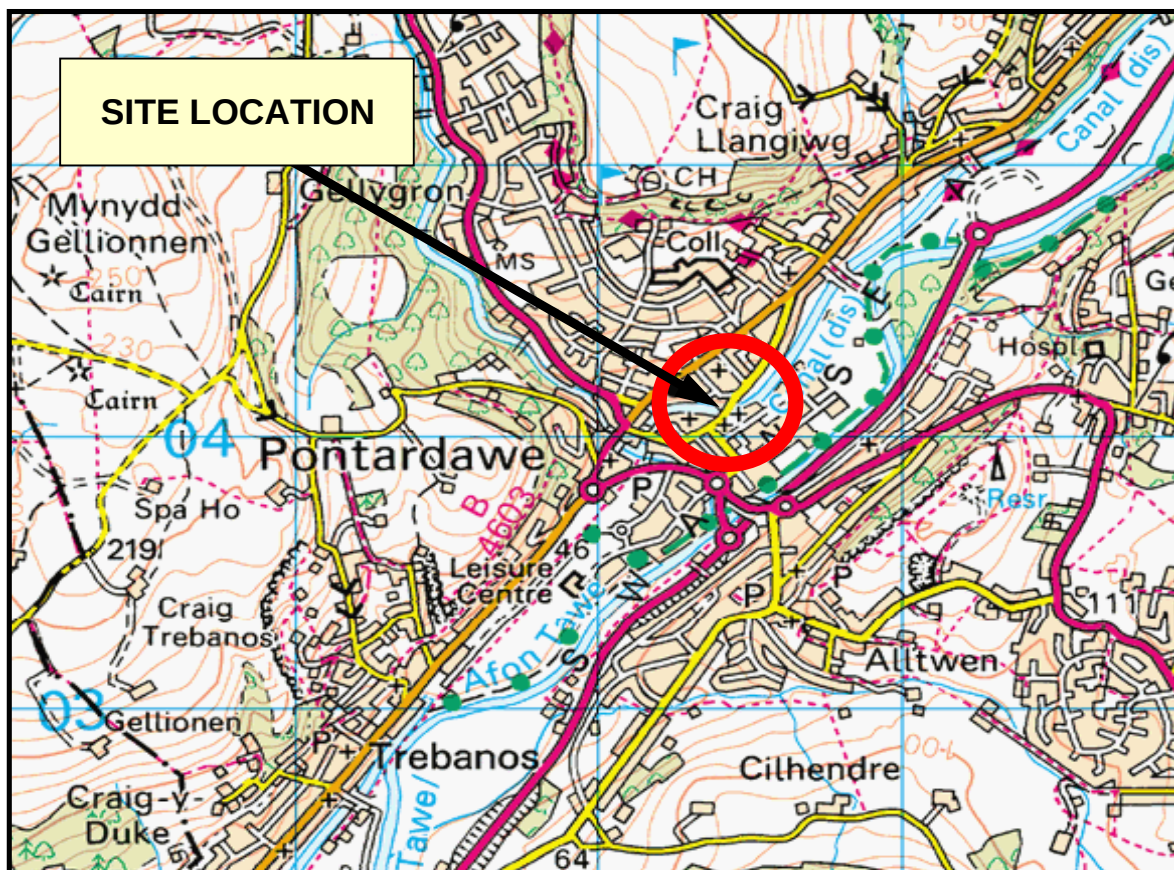
12360/RAH/19

Intégral Géotechnique

FIGURES



NORTH



Scale = 1:25000

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FIGURE 1 - SITE LOCATION

Pontardawe Foundry, Pontardawe

Intégral
Géotechnique

50 Cathedral Road
Cardiff
CF11 9LL
Tel: 029 2022 0462
Fax: 029 2034 0789

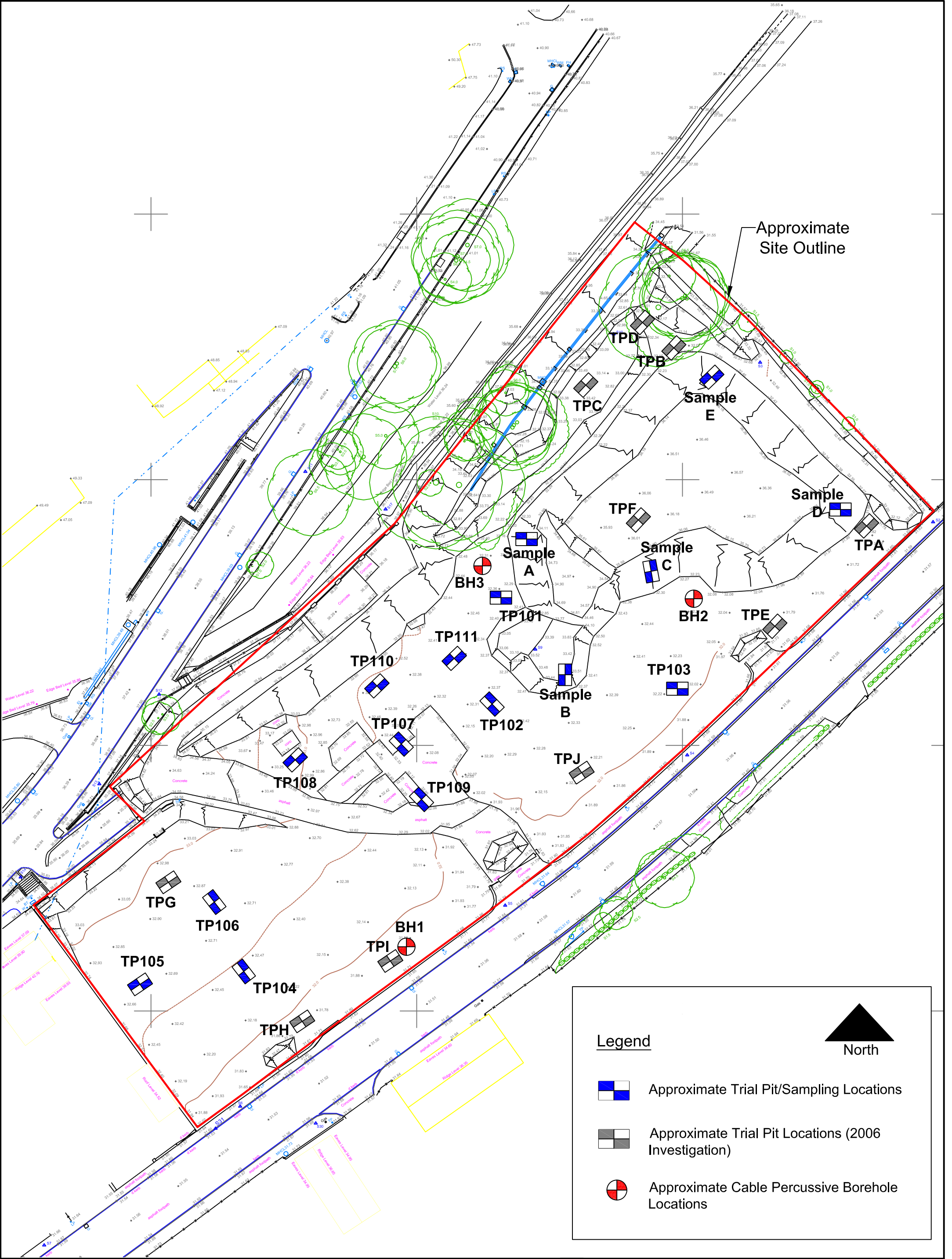


Figure 2: Exploratory Hole Location Plan

Project: Pontardawe Foundry	Job No.: 12360	Intégral Géotechnique	Integral House, 7 Beddau Way, Castlegate Business Park, Caerphilly, CF83 2AX. Tel: 029 2080 7991
Client: Bluefield Land	Scale: 1:500 at A3		

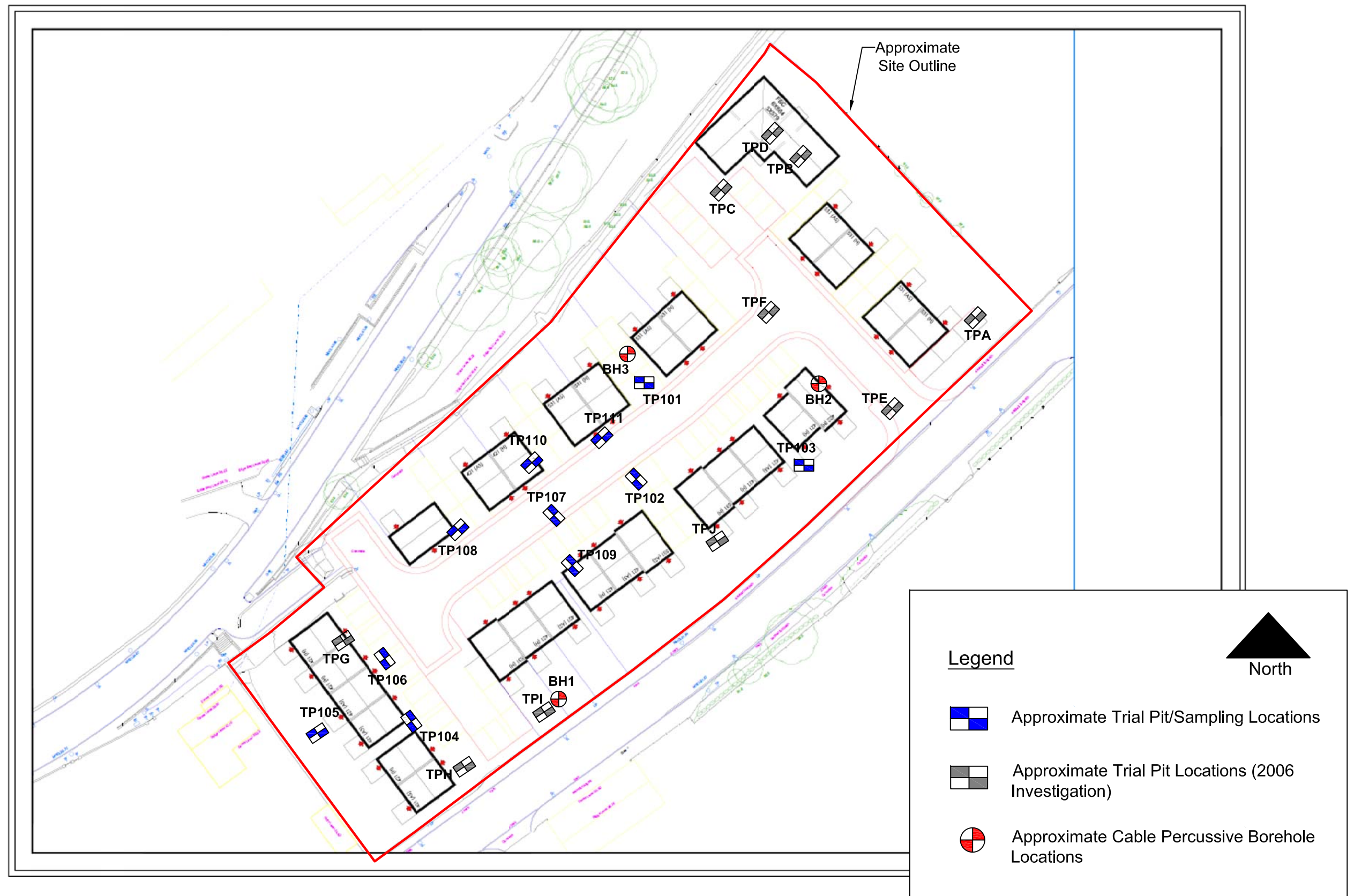


Figure 3: Site Plan (Proposed Layout)

Project: Pontardawe Foundry

Client: Bluefield Land

Job No.: 12360

Scale: NTS

Intégral
Géotechnique

Integral House,
7 Beddau Way,
Castlegate Business Park,
Caerphilly,
CF83 2AX.
Tel: 029 2080 7991

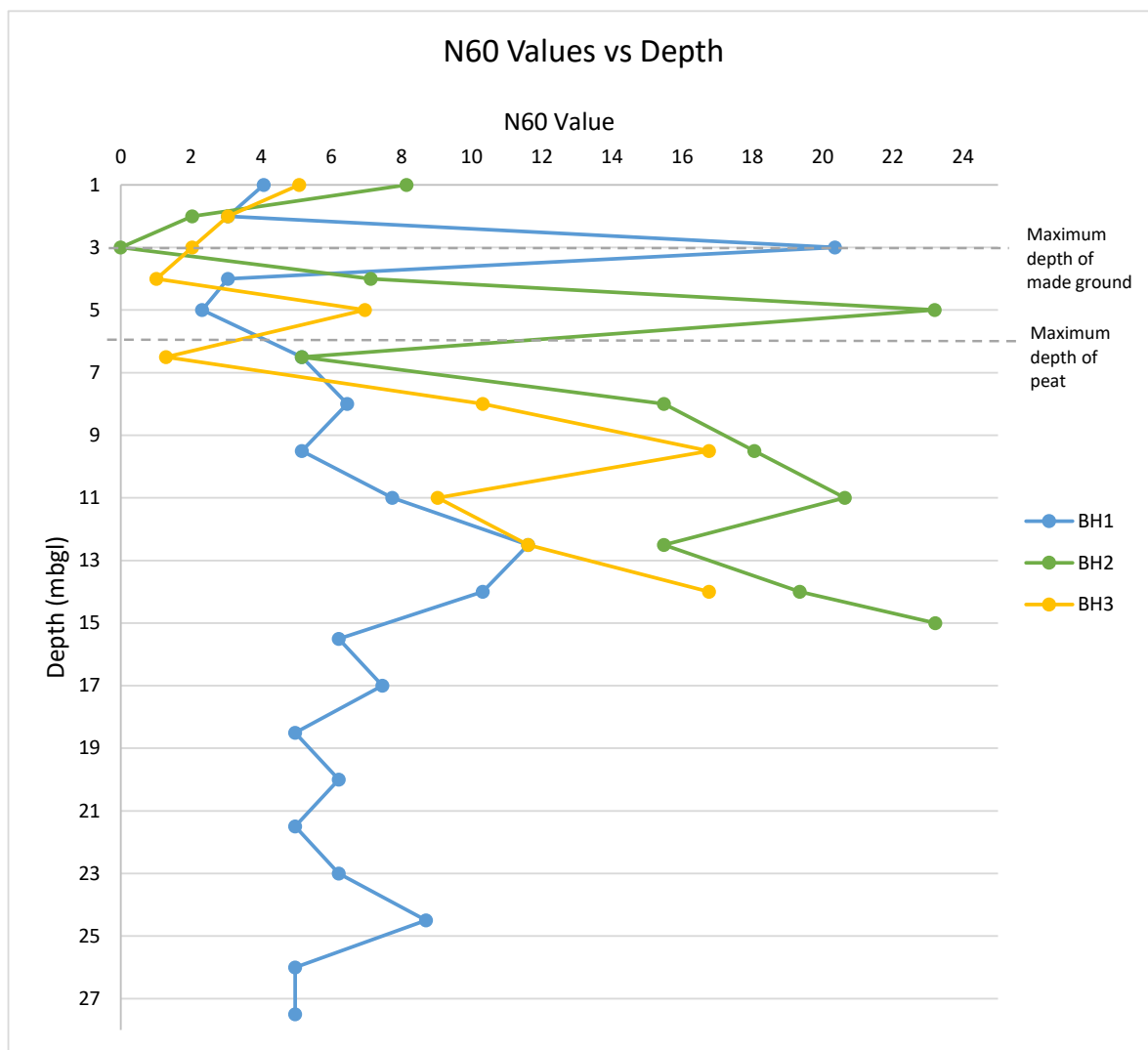


FIGURE 4 - SPT Testing

12360: Foundry Road, Pontardawe

Intégral
Géotechnique

Intégral House
7 Beddau Way
Castlegate Business Park
Caerphilly
CF83 2AX
Tel: 029 2080 7991
Fax: 029 2086 2176