

Cardiff Sixth Form College

PLOT 5, PIERHEAD STREET, CARDIFF BAY

Site Investigation Report

12967/LP/22/SI/A

CLIENT: Cardiff Sixth Form College

PROJECT: Plot 5, Pierhead Street, Cardiff Bay

TITLE: Site Investigation Report

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1.0 INTRODUCTION

1.1 GENERAL

Cardiff Sixth Form College are proposing to redevelop a site at Pierhead Street in Cardiff Bay for residential end-use.

Expedite are the appointed Project Managers, Consulting Civil Engineers and Structural Engineers for the scheme.

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 DEVELOPMENT

The proposed development will comprise the construction of a new student accommodation block to include private bedrooms, study rooms and living/kitchen areas. The building will also include an entrance with communal areas and a ground floor retail/coffee shop. The building will be approximately L-Shaped and fronting onto Pierhead Street with the building extending along the eastern boundary of the site. A visual amenity space and private car parking will be provided to the rear of the building.

1.3 SCOPE OF WORKS

The work instructed included a desk study of available information, 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:

1.3 SCOPE OF WORKS (CONTINUED)

- An Envirocheck Report obtained for the site
- Old Ordnance Survey maps covering the site, included within the Envirocheck Report
- Geological maps of the area provided by the British Geological Survey
- Natural Resources Wales groundwater vulnerability map and aquifer database for the area
- Preliminary UXO Risk Assessment
- Existing site investigation data

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 BS 5930:2015+A1:2020, the Code of Practice for Site Investigations, BS10175:2011+A2:2017, 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 January 2022 comprising the drilling of five windowless sample boreholes and three shell and auger boreholes
- Sampling of made ground for laboratory chemical testing
- Sampling of in-situ material for laboratory geotechnical 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 and Natural Resources Wales, 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". 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.

1.4 LIMITATIONS (CONTINUED)

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.

2.0 THE SITE

2.1 SITE LOCATION AND DESCRIPTION

The site is located off Pierhead Street in Cardiff Bay at a National Grid Reference of 319440, 174710, see Figure 1.

The site is irregular in shape and occupies an area of approximately 0.5 hectares. The boundaries of the site are defined by Pierhead Street to the southeast, a Premier Inn Hotel to the southwest, an access road to the multi-storey car park to the northwest and the open water channel forming the dock feeder to the northeast. A site plan is presented in Figure 2.

The site is situated on level ground at an approximate elevation of 9m AOD.

The site is currently a hard surfaced car parking area which is secured and fenced off. An existing footpath crosses the eastern site area in between the fenced car park boundary and the open channel dock feeder.

2.2 SITE OPERATIONS

The site is operated as a car park and is fenced off and secure. The car park was closed during our site investigation works.

2.3 SURROUNDING LAND USE

The surrounding areas are developed for mainly commercial use including offices, a hotel and a multi-storey car park.

2.4 PRELIMINARY UXO RISK ASSESSMENT

A Preliminary UXO Risk Assessment Report was obtained for the site from 1st Line Defence Limited, a copy of which is presented in Appendix A.

It was concluded that the site was situated within an area which sustained an overall low-moderate density of bombing. The localised bombing density is considered to put the site in an area that is not anticipated to be above the “background risk”.

It is therefore recommended that no further action is required for the site.

2.5 AVAILABLE SITE INVESTIGATION DATA

The findings of an existing intrusive investigation are presented within a Geotechnical and Geo-Environmental Report Ref: PCB-ARP-ZZ-XX-RP-G-0073, dated August 2016 prepared by Arup for Aviva Life & Pensions UK Limited. The report included information and reference to the Arup Geo-Environmental Desk Study, dated November 2015 and the WYG Ground Investigation Factual Report, dated May 2016. This report covered the current site area and extended to include the area now developed with the Premier Inn Hotel.

The intrusive works which were undertaken in 2016 comprised the drilling of cable percussive boreholes, rotary cored holes, machine excavated trial pits/trial trenches including in-situ CBR testing, ground gas and groundwater monitoring and laboratory chemical and geotechnical testing.

The intrusive works encountered variable made ground of 1.5m to 4.2m in thickness outside the dock and of 9.4m to >14.0m in thickness inside the dock. The made ground was underlain by Tidal Flat Deposits which were cohesive in nature and approximately 9.6m to 10.6m in thickness, underlain by a typical thickness of 7.0m of Fluvio Glacial Deposits. The Mercia Mudstone Bedrock was encountered between -7.5m AOD and -11.6m AOD (16.5m to 20.6m below ground level).

Perched groundwater was encountered within the made ground and also within the fluvio glacial deposits.

The previous desk study and intrusive site investigation information identified the presence of several dock structures including Bute East Dock walls, the Inner Lock walls and base, a scouring culvert and an original and temporary dock feeder culvert.

The available information indicates the typical height of the Bute East Dock walls to be 12.2m to 12.7m and constructed in sandstone masonry. The bottom of the dock was found at -1mAOD (10m below ground level) but no structural floor was recorded.

The Inner Lock walls were found to have a height of 12.2m to 12.7m reducing to 8.7m high where the lock joins the dock. The outer and lower end of the lock were found to be constructed in masonry and possibly mass concrete on a timber grillage founded on the granular fluvio-glacial stratum. Where the soft alluvial deposits were present this floor would have been supported on timber piles.

The location of the Scouring Culvert would not affect the proposed developed with its inferred location beneath the adjacent Premier Inn Hotel.

2.5 AVAILABLE SITE INVESTIGATION DATA (CONTINUED)

The original Dock Feeder Culvert (corrugated steel) is identified to be present beneath the part of the proposed building which will be located along the southern edge of the site. This feeder was abandoned during subsequent dock feeder diversion works. Further works to confirm the location were recommended.

Various shallow obstructions were also encountered such as timbers, metal bars, sleepers associated with the dock walls and concrete slabs associated with the foundations of historical buildings.

Following completion of the intrusive investigation, laboratory chemical testing was undertaken. The laboratory chemical test results indicated exceedances for metals including arsenic, chromium, lead and mercury, PAH compounds, petroleum hydrocarbons, VOC's/SVOC's, PCB's and asbestos. Exceedances of hydrocarbons, mercury and dissolved metals were recorded within the perched groundwater within the made ground outside the dock and within the groundwater in the made ground inside the dock.

Following completion of the ground gas monitoring it was considered that the ground gas risk to the proposed development would be low.

Pile foundations were recommended for any proposed structures with consideration given to the known obstructions such as the dock walls, the inner lock and the dock feeder. These considerations would include advance clearance options such as full depth coring through lock walls in order to clear a pile bore for subsequent construction of a conventional CFA pile. Alternatively ground beams/pile caps could be used to share the column loads between piles constructed beyond the dock wall and through the lock structure floor.

3.0 SITE HISTORY

The recent history of the site has been traced with the aid of an Envirocheck Report, a copy of which is included in Appendix B. The Envirocheck Report includes the following scaled historical maps:

Map Scale	Dates
1:500	1880
1:2,500	1880, 1901, 1920, 1941, 1954-1955
1:1,250	1954, 1962-1972, 1978-1992, 1983-1987, 1992, 1993-1995, 2000 (aerial photo)
1:10,560	1885-1886, 1901, 1922, 1938, 1947-1951, 1947(aerial photo)
1:10,000	1964-1965, 1970-1975, 1982, 1984-1989, 1991-1996, 1999, 2006, 2021

The earliest edition of the map dated 1880 indicated the site to be located across the southern end of Bute East Dock with the dock walls crossing through the site. A tramway which followed the edge of the dock crossed the western corner of the site and a Post Office building was indicated on the southwest boundary. The lock associated with the dock was located within the southern area of the site which connected into Bute East Dock Basin located approximately 30m to the southwest. Junction Lock was located approximately 90m to the southeast which connected into Roath Basin located approximately 210m to the southeast. The southern end of Bute West Dock was located approximately 120m to the west of the site. The docks were all served by a network of tramways. Residential development within Cardiff Bay was indicated approximately 250m to the west beyond the docks.

The 1901 edition of the map indicated the site had remained relatively unchanged apart from the tramway network which had expanded along the dock edge and across the western corner of the site. Mooring post were now indicated along the edge of the dock within the western area of the site. Industrial/commercial development continued in the vicinity of the site including the construction of Junction Dry Dock approximately 60m to the southwest connecting Bute East Dock Basin and Bute West Dock. The 1909 edition of the insurance plans indicated that the dock side within the western area of the site had "timber piled and scattered" within the area.

The 1920 edition of the map did not show significant changes to the site or the surrounding area.

3.0 SITE HISTORY (CONTINUED)

The edition of the map dated 1941 indicated an additional small building to have been constructed on the edge of the dock within the western area of the site. Many of the tramways which served the docks had been removed although tramways still crossed the western corner of the site.

The edition of the map dated 1954 indicated the site and the surrounding areas had remained relatively unchanged. The 1954 insurance plan indicated the building within the western area of the site was an electrical transformer station.

The edition of the map dated 1962-1972 indicated the site had remained relatively unchanged apart from an additional building which had been constructed adjacent to the substation. Bute West Dock to the west had been partially infilled by this time with a pond remaining at its southern end. Bute West Dock Basin had been drained and was indicated to be mud.

By the edition of the map dated 1978-1992 Bute East Dock was disused. The lock had been removed from the southern area of the site as well as part of the dock walls. Maritime Road had been constructed to the south of the site which connected into a new roundabout constructed to the southeast of the site. Junction Dry Dock had been removed to the west and new roads and infrastructure had been constructed.

The edition of the map dated 1993-1995 indicated the dock structure had been completely infilled across the site with no evidence of the dock walls. The northern area of the dock remained water filled approximately 350m to the north of the site. Surface water features were constructed within the former dock area including one flowing along the northeast boundary of the site feeding into the Junction Dock and then into Roath Basin to the southeast of the site. The electrical substation remained within the western area. The site was indicated to now be utilised as a car park. A new road had been constructed to form the southeast boundary of the site. The A4232 had been constructed approximately 60m to the north of the site. This road was constructed within a tunnel to take it beneath the area of the former Bute West Dock and beneath the extensively developed Cardiff Bay area. Development continued in the vicinity of the site, including new buildings and infrastructure, as Cardiff Bay expanded.

The aerial photo dated 2000 indicated the site to be a car park with the area fully covered with tarmac surfacing. Development continued in the vicinity of the site as did the reconfiguration of the road infrastructure. This included the removal of Maritime Road and clearance of the associated roundabout to the southwest and the construction of Bute Place.

3.0 SITE HISTORY (CONTINUED)

The Google Earth image dated 2006 indicated that the site had remained in use as a car park. The Wales Millennium Stadium had been constructed beyond Bute Place to the southwest of the site and construction works had commenced to the northwest of the site.

By the 2009 image a multi-storey car park had been constructed to the northwest of the site. The 2018 image indicated work had commenced on the construction of the Premier Inn Hotel adjacent to the southwest boundary of the site. The site was utilised as a site compound for the construction of the hotel. The hotel construction was completed by the image dated 2020 and the site was reinstated as a car park.

4.0 SITE ENVIRONMENTAL SETTING

4.1 PHYSICAL SETTING

The site is located within a commercially developed area of Cardiff Bay.

The site is situated on level ground at an approximate elevation of 9m AOD.

4.2 GEOLOGY

The 1:50,000 scale geological map of the area indicates that the site is underlain by Mercia Mudstone Group rocks of the Triassic period. These rocks are likely to comprise predominantly red, less commonly green-grey, mudstones and subordinate siltstones. Sandstones are also present. These rocks are usually weathered to stiff clays with lithorelicts near the surface.

Superficial Tidal Flat Deposits of the Quaternary period are indicated to overlie the solid strata. These deposits are likely to comprise normally consolidated soft silty clay, with layers of sand, gravel and peat. These clays can also have a stiffer desiccated crust near the surface.

A variable thickness of made ground is anticipated above the superficial deposits across the site with a significant thickness within the area of the former dock.

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
Quaternary	Tidal Flat Deposits	Normally consolidated silty clays with layers of sand, gravel and peat, clays with a stiffer desiccated crust near the surface
Triassic	Mercia Mudstone Group	Predominantly red, less commonly green-grey, mudstones and subordinate siltstones

4.3 RADON

Information with regard to Radon Protective Measures is provided within the Envirocheck Report as presented in Appendix B. The report states that the site is within a lower probability area, as less than 1% of properties are above action level, and that therefore no radon protective measures would be necessary in the construction of new buildings within the site.

4.4 MINING

The site is not located within an area that is affected by past, present or future underground mining.

4.5 HYDROLOGY, HYDROGEOLOGY AND FLOOD RISK

The Envirocheck Report indicates that the nearest surface water feature is located 3m to the east. The OS Water Network Lines map indicates this to be an unnamed feature taking water from Bute East Dock, located to the north, into Roath Basin, located to the southeast, via the lock located 64m to the southeast.

The Natural Resources Wales groundwater vulnerability map and aquifer database classifies the bedrock beneath the site as a Secondary 'B' Aquifer. Secondary B Aquifers are predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

The Natural Resources Wales groundwater vulnerability map and aquifer database classifies the superficial deposits beneath the site as Secondary Aquifer-Undifferentiated. This classification is assigned in cases where it has not been possible to attribute either category A or B to a soil type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the material. The area of the site which was occupied by the former dock, and therefore most of the superficial deposits would have been excavated as part of the construction works, is unclassified.

A perched water body is anticipated within the made ground due to the impermeable nature of the underlying tidal flat deposits.

It is considered possible that the existing site drainage could act as a pathway for potential surface contaminants.

4.5 HYDROLOGY, HYDROGEOLOGY AND FLOOD RISK (CONTINUED)

There are no effective discharge consents recorded within 250m of the site boundary. The nearest consents are two recorded 268m to the southwest of the site where an unknown discharge type from Associated British Ports is received by Cardiff Bay.

The Envirocheck Report states that there are no water abstractions recorded within 250m of the site boundary. The nearest abstractions are recorded 472m to 484m to the north of the site where four surface water abstractions are recorded from Bute East Dock with the water used by Celsa Manufacturing and Allied Steel and Wire for evaporative cooling.

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

Table 2: Summary of Site Hydrology					
Feature	Distance from site	Flow	Classification	Abstraction	Discharge
Unnamed surface water feature	3m east	Southerly	Inland river	No	Roath Basin via the lock
Unnamed surface water feature	64m southeast	Southerly	Lock	No	Roath Basin
Roath Basin	298m southeast	South westerly	Dock	No	Cardiff Bay
Surface run-off	On site	Flows into site drainage	N/A	No	Not known
Site Drainage	On site	Not known	N/A	No	Not known

4.5 HYDROLOGY, HYDROGEOLOGY AND FLOOD RISK (CONTINUED)

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
Tidal Flat Deposits	Secondary Aquifer-Undifferentiated	Variable low permeability and porosity clays with layers of higher permeability sands and gravels	No	None
Mercia Mudstone Group	Secondary B Aquifer	Predominantly lower permeability mudstones/siltstones	No	None

The Groundwater Vulnerability map of the area indicates the secondary superficial aquifer to have a high vulnerability and the secondary bedrock aquifer to have a low vulnerability. The pollutant speed is high with well-connected fractures.

The Natural Resources Wales Flood Risk map, as presented within the Envirocheck Report, indicates that the site is not at risk of extreme flooding from rivers or sea without defences.

The Natural Resources Wales Surface Water Flood Risk map, as presented within the Envirocheck Report, indicates that the majority of the site is not at a risk of surface water flooding. However, the map indicates that the areas along the northern edge of the site are at a high risk of surface water flooding (1 in 30-year flood extent).

The BGS Groundwater Flooding Susceptibility map, as presented within the Envirocheck Report, indicates the southern area of the site to have potential for groundwater flooding to occur at surface.

4.6 LANDFILL SITES

The Envirocheck Report indicates that there are eight historical landfill sites located on site and within 500m of the site boundary. The on-site historical landfill, which covered the majority of the site, was associated with the infilling of Bute East Dock. The first input date was 31st December 1979 and the last input date was 31st December 1989 where deposited waste included inert and industrial waste.

4.6 LANDFILL SITES (CONTINUED)

The other on-site landfill was located within the southwest area associated with the infilling of the lock associated with Bute East Dock Basin. The first input date was 31st December 1948, and the last input date was 31st December 1979 where deposited waste included inert, industrial and household waste.

The off-site historical landfills were located 12m east, 32m northwest, 64m southwest, 136m west and 227m north all located within former dock areas, reservoirs or timber ponds. The last input dates were given as 31st December 1979, 1942, 1977, 1971, 1977 and 1942 respectively. Deposited waste included inert and industrial waste and also in areas household was and commercial waste.

There are no BGS recorded or local authority recorded landfill sites and no Licensed Waste Management Facilities located within 250m of the site boundary. There is one Registered Landfill site located within 250m of the site boundary. The site is located 104m to the southwest where authorised waste included inert/non-toxic excavated demolition waste. The licence has been cancelled.

The former dock areas which cover the site and are present within the surrounding areas area classified as potentially infilled land (water).

4.7 POTENTIAL CONTAMINATION

Previous Uses

The various activities in the vicinity of the site which may have resulted in ground or water resource contamination on this site are listed below in Tables 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.

4.7 POTENTIAL CONTAMINATION (CONTINUED)

Table 4: Potential Contaminants		
Land Use: Bute East Dock and associated lock until late 1970's		
Material/Process	Contamination/Hazard	Evidence
Construction of the dock and construction of buildings within the western area of the site and tramways across the western corner which may have utilised imported materials of unknown origin	Metals, semi metals, non-metals, PAH, asbestos	Historical maps
Use of the docks including use and maintenance of the tramways	Hydrocarbons-fuels/oils	Historical maps
Construction of an electrical substation on the south western edge of the dock within the site by the 1940's	Polychlorinated Biphenyls (PCBs)	Historical maps and insurance plans
Land Use: Dock disused by the 1970's		
Material/Process	Contamination/Hazard	Evidence
Infilling of the dock using variable materials of unknown origin	Metals, semi metals, non-metals, PAH, hydrocarbons, asbestos	Historical maps
Removal of associated tramways and lock feature which would have disturbed the ground and may have utilised imported materials of unknown origin to create a level plateau around the dock	Metals, semi metals, non-metals, PAH, hydrocarbons, asbestos	Historical maps
Use of the site as a car park by the 1990's and with the removal of the electrical substation by 2000. Possible earthworks and use of imported materials of unknown origin to create a level development plateau to create the car parking area	Metals, semi metals, non-metals, PAH, asbestos	Historical maps and aerial photos

Existing Uses

The site is currently in use as a car park and is covered with hard surfacing. The existing site uses would not add any additional contamination concerns.

4.7 POTENTIAL CONTAMINATION (CONTINUED)

Adjacent Site Uses

Table 5: Potential Contaminants: Adjacent Site Uses		
Potential Contamination Source	Boundary	Associated Contaminants and Hazards
Existing access and multi-storey car park	Northwest	No Potential Contaminants
Hotel	Southwest	No Potential Contaminants
Pierhead Street	Southeast	No Potential Contaminants
Undeveloped land	Northeast	No Potential Contaminants

4.8 OTHER ENVIRONMENTAL ISSUES

Environmentally sensitive land has not been identified within 500m of the site boundary.

The Envirocheck Report indicates that there have been no pollution incidents to controlled waters recorded on site but one recorded within 250m of the site boundary. The incident was recorded 238m to the southeast and was a Category 2-Significant Incident involving sewage.

There have been no substantiated pollution incidents registered on site or recorded within 500m of the site boundary.

There are three active Contemporary Trade Directory entries recorded within 250m of the site boundary. The nearest two are recorded 241m to the northeast of the site for a Pharmaceutical Manufacturers and a carpet, curtain and upholstery cleaners.

There are three Points of Interest-Commercial Services recorded within 250m of the site boundary. The nearest two were located 143m to the east with the sites categorised as transport, storage and delivery, and vehicle repair, testing and servicing.

There have been no prosecutions relating to controlled waters or to authorised processes recorded or recorded within 1km of the site boundary.

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, assess, estimate, evaluate, and take appropriate action to deal with land contamination, in accordance with the procedures specified in the Environment Agency guidance Land Contamination Risk Management (LCRM) published in October 2020. This replaces the now withdrawn '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 LCRM, the term 'land contamination' is defined as:

- All land affected by contamination – land that might have contamination present which may, or may or may not, meet the statutory definition of contaminated land,
- Land determined as contaminated land under Part 2A of the Environmental Protection Act 1990.

LCRM provides a tiered approach to risk assessment, comprising a preliminary risk assessment (including the development of an initial conceptual site model), a generic quantitative risk assessment and a detailed quantitative risk assessment. For each tier of risk assessment, the following steps must be followed:

1. Identify the hazard - establish contaminant sources,
2. Assess the hazard – use a source-pathway-receptor linkage approach to determine if there is potential for unacceptable risk,
3. Estimate the risk – predict what degree of harm or pollution may result and how likely it is to occur, and
4. Evaluate the risk – decide whether a risk is unacceptable.

LCRM also provides definitions of the following terms:

- Hazard – a property or situation that in particular circumstances could lead to harm or pollution,

5.1 RISK ASSESSMENT FRAMEWORK (CONTINUED)

- Risk – a combination of the probability, or frequency of occurrence of a defined hazard and the magnitude of the consequences of the occurrence,
- Risk assessment – the formal process of identifying, assessing and evaluating the health and environmental risks that may be associated with a hazard,
- Risk management – the formal process to identify, assess and determine the risks, and to select and take action to mitigate them.

The three essential elements to any risk are defined by LCRM as follows:

- A contaminant, or pollutant, that is in, on, or under the land and that has the potential to cause harm, or pollution (Source)
- A route by which a receptor is, or could be affected by a contaminant (Pathway)
- A receptor, i.e. something that could be adversely affected by a contaminant, for example a person, controlled waters, an organism, an ecosystem, or Part 2A receptors such as buildings, crops or animals (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.

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.

5.1 RISK ASSESSMENT FRAMEWORK (CONTINUED)

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.

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.

5.2 CONCEPTUAL MODEL FRAMEWORK (CONTINUED)

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 with the construction of student accommodation. Therefore, the critical sensitive receptor from a human health perspective is an on-site residential receptor.

In accordance with S4UL/C4SL and CLEA guidance for a standard residential scenario without homegrown produce, 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 without homegrown produce conceptual model defined by S4UL/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 'B' Aquifer of the Mercia Mudstone Group.

By considering groundwater as the critical sensitive receptor for controlled waters, the groundwater/hydrogeological risk assessment will also be protective of the nearby surface water features, the nearest of which is located 3m to the east of the site. This feature carries water into Roath Basin and into Cardiff Bay.

5.5 POTENTIAL CONTAMINANT SOURCES

As identified in the desk study, the site was located across the footprint of the former Bute East Dock. The edges of the dock within the western area of the site were indicated to be crossed by tramways which served the dock. These tramways were removed by the 1970's when the dock was closed, and reclamation and filling works commenced at the southern end of the dock.

The potential types of contaminants of concern are listed below:

5.5 POTENTIAL CONTAMINANT SOURCES (CONTINUED)

- Metals, semi-metals, and inorganics within the shallow made ground
- Polyaromatic hydrocarbons (PAH) within the shallow made ground
- Petroleum Hydrocarbons (VPH/EPH) within the shallow made ground
- Asbestos within the shallow made ground.

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
- 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 walk over 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.

5.7 SUMMARY OF CONCEPTUAL EXPOSURE MODEL (CONTINUED)

Table 6: Preliminary Conceptual Exposure Model				
Source		Receptor	Pathway	Potentially Active Pathway?
Origin	Contaminant			
Made Ground of unknown origin and historical land uses	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons, asbestos	Resident – human health	Dermal Contact with made ground/dust	✓
			Ingestion of soil	✓
			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	pH and water-soluble sulphate	Building Materials Durability	Direct contact	✓
Ground Gas – organic, gas producing materials	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+A1:2020, the Code of Practice for Site Investigations, BS10175:2011+A2:2017, 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.

An investigation comprising five windowless sample boreholes, and three shell and auger boreholes was carried out during January 2022.

The windowless sample holes were drilled using a tracked competitor windowless sampling rig and located at readily accessible areas across the site and drilled to depths of 5.0m below the existing ground level, apart from WS03 which was terminated at 2.6m depth due to refusal on an obstruction. The windowless sample boreholes were drilled in order to examine the shallow ground conditions. In-situ standard penetration testing was undertaken at regular depth intervals within the windowless sample holes. The tarmac surfacing was cored at each location prior to drilling. In conjunction with the windowless sampling works in situ CBR by DCP Probe was undertaken at each location.

The shell and auger boreholes were located across the site and drilled to a maximum depth of 20.8m below existing ground level. The purpose of the boreholes was to prove the deeper ground conditions and allow an assessment of the most appropriate foundation type for the proposed development. In situ strength testing (SPT/CPTs) was carried out at regular intervals within the boreholes. Ground gas monitoring standpipes were installed within the three boreholes following completion of the drilling works.

Representative soil samples were taken from the boreholes 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.

A programme of gas monitoring was commenced as soon as the site works were complete.

6.1 FIELDWORKS (CONTINUED)

The fieldworks were supervised by a qualified Geotechnical Engineer from Intégral Géotechnique (Wales) Limited who also logged the windowless samples and cable percussion boreholes and prepared their detailed engineering logs in accordance with the requirements of BS5930:2015+A1:2020. 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 windowless sample and shell and auger boreholes are shown on Figure 2, while their logs are presented in Appendices C and D respectively. The results of the CBR by DCP Probing are presented in Appendix E.

6.2 FIELD OBSERVATIONS

Generally, no visual or olfactory evidence of any contamination was observed during the drilling of the boreholes. However, the made ground encountered in WS01 between 2.7m and 3.6m depth did note a faint hydrocarbon odour and sheen.

6.3 LABORATORY CHEMICAL TESTING

Representative soil samples were taken from the windowless sample boreholes across the site, stored at the appropriate temperature and dispatched to the laboratories of i2 Analytical for laboratory chemical testing.

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 screen	

6.3 LABORATORY CHEMICAL TESTING (CONTINUED)

The results of all the soil testing are presented in Appendix F.

6.4 LABORATORY GEOTECHNICAL TESTING

Representative samples of in-situ material were dispatched to the UKAS accredited laboratory of Apex Testing Solutions and scheduled for moisture content, water soluble sulphates, pH, and Atterberg Limits.

The results of all the geotechnical testing are presented in Appendix G.

6.5 IN-SITU GAS MONITORING

Gas monitoring standpipes were installed in all of the shell and auger boreholes, and these have been monitored at fortnightly intervals following completion of the fieldworks.

The gas monitoring programme commenced on 3rd February 2022.

The concentration levels of methane, carbon dioxide and oxygen were measured in the standpipes during each visit by using a GA5000 Landfill Gas Analyser. In addition, gas flow rate and the atmospheric pressure at the time of the field measurements were also recorded.

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.

All six rounds of gas monitoring have been completed.

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

7.0 GROUND CONDITIONS

7.1 SUMMARY OF GROUND CONDITIONS

The ground conditions encountered generally comprised made ground, underlain by superficial Tidal Flat Deposits, comprising cohesive materials overlying granular deposits, overlying the Mercia Mudstone bedrock.

At the time of the intrusive works the site was utilised as a car park and covered with tarmac hard surfacing.

A summary of the ground conditions encountered across the site is presented below in Table 7.

Table 7: Summary of Ground Conditions		
Depth (m)		Stratum
From	To	
GL	0.30/0.75	Tarmac surfacing overlying loose reddish brown gravelly SAND or sub angular fine to medium limestone GRAVEL (sub-base)
0.30/0.75	9.60/9.80	MADE GROUND: Highly variable but typically comprising loose in layers medium dense and dense and with depth becoming very loose black, dark grey in areas grey and grey brown clayey sandy GRAVEL/gravelly SAND. Gravel is fine to coarse angular and sub angular mudstone, limestone, shale, ash, clinker, ceramic, burnt coal, vitreous slag, sandstone, brick, concrete and slate
9.60/9.80	14.30/15.50	Very soft and soft grey brown silty slightly sandy thinly laminated CLAY with occasional gravels with depth becoming gravelly
14.30/15.50	18.10/18.60	Medium dense brown and grey slightly silty sandy GRAVEL with occasional cobbles of rounded sandstone. Gravel is fine to coarse rounded and sub rounded sandstone
18.10/18.60	>20.70/20.80	Stiff red brown mottled grey silty CLAY with frequent fine to coarse angular gravel sized mudstone lithorelicts. Grading into hard becoming extremely weak friable mudstone at 20m depth (recovered as fine to coarse tabular extremely weak mudstone gravel with some clay matrix)

7.2 MADE GROUND

All of the windowless sample boreholes were terminated within the made ground at 5.0m depth. WS03 was terminated at 2.6m depth due to refusal with dense strata.

The made ground encountered within WS01 between 2.7m and 3.6m depth was found to have a faint hydrocarbon odour and sheen.

WS02 encountered bands of made ground which comprised stiff grey black and black slightly sandy very gravelly clay. Gravel is fine to medium mudstone, slate, shale, red brick, rare ceramic, wood and burnt coal between 0.5m to 1.4m and 1.65m to 2.3m depths.

The made ground encountered within WS04 was mainly cohesive in nature and comprised soft, locally soft to firm grey to grey black gravelly clay with low cobble content. Gravel is sub-angular fine to medium sandstone, shale, mudstone, red brick fragments, slag and concrete underlain by soft grey brown clay to 3.7m depth. The made ground was then found to comprise soft and soft to firm grey black and grey brown silty sandy gravelly clay. Gravel is sub-rounded to sub-angular fine to medium of mudstone and sandstone.

WS05 encountered a band of made ground which comprised stiff reddish brown very gravelly sandy clay. Gravel is sub-angular fine to medium mudstone, sandstone and rare flint underlain by stiff grey brown speckled black slightly silty clay. This windowless sample borehole also encountered an inclusion of iron plate at approximately 3.4m depth.

7.3 SUPERFICIAL DEPOSITS

The superficial materials were only encountered within the deeper shell and auger boreholes. The superficial deposits were encountered from 9.6/9.8m depth and found to comprise very soft and soft cohesive clays overlying medium dense granular sandy gravels. The thickness of the superficial deposits was not proven within BH02 with an obstruction encountered at 17.2m depth.

SPT N values ranged from typically 3 to 5 within the clay deposits and from 17 to 30 within the gravels.

A sample of the cohesive superficial materials taken from BH01 at 11m was subjected to geotechnical analysis for Atterberg Limits. The results indicate that the materials exhibit a plasticity index of 23% and that 27% of the materials passed through the 0.425mm sieve. As such, in accordance with NHBC (Chapter 4.2) these findings indicate that the materials have a negligible volume change potential with modified plasticity index of 6%.

7.4 WEATHERED BEDROCK

Weathered bedrock was encountered within BH01 and BH03 at depths of 18.6m and 18.1m below existing ground level respectively. The material was found to become less weathered at approximately 20m depth with the stiff clays grading into extremely weak friable mudstone.

A sample of the weathered bedrock taken from BH03 at 18.5m was subjected to geotechnical analysis for Atterberg Limits. The results indicate that the materials exhibit a plasticity index of 13% and that 81% of the materials passed through the 0.425mm sieve. As such, in accordance with NHBC (Chapter 4.2) these findings indicate that the materials have a low volume change potential with modified plasticity index of 10%.

7.5 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.

The boreholes encountered perched groundwater within the made ground and groundwater was also struck in the shell and auger boreholes within the granular superficial deposits.

The made ground within the windowless sample boreholes were found to be wet below 3.0m depth. Groundwater was struck between 4.0m and 5.0m depth within WS04. Perched groundwater was encountered within the shell and auger boreholes at depths of between 3.8m and 3.9m. groundwater was also struck within the granular superficial deposits at depths of 15.5m, 14.6m and 14.3m within BH01, BH02 and BH03 respectively.

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 without 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 1.1% to 6.3%, the results have been compared to the respective guidelines, where applicable, for 1% soil organic matter content.

The soil test results are shown in Appendix F and have been summarised and shown in Appendix I.

8.2.1 *Made Ground*

The results of the laboratory testing indicate that most of the analysed chemical elements or compounds are present at concentrations below the appropriate thresholds. However, the initial screening indicates exceedances of Beryllium, a number of speciated PAH compounds and an isolated elevated hydrocarbon in the Aromatic C21-C35 band. One sample also detected the presence of asbestos.

Samples taken from WS02 at 0.6m and WS03 at 0.8m depth recorded concentrations for Beryllium of 2.2mg/kg and 5.2mg/kg respectively which are above the recommended threshold level of 1.7mg/kg.

8.2 SOIL CONTAMINATION(CONTINUED)

Elevated concentrations of Benzo(a)anthracene of 60mg/kg and 24mg/kg were recorded within samples taken from WS01 at 3.1m and WS05 at 0.5m depth respectively which are above the recommended threshold level of 11mg/kg.

Elevated concentrations of Benzo(a)pyrene of 6.7mg/kg, 110mg/kg, 4mg/kg and 23mg/kg were recorded within samples taken from WS01 at 1.0m, WS01 at 3.1m, WS02 at 0.6m and WS05 at 0.5m depth respectively which are above the recommended threshold level of 3.2mg/kg.

Elevated concentrations of Benzo(b)fluoranthene of 6.1mg/kg, 73mg/kg and 27mg/kg were recorded within samples taken from WS01 at 1.0m, WS01 at 3.1m and WS05 at 0.5m depth respectively which are above the recommended threshold level of 3.9mg/kg.

A single elevation of Chrysene of 59mg/kg was recorded with a sample taken from WS01 at 3.1m depth which is above the recommended threshold level of 30mg/kg.

Elevated concentrations of Dibenzo(ah)anthracene of 0.68mg/kg, 6.4mg/kg, 0.52mg/kg and 3.7mg/kg were recorded within samples taken from WS01 at 1.0m, WS01 at 3.1m, WS02 at 0.6m and WS05 at 0.5m depth respectively which are above the recommended threshold level of 0.31mg/kg.

A single elevation of Indeno(123cd)pyrene of 52mg/kg was recorded with a sample taken from WS01 at 3.1m depth which is above the recommended threshold level of 45mg/kg.

Elevated concentrations of Naphthalene of 4.6mg/kg, 43mg/kg and 4.1mg/kg were recorded within samples taken from WS01 at 1.0m, WS01 at 3.1m and WS05 at 0.5m depth respectively which are above the recommended threshold level of 2.3mg/kg.

A single elevated concentration of petroleum hydrocarbons in the aromatic hydrocarbon range of C21-C35 within a sample of made ground taken from WS01 at 3.1m depth. An elevation of 2500mg/kg was recorded above the adopted screening value of 1900mg/kg.

The highest elevations of the speciated PAH's and the elevated petroleum hydrocarbon band was recorded within the sample taken from WS01 at 3.1m depth where a faint hydrocarbon odour and sheen was noted during the logging.

8.2 SOIL CONTAMINATION (CONTINUED)

Asbestos has been identified in one out of the six samples tested. Hard/Cement type chrysotile asbestos were identified within a sample of made ground taken from WS05 at 0.5m depth. The sample was sent for quantification testing at the laboratory and the result indicates 0.01% total asbestos in the sample.

No further exceedances 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 the drilling of the boreholes. At the time of writing this report no samples of natural ground had been tested. It is considered likely that concentrations of determinands within the natural ground are likely to be naturally occurring and as such, the natural ground poses no significant threat to human health or the environment.

8.3 GROUND GASES

Ground gas was monitored on a fortnightly basis using a GA 5000 Gas Analyser. The results of the gas monitoring programme to date are included in Appendix H. A summary of the results is given in the following Table 8.

Table 8: Summary of Ground Gas Results				
Borehole	Maximum Methane Concentration (%)	Maximum Carbon Dioxide Concentration (%)	Minimum Oxygen Concentration (%)	Gas Flow Rate (l/hr)
BH01	0.2	0.2	13.6	0.1
BH02	<0.5	0.1	16.2	<0.3
BH03	0.2	0.2	15.2	0.1

Note: Results based on all six rounds of monitoring being completed.

The results show a maximum methane concentration of 0.2% and a maximum carbon dioxide concentration of 0.2%. A maximum gas flow rate of 0.1l/hr was measured during the gas monitoring programme to date.

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 9: Revised Conceptual Exposure Model

Source		Receptor	Pathway	Preliminary Active Pathway?	Relevant Pollutant Linkage	Justification/ Mitigation
Origin	Contaminant					
Made Ground of unknown origin and historical land uses	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons, Asbestos	Resident – human health	Dermal Contact with made ground/dust	✓	✓	Elevated concentrations of beryllium, PAH compounds, petroleum hydrocarbons and asbestos identified within the made ground <i>Risk assess</i>
			Ingestion of soil	✓	✓	
			Inhalation of dust	✓	✓	
			Inhalation of vapours – indoor/outdoor	✓	X	
	Metals, semi-metals, inorganics, PAH, petroleum hydrocarbons	Groundwater quality	Leaching from made ground	✓	✓	Elevations recorded within the made ground <i>Risk assess</i>
	Metals, semi-metals, inorganics, PAH, petroleum hydrocarbons	Surface water quality	Transportation within groundwater	✓	✓	Groundwater not tested during this investigation <i>Risk assess</i>
Made Ground of unknown origin and natural ground	pH and water-soluble sulphate	Building Materials Durability	Direct contact	✓	✓	Building materials will be in contact with made ground and in-situ materials <i>Risk assess</i>

9.0 REVISED CONCEPTUAL EXPOSURE MODEL (CONTINUED)

Table 9: Revised Conceptual Exposure Model (Continued)						
Source		Receptor	Pathway	Preliminary Active Pathway?	Relevant Pollutant Linkage	Justification/ Mitigation
Origin	Contaminant					
Ground Gas – organic, gas producing materials	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. Gas monitoring programme ongoing <i>Risk assess</i>

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. Any pathways considered to be inactive were 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. The site is largely covered by tarmacadam and is fenced off.

10.3 HUMAN HEALTH RISK ASSESSMENT (CONTINUED)

10.3.2 *Future Site Users*

The contamination test results and investigation observations show elevated concentration levels in the made ground of beryllium and PAH, an isolated elevation of petroleum hydrocarbons and asbestos within one sample.

Given the elevated beryllium, PAH and petroleum hydrocarbon concentrations and a detection 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,
- Inhalation of soil bourn 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.

It is therefore considered necessary to protect end users from the elevated concentrations of beryllium, PAH and petroleum hydrocarbon and from the presence of asbestos in the made ground. It is considered necessary to break the above listed relevant pollutant linkages in order to remove the potential risk.

The proposed residential apartment development involves the majority of the site being covered by either the building footprint or areas of hardstanding and therefore eliminating the pathway between future site users and the made ground.

In any proposed areas of soft landscaping, it is recommended that a capping layer, of a minimum thickness of 600mm, of clean imported subsoil and topsoil is placed over a high visibility separation geotextile membrane.

The combination of the building footprint, areas of hardstanding and capping soils placed over an anti-mixing membrane over any soft landscaped areas would break all the above listed relevant pollutant linkages and remove the potential risk to future end users.

10.3 HUMAN HEALTH RISK ASSESSMENT (CONTINUED)

10.3.3 Construction Workers

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. 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 while excavating/re-using the excavated made ground.

- Excavations will need to be regularly damped down to prevent any dust that may contain asbestos becoming airborne
- Any excavated materials will need to be inspected and hand-picked of any observed asbestos containing materials (ACM) by an appropriate qualified asbestos awareness trained operative. The hand-picked asbestos will need to be double bagged and disposed off-site as hazardous waste at an appropriate facility
- Any excavated materials should be quarantined and regularly dampened down to prevent any dust that contain asbestos becoming airborne
- Appropriate PPE/RPE to be worn by all workers, as appropriate
- Asbestos/dust/air monitoring, and
- All works to be carried out in accordance with an appropriate risk assessment and manages in accordance with the requirements of the Control of Asbestos Regulations 2012.

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.

10.3 HUMAN HEALTH RISK ASSESSMENT (CONTINUED)

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. Routine visual checks should be made for any occurrences of asbestos containing materials and for the hand picking of any occurrences.

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 zinc and copper in the made ground materials, indicate the potential for adverse effects to vegetation with recorded concentrations elevated above the maximum recommended concentrations of 300mg/kg and 200mg/kg respectively. 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 an underlying hi-visibility geotextile separation membrane. If larger shrubs or trees are proposed deeper planting pockets may be required.

10.5 GROUNDWATER RISK ASSESSMENT

Elevated concentrations of beryllium and PAH were encountered across the site and with a locally elevated petroleum hydrocarbon within the made ground.

Significant shallow groundwater inflows were not noted during the drilling of the boreholes but perched groundwater was noted below 3.0m depth.

In the developed state, the site will be covered by either the building footprint or areas of hardstanding. The limited areas of soft landscaping will be covered by a minimum 600mm thick capping layer of clean, inert subsoil and topsoil materials placed over a high visibility geotextile separation membrane. It is therefore considered that the potential for rainfall infiltration into the made ground, subsequent leachate generation from the made ground and the potential for vertical migration of unacceptable leachate concentrations to impact the underlying groundwater is considered to be low. The made ground is also underlain by impermeable Tidal Flat Deposits.

10.5 GROUNDWATER RISK ASSESSMENT (CONTINUED)

Groundwater monitoring may be required to be undertaken to confirm this assumption

Foundations will be piled. These piled foundations will penetrate the made ground, alluvium, gravels and bear into the bedrock.

Dependent upon the type of pile selected, the piles could create a preferential pathway for contamination migration. Alternatively, the construction of the piles could result in made ground materials penetrating the natural deposits posing a potential risk to groundwater.

A foundation works risk assessment will be required to confirm the risks associated with piling and to inform the selection of an appropriate technique.

10.6 GROUND GAS RISK ASSESSMENT

The results of the gas monitoring programme indicated a maximum methane concentration of 0.2% and a maximum carbon dioxide concentration of 0.2%.

A maximum gas flow rate of 0.1l/hr was measured during the gas monitoring programme.

In accordance with CIRIA Report C665 a Gas Screening Value (GSV) of 0.0002 l/hour has been calculated. This GSV corresponds to gas characteristic situation 1 which does not require any special gas protective measures.

Reference should also be made to BS8485:2015 +A1:2019. In accordance with BS8485:2015 +A19:2019 and based on the results of the gas monitoring with the site being classified as Characteristic Situation 1 (CS1), for Development Type B (private with building management control), the minimum gas protection score required is zero, and therefore no specific gas protection measures are required.

However, as a precaution reflective of the presence of the significant amount of made ground present underlying the site it is recommended that Characteristic Situation 2 (CS2) is adopted. Typical scope of protective measures for CS2 include:

- Reinforced concrete cast in situ floor slab (suspended or raft) or beam and block or precast concrete slab, both with minimum 2000g DPM/ reinforced gas membrane;
- All joints and penetrations sealed.
- Passively ventilated underfloor sub-space or positively pressurised underfloor subspace.

10.6 GROUND GAS RISK ASSESSMENT (CONTINUED)

It should be noted that this classification is based on all six rounds of gas monitoring being completed.

No radon protective measures are required.

10.7 RISKS TO BUILDINGS AND MATERIALS DURABILITY

10.7.1 Concrete Classification

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

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 and the in-situ materials.

Made Ground

In accordance with BRE Digest SD1:2005 and adopting the assessment procedure specified therein for brownfield sites, the laboratory chemical test results indicate a characteristic value (taking the highest of the test results) for water soluble sulphate within the made ground of 480mg/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 made ground of 8.5 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-1 for concrete structures constructed within the made ground.

Tidal Flat Deposits

In accordance with BRE Digest SD1:2005 and adopting the assessment procedure specified therein for brownfield sites, the laboratory chemical test results indicate a characteristic value (taking the highest of the test results) for water soluble sulphate within the natural ground of 243mg/l.

10.7 RISKS TO BUILDINGS AND MATERIALS DURABILITY (CONTINUED)

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 of 8.9 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-1 for concrete structures constructed within the Tidal Flat Deposits.

Mercia Mudstone

In accordance with BRE Digest SD1:2005 and adopting the assessment procedure specified therein for brownfield sites, the laboratory chemical test results indicate a characteristic value (taking the highest of the test results) for water soluble sulphate within the natural ground of 46mg/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 of 9.2 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-1 for concrete structures constructed within the Mercia Mudstone.

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) 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.

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.

Based on the data obtained from the site investigation works, any waste materials comprising the existing made ground are likely to be classified as hazardous waste. The existing natural ground is likely to be classified as non-hazardous waste. 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.

11.0 ENGINEERING CONSIDERATIONS AND RECOMMENDATIONS

11.1 DETAILS OF PROPOSED DEVELOPMENT

The proposed development will comprise the construction of a new student accommodation block to include private bedrooms, study rooms and living/kitchen areas. The building will also include an entrance with communal areas and a ground floor retail/coffee shop. The building will be approximately L-Shaped and fronting onto Pierhead Street with the building extending along the eastern boundary of the site. A visual amenity space and private car parking will be provided to the rear of the building.

Drawing No. AS21.65.L.01.00.210802.sk1 produced by Expedite shows the Site Plan Capacity Sketch-Ground.

It should be noted that the following recommendations are based on the finished ground levels being at, or close to, existing levels. If ground levels are to be raised above the existing levels by more than 0.5m, it will be necessary to undertake a settlement assessment.

11.2 SITE PREPARATION

Prior to works commencing on site, any services within the site area 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 original dock feeder culvert should be accurately located as well as other buried obstructions associated with the dock and inner lock walls in order to assess how they will affect the proposed foundation construction. Subsequent to the findings of the recommended investigation of the historic dock feeder/culvert, engineering mitigation measures may be required, such as collapsing, grouting or removal of the culvert.

The approximate locations of the known obstructions are indicated on Figure 3.

All shallow obstructions should be removed from beneath the proposed building and also from beneath access roads and hardstanding areas to prevent any potential hard spots. Probing of pile locations in close proximity of the dock wall and base is recommended to confirm if obstructions can be avoided by amending the pile layout or whether the piles can be constructed through the obstructions by pre coring the pile locations.

Shallow obstructions can be removed using conventional methods and hydraulic breakers.

11.2 SITE PREPARATION (CONTINUED)

The resulting voids and excavations should be brought back up to the required level with suitable acceptable granular fill material 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.

A system should be established for identification and dealing with any, unforeseen contamination 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.

Consideration should be given to protection of adjacent structures during site clearance and construction phase.

All materials to be disposed of off-site should be sent to a suitably licensed facility. Licensed tips may require additional waste classification and Waste Acceptance Criteria testing of materials to ensure compliance with their current licence agreements.

Allowances should be made for appropriate pollution prevention measures to be in place during the construction phase. Pollution prevention measures should be included within the appointed contractor's method statements and agreed with the appropriate regulator prior to commencement. The required pollution prevention measures should include, but not be limited to, the following;

- Protection/diversion of any active surface water drains that cross the site;
- Segregation of arising's from piling operations and/or excavation works;
- Stockpiled materials are to be sealed from the weather, placed on a suitable impermeable surface and bunded to prevent run-off;
- Exposed formations are to be regularly damped down to prevent fugitive dust emissions; and
- Appropriate boundary air and dust monitoring.

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

Due to the anticipated structural loads of the proposed multi-storey building, the thickness and variable nature of made ground and the low in-situ strength of the natural soils underlying the site, it is recommended that the proposed building utilises piled foundations taken down and constructed in the underlying mudstone bedrock strata.

Pile locations should ideally avoid the buried structures at the site to avoid the requirement for pre-drilling of pile locations.

The ground conditions encountered beneath the site typically comprise a variable thickness of made ground down to approximately 9.6m/9.8m depth, overlying superficial deposits typically comprising of very soft to soft cohesive deposits grading into medium dense sandy gravels with cobbles. The superficial deposits were further underlain by the weathered strata of the Mercia Mudstone Group from typically 18.1m/18.6m depth.

For the proposed multi-storey building, Continuous Flight Auger (CFA) piles are considered to be the most appropriate founding technique, with suitably designed rock sockets within the Mercia Mudstone Formation. Typically, a 5m rock socket into the Mercia Mudstone bedrock is recommended.

If an augured piling system is adopted, it will be necessary to segregate the made ground arisings from the natural soil arisings for appropriate off-site disposal.

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.

A suspended floor slab system will be required for the proposed development.

Based on the results of the gas monitoring programme to date, CS₂ gas protective measures are recommended.

Radon protective measure are not required.

11.4 EXCAVATIONS AND FORMATIONS

Most 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 hardstanding and buried obstructions/foundations, etc. The potential for pre-coring pile locations should also be allowed for.

11.4 EXCAVATIONS AND FORMATIONS (CONTINUED)

Perched water was encountered at depths of between 3.8m and 4.0m below existing ground level during the site investigation works. It is considered that any groundwater inflows together with any rainfall within excavations could be controlled by the use of conventional pumping techniques to sumps. Any hydrocarbon impacted pockets of perched water, if present, should be pumped through fuel traps.

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

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

The exposed formation 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

The in-situ CBR by DCP Probe tests recorded shallow CBR values within the made ground of between 18.1% and 39.3%.

Despite these higher values, following site strip there are likely to be variations in the strength of the materials at the formation levels. Subject to confirmatory in situ California Bearing Ratio (CBR) testing, it is recommended that for design purposes CBR values of 2% to 4% could be assumed for the existing made ground deposits.

Formations within cohesive deposits should be regarded as frost susceptible.

It will be necessary to ensure their performance, and hence contingencies should be allowed for the removal of any soft spots/areas and their replacement with well compacted granular fill materials. These should be placed in well compacted layers, in accordance with Department of Transport (DTp) Specification for Highway Works.

Allowances should be made for undertaking field CBR tests in order to confirm the above assumptions. Depending on the outcome of such field tests, the above recommendations may be revised and amended, if necessary.

11.6 DRAINAGE

Due to the presence of a thick layer of variable, in areas contaminated, made ground underlain by negligible permeability clay deposits and a perched groundwater table, infiltration drainage systems are not considered feasible at the site.

Drainage runs are likely to be within loose and variable made ground materials or soft/very soft clay deposits. Due to the potential for total and differential settlement within the compressible clay deposits, we recommend that the drainage be designed using steep gradients and flexible joints to prevent backfalls occurring and possible misalignment and breakage of the drainage system.

It is recommended that a drainage engineer is consulted for the detailed design with regard to actual falls adopted and provision of adequate rocker details to drainage runs and at the junction with piled structures, in order to accommodate the likely assumed differential settlements and meet the technical requirements for sewers for adoption.

Special care should also be taken at the entry of the services into the proposed structure crossing the locations of the buried dock walls where a considerable degree of flexibility should also be allowed to deal with likely differential movements. The above measures will not prevent long term total and differential settlements occurring; however, they should make the future maintenance of these underground services more tolerable.

The mains water supply provider should be consulted with regard to suitable pipe selection.

APPENDIX A

PRELIMINARY UXO RISK ASSESSMENT



Preliminary UXO Risk Assessment

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Client	Intégral Géotechnique
Project	Merchant Place and Pierhead Street
Site Addresses	Bute Street, CF10 5AL and Pierhead Street, CF10 4PH (Cardiff)
Report Reference	PA14806-00
Date	17/12/21
Originator	ER

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at the Merchant Place and Pierhead Street sites. The assessment involves the consideration of the basic factors that affect the potential for UXO to be present at a site as outlined in Stage One of the UXO risk management process.

Background

This assessment uses the sources of information available in-house to 1st Line Defence Ltd to enable the placement of a development site in context with events that may have led to the presence of German air-delivered or Allied military UXO. The report will identify any immediate necessity for risk mitigation or additional research in the form of a Detailed UXO Risk Assessment. It makes use of 1st Line Defence's extensive historical archives, library and unique geo-databases, as well as internet resources, and is researched and compiled by UXO specialists and graduate researchers.

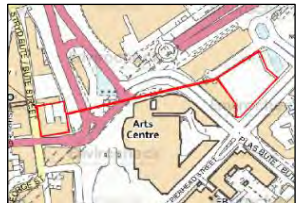
The assessment directly follows CIRIA C681 guidelines "Unexploded Ordnance, a Guide for the Construction Industry". The document will therefore assess the following factors:

- Basic Site Data
- Previous Military Use
- Indicators of potential aerial delivered UXO threat
- Consideration of any Mitigating Factors
- Extent of Proposed Intrusive Works
- Any requirement for Further Work

It should be noted that the vast majority of construction sites in the UK will have a low or negligible risk of encountering UXO and should be able to be screened out at this preliminary stage. The report is meant as a common sense 'first step' in the UXO risk management process. The content of the report and conclusions drawn are based on basic, preliminary research using the information available to 1st Line Defence at the time this report was produced. It should be noted that the only way to entirely negate risk from UXO to a project would be to support the works proposed with appropriate UXO risk mitigation measures. It is rarely possible to state that there is absolutely 'no' risk from UXO to a project.





Risk Assessment Considerations	
Site location and description/current use	<p>Both sites are located in the City of Cardiff.</p> <p>Recent aerial photography dated 2021 indicates that the site at Merchant Place (Site A) consists of multi-storey buildings bound to the north by a building, to the east by open, vegetated ground, to the south by James Street (A4119) and to the west by Bute Street.</p> <p>The site at Pierhead Street (Site B) is understood to comprise hardstanding ground bound to the north by Falcon Drive, to the east by open vegetated ground, to the south by Pierhead Street and to the west by a multi-storey building.</p> <p>The sites are approximately centred on the OS grid references: ST 19125 74637 (Site A) and ST 19436 74712 (Site B).</p> 
Are there any indicators of current/historical military activity on/close to the site?	<p>Site B is understood to have formed part of <i>Bute East Dock</i> during WWII. The Cardiff Docks area was vital to the British war effort – at the outbreak of WWII, the city was the largest coal-exporting port in the United Kingdom.¹ It is also thought that military supplies were stored at and shipped from Cardiff Docks during the war.²</p> <p>Despite this historical usage, no features such as WWII defensive positions, encampments or firing ranges are recorded to have been located at or in the immediate vicinity of the two site areas. In addition, 1st Line Defence could find no evidence to suggest that items of ordnance have ever been produced, stored or disposed of within the sites or their immediate vicinity.</p> <p>The closest recorded heavy anti-aircraft (HAA) batteries were situated approximately 2km south-east of the site. The conditions in which unexploded anti-aircraft ordnance may have fallen unrecorded are analogous to that of aerial German bombs.</p>
What was the pre- and post-WWII history of the site?	<p>Pre-war OS mapping dated 1915 indicates that Site A comprised buildings labelled <i>Customs House</i>. It was bound to the north by a building, to the east by open ground and rail tracks, to the south by <i>Bute Place</i> and to the west by the <i>Bute Street</i> tramway.</p> <p>Site B consisted of water/part of <i>Bute East Dock</i>, as well as hardstanding ground and rail track in the west. It was bound to the north and east by water within the dock and to the south and west by hardstanding ground.</p> <p>Post-war OS mapping dated 1954-70 revealed little change on either site. The buildings on Site A were labelled <i>Mercantile Marine Office</i>, <i>Cory's Buildings</i> and <i>Customs House</i> and several buildings had been developed adjacent to the boundary of Site B.</p>
Was the area subject to bombing during WWII?	<p>During WWII, the sites were situated within the County Borough of Cardiff, which according to official Home Office statistics sustained an overall low-moderate density of bombing, with an average of 41.7 bombs recorded per 1,000 acres. This consisted of 536 high explosive (HE) bombs, 26 parachute mines and 25 fire pots, totalling 587 incidents over 14,050 acres.</p> <p>No incidents were recorded on site on available Cardiff bomb mapping. However, it should be noted that in-house mapping is not considered comprehensive as it only covered specific raids during the war.</p>

¹ <https://www.walesonline.co.uk/news/wales-news/cardiff-world-war-two-bombs-15827096>

² <https://www.cardiffians.co.uk/suburbs/bute-town-and-cardiff-bay.shtml>





Is there any evidence of bomb damage on/close to the site?	<p>WWII-era aerial photography – available on this occasion – revealed no signs of bomb damaged on either site.</p> <p>When comparing pre- and post-WWII OS mapping, neither site appears to have experienced clearance/significant change.</p>
To what degree would the site have been subject to access?	<p>As Site A comprised buildings in a residential/commercial area of Cardiff, access is anticipated to have been frequent.</p> <p>Although Site B was situated within Cardiff Docks, the area of the site which consisted of water is not thought to have been subject to frequent access.</p>
To what degree has the site been developed post-WWII?	<p>Site A is understood to have not experienced any significant post-war development, aside from the clearance of some structures. In contrast, Site B has undergone extensive redevelopment, as <i>Bute East Dock</i> has been infilled. As such, this site now consists of hardstanding ground.</p> <p>The risk of UXO remaining is considered to be significantly mitigated within areas of post-war redevelopment and post-war fill, provided the fill material was not drawn from a contaminated source.</p>
What is the nature and extent of the intrusive works proposed?	<p>Information provided by the client indicates that future ground investigations would comprise the drilling of windowless sample boreholes to a maximum depth of 5.0m, the drilling of shell and auger boreholes to a maximum depth of approximately 17m and the excavation of trial pits to a maximum depth of 3/4m.</p>

Summary and Conclusions

During WWII, the sites were situated within the County Borough of Cardiff, which according to official Home Office statistics sustained an overall low-moderate density of bombing, with an average of 41.7 bombs recorded per 1,000 acres. Although Cardiff Docks are known to have been a significant Luftwaffe target, no evidence could be found at this preliminary stage to suggest that either site was subject to significant bombing or bomb damage. No incidents were recorded on either site on available Cardiff bomb mapping. In addition, post-WWII OS mapping revealed no signs of clearance/change on either site.

Recommendations

Given the findings of this preliminary assessment, the risk from UXO on the two sites are not anticipated to be above the 'background risk' for this area of Cardiff.

Whilst it would be possible to conduct a Detailed UXO Risk Assessment for these sites, it is not anticipated that any further research would significantly alter the findings of this report. **It is therefore not recommended that any further action is taken for these sites.**

If the client has any anecdotal or empirical evidence of UXO risk on either site, please contact 1st Line Defence.





It should be noted that although the risk from unexploded ordnance on this site has been assessed as low/minimal, this does not mean there is 'no' risk of encountering UXO. This preliminary report has been undertaken with due diligence, and all reasonable care has been taken to access and analyse relevant historical information. By necessity, when dealing with historical evidence, and when making assessments of UXO risk, various assumptions have to be made which we have discussed and justified within this report. Our reports take a common-sense and practical approach to the assessment of UXO risk, and we strive to be reasonable and pragmatic in our conclusions. As referenced, it would be possible to undertake further research into this site, but based on the evidence to hand, this is not deemed strictly necessary, and no reasonably justifiable requirement for proactive on-site mitigation has been identified.

It should however be stressed that if any suspect items are encountered during the proposed works, 1st Line Defence should be contacted for advice/assistance, and to re-assess the risk as necessary. Furthermore, we would recommend that ground personnel are always made aware of the potential for encountering UXO, what to look out for and what to do in the unlikely event that a suspect item is encountered, and that a UXO Risk Management Plan is put together for the proposed works. We would be happy to provide a template and guidance for this – contact us on 01992 245020. Should the scope of works change or additional works be proposed, 1st Line Defence should be contacted to re-evaluate the risk.



APPENDIX B

ENVIROCHECK REPORT

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

289300406_1_1

Customer Reference:

12967/LP

National Grid Reference:

319440, 174710

Slice:

A

Site Area (Ha):

0.5

Search Buffer (m):

1000

Site Details:

Plot 5, Pierhead Street

Butetown

Cardiff

CF10 4PH

Client Details:

MR H Pritchard

Integral Geotechnique

Integral House

7 Beddau Way

Castlegate Business Park

Caerphilly

CF83 2AX

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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		1	34	39
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices	pg 20				1
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 20				12
Local Authority Integrated Pollution Prevention And Control	pg 23				2
Local Authority Pollution Prevention and Controls	pg 23			2	18
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 26		Yes		
Pollution Incidents to Controlled Waters	pg 26		1	2	2
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 27				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 27				2
Water Abstractions	pg 28			4	(*14)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 32	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 32	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 32	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 33		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 35		Yes	n/a	n/a
Areas Benefiting from Flood Defences	pg 39		Yes	n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 39		10	15	8

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 44				1
Historical Landfill Sites	pg 44	2	6		12
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 48				1
Licensed Waste Management Facilities (Locations)	pg 48			4	20
Local Authority Landfill Coverage	pg 54	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 54	1	3	3	25
Registered Landfill Sites	pg 56		1	1	4
Registered Waste Transfer Sites	pg 58				3
Registered Waste Treatment or Disposal Sites	pg 59			1	1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 60				2
Explosive Sites	pg 60		1		
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 61	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 61	Yes		Yes	
BGS Recorded Mineral Sites	pg 61		1	1	5
BGS Urban Soil Chemistry	pg 62		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 65	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards				n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 65	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 66	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 66	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 66	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 67		7	21	127
Fuel Station Entries	pg 80			1	1
Points of Interest - Commercial Services	pg 81		3	3	27
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 83		4	7	57
Points of Interest - Public Infrastructure	pg 89			4	22
Points of Interest - Recreational and Environmental	pg 91			2	7
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 93				2
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: Potential for Groundwater Flooding to Occur at Surface	A13SW (S)	0	1	319435 174700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (SW)	19	1	319400 174650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	22	1	319400 174750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (W)	43	1	319350 174700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	64	1	319450 174600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (S)	133	1	319500 174550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (W)	140	1	319250 174714
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (E)	171	1	319650 174700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (SW)	177	1	319250 174600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	207	1	319400 174450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	230	1	319450 175000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	230	1	319435 175000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (S)	308	1	319450 174350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	320	1	319750 174550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SW (N)	330	1	319435 175100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	342	1	319800 174600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	344	1	319650 174400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	345	1	319700 174450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (SE)	355	1	319600 174350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	357	1	319400 174300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (S)	366	1	319500 174300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	379	1	319700 174400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	407	1	319150 174350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	408	1	319450 174250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	427	1	319550 174250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	442	1	319800 175050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	457	1	319450 174200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	475	1	319550 174200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	490	1	318900 174714
1	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Undefined Or Other Location: Bute East Dock Cardiff Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0048101 Permit Version: 1 Effective Date: 27th November 1987 Issued Date: 27th November 1987 Revocation Date: 3rd September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	242	2	319310 174440
1	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: Pierhead Building Cardiff Docks, Cardiff, Cardiff Cbc, Cf10 4pz Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AN0033418 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	268	2	319275 174430
1	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: Pierhead Building Cardiff Docks, Cardiff, Cardiff Cbc, Cf10 4pz Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0033418 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	268	2	319275 174430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: Pierhead Building Cardiff Docks, Cardiff, Cardiff Cbc, Cf10 4pz Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033418 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th March 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	270	2	319270 174430
2	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: Cardiff Docks-Outfall 44 Britianna, Britianna Rd Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033417 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th March 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A13SW (S)	256	2	319320 174420
2	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: Cardiff Docks-Outfall 44 Britianna, Britianna Rd Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033417 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: 11th October 1996 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A13SW (S)	278	2	319340 174390
3	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Not Supplied Location: A Sps At Queensgate North Site, A Sewage Pumping Station, Off Hemminway Road, Cardiff Bay Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0327301 Permit Version: 1 Effective Date: 10th December 2002 Issued Date: 10th December 2002 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Dock Feeder @ Bute East Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A18SE (N)	290	2	319503 175056

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Not Supplied Location: A Sps At Queensgate North Site, A Sewage Pumping Station, Off Hemminway Road, Cardiff Bay Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0327301 Permit Version: 1 Effective Date: 10th December 2002 Issued Date: 10th December 2002 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Dock Feeder @ Bute East Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A18SE (N)	290	2	319503 175056
3	Discharge Consents Operator: The Development Director Property Type: Sewerage Network - Pumping Station - Others Location: A Sps At Queensgate North Site, A Sewage Pumping Station, Off Hemminway Road, Cardiff Bay Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: An0327301 Permit Version: 1 Effective Date: 10th December 2002 Issued Date: 10th December 2002 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Dock Feeder @ Bute East Dock 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	A18SE (N)	290	2	319503 175056
4	Discharge Consents Operator: Associated British Ports Property Type: Undefined Or Other Location: Premises At The Castle Britannia Ro, Britannia Road Roath Basin Cardi, Roath Basin Cardiff Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033416 Permit Version: 2 Effective Date: 10th October 1992 Issued Date: 10th July 1992 Revocation Date: 19th January 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A8NW (S)	297	2	319340 174370
4	Discharge Consents Operator: Associated British Ports Property Type: Undefined Or Other Location: Premises At The Castle Britannia Ro, Britannia Road Roath Basin Cardi, Roath Basin Cardiff Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033416 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 9th October 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A8NW (S)	297	2	319340 174370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Ps No 2 Off Celebrity Drive Atlant, Atlantic Wharf Cardiff Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0231101 Permit Version: 1 Effective Date: 7th November 1991 Issued Date: 7th November 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	314	2	319200 174430
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Ps No 2 Off Celebrity Drive Atlant, Atlantic Wharf Cardiff Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0231102 Permit Version: 1 Effective Date: 7th November 1991 Issued Date: 7th November 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	314	2	319200 174430
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Ps No 2 Off Celebrity Drive Atlant, Atlantic Wharf Cardiff Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AN0231101 Permit Version: 1 Effective Date: 7th November 1991 Issued Date: 7th November 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	314	2	319200 174430
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Ps No 2 Off Celebrity Drive Atlant, Atlantic Wharf Cardiff Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AN0231102 Permit Version: 1 Effective Date: 7th November 1991 Issued Date: 7th November 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	314	2	319200 174430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Bute Street Cardiff, Bute Street, Cardiff Cbc Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0028801 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: 20th December 2005 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	340	2	319140 174460
6	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Bute Street Cardiff, Bute Street, Cardiff Cbc Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0028801 Permit Version: 1 Effective Date: 20th November 1987 Issued Date: 20th November 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	340	2	319140 174460
6	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0046001 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: 20th December 2005 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	379	2	319100 174450
6	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0046001 Permit Version: 1 Effective Date: 27th November 1987 Issued Date: 27th November 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	379	2	319100 174450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: Cardiff Docks Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033419 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 31st March 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Severn Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A8NE (S)	364	2	319560 174320
8	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: S/E Corner Roath Dock Cardiff Docks Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033408 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th March 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Roath Basin Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A13SE (SE)	373	2	319710 174420
9	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: S/E Corner Roath Dock Cardiff Docks Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033408 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: 6th March 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Roath Basin Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	376	2	319670 174375
10	Discharge Consents Operator: South Glamorgan County Council Property Type: Civil Engineering Location: Butetown Link Rd Tunnel Cardiff Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0223901 Permit Version: 1 Effective Date: 14th February 1991 Issued Date: 14th February 1991 Revocation Date: 17th October 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Inner Harbour Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	414	2	319110 174380

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0046101 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: 20th December 2005 Discharge Type: Unspecified Discharge: Not Supplied Environment: Cardiff Bay Receiving Water: Cardiff Bay Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	421	2	319100 174380
10	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0046101 Permit Version: 1 Effective Date: 27th November 1987 Issued Date: 27th November 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Cardiff Bay Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	421	2	319100 174380
11	Discharge Consents Operator: Missions To Seamen Trust Corporation Property Type: Public Houses & Bars Location: Cardiff Docks Junction - Cargo/Tyne, Cargo/Tyneside Rd, Cardiff, Cardiff Cbc, Cf10 4ly Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AN0224201 Permit Version: 1 Effective Date: 4th March 1991 Issued Date: 4th March 1991 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Roath Dock Receiving Water: Roath Dock Status: Effective Positional Accuracy: Located by supplier to within 100m	A14SW (E)	437	2	319910 174640
12	Discharge Consents Operator: Associated British Ports Property Type: Undefined Or Other Location: Cardiff Docks Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033423 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th October 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Severn Estuary Receiving Water: Severn Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A8NW (S)	445	2	319330 174220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Discharge Consents Operator: Associated British Ports Property Type: Undefined Or Other Location: Cardiff Docks Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033421 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th October 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Severn Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A8NE (S)	447	2	319440 174210
14	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: Cardiff Roath Docks - O/F 6 South, Cardiff Roath Docks, South Cross Berth, Cardiff, Cardiff Cbc, Cf10 4ed Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033407 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th March 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Roath Dock Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A14SW (E)	461	2	319930 174620
14	Discharge Consents Operator: Associated British Ports Property Type: Ready Mixed Concrete Location: Cardiff Docks Tyneside Road Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0023501 Permit Version: 1 Effective Date: 23rd March 1987 Issued Date: 23rd March 1987 Revocation Date: 10th December 2002 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Tidal 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	A14SW (E)	462	2	319920 174580
14	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: Cardiff Roath Docks - O/F 6 South, Cardiff Roath Docks, South Cross Berth, Cardiff, Cardiff Cbc, Cf10 4ed Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AN0033407 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Roath Dock Status: Effective Positional Accuracy: Located by supplier to within 100m	A14SW (E)	479	2	319945 174605

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: Cardiff Roath Docks - O/F 6 South, Cardiff Roath Docks, South Cross Berth, Cardiff, Cardiff Cbc, Cf10 4ed Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0033407 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Roath Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A14SW (E)	479	2	319945 174605
14	Discharge Consents Operator: Reserve Forces And Cadets Association For Wales Property Type: MOD/Civil Establishment Location: Hms Cambria, Land Off Cargo Rd, Cargo Road, Cardiff, Cf10 4rp Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: Bb3296zm Permit Version: 1 Effective Date: 1st December 2019 Issued Date: 3rd June 2019 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Lake/Reservoir - with outlet Environment: Receiving Water: Roath Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A14SW (E)	499	2	319960 174585
15	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0046201 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: 20th December 2005 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	478	2	319100 174300
15	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Pierhead Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0046201 Permit Version: 1 Effective Date: 27th November 1987 Issued Date: 27th November 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	478	2	319100 174300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	Discharge Consents Operator: South Glamorgan County Council Property Type: Business Services Location: New County Hall Atlantic Wharf Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0038601 Permit Version: 1 Effective Date: 3rd September 1987 Issued Date: 3rd September 1987 Revocation Date: 1st November 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Bute East Dock Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A18SW (N)	533	2	319400 175300
17	Discharge Consents Operator: Associated British Ports Property Type: Undefined Or Other Location: Outfall 9 Commun Cardiff Docks Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033422 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 10th September 1987 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Severn Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	595	2	320010 174450
17	Discharge Consents Operator: Mr & Mrs Green Property Type: Support Services - Sea Transport Location: Empire Wharf Port Of Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033409 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th March 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Roath Dock Passg Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	595	2	320010 174450
17	Discharge Consents Operator: Hanson Aggregates Property Type: Ready Mixed Concrete Location: Empire Wharf Queen Alexandra Dock, Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0161201 Permit Version: 1 Effective Date: 20th October 1989 Issued Date: 20th October 1989 Revocation Date: 4th August 1999 Discharge Type: Trade Effluent Discharge: Not Supplied Environment: Receiving Water: Queen Alexander Dock Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	620	2	320025 174425

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	Discharge Consents Operator: Hanson Aggregates Property Type: Ready Mixed Concrete Location: Empire Wharf Queen Alexandra Dock, Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0161201 Permit Version: 2 Effective Date: 5th August 1999 Issued Date: 20th October 1989 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Queen Alexander Dock Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	620	2	320025 174425
17	Discharge Consents Operator: Unit Shipping Ltd Property Type: Not Supplied Location: Empire Wharf Port Of Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0033409 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Roath Dock Passg Status: Effective Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	625	2	320030 174425
17	Discharge Consents Operator: Rackwood Mineral Holding Plc Property Type: Support Services - Sea Transport Location: Empire Wharf Port Of Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0033409 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge: Controlled Sea Environment: Receiving Water: Roath Dock Passg Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	625	2	320030 174425
18	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: O/Fall 13 Plus Sw Cardiff Docks Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033410 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 11th December 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Severn Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	673	2	319840 174130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	Discharge Consents Operator: Cardiff Rod Mill Property Type: Undefined Or Other Location: Cardiff Rod Mill Castle Works Cardi, Castle Works Cardiff Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: An0229501 Permit Version: 1 Effective Date: 29th November 1991 Issued Date: 29th November 1991 Revocation Date: 24th November 1993 Discharge Type: Trade Effluent Discharge: Not Supplied Environment: Receiving Water: East Bute Dock Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A18NE (N)	731	2	319500 175500
20	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: Cardiff Docks - O/F 14 Cardiff, Cardiff Cbc, Wales, Cf10 4lt Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AN0033411 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Queen Alex. Dock Status: Effective Positional Accuracy: Located by supplier to within 100m	A8SE (S)	797	2	319700 173910
20	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: Cardiff Docks - O/F 14 Cardiff, Cardiff Cbc, Wales, Cf10 4lt Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0033411 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Queen Alex. Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A8SE (S)	797	2	319700 173910
20	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: Cardiff Docks - O/F 14 Cardiff, Cardiff Cbc, Wales, Cf10 4lt Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033411 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th March 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Queen Alex. Dock Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A8SE (S)	797	2	319700 173910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Not Supplied Location: Central Development Area (Phas Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: Af4004501 Permit Version: 1 Effective Date: 2nd July 1973 Issued Date: 2nd July 1973 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge: Lake/Reservoir - with outlet Environment: Receiving Water: River Taff Status: Effective Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	820	2	318680 174300
21	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Not Supplied Location: Central Development Area (Phas Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AF4004501 Permit Version: 1 Effective Date: 2nd July 1973 Issued Date: 2nd July 1973 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge: Lake/Reservoir - with outlet Environment: Receiving Water: River Taff Status: Effective Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	820	2	318680 174300
21	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Undefined Or Other Location: Glamorgan Canal Cardiff Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0046301 Permit Version: 1 Effective Date: 27th November 1987 Issued Date: 27th November 1987 Revocation Date: 3rd September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	829	2	318680 174280
21	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Undefined Or Other Location: South Butetown Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033801 Permit Version: 1 Effective Date: 20th November 1987 Issued Date: 20th November 1987 Revocation Date: 3rd September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	833	2	318670 174290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Cardiff Adj Dumballs Lane Currans Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0028501 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: 31st March 2004 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A12NW (W)	836	2	318600 174990
22	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Cardiff Adj Dumballs Lane Currans Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0028501 Permit Version: 1 Effective Date: 20th November 1987 Issued Date: 20th November 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A12NW (W)	836	2	318600 174990
23	Discharge Consents Operator: Associated British Ports Property Type: Undefined Or Other Location: Cardiff Docks Locks Road/Channel Dr, Locks Road/Channel Dry Dock Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033415 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 9th October 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Severn Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A8SW (S)	838	2	319370 173820
24	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works Location: Windsor Esplanade Outfall Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0048001 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	853	2	318710 174180

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works Location: Windsor Esplanade Outfall Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: AN0048001 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	853	2	318710 174180
24	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Windsor Esplanade Outfall Cardiff, Cardiff Cbc, Wales Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0048001 Permit Version: 1 Effective Date: 27th November 1987 Issued Date: 27th November 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	853	2	318710 174180
25	Discharge Consents Operator: The Cold Store Manager Property Type: Not Supplied Location: Kings Wharf Cold Store Cardiff, Queen Alexandra Dock, Port Of Cardiff, Cf10 4ll Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0319801 Permit Version: 1 Effective Date: 17th May 2002 Issued Date: 17th May 2002 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge: Saline Estuary Environment: Receiving Water: Queen Alexandra Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	880	2	320150 174150
25	Discharge Consents Operator: Associated British Ports Property Type: OFFICES ADMIN + SUPPORT Location: Abp Engineers Workshops, Cold Stores Road, Port Of Cardiff, Cf10 4ll Authority: Natural Resources Wales Catchment Area: SEVERN LOWER Reference: Bb3799cy Permit Version: 1 Effective Date: 27th October 2020 Issued Date: 27th October 2020 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Queen Alexandra Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	905	2	320172 174138

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: S E Corner Queen Alexandra Dock Car, Queen Alexandra Dock, Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0033424 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Queen Alex. Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	929	2	320180 174110
25	Discharge Consents Operator: Coastal Container Line Ltd Property Type: Support Services - Sea Transport Location: S E Corner Queen Alexandra Dock Car, Queen Alexandra Dock, Cardiff, Cardiff Cbc, Cf10 4ll Authority: Environment Agency, Welsh Region Catchment Area: River Taff Reference: AN0033424 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge: Controlled Sea Environment: Receiving Water: Queen Alex. Dock Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	929	3	320180 174110
25	Discharge Consents Operator: Associated British Ports Property Type: Not Supplied Location: S E Corner Queen Alexandra Dock Car, Queen Alexandra Dock, Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0033424 Permit Version: 2 Effective Date: 8th March 1993 Issued Date: 8th December 1992 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge: Controlled Sea Environment: Receiving Water: Queen Alex. Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	929	2	320180 174110
25	Discharge Consents Operator: Associated British Ports Property Type: Support Services - Sea Transport Location: S E Corner Queen Alexandra Dock Car, Queen Alexandra Dock, Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033413 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 9th October 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Severn Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	929	2	320180 174110

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	Discharge Consents Operator: Mr & Mrs Green Property Type: Support Services - Sea Transport Location: S E Corner Queen Alexandra Dock Car, Queen Alexandra Dock, Cardiff, Cardiff Cbc, Cf10 4ll Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0033424 Permit Version: 1 Effective Date: 10th September 1987 Issued Date: 10th September 1987 Revocation Date: 7th March 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Queen Alex. Dock Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	929	2	320180 174110
25	Discharge Consents Operator: Travis Perkins Plc Property Type: Industrial Parks & Estates Location: Cardiff Range Distribution Centre, Cold Stores Rd, Port Of Cardiff, Cf10 4ll Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Ab3395ht Permit Version: Not Supplied Effective Date: 21st February 2017 Issued Date: 21st February 2017 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Gb109057027270: Taff - Conf Rhondda R To Castle Street Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	931	2	320183 174111
25	Discharge Consents Operator: Travis Perkins Plc Property Type: Industrial Parks & Estates Location: Cardiff Range Distribution Centre, Cold Stores Rd, Port Of Cardiff, Cf10 4ll Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: Ab3395ht Permit Version: 1 Effective Date: 21st February 2017 Issued Date: 21st February 2017 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Queen Alexandra Dock Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	931	2	320183 174111
26	Discharge Consents Operator: Bp Oil Ltd Property Type: Undefined Or Other Location: Cardiff - Ferry Road Premises Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0001501 Permit Version: 1 Effective Date: 20th November 1984 Issued Date: 20th November 1984 Revocation Date: 14th August 1985 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A12SW (W)	916	2	318500 174500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Harrowby St Sso Butetown Cardiff, Butetown, Cardiff Cbc Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0185101 Permit Version: 1 Effective Date: 20th September 1990 Issued Date: 20th September 1990 Revocation Date: 1st October 1991 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	924	2	318560 174310
28	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Undefined Or Other Location: Taff Embankment Cardiff Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0046601 Permit Version: 1 Effective Date: 27th November 1987 Issued Date: 27th November 1987 Revocation Date: 3rd September 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Estuary Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A12NW (W)	972	2	318440 174920
28	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Curran Ps Dumballs Rd Ind Est, Butetown, Cardiff Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0249801 Permit Version: 2 Effective Date: 1st January 1998 Issued Date: 9th September 1996 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 10m	A12NW (W)	991	2	318430 174960
28	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Curran Ps Dumballs Rd Ind Est, Butetown, Cardiff Authority: Natural Resources Wales Catchment Area: TAFF - CONF RHONDDA R TO CASTLE STREET Reference: An0249801 Permit Version: 2 Effective Date: 1st January 1998 Issued Date: 9th September 1996 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Lake/Reservoir - with outlet Environment: Receiving Water: Cardiff Bay Status: Effective Positional Accuracy: Located by supplier to within 10m	A12NW (W)	991	2	318430 174960

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Curran Ps Dumballs Rd Ind Est, Butetown, Cardiff Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0249801 Permit Version: 1 Effective Date: 31st July 1996 Issued Date: 20th April 1995 Revocation Date: 31st December 1997 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Not Supplied Environment: Receiving Water: Cardiff Bay Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A12NW (W)	991	2	318430 174960
29	Discharge Consents Operator: Air Products Plc Property Type: Gas Distribution And Compressor Stations Location: Rover Way Roath Dock Cardiff Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Af3022401 Permit Version: 1 Effective Date: 5th April 1971 Issued Date: 5th April 1971 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge: Controlled Sea Environment: Receiving Water: Roath Dock Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m	A14NE (E)	983	2	320434 174962
29	Discharge Consents Operator: Air Products Plc Property Type: Gas Distribution And Compressor Stations Location: Roath Dock Roath Cardiff, Roath, Cardiff Cbc, Cf10 4uu Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Ac0104201 Permit Version: 1 Effective Date: 1st July 1976 Issued Date: 1st July 1976 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge: Freshwater Stream/River Environment: Receiving Water: Stream 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	A14NE (E)	987	2	320442 174942
30	Enforcement and Prohibition Notices Location: Queen Alexandra Dock, Cardiff Permit Reference: Not Given Enforcement Date: Not Supplied Details: Notice Requires The Company To Establish A Reason For The Tank Failure And Implement Measures To Improve Monitoring Inventory Levels Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	677	3	319915 174193
31	Integrated Pollution Prevention And Control Name: Cardiff Rod & Bar Mill Epr/Bv0759ic Location: Cardiff Rod And Bar Mill, Building 58, Castle Works, East Moors Road, Cardiff, CF24 5NN Authority: Natural Resources Wales Permit Reference: Bv0759ic Original Permit Ref: Lp3334kr Effective Date: 31st December 2009 Status: Effective Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 2.1 PART A (1) C) Activity Description: Not Supplied Primary Activity: Y Activity Code: 1.1 A(1) (A) Activity Description: Not Supplied Primary Activity: N	A19SW (NE)	632	2	319814 175290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	Integrated Pollution Prevention And Control Name: Celsa Manufacturing Uk Ltd Location: Cardiff Rod And Bar Mill Ea/Epr/Bv0759ic/V002, Cardiff Rod & Bar Mill,Po Box 83, Castle Works,East Moors Road, Tremorfa,, Cardiff, South Wales, CF24 5NN Authority: Natural Resources Wales Permit Reference: LP3334KR Original Permit Ref: Bv0759ic Effective Date: 31st December 2009 Status: Effective Application Type: Variation App. Sub Type: Standard Positional Accuracy: Located by supplier to within 100m Activity Code: 2.1 A(1) (C) Activity Description: Ferrous Metals; Hot Rolling Greater Than 20T/Hr Primary Activity: Y Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N	A18NE (N)	632	2	319500 175400
33	Integrated Pollution Prevention And Control Name: Cargo Services Terminal Location: Cargo Road, Port Of Cardiff, Cardiff, CF10 4LA Authority: Natural Resources Wales Permit Reference: QP3035WK Original Permit Ref: Not Supplied Effective Date: 3rd December 2015 Status: Effective Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Located by supplier to within 10m Activity Code: 5.6 PART A (1) A) Activity Description: Not Supplied Primary Activity: Y	A8SE (S)	738	2	319676 173964
34	Integrated Pollution Prevention And Control Name: Mem Group Plc Location: Edward House Transfer Station, Edward House, Dowlais Road,Ocean Park,, Cardiff, South Glamorgan, CF24 5TW Authority: Natural Resources Wales Permit Reference: CP3036CP Original Permit Ref: Ap3237sd Effective Date: 21st August 2012 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y	A19NW (NE)	871	2	319877 175533
34	Integrated Pollution Prevention And Control Name: Mem Group Plc Location: Edward House Transfer Station, Dowlais Road, Ocean Park, Cardiff, CF24 5TW Authority: Natural Resources Wales Permit Reference: Ap3237sd Original Permit Ref: Ap3237sd Effective Date: 21st April 2006 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y	A19NW (NE)	871	2	319877 175533
35	Integrated Pollution Prevention And Control Name: Cardiff Energy Recovery Facility Location: Trident Park, Glass Avenue, Cardiff, CF24 5EN Authority: Natural Resources Wales Permit Reference: LP3030XA Original Permit Ref: Lp3935vd Effective Date: 21st January 2021 Status: Effective Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Located by supplier to within 10m Activity Code: 5.1 PART A (1) B) Activity Description: Not Supplied Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Not Supplied Primary Activity: N	A19SE (NE)	949	2	320250 175290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	Integrated Pollution Prevention And Control Name: Allied Steel And Wire Ltd Location: Cardiff Rod And Bar Mill, Castle Works, East Moors Road, Cardiff, Cf24 5xn Authority: Environment Agency, Welsh Region Permit Reference: Bs9628 Original Permit Ref: Bs9628 Effective Date: Not Supplied Status: Valid Application Type: Not Supplied App. Sub Type: Not Supplied Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 2.1 A(1) (C) Activity Description: Ferrous Metals; Hot Rolling Greater Than 20T/Hr Primary Activity: Not Supplied	A23SE (N)	974	3	319539 175740
37	Integrated Pollution Prevention And Control Name: Roath Dock Treatment And Recycling Centre Nrw/Epr/Lp3439hm/V003 Location: Roath Dock Transfer Station Ea/Epr/Lp3439hm/T001, Roath Dock Transfer Station, Old Clipper Road,Roath Dock,, Cardiff, CF10 4LX Authority: Natural Resources Wales Permit Reference: LP3439HM Original Permit Ref: Jp3331zs Effective Date: 29th July 2021 Status: Effective Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 PART A (1) A) Activity Description: Not Supplied Primary Activity: Y Activity Code: 5.4 PART A (1) B) Activity Description: Not Supplied Primary Activity: N	A15NW (E)	992	2	320449 174937
37	Integrated Pollution Prevention And Control Name: Castle Waste Services Limited Location: Roath Dock Treatment And Recycling Centre, Roath Dock Transfer Station, Old Clipper Road,Roath Dock,, Cardiff, CF10 4LX Authority: Natural Resources Wales Permit Reference: JP3331ZS Original Permit Ref: Lp3439hm Effective Date: 15th August 2013 Status: Effective Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y Activity Code: 5.4 A(1) b) Activity Description: Recovery of Waste; Cleaning/Regenerating Carbon etc by Removing Scheduled Substances Primary Activity: N	A15NW (E)	992	2	320449 174937
37	Integrated Pollution Prevention And Control Name: Castle Waste Services Limited Location: Roath Dock Transfer Station Ea/Epr/Lp3439hm/V002, Roath Dock Transfer Station, Old Clipper Road,Roath Dock,, Cardiff, CF10 4LX Authority: Natural Resources Wales Permit Reference: FP3937CQ Original Permit Ref: Lp3439hm Effective Date: 24th August 2012 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.4 A(1) b) Activity Description: Recovery of Waste; Cleaning/Regenerating Carbon etc by Removing Scheduled Substances Primary Activity: N Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y	A15NW (E)	992	2	320449 174937

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
37	Integrated Pollution Prevention And Control Name: Seaport Environmental Ltd Location: Clipper Road, Roath Dock, Cardiff, CF10 4LX Authority: Natural Resources Wales Permit Reference: UP3339UP Original Permit Ref: Jp3231sw Effective Date: 30th April 2007 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y Activity Code: 5.4 A(1) b) Activity Description: Recovery of Waste; Cleaning/Regenerating Carbon etc by Removing Scheduled Substances Primary Activity: N	A15NW (E)	992	2	320449 174937
37	Integrated Pollution Prevention And Control Name: Seaport Environmental Ltd Location: Clipper Road, Roath Dock, CARDIFF, CF10 4LX Authority: Natural Resources Wales Permit Reference: JP3231SW Original Permit Ref: Jp3231sw Effective Date: 6th June 2006 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y Activity Code: 5.4 A(1) b) Activity Description: Recovery of Waste; Cleaning/Regenerating Carbon etc by Removing Scheduled Substances Primary Activity: N	A15NW (E)	992	2	320449 174937
38	Local Authority Integrated Pollution Prevention And Control Name: Fw Morgan Ltd Location: Cargo Road, Queen Alexandra Dock, Cardiff, Cf10 5lt Authority: Cardiff Council, Pollution Control Division Permit Reference: EPR/168/6.6 Dated: Not Supplied Process Type: The Chemical Industry Description: Timber Treatment Status: Permit Issued Positional Accuracy: Located by supplier to within 10m	A8SE (S)	826	4	319594 173849
39	Local Authority Integrated Pollution Prevention And Control Name: Cardiff Galvanisers Ltd Location: Cambria House, East Moors Road, CARDIFF, CF1 5EE Authority: Cardiff Council, Pollution Control Division Permit Reference: PPC/24/2.3 Dated: Not Supplied Process Type: Production and Processing of Metals Description: 2.2 Hot-Dip Galvanising Status: Permit Issued Positional Accuracy: Manually positioned to the address or location	A18NE (N)	899	4	319679 175641
40	Local Authority Pollution Prevention and Controls Name: Nsm Mining (South Wales) Ltd Location: South Roath Dock, Frigate Road, CARDIFF, South Glamorgan, CF10 4LP Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/25/3.4 Dated: 30th March 1992 Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A14SW (SE)	392	4	319773 174461
41	Local Authority Pollution Prevention and Controls Name: A J Williams (Overseas Sales) Ltd Location: Fletcher's Wharf, South Roath Dock, Frigate Road, CARDIFF, South Glamorgan, CF10 4LP Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/49/3.4 Dated: 8th March 1996 Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A8NE (SE)	403	4	319655 174328

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	Local Authority Pollution Prevention and Controls Name: Hanson Quarry Products Location: Cardiff Plant, Tyneside Road, The Docks, CARDIFF, South Glamorgan, CF10 4LR Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/13/3.1 Dated: 20th August 1992 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorised Positional Accuracy: Manually positioned to the road within the address or location	A14SW (E)	525	4	319960 174508
43	Local Authority Pollution Prevention and Controls Name: Thomas Hosking and Son Ltd Location: Unit 2, Hoskin Industrial Estate, Dumballs Road, CARDIFF, South Glamorgan, CF10 5FG Authority: Cardiff Council, Pollution Control Division Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Application Not Yet Authorised Positional Accuracy: Manually positioned to the address or location	A12NE (W)	581	4	318835 174887
44	Local Authority Pollution Prevention and Controls Name: Bayside Garage Location: 22 Dumballs Road, Grangetown, Cardiff Authority: Cardiff Council, Pollution Control Division Permit Reference: EPR 150/1.1 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A12NE (W)	658	4	318779 174959
45	Local Authority Pollution Prevention and Controls Name: Caroden Bathrooms Ltd Location: PO Box 23, Hurman Street, The Docks, CARDIFF, South Glamorgan, CF10 Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/29/6.7 Dated: 28th July 1993 Process Type: Local Authority Air Pollution Control Description: PG6/33 Wood coating Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	687	4	318705 174662
45	Local Authority Pollution Prevention and Controls Name: Caroden Bathrooms Ltd Location: PO Box 23, Hurman Street, The Docks, CARDIFF, South Glamorgan, CF10 Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/28/6.7 Dated: 1st July 1993 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	687	4	318705 174662
46	Local Authority Pollution Prevention and Controls Name: Cpi Mortars (North) Ltd Location: Compass Road, Queen Alexandra Dock, CARDIFF, CF10 4LT Authority: Cardiff Council, Pollution Control Division Permit Reference: Ppc/111/3.1 Dated: 10th July 2000 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A14SE (E)	697	4	320133 174478
46	Local Authority Pollution Prevention and Controls Name: Hanson Aggregates (Sw) Ltd Location: Cardiff Premix Plant, Empire Wharf, Cold Stores Road, CARDIFF, South Glamorgan, CF10 Authority: Cardiff Council, Pollution Control Division Permit Reference: PPC/8/3.1 Dated: 28th August 1992 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Permitted Positional Accuracy: Located by supplier to within 10m	A14SE (E)	716	4	320144 174454

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	Local Authority Pollution Prevention and Controls Name: Cpl Hargreaves Location: Fletchers Wharf, South Roath Dock, The Docks, CARDIFF, South Glamorgan, CF Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/63/3.4 Dated: 16th October 1998 Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Manually positioned within the geographical locality	A14NE (E)	707	4	320176 174849
47	Local Authority Pollution Prevention and Controls Name: Cardiff Stevedoring & Cargo Handling Co Ltd Location: Fletchers Wharf, South Roath Dock, Docks, CARDIFF, South Glamorgan, CF Authority: Cardiff Council, Pollution Control Division Permit Reference: EPA90/102/3.4 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorised Positional Accuracy: Manually positioned within the geographical locality	A14NE (E)	707	4	320176 174849
48	Local Authority Pollution Prevention and Controls Name: Cemex Ltd Location: Empire Wharf, Cold Stores Road, Queen Alexandra Dock, CARDIFF, South Glamorgan, CF10 4LT Authority: Cardiff Council, Pollution Control Division Permit Reference: Ppc/14/3.1 Dated: 31st March 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1 Blending, packing, loading and use of bulk cement Status: Permitted Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	760	4	320127 174322
49	Local Authority Pollution Prevention and Controls Name: Ryan Mining Ltd Location: Cross Berth, Queen Alexandra Dock, CARDIFF, South Glamorgan, CF10 4LT Authority: Cardiff Council, Pollution Control Division Permit Reference: epa90/25/3.4 Dated: 30th March 1992 Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	832	4	320202 174307
50	Local Authority Pollution Prevention and Controls Name: Cardiff Wood-Waste Recycling Location: Coldstores Road, Queen Alexandra Dock, CARDIFF, South Glamorgan, CF10 4LU Authority: Cardiff Council, Pollution Control Division Permit Reference: Ppc/58/6.6 Dated: 23rd August 1996 Process Type: Local Authority Pollution Prevention and Control Description: PG6/2 Manufacture of timber and wood-based products Status: Permitted Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	856	4	320177 174224
50	Local Authority Pollution Prevention and Controls Name: A J Williams (Overseas Sales) Ltd Location: Cross Berth, Queen Alexandra Dock, Locks Road, CARDIFF, South Glamorgan, CF10 4LU Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/50/3.4 Dated: 17th May 1996 Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	856	4	320177 174224
50	Local Authority Pollution Prevention and Controls Name: Hunter Timber Softwood Location: Coldstores Road, Queen Alexandra Dock, CARDIFF, South Glamorgan, CF10 4LU Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/11/6.7 Dated: 30th September 1992 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products Status: Authorisation revoked Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	856	4	320177 174224

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	Local Authority Pollution Prevention and Controls Name: Cardiff Galvanisers Location: Cambria House, East Moors Road, CARDIFF, South Glamorgan, CF24 5EG Authority: Cardiff Council, Pollution Control Division Permit Reference: PPC/24/2.3 Dated: 30th April 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG2/2 Hot dip galvanising processes Status: Transferred to LAIPPC Positional Accuracy: Manually positioned to the address or location	A18NE (N)	899	4	319679 175641
52	Local Authority Pollution Prevention and Controls Name: Cardiff Bay Service StationElf Location: 235 Corporation Road, Grangetown, CARDIFF, South Glamorgan, CF11 7AS Authority: Cardiff Council, Pollution Control Division Permit Reference: PPC/95/1.2 Dated: 12th January 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address	A12NW (W)	926	4	318464 174720
53	Local Authority Pollution Prevention and Controls Name: Hanson Aggregates Location: Cardiff Wharf, Roath Dock Road, Cardiff, CF10 4ED Authority: Cardiff Council, Pollution Control Division Permit Reference: PPC/146/3.1 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG3/1 Blending, packing, loading and use of bulk cement Status: Permitted Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	945	4	320339 175116
54	Local Authority Pollution Prevention and Controls Name: Cpl Palco Shipping & Trading Location: Cross Berth, Queen Alexandra Dock, The Docks, CARDIFF, South Glamorgan, CF Authority: Cardiff Council, Pollution Control Division Permit Reference: Epa90/64/3.4 Dated: 16th October 1998 Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	949	4	320207 174112
	Nearest Surface Water Feature	A13NE (E)	3	-	319476 174729
55	Pollution Incidents to Controlled Waters Property Type: Not Given Location: County Hall, Atlantic Wharf Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 5th March 1992 Incident Reference: 3212 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	238	3	319600 174500
56	Pollution Incidents to Controlled Waters Property Type: Not Given Location: County Hall Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 13th May 1991 Incident Reference: 406 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)	273	3	319601 175001

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Middle Of Road, Grangetown, CARDIFF Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: River Taff; Overflow Incident Date: 17th April 1998 Incident Reference: 35569 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Weather Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	448	3	318950 174800
58	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Opposite County Hall Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Not Supplied Incident Date: 21st August 1994 Incident Reference: 21327 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	A18SW (NW)	553	3	319100 175200
59	Pollution Incidents to Controlled Waters Property Type: Boats/Ships Location: CARDIFF Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Accidental Spillage/Leakage Incident Date: 28th February 1992 Incident Reference: 3173 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Burst Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	962	3	320401 175001
	River Quality Name: Not Supplied GQA Grade: Unclassified Tidal River Reach: Not Supplied Estimated Distance (km): Not Supplied Flow Rate: Not Supplied Flow Type: Not Supplied Year: 1995	A12SW (W)	852	3	318553 174558
60	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 23rd November 2015 Incident Reference: 1389782 Water Impact: Category 2 - Significant Incident Air Impact: Category 3 - Minor Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural) Pollutant: Oils - Unknown	A18NW (N)	823	2	319224 175560
61	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 15th March 2020 Incident Reference: 2001995 Water Impact: Category 2 - Significant Incident Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants and Effects: Smoke	A19SE (NE)	863	2	320241 175130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
62	Water Abstractions Operator: Celsa Manufacturing (Uk) Ltd Licence Number: 21/57/25/0048 Permit Version: 102 Location: East Bute Dock Authority: Natural Resources Wales Abstraction: Metal: Evaporative Cooling 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 April Authorised End: 31 March Permit Start Date: 30th April 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SE (N)	472	2	319491 175241
62	Water Abstractions Operator: Celsa Manufacturing (Uk) Ltd Licence Number: 21/57/25/0048 Permit Version: Not Supplied Location: Abstraction From East Bute Dock Authority: Natural Resources Wales Abstraction: Metal: Evaporative Cooling 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: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SE (N)	472	2	319491 175241
62	Water Abstractions Operator: Celsa Manufacturing (Uk) Ltd Licence Number: 21/57/25/0048 Permit Version: 101 Location: East Bute Dock Authority: Natural Resources Wales Abstraction: Metal: Evaporative Cooling 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: 16th August 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SE (N)	484	2	319520 175250
62	Water Abstractions Operator: Allied Steel & Wire Plc Licence Number: 21/57/25/0048 Permit Version: 100 Location: East Bute Dock Authority: Environment Agency, Welsh Region Abstraction: Metal: Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: EAST BUTE DOCK Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 3rd November 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SE (N)	484	3	319520 175250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: City Of Cardiff Council Licence Number: Wa/057/0025/013 Permit Version: Not Supplied Location: Not Supplied Authority: Natural Resources Wales Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1305	2	318104 174494
	Water Abstractions Operator: City Of Cardiff Council Licence Number: Wa/057/0025/013 Permit Version: Not Supplied Location: Grangetown Nursery School, Corner Of Avondale Rd & Jim Drioscoll Way, Grangetown, Cardiff, Cf11 7dt Authority: Natural Resources Wales Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1305	2	318104 174494
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0029 Permit Version: 101 Location: Well At The Brewery (Point B) Authority: Natural Resources Wales Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 20th October 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NE (NW)	1579	2	318140 175680
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0029 Permit Version: 100 Location: Well At The Brewery (Point B) Authority: Environment Agency, Welsh Region Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 19th April 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16NE (NW)	1579	3	318140 175680

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0029 Permit Version: Not Supplied Location: Abstraction From Wells At The Brewery Authority: Natural Resources Wales Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NE (NW)	1579	2	318140 175680
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0029 Permit Version: 101 Location: Well At The Brewery (Point A) Authority: Natural Resources Wales Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 20th October 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NE (NW)	1588	2	318160 175720
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0029 Permit Version: 100 Location: Well At The Brewery (Point A) Authority: Environment Agency, Welsh Region Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 19th April 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16NE (NW)	1588	3	318160 175720
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0028 Permit Version: 100 Location: Well At The Old Brewery (Point C) Authority: Environment Agency, Welsh Region Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st May 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A21NE (NW)	1729	3	318340 176100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0028 Permit Version: 100 Location: Well At The Old Brewery (Point A) Authority: Environment Agency, Welsh Region Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st May 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A21NE (NW)	1733	3	318360 176120
	Water Abstractions Operator: S A Brain & Co Ltd Licence Number: 21/57/25/0028 Permit Version: 100 Location: Well At The Old Brewery (Point B) Authority: Environment Agency, Welsh Region Abstraction: Breweries/Wine: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st May 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A21NE (NW)	1753	3	318340 176130
	Water Abstractions Operator: Cardiff County Council Licence Number: 21/57/25/0077 Permit Version: 2 Location: Cardiff Bay At International Sports Village, Cardiff Authority: Environment Agency, Welsh Region Abstraction: Construction: Dust Suppression Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: International Sports Village, Cardiff Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1922	3	318130 173230
	Water Abstractions Operator: Taylor Woodrow Construction Licence Number: 21/57/25/0077 Permit Version: 1 Location: Cardiff Bay At International Sports Village, Cardiff Authority: Environment Agency, Welsh Region Abstraction: Construction: Dust Suppression Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: International Sports Village, Cardiff Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 18th October 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1922	3	318130 173230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Cardiff County Council Licence Number: 21/57/25/0076 Permit Version: 1 Location: River Taff At Wood Street (Millenium Plaza) Authority: Environment Agency, Welsh Region Abstraction: Other Industrial/Commercial/Public Services: General Use (Very Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Pumping Station At Wood Street, Cardiff Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st May 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SW (NW)	1928	3	317900 175940
	Water Abstractions Operator: Welsh Rugby Union Licence Number: 21/57/25/0061 Permit Version: 100 Location: Borehole At Cardiff Arms Park (Point B) Authority: Environment Agency, Welsh Region Abstraction: Sports Grounds/Facilities: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd February 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A21NE (NW)	1935	3	318140 176200
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Recharge:	A13SW (SW)	0	2	319428 174703
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Unproductive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Recharge:	A13NW (SE)	0	2	319435 174714
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13NW (SE)	0	2	319435 174714
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SW (SW)	0	2	319428 174703
	Superficial Aquifer Designations Aquifer Designation: Unknown (Lakes and Landslip)	A13NW (SE)	0	2	319435 174714

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	65	2	319506 174653
	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	A13SE (SE)	65	2	319508 174656
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	66	2	319516 174663
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	68	2	319511 174654
	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	A13SE (SE)	70	2	319505 174645
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	73	2	319506 174642
	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	A13SE (SE)	82	2	319524 174647
	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	A13SE (SE)	89	2	319512 174625
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	90	2	319531 174644
	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	A13SE (SE)	91	2	319505 174613
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	92	2	319507 174614
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	94	2	319504 174608
	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	A13SE (SE)	95	2	319534 174639
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	97	2	319534 174636
	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	A13SE (SE)	99	2	319508 174605
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	114	2	319515 174589

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A13SE (SE)	116	2	319548 174624
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	118	2	319550 174624
	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	A13SE (SE)	130	2	319522 174575
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (E)	134	2	319614 174709
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	136	2	319524 174568
	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	A13SE (SE)	151	2	319532 174554
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	156	2	319535 174549
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	160	2	319634 174765
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	166	2	319596 174603
	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	A13SE (SE)	166	2	319544 174544
	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)	168	2	319644 174760
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	170	2	319546 174542
	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	A13SE (E)	180	2	319636 174632
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (SW)	184	2	319236 174613
	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	A13SE (SE)	190	2	319567 174534
	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	A13SE (SE)	190	2	319556 174523

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	191	2	319556 174521
	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	A13SE (SE)	201	2	319549 174501
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	205	2	319597 174544
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	206	2	319547 174494
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	207	2	319616 174563
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	208	2	319537 174484
	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	A13SE (SE)	209	2	319544 174488
	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	A13SE (SE)	209	2	319612 174556
	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	A13SE (SE)	210	2	319632 174576
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (SW)	223	2	319325 174454
	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 (SW)	246	2	319242 174484
	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	A13SE (SE)	65	2	319508 174656
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	66	2	319516 174663
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	69	2	319514 174656
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	73	2	319506 174642
	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	A13SE (SE)	81	2	319510 174634

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A13SE (SE)	82	2	319524 174647
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	90	2	319531 174644
	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	A13SE (SE)	95	2	319534 174639
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	112	2	319543 174624
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	114	2	319515 174589
	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	A13SE (SE)	116	2	319544 174619
	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	A13SE (SE)	119	2	319516 174584
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	122	2	319546 174612
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	136	2	319524 174568
	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	A13SE (SE)	137	2	319554 174599
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	140	2	319554 174594
	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	A13SE (SE)	143	2	319555 174591
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	151	2	319559 174584
	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	A13SE (SE)	151	2	319532 174554
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	154	2	319634 174715
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	156	2	319535 174549

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (E)	158	2	319634 174689
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	160	2	319634 174765
	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	A13SE (E)	160	2	319640 174712
	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	A13NE (E)	160	2	319640 174732
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	162	2	319643 174714
	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	A13SE (E)	162	2	319640 174696
	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	A13SE (SE)	163	2	319566 174573
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	165	2	319644 174735
	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	A13NE (E)	165	2	319644 174740
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	166	2	319644 174745
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (E)	166	2	319644 174699
	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	A13SE (SE)	166	2	319544 174544
	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	A13NE (E)	168	2	319644 174760
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	169	2	319565 174563
	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	A13SE (SE)	176	2	319566 174554
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	180	2	319634 174629

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A13SE (E)	180	2	319636 174632
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	182	2	319662 174720
	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	A13NE (E)	186	2	319656 174784
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	187	2	319571 174544
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (SW)	188	2	319236 174593
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	191	2	319634 174609
	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	A13SE (SE)	191	2	319636 174612
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	205	2	319597 174544
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	206	2	319547 174494
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	207	2	319616 174563
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	208	2	319537 174484
	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	A13SE (SE)	209	2	319544 174488
	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	A13SE (SE)	209	2	319612 174556
	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	A13SE (SE)	210	2	319632 174576
	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	A13SE (S)	213	2	319529 174473
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (S)	220	2	319527 174464

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A13SE (S)	222	2	319525 174461
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (S)	225	2	319517 174454
	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	A13SE (S)	229	2	319509 174445
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (S)	230	2	319507 174444
	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 (SW)	230	2	319246 174504
	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	A13SE (SE)	232	2	319664 174579
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (SW)	236	2	319315 174444
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (SW)	238	2	319244 174495
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	243	2	319673 174574
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (S)	244	2	319345 174424
	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 (SW)	246	2	319242 174484
	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	A13SE (SE)	246	2	319674 174569
	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 (SW)	249	2	319314 174430
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A13SW (SW)	188	2	319236 174593
	Flood Water Storage Areas None				
	Flood Defences None				
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (E)	6	5	319483 174732

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (NE)	9	5	319481 174736
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (NE)	9	5	319467 174767
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (N)	13	5	319461 174783
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 302.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (N)	35	5	319451 174805
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (E)	38	5	319500 174688
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (SE)	57	5	319513 174673
70	OS Water Network Lines Watercourse Form: Lock or flight of locks Watercourse Length: 145.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (SE)	64	5	319516 174665
71	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 106.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (SE)	194	5	319567 174529
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (NE)	195	5	319634 174851

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 202.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (SE)	298	5	319626 174440
74	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 145.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (SE)	298	5	319675 174492
75	OS Water Network Lines Watercourse Form: Lock or flight of locks Watercourse Length: 184.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (SE)	301	5	319725 174547
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SE (N)	336	5	319490 175105
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SE (N)	343	5	319489 175112
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SE (N)	351	5	319486 175120
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SE (N)	356	5	319484 175125
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SE (N)	363	5	319482 175132
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SE (N)	368	5	319481 175137

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	OS Water Network Lines Watercourse Form: Lock or flight of locks Watercourse Length: 109.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NE (S)	371	5	319489 174292
83	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 429.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SE (N)	378	5	319478 175147
84	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 75.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Roath Dock Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14SW (E)	395	5	319870 174661
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1033.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NW (S)	452	5	319424 174204
86	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 100.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Roath Dock Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A14SW (E)	464	5	319943 174681
87	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 329.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Roath Dock Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14SW (E)	464	5	319943 174681
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 125.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Communication Passage Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A14SW (E)	523	5	319986 174590
89	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 1026.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Queen Alexandra Dock Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A14SW (SE)	578	5	319998 174466
90	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 497.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Junction Canal Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A18NW (N)	761	5	319144 175466

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 81.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A18NW (N)	766	5	319222 175501
92	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 414.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NW (N)	782	5	319296 175535
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1506.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12SW (W)	805	5	318586 174692
94	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1517.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12SW (W)	877	5	318525 174571
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12SW (W)	877	5	318525 174571

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	BGS Recorded Landfill Sites Site Name: Queen Alexanria Dock Location: West Pond, CARDIFF, South Glamorgan Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	A3NE (S)	976	-	319503 173684
97	Historical Landfill Sites Licence Holder: A Monk and Company Location: Cardiff Docks Name: Bute East Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15215 First Input Date: 31st December 1979 Last Input Date: 31st December 1989 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0016 BGS Ref: Not Supplied Other Ref: 8/78	A13NW (SE)	0	2	319435 174714
98	Historical Landfill Sites Licence Holder: British Transport Docks Board Location: Cardiff Docks Name: Bute East Dock Basin Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15199 First Input Date: 31st December 1948 Last Input Date: 31st December 1979 Specified Waste Type: Deposited Waste included Inert, Industrial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0015 BGS Ref: Not Supplied Other Ref: 2/78	A13SW (SW)	0	2	319429 174701
99	Historical Landfill Sites Licence Holder: Associated British Ports Location: Roath Junction Canal Name: Roath Junction Canal Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15231 First Input Date: 31st December 1960 Last Input Date: 31st December 1979 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0091 BGS Ref: Not Supplied Other Ref: Not Supplied	A13SE (E)	12	2	319482 174695
100	Historical Landfill Sites Licence Holder: Not Supplied Location: Hemingway Road Name: Hemingway Road Reservoir / GKN Fragmentiser Waste Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15224 First Input Date: 31st December 1920 Last Input Date: 31st December 1942 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0049 BGS Ref: Not Supplied Other Ref: 3/77, 5815	A13NW (NW)	32	2	319372 174745

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	Historical Landfill Sites Licence Holder: Not Supplied Location: Butetown Name: Junction Dry Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15208 First Input Date: 31st December 1976 Last Input Date: 31st December 1977 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0053 BGS Ref: Not Supplied Other Ref: Not Supplied	A13SW (SW)	64	2	319346 174661
102	Historical Landfill Sites Licence Holder: British Transport Docks Board Location: Bluetown, Cardiff Name: Bute West Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15214 First Input Date: 31st December 1948 Last Input Date: 31st December 1971 Specified Waste: Deposited Waste included Inert, Commercial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0017 BGS Ref: Not Supplied Other Ref: Not Supplied	A13NW (W)	136	2	319254 174717
103	Historical Landfill Sites Licence Holder: British Transport Docks Board Location: Bluetown, Cardiff Name: Bute West Dock Basin Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15200 First Input Date: 31st December 1976 Last Input Date: 31st December 1977 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0018 BGS Ref: Not Supplied Other Ref: Not Supplied	A13SW (W)	174	2	319228 174652
104	Historical Landfill Sites Licence Holder: Not Supplied Location: Atlantic Wharf, Cardiff Name: Timber Pond Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15204 First Input Date: 31st December 1920 Last Input Date: 31st December 1942 Specified Waste: Deposited Waste included Industrial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0102 BGS Ref: Not Supplied Other Ref: Not Supplied	A13NW (N)	227	2	319429 174995
105	Historical Landfill Sites Licence Holder: Cardiff Corporation Location: Cardiff, South Glamorganshire Name: Glamorganshire Canal Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15236 First Input Date: 30th December 1931 Last Input Date: 31st December 1950 Specified Waste: Deposited Waste included Inert, Industrial, Commercial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0038 BGS Ref: Not Supplied Other Ref: 6815/0039	A12NE (W)	513	2	318880 174769

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
106	Historical Landfill Sites Licence Holder: Cardiff Corporation Location: Graving Dock Name: Glamorgan Canal Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15242 First Input Date: 31st December 1951 Last Input Date: 31st December 1954 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0040 BGS Ref: Not Supplied Other Ref: Not Supplied	A12NE (NW)	650	2	318831 175048
107	Historical Landfill Sites Licence Holder: Ocean Developments Limited Location: Taff Island Landfill, Clarence Road Bridge, Butetown, Cardiff Name: Taffs Island Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15169 First Input Date: 30th June 1993 Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert, Industrial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0098 BGS Ref: Not Supplied Other Ref: SEA/WREG/01/OCEAN	A12NW (W)	717	2	318693 174884
108	Historical Landfill Sites Licence Holder: Ocean Developments Limited Location: North of Clarence Road Bridge, Cardiff Name: Old River Bed Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15167 First Input Date: 24th August 1992 Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert, Industrial and Household Waste Type: EA Waste Ref: 30064 Regis Ref: WU1/L/OCE001 WRC Ref: 6815/0118 BGS Ref: Not Supplied Other Ref: 92/15, SEA/WREG/01/OCEAN	A12NW (W)	717	2	318693 174884
109	Historical Landfill Sites Licence Holder: Not Supplied Location: Graving Dock, Glamorganshire Canal Name: Graving Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD14142 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0041 BGS Ref: Not Supplied Other Ref: Not Supplied	A17SE (NW)	744	2	318765 175118
110	Historical Landfill Sites Licence Holder: Edmund Nuttall Limited Location: Butetown, Cardiff Name: Hamadryad Embankment Phase 1 Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15184 First Input Date: 6th February 1991 Last Input Date: 31st December 1991 Specified Waste: Deposited Waste included Inert, Industrial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0047 BGS Ref: Not Supplied Other Ref: 91/02	A7NW (SW)	810	2	318689 174304

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	Historical Landfill Sites Licence Holder: Davies - Middleton Davies Limited Location: Butetown Link Landfill, South Of Hamadryad Hospital, Ferry Road Foreshore, Cardiff, S Glamorgan Name: Butetown Link Landfill South Of Hamadryad Hospital Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15160 First Input Date: 16th March 1992 Last Input Date: 31st December 1993 Specified Waste: Deposited Waste included Inert, Industrial and Household Waste Type: EA Waste Ref: 30060 Regis Ref: WU1/L/DAV001 WRC Ref: 6815/0045 BGS Ref: Not Supplied Other Ref: SEA/WREG/01/HAMA, 92/01	A7NW (SW)	824	2	318695 174262
112	Historical Landfill Sites Licence Holder: Davies - Middleton Davies Limited Location: Butetown, Cardiff Name: Hamadryadd No.2 Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15161 First Input Date: 30th March 1994 Last Input Date: 30th June 1996 Specified Waste: Deposited Waste included Inert, Industrial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0046 BGS Ref: Not Supplied Other Ref: SEA/WREG/01/HAM	A7NW (SW)	850	2	318700 174203
113	Historical Landfill Sites Licence Holder: Cardiff City Council Location: Butetown, Cardiff, South Glamorgan Name: Chain Anchor Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD14139 First Input Date: 31st December 1951 Last Input Date: 31st December 1955 Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0020 BGS Ref: Not Supplied Other Ref: Not Supplied	A17SW (NW)	930	2	318613 175227
114	Historical Landfill Sites Licence Holder: W T Davies Limited and Brunswick Contractors Location: Graving Dock, Bute East Dock, Cardiff Name: Hills Dry Docks Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15222 First Input Date: 31st December 1982 Last Input Date: 8th December 1987 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0051 BGS Ref: Not Supplied Other Ref: 2/82, 3/82	A18NW (N)	931	2	319172 175658

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
115	Historical Landfill Sites Licence Holder: Not Supplied Location: West Pond, Cardiff, South Glamorgan Name: Queen Alexandra Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD31201 First Input Date: 31st December 1900 Last Input Date: 30th November 1972 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 2050 Other Ref: Not Supplied	A3NE (S)	976	2	319503 173684
116	Historical Landfill Sites Licence Holder: W T Davies Transport Limited Location: Cardiff Name: Avondale Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15235 First Input Date: 24th June 1981 Last Input Date: 31st December 1982 Specified Waste: Deposited Waste included Inert, Industrial, Commercial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6815/0004 BGS Ref: Not Supplied Other Ref: 2/81	A12SW (W)	982	2	318425 174535
117	Licensed Waste Management Facilities (Landfill Boundaries) Name: Butetown Link Landfill South Of Hamadryad Hospital Licence Number: 30060 Location: Butetown Link Landfill, South Of Hamadryad Hospital, Ferry Road Foreshore, Cardiff, S Glam, CF1 7DX Licence Holder: Davies Middleton Davies Ltd Authority: Natural Resources Wales Site Category: Landfills Taking Other Wastes (Construction, Demolition, Dredgings) Max Input Rate: Large (Equal to or greater than 75,000 tonnes per year) Licence Status: Inactive Issued: 16th March 1992 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A7NW (SW)	834	2	318678 174273
118	Licensed Waste Management Facilities (Locations) Licence Number: 30282 Location: Not Supplied Operator Name: Telluric Ltd Licence No 7 Operator Location: Unit K1, South Point Industrial Estate, Foreshore Road, Cardiff, CF10 4SP Authority: Environment Agency Wales, South East Area Site Category: Mobile Plant Licence Status: Issued Issued: 9th October 2002 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually positioned to the address or location	A13NW (W)	294	3	319105 174787
118	Licensed Waste Management Facilities (Locations) Licence Number: 30260 Location: Not Supplied Operator Name: Telluric Ltd Operator Location: Unit K1, South Point Industrial Estate, Foreshore Road, Cardiff, CF10 4SP Authority: Environment Agency Wales, South East Area Site Category: Mobile Plant Licence Status: Issued Issued: 27th September 2002 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually positioned to the address or location	A13NW (W)	294	3	319105 174787

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
118	Licensed Waste Management Facilities (Locations) Licence Number: 30254 Location: 54a Bute Street, Cardiff, Glamorgan, CF10 5AF Operator Name: Telluric Ltd : Licence No 5 Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Mobile Plant Licence Status: Surrendered Issued: 15th April 2002 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 25th October 2004 IPPC Reference: Not Supplied Positional Accuracy: Manually positioned to the address or location	A13NW (W)	294	2	319105 174787
118	Licensed Waste Management Facilities (Locations) Licence Number: 30219 Location: 54a Bute Street, Cardiff, Glamorgan, CF4 2AN Operator Name: Telluric Ltd : Licence No 1 Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Mobile Plant Licence Status: Surrendered Issued: 16th March 2000 Last Modified: 28th May 2002 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 25th October 2004 IPPC Reference: Not Supplied Positional Accuracy: Manually positioned to the address or location	A13NW (W)	294	2	319105 174787
119	Licensed Waste Management Facilities (Locations) Licence Number: 30006 Location: Caird Environmental Kinnis & Brown, East Quay, Roath Dock, Cardiff, CF1 5LX Operator Name: Shanks Waste Services Ltd Operator Location: Dunedin House, Auckland Park, Mount Farm, Milton Keynes, Buckinghamshire, MK1 1BU Authority: Environment Agency Wales, South East Area Site Category: Physical Treatment Facilities Licence Status: Issued Issued: 26th August 1977 Last Modified: 22nd August 1994 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	626	3	320097 174611
120	Licensed Waste Management Facilities (Locations) Licence Number: 30064 Location: Taff Island Landfill, Clarence Road Bridge, Butetown, Cardiff, Glamorgan, CF1 6JA Operator Name: Ocean Developments Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Landfills Taking Non-biodegradable Wastes (Not Construction) Licence Status: Surrendered Issued: 4th June 1995 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 24th December 1999 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12NW (W)	795	2	318609 174866

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	Licensed Waste Management Facilities (Locations) Licence Number: AB3095ZY Location: Roath Dock, Old Clipper Road, Cardiff Docks, Cardiff, Cardiff, CF10 4LY Operator Name: Associated British Ports Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Effective Issued: 29th February 2016 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NE (E)	840	2	320312 174837
122	Licensed Waste Management Facilities (Locations) Licence Number: SP3595FT Location: M E M Group Plc, Ocean Park, Cardiff, Glamorgan, Cardiff, CF24 5TW Operator Name: M E M Group Plc Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Special Waste Transfer Stations Licence Status: Revoked Issued: 27th February 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 28th August 2012 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	845	2	319814 175535
122	Licensed Waste Management Facilities (Locations) Licence Number: SP3595FT Location: M E M Group Plc, Ocean Park, Cardiff, Glamorgan, Cardiff, CF24 5TW Operator Name: M E M Group Plc Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Revoked Issued: 27th February 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 28th August 2012 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	845	2	319814 175535
122	Licensed Waste Management Facilities (Locations) Licence Number: 30183 Location: Edward House, Dowlais Road, Ocean Park, Cardiff, CF24 5TW Operator Name: M E M Group Plc Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Special Waste Transfer Stations Licence Status: Modified Issued: 27th February 1996 Last Modified: 20th March 2008 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	845	2	319814 175535
123	Licensed Waste Management Facilities (Locations) Licence Number: 30301 Location: Cold Stores Road, Queen Alexandra Dock, Cardiff, Glamorgan, CF10 4LU Operator Name: Cardiff Recycling Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Surrendered Issued: 7th June 2004 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 30th May 2008 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	858	2	320221 174288

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
124	Licensed Waste Management Facilities (Locations) Licence Number: AP3237SD Location: Mem Group Ltd, Edward House, Ocean Park, Cardiff, South Glamorgan, Cardiff, CF24 5TW Operator Name: Mem Group Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Asbestos Waste Transfer Station Licence Status: Surrendered Issued: 21st August 2012 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 2nd December 2014 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	865	2	319870 175530
125	Licensed Waste Management Facilities (Locations) Licence Number: AB3297FT Location: ABP Fletchers Wharf, Compass Rd, Cardiff, Cardiff, CF10 4LX Operator Name: Associated British Ports Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Effective Issued: 3rd July 2019 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SE (E)	878	2	320358 174703
125	Licensed Waste Management Facilities (Locations) Licence Number: AB3297FT Location: ABP Fletchers Wharf, Compass Rd, Cardiff, Cardiff, CF10 4LX Operator Name: Associated British Ports Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Not Supplied Licence Status: Effective Issued: 18th November 2016 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SE (E)	878	2	320358 174703
126	Licensed Waste Management Facilities (Locations) Licence Number: PB3230RV Location: U R A Cardiff Docks Site, Compass Road, Cardiff Docks, Cardiff, Cardiff, CF10 4LL Operator Name: United Recycled Aggregates Limited Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Physical Treatment Facilities Licence Status: Effective Issued: 30th May 2013 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SE (E)	900	2	320343 174465

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
127	Licensed Waste Management Facilities (Locations) Licence Number: ZP3795FD Location: European Metal Recycling Ltd, Dowlais Wharf, Roath Dock, Cardiff, Glamorgan, Cardiff, CF10 4ED Operator Name: European Metal Recycling Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Vehicle Dismantlers) Licence Status: Effective Issued: 12th November 2015 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	929	2	320298 175164
127	Licensed Waste Management Facilities (Locations) Licence Number: FP3094VP Location: European Metal Recycling Ltd, Dowlais Wharf, Cardiff, Glamorgan, Cardiff, CF10 5ED Operator Name: European Metal Recycling Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal recycling site Licence Status: Effective Issued: 12th November 2015 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	947	2	320300 175200
127	Licensed Waste Management Facilities (Locations) Licence Number: FP3094VP Location: European Metal Recycling Ltd, Dowlais Wharf, Cardiff, Glamorgan, Cardiff, CF10 5ED Operator Name: European Metal Recycling Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Storage of furnace ready scrap metal for recovery Licence Status: Effective Issued: 12th November 2015 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	947	2	320300 175200
127	Licensed Waste Management Facilities (Locations) Licence Number: 101251 Location: Roath Dock, Dowlais Wharf, Cardiff, CF10 5ED Operator Name: European Metal Recycling Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal recycling site Licence Status: Modified Issued: 26th February 2010 Last Modified: 1st December 2011 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	947	2	320300 175200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	Licensed Waste Management Facilities (Locations) Licence Number: AB3099FT Location: East Moors Waste Transfer Station, East Moors Waste Transfer Station, Forward House, East Moors Road, Cardiff, Cardiff, Cardiff, CF24 5EE Operator Name: Forward Waste Management Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Special Waste Transfer Stations Licence Status: Effective Issued: 26th April 2018 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	957	2	319610 175714
128	Licensed Waste Management Facilities (Locations) Licence Number: AB3099FT Location: East Moors Waste Transfer Station, East Moors Waste Transfer Station, Forward House, East Moors Road, Cardiff, Cardiff, Cardiff, CF24 5EE Operator Name: Forward Waste Management Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Effective Issued: 26th April 2018 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	957	2	319610 175714
129	Licensed Waste Management Facilities (Locations) Licence Number: 30060 Location: Butetown Link Landfill, Ferry Road, Grangetown, Cardiff, Glamorgan, CF11 7DX Operator Name: Davies Middleton Davies Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Landfills Taking Other Wastes (Construction, Demolition, Dredgings) Licence Status: Surrendered Issued: 16th March 1992 Last Modified: 4th November 1994 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 13th September 2001 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	976	2	318529 174253
130	Licensed Waste Management Facilities (Locations) Licence Number: HP3099FD Location: Seaport Environmental Treatment Facility, Cardiff, Glamorgan, Cardiff, CF10 4LX Operator Name: Seaport Environmental Ltd (p P C) Lp3135sb / Jp3231sw Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Physico-chemical Treatment Facilities Licence Status: Expired Issued: 3rd January 1978 Last Modified: Not Supplied Expires: 6th June 2006 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NE (E)	981	2	320438 174935

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	Licensed Waste Management Facilities (Locations) Licence Number: 30006 Location: Old Clipper Road, Roath Dock, Cardiff, CF10 4LX Operator Name: Seaport Environmental Ltd (p P C) Lp3135sb / Jp3231sw Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Physico-chemical Treatment Facilities Licence Status: Closed Issued: 3rd January 1978 Last Modified: 11th July 2003 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: LP3135SB Positional Accuracy: Located by supplier to within 10m	A14NE (E)	981	2	320438 174935
	Local Authority Landfill Coverage Name: Cardiff Council - Has no landfill data to supply		0	6	319435 174714
131	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A13NW (SE)	0	-	319435 174714
132	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A13NW (NW)	40	-	319368 174756
133	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A13NW (W)	120	-	319275 174752
134	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A13NW (N)	230	-	319424 174997
135	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A14SW (E)	356	-	319832 174662
136	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A14SW (E)	394	-	319850 174587
137	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A8NW (SW)	471	-	319119 174292
138	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12NE (W)	514	-	318880 174772
139	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SE (W)	572	-	318832 174595
140	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A8NE (S)	599	-	319439 174057
141	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19SW (NE)	609	-	319846 175238
142	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19SW (NE)	627	-	319901 175211
143	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A12NW (W)	690	-	318723 174892
144	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	734	-	320045 175208
145	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A14NE (NE)	736	-	320139 175050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	739	-	320108 175118
147	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A12NW (W)	758	-	318693 175015
148	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	759	-	320075 175209
149	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A19SE (NE)	763	-	320159 175071
150	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19NW (NE)	767	-	319815 175448
151	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	785	-	320092 175231
152	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A7NW (SW)	808	-	318669 174351
153	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SE (NE)	809	-	320166 175159
154	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (NE)	829	-	319881 175482
155	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SW (W)	837	-	318555 174673
156	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SW (W)	856	-	318537 174649
157	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A17SW (NW)	891	-	318601 175131
158	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A19SE (NE)	909	-	320261 175192
159	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (NE)	923	-	320094 175437
160	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NE (NE)	948	-	320143 175424
161	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (NE)	989	-	319900 175653
162	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (N)	1000	-	319817 175702

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
163	Registered Landfill Sites Licence Holder: British Docks Transport Board Licence Reference: 2/78 Site Location: East Dock Basin, Cardiff Docks, Cardiff, South Glamorgan Licence Easting: 319360 Licence Northing: 174570 Operator Location: As Site Address Authority: Environment Agency Wales, South East 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 March 1978 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Inert/Non-Tox Excav.Demol.Waste Prohibited Waste: Liquid Wastes Poisonous, Noxious, Polluting Wastes	A13SW (SW)	104	3	319360 174570
164	Registered Landfill Sites Licence Holder: British Docks Transport Board Licence Reference: 8/78 Site Location: Lower End Of Bute East Dock, Cardiff, South Glamorgan Licence Easting: 319500 Licence Northing: 175100 Operator Location: West Bute Street, Cardiff, South Glamorgan Authority: Environment Agency Wales, South East 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 January 1979 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: Brick/Stonework/Concrete Hardcore Selected Granular Soils Prohibited Waste: Liquid Wastes Poisonous, Noxious, Polluting Wastes	A18SE (N)	333	3	319500 175100
165	Registered Landfill Sites Licence Holder: A Monk & Co Licence Reference: . Site Location: Bute East Dock, Cardiff, South Glamorgan Licence Easting: 319400 Licence Northing: 175500 Operator Location: As Site Address Authority: Environment Agency Wales, South East Area Site Category: Landfill Max Input Rate: Undefined Waste Source: Waste produced/controlled by licence holder Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: Not Supplied Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Hardcore Inert Demolition Waste Soil,Subsoil	A18NW (N)	732	3	319400 175500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
166	<p>Registered Landfill Sites</p> <p>Licence Holder: Ocean Developments Ltd Licence Reference: L 7 (92/15) Site Location: Taff Island, Clarence Road Bridge, Butetown, Cardiff, South Glamorgan Licence Easting: 318610 Licence Northing: 174870 Operator Location: 6 Oak Court, Betts Way, CRAWLEY, West Sussex, RH10 2GB Authority: Environment Agency Wales, South East Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence has completion certificateSurrendered Dated: 4th June 1992 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Brick, Nat'L Stone & Slate Demolition & Building Wastes Max.Waste Permitted By Licence Soil, Subsoil, Excav'N Waste Prohibited Waste: Asbestos List 1 Substances In Eec Dir. 80/68 Pumpable Sludges Putrescible Waste Incl. Special Wastes Timber Waste In Sealed Drums Waste N.O.S</p>	A12NW (W)	795	3	318610 174870
167	<p>Registered Landfill Sites</p> <p>Licence Holder: Davies Middleton Davies Ltd Licence Reference: L 6 (92/01) Site Location: South Of Hamadryad Hospital Phase 2, Butetown, Cardiff, South Glamorgan Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: Butetown Link Site Office, Ferry Road, CARDIFF, South Glamorgan, CF1 7DX Authority: Environment Agency Wales, South East Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Status: Licence has completion certificateSurrendered Dated: 16th March 1992 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Accuracy: Good Authorised Waste: Local Civil Engineering Waste Maximum Waste Permitted By Licence Liquid Wastes Oil Containing Pcb'S And Analogues Percussive/Explosive/Similar Waste Radioactive Wastes Special Wastes Waste Containing Flammable Solvents Waste N.O.S.</p>	A7NW (SW)	826	3	318692 174264

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
168	Registered Landfill Sites Licence Holder: Brunswick Contractors (Cardiff) Ltd Licence Reference: 2/82 Site Location: Graving Dock No.2, Bute East Dock, Cardiff, South Glamorgan Licence Easting: 319100 Licence Northing: 175670 Operator Location: Cardiff Road, Mwndy, Pontyclun, Mid Glamorgan Authority: Environment Agency Wales, South East 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 April 1982 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Hardcore From Demol'N	A18NW (N)	967	3	319100 175670
169	Registered Waste Transfer Sites Licence Holder: Pauls Industrial Services Ltd Licence Reference: 87/02 Site Location: Collingdon Road, Butetown, Cardiff, South Glamorgan Operator Location: As Site Address Authority: Environment Agency Wales, South East Area Site Category: Transfer Max Input Rate: Undefined Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st November 1987 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Bagged Asbestos Wastes Only Prohibited Waste: Any Other Inert Liquid Waste Any Other Inert Solid Waste Household Waste Plastic Special Wastes N.O.S. Wood	A17SE (NW)	724	3	318950 175300
170	Registered Waste Transfer Sites Licence Holder: M.E.M. Group - Pauls Industrial Serv'S Licence Reference: T 3 (95/05) Site Location: Plot 24/25/26 1 Dowlais Road, Ocean Park, CARDIFF, South Glamorgan, CF1 5TW Operator Location: As Site Address Authority: Environment Agency Wales, South East Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 27th February 1996 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: Asbestos Max.Stor Fuel Oil House, Com & Ind. Non-Special Max.Waste Permitted By Licence Mineral Oils Oil/Water Mixtures Scrap Metal Max.Stor Undrained Batteries Max.Stor Waste Oils Comprising Max.Stor Prohibited Waste: Liquid Waste N.O.S. Special Wastes N.O.S. Waste N.O.S.	A19NW (NE)	866	3	319845 175544

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
171	Registered Waste Transfer Sites Licence Holder: Gwent Haulage Co (Newport) Ltd Licence Reference: 1/79 Site Location: Adj.Longships Road, Cardiff Docks, Cardiff, South Glamorgan Operator Location: Somerton Foundry, Collingwood Road, Newport, Gwent Authority: Environment Agency Wales, South East Area Site Category: Transfer Max Input Rate: Undefined Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st May 1979 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Slag/Sand From Iron Foundry Processes	A9NE (SE)	951	3	320200 174100
172	Registered Waste Treatment or Disposal Sites Licence Holder: Coopers (Metals) Ltd Licence Reference: S 6 (93/04) Site Location: South Side Of Roath Basin, Cardiff Docks, Cardiff, South Glamorgan Operator Location: Bridge House, Gipsy Lane, SWINDON, Wiltshire, SN2 6DZ Authority: Environment Agency Wales, South East Area Site Category: Scrapyard Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st April 1993 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Approximate location provided by supplier Boundary Quality: Not Supplied Authorised Waste: Dry Swarf Max.Storage In Licence/App'N/Work.Plan Scrap Metal Prohibited Waste: Batteries Cable Pcbs Sodium/Potassium Solvents Special Wastes Tyres	A8NE (S)	491	3	319600 174200
173	Registered Waste Treatment or Disposal Sites Licence Holder: Finebran Ltd Licence Reference: S 3 (92/12) Site Location: Unit 5/6 Curran Road, Cardiff, South Glamorgan, Cf10 5df Operator Location: As Site Address Authority: Environment Agency Wales, South East Area Site Category: Scrapyard Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Site exempt from licenceExempt Dated: 1st May 1992 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: Batteries Max.Stor Scrap Metal Max.Stor Swarf Max.Stor Prohibited Waste: Metal In Fine Powdered Form Percussive/Explosive Waste Radioactive Wastes Special Wastes (Except Battery Acid) Trans/Capac. Cont. Pcb'S And Analogues Tyres Or Insulated Cable Of Any Sort Waste Cont. Elemental Sodium/Potassium Waste Containing Free Flam. Solvents	A17SW (NW)	928	3	318550 175110

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
174	Control of Major Accident Hazards Sites (COMAH) Name: Celsa Manufacturing (Uk) Limited Location: Building 58 Castle Works, East Moors Road, CARDIFF, CF24 5NN Reference: 1029766 Type: Lower Tier Status: Active Positional Accuracy: Automatically positioned to the address	A19SW (NE)	632	7	319814 175290
175	Control of Major Accident Hazards Sites (COMAH) Name: Boc Limited Location: East Moors Road, CARDIFF, CF24 5EE Reference: 1033241 Type: Lower Tier Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	858	7	319572 175620
176	Explosive Sites Name: Associated British Ports Location: Discovery House, Britannia Quay, Cardiff, South Glamorgan, CF10 4PJ Status: Not Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	135	7	319522 174566

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13NW (SE)	0	1	319435 174714
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A13NW (SE)	0	1	319435 174714
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: no data Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: no data Concentration: Lead Concentration: <100 mg/kg Nickel: no data Concentration:	A8NW (S)	301	1	319324 174370
177	BGS Recorded Mineral Sites Site Name: Brassways Wharf Location: Cardiff Docks, Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10853 Type: Wharf Status: Ceased Operator: Hanson Aggregates, South West Region Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A13SE (SE)	195	1	319637 174605
178	BGS Recorded Mineral Sites Site Name: Roath Basin Location: Cardiff Docks, Cardiff, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 16134 Type: Wharf Status: Ceased Operator: United Marine Dredging Limited Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A13SE (SE)	434	1	319765 174390
179	BGS Recorded Mineral Sites Site Name: Empire Wharf Location: Cardiff Docks, Cardiff, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 244919 Type: Wharf Status: Active Operator: Cemex Uk Materials Ltd. Operator Location: Not Supplied Periodic Type: Not Available Geology: Quarry (Hard Rock) Commodity: Crushed Rock Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	713	1	320099 174368

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
179	BGS Recorded Mineral Sites Site Name: Empire Wharf Location: Cardiff Docks, Cardiff, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 16135 Type: Wharf Status: Active Operator: Cemex Uk Materials Ltd. Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	713	1	320099 174368
180	BGS Recorded Mineral Sites Site Name: Cardiff Wharf Location: Cardiff Docks, Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10854 Type: Wharf Status: Active Operator: Hanson Aggregates Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A14NE (E)	716	1	320150 174975
180	BGS Recorded Mineral Sites Site Name: Cardiff Wharf Location: Roath Dock, Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10855 Type: Wharf Status: Dormant Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A14NE (E)	716	1	320150 174975
181	BGS Recorded Mineral Sites Site Name: Empire Wharf Location: Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10856 Type: Wharf Status: Ceased Operator: British Dredging Aggregates Ltd Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	741	1	320100 174315
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 319250, 174750 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured Concentration: 44.60 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 83.60 mg/kg Lead Measured Concentration: 204.50 mg/kg Nickel Measured Concentration: 40.60 mg/kg	A13NW (W)	144	1	319250 174750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 319710, 174630 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 28.90 mg/kg Concentration: Cadmium Measured 1.90 mg/kg Concentration: Chromium Measured 87.50 mg/kg Concentration: Lead Measured 1549.20 mg/kg Concentration: Nickel Measured 70.00 mg/kg Concentration:	A13SE (E)	247	1	319710 174630
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 319420, 174300 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 16.70 mg/kg Concentration: Cadmium Measured 1.20 mg/kg Concentration: Chromium Measured 75.20 mg/kg Concentration: Lead Measured 121.30 mg/kg Concentration: Nickel Measured 29.00 mg/kg Concentration:	A8NW (S)	356	1	319420 174300
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 319250, 175250 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 26.40 mg/kg Concentration: Cadmium Measured 0.40 mg/kg Concentration: Chromium Measured 64.60 mg/kg Concentration: Lead Measured 121.60 mg/kg Concentration: Nickel Measured 30.80 mg/kg Concentration:	A18SW (N)	521	1	319250 175250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 318860, 174760 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 18.00 mg/kg Concentration: Cadmium Measured 2.90 mg/kg Concentration: Chromium Measured 127.60 mg/kg Concentration: Lead Measured 630.10 mg/kg Concentration: Nickel Measured 89.90 mg/kg Concentration:	A12NE (W)	532	1	318860 174760
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 319750, 174220 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 36.80 mg/kg Concentration: Cadmium Measured 1.30 mg/kg Concentration: Chromium Measured 87.50 mg/kg Concentration: Lead Measured 215.50 mg/kg Concentration: Nickel Measured 118.00 mg/kg Concentration:	A8NE (SE)	547	1	319750 174220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 319810, 175260 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 32.90 mg/kg Concentration: Cadmium Measured 2.20 mg/kg Concentration: Chromium Measured 135.10 mg/kg Concentration: Lead Measured 411.60 mg/kg Concentration: Nickel Measured 65.40 mg/kg Concentration:	A19SW (NE)	604	1	319810 175260
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 318730, 174250 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 16.00 mg/kg Concentration: Cadmium Measured 0.50 mg/kg Concentration: Chromium Measured 86.00 mg/kg Concentration: Lead Measured 99.20 mg/kg Concentration: Nickel Measured 39.40 mg/kg Concentration:	A7NW (SW)	799	1	318730 174250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 318710, 175210 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 13.50 mg/kg Concentration: Cadmium Measured 1.00 mg/kg Concentration: Chromium Measured 103.30 mg/kg Concentration: Lead Measured 133.20 mg/kg Concentration: Nickel Measured 33.10 mg/kg Concentration:	A17SW (NW)	841	1	318710 175210
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 320250, 174250 Soil Sample Type: Topsoil Sample Area: Cardiff Arsenic Measured 16.00 mg/kg Concentration: Cadmium Measured 1.20 mg/kg Concentration: Chromium Measured 584.90 mg/kg Concentration: Lead Measured 712.40 mg/kg Concentration: Nickel Measured 232.60 mg/kg Concentration:	A9NE (SE)	903	1	320250 174250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: Cardiff Count Id: 506 Arsenic Minimum Concentration: 6.00 mg/kg Arsenic Average Concentration: 18.00 mg/kg Arsenic Maximum Concentration: 149.00 mg/kg Cadmium Minimum Concentration: 0.10 mg/kg Cadmium Average Concentration: 0.90 mg/kg Cadmium Maximum Concentration: 100.60 mg/kg Chromium Minimum Concentration: 28.00 mg/kg Chromium Average Concentration: 86.00 mg/kg Chromium Maximum Concentration: 2933.00 mg/kg Lead Minimum Concentration: 20.00 mg/kg Lead Average Concentration: 190.00 mg/kg Lead Maximum Concentration: 8158.00 mg/kg Nickel Minimum Concentration: 8.00 mg/kg Nickel Average Concentration: 35.00 mg/kg Nickel Maximum Concentration: 482.00 mg/kg	A13NW (SE)	0	1	319435 174714
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	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	A13NW (SE)	0	1	319435 174714
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	319442 174707
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	19	1	319408 174769
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	205	1	319604 174551
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	232	1	319483 175000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	319442 174707
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	19	1	319408 174769
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	205	1	319604 174551
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	232	1	319483 175000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
	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	A13NW (SE)	0	1	319435 174714
	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	A13NW (SE)	0	1	319435 174714

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	Contemporary Trade Directory Entries Name: Divine Time Home Cleaning Ltd Location: Regus House, Falcon Drive, Cardiff, CF10 4RU Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	105	-	319564 174658
183	Contemporary Trade Directory Entries Name: Cory Logistics Location: 2, Caspian Point, Caspian Way, Cardiff, CF10 4DQ Classification: Freight Forwarders Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	174	-	319616 174838
184	Contemporary Trade Directory Entries Name: Midatech Pharma Location: BUTETOWN, CARDIFF, CF10 4DQ Classification: Pharmaceutical Manufacturers & Distributors Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	241	-	319668 174885
184	Contemporary Trade Directory Entries Name: Cleaning Solutions Bridgend Ltd - Cardiff Location: Caspian Point, Caspian Way, Cardiff, CF10 4DQ Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	241	-	319668 174885
184	Contemporary Trade Directory Entries Name: Graig Shipping Location: 1, Caspian Point, Caspian Way, Cardiff, CF10 4DQ Classification: Freight Forwarders Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	242	-	319669 174886
184	Contemporary Trade Directory Entries Name: Hanson Location: Cardiff Wharf, Roath Dock Road, Cardiff, South Glamorgan, CF10 4DQ Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	242	-	319669 174886
184	Contemporary Trade Directory Entries Name: Energy Saving Trust Location: 1, Caspian Point, Caspian Way, Cardiff, South Glamorgan, CF10 4DQ Classification: Energy Efficient Products and Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	242	-	319669 174886
185	Contemporary Trade Directory Entries Name: Future Clothes Care Location: 104, Bute Street, Cardiff, CF10 5AD Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	311	-	319087 174643
185	Contemporary Trade Directory Entries Name: Regan Location: Flat 1, 109, Bute Street, Cardiff, CF10 5AD Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	319	-	319074 174671
185	Contemporary Trade Directory Entries Name: Photocopying Services Location: 107, Bute Street, Cardiff, CF10 5AD Classification: Photocopiers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	322	-	319073 174660
185	Contemporary Trade Directory Entries Name: Dwb Cleaning Services Ltd Location: 113-116, Bute Street, Cardiff, CF10 5EQ Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	324	-	319066 174697
185	Contemporary Trade Directory Entries Name: Advanced Jewel Craft Location: 103, Bute Street, Cardiff, CF10 5AD Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	325	-	319075 174635

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	Contemporary Trade Directory Entries Name: Adamas Studio Ltd Location: 103, Bute Street, Cardiff, CF10 5AD Classification: Jewellery Manufacturers & Repairers Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	326	-	319075 174634
185	Contemporary Trade Directory Entries Name: Ravenstat Photocopying Services Location: 103, Bute Street, Cardiff, CF10 5AD Classification: Copying & Duplicating Services Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	326	-	319075 174634
186	Contemporary Trade Directory Entries Name: H P M Mobility Location: Flat 11, St. Clair Court, West Bute Street, Cardiff, South Glamorgan, CF10 5FT Classification: Disability Equipment - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	344	-	319052 174652
186	Contemporary Trade Directory Entries Name: Steamers Dry Cleaners Location: 18, James Street, Cardiff, South Glamorgan, CF10 5EX Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	386	-	319016 174622
187	Contemporary Trade Directory Entries Name: South Wales Institute Of Engineers Location: Bay Chambers, West Bute Street, Cardiff, CF10 5BB Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	360	-	319031 174682
187	Contemporary Trade Directory Entries Name: Evans & Reid Coal Co Ltd Location: 6, Mount Stuart Square, Cardiff, CF10 5EE Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SE (W)	399	-	318993 174679
188	Contemporary Trade Directory Entries Name: Scweeji Location: Enterprise House 127-129, Bute Street, Cardiff, CF10 5LE Classification: T-Shirts Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	362	-	319052 174845
188	Contemporary Trade Directory Entries Name: Dolphin Manpower Services Location: Enterprise House, 127 Bute St, Cardiff, South Glamorgan, CF10 5LE Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NE (W)	366	-	319048 174847
188	Contemporary Trade Directory Entries Name: Chauffeurdrive (Cardiff Bay) Ltd Location: 130-132, Bute Street, Cardiff, CF10 5LE Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	377	-	319040 174855
189	Contemporary Trade Directory Entries Name: Mccann & Partners Location: Cymric Buildings, West Bute Street, Cardiff, South Glamorgan, CF10 5LL Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	367	-	319025 174757
189	Contemporary Trade Directory Entries Name: Culture Group Location: St. Line House, Mount Stuart Square, Cardiff, CF10 5LR Classification: Car Customisation & Conversion Specialists Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	382	-	319009 174741

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
190	Contemporary Trade Directory Entries Name: Royal Pharmaceutical Society Of Great Britain Location: 14, Mount Stuart Square, Cardiff, South Glamorgan, CF10 5DP Classification: Pharmaceutical Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	441	-	318957 174633
191	Contemporary Trade Directory Entries Name: Weld-A-Bed Location: Flat 1, Amalfi House, Fford Garthorne, Cardiff, South Glamorgan, CF10 4DA Classification: Furniture Manufacturers - Home & Office Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	449	-	319081 175042
192	Contemporary Trade Directory Entries Name: Cardiff Council Policy & Paternship Team Location: County Hall, Atlantic Wharf, Cardiff, CF10 4UW Classification: Laboratories Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	452	-	319284 175190
192	Contemporary Trade Directory Entries Name: Cardiff Research Centre Location: Policy & Economic Development, Room 401, Cardiff, South Glamorgan, CF10 4UW Classification: Laboratories Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A18SW (N)	453	-	319284 175190
193	Contemporary Trade Directory Entries Name: Top Bannana Computers Location: Stuart St, Cardiff, South Glamorgan, CF10 5BW Classification: Computer Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A12SE (SW)	462	-	319027 174411
194	Contemporary Trade Directory Entries Name: Utility Grid Installations Location: Mount Stuart House, Mount Stuart Square, Cardiff, South Glamorgan, CF10 5FQ Classification: Gas Companies Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SE (W)	506	-	318892 174625
195	Contemporary Trade Directory Entries Name: Global Specialised Services Location: Tyneside Road, Cardiff, South Glamorgan, CF10 4LR Classification: Freight Forwarders Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (SE)	513	-	319922 174460
196	Contemporary Trade Directory Entries Name: Hope Construction Materials Location: Roath Dock, Cardiff, CF10 4ED Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	516	-	319955 174924
196	Contemporary Trade Directory Entries Name: Hope Construction Materials Location: Roath Dock, Cardiff, CF10 4ED Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	516	-	319955 174924
197	Contemporary Trade Directory Entries Name: Cardiff Boat Building & Slipway Co Ltd Location: Roath Basin, Cardiff, CF10 4LS Classification: Boatbuilders & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (S)	520	-	319505 174143
198	Contemporary Trade Directory Entries Name: Rees Location: Tyneside Rd, Cardiff, South Glamorgan, CF10 4LR Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A14SW (E)	528	-	319962 174506

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
199	Contemporary Trade Directory Entries Name: Marshall Maritime Services Ltd Location: Cargo Rd, Docks, Cardiff, South Glamorgan, CF10 4LY Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	556	-	319776 174228
200	Contemporary Trade Directory Entries Name: Thomas Hosking Ltd Location: Thomas Hosking & Sons Ltd Unit 4, Dumballs Road Industrial Estate, Dumballs Road, Cardiff, CF10 5FG Classification: Commercial Vehicle Bodybuilders & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	567	-	318836 174835
200	Contemporary Trade Directory Entries Name: Hosking Accident Repair Centre Location: Unit 5 Hosking Industrial Estate, Dumballs Road, Cardiff, South Glamorgan, CF10 5FG Classification: Commercial Vehicle Bodybuilders & Repairers Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	575	-	318827 174834
201	Contemporary Trade Directory Entries Name: Morgan Abrasives & Industrial Supplies Location: Unit 4, Royal Stuart Workshops, Adelaide Place, Cardiff, CF10 5BR Classification: Abrasive Products - Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	571	-	318841 174559
201	Contemporary Trade Directory Entries Name: Ampersand Glass Location: Unit 12/13, Royal Stuart Workshops, Adelaide Place, Cardiff, South Glamorgan, CF10 5BR Classification: Glass Engravers & Decorators Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SE (W)	571	-	318841 174559
201	Contemporary Trade Directory Entries Name: Redcraft Ltd Location: Cardiff, CF10 5BR Classification: Glass Engravers & Decorators Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	571	-	318841 174559
201	Contemporary Trade Directory Entries Name: Vokes & Elsheikh Ltd Location: 5, Douglas Buildings, Royal Stuart Lane, Cardiff, CF10 5EL Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	582	-	318835 174539
201	Contemporary Trade Directory Entries Name: Duct Hygiene Projects Location: 1, Douglas Buildings, Royal Stuart Lane, Cardiff, CF10 5EL Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	582	-	318835 174539
201	Contemporary Trade Directory Entries Name: M T S Network Logistics Uk Ltd Location: 1, Douglas Buildings, Royal Stuart Lane, Cardiff, South Glamorgan, CF10 5EL Classification: Freight Forwarders Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SE (W)	583	-	318835 174539
201	Contemporary Trade Directory Entries Name: Multilec Electrical Services Location: 4 Douglas Buildings, Royal Stuart Lane, Cardiff, CF10 5EL Classification: Electrical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	583	-	318835 174538
201	Contemporary Trade Directory Entries Name: T A Reed Ltd Location: Osprey House, Harrowby Street, Cardiff, CF10 5GA Classification: Marine Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	613	-	318795 174568

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
201	Contemporary Trade Directory Entries Name: Assembly Auto Repairs Location: 2, Harrowby Street, Cardiff, South Glamorgan, CF10 5GA Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	613	-	318795 174568
202	Contemporary Trade Directory Entries Name: Lonsdale Commercial Bodybuilders Location: Unit 2, Hoskin Industrial Estate, Dumballs Road, Cardiff, South Glamorgan, CF10 5FG Classification: Commercial Vehicle Bodybuilders & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	581	-	318835 174888
202	Contemporary Trade Directory Entries Name: Mobile Sparks Cardiff Location: Mobile Sparks Express House, Dumballs Road, Cardiff, CF10 5FE Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	612	-	318814 174923
202	Contemporary Trade Directory Entries Name: Express Vehicle Services Location: 22, Dumballs Road, Cardiff, CF10 5FE Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	618	-	318809 174928
202	Contemporary Trade Directory Entries Name: Transport Hydraulics Ltd Location: Dumballs Road, Cardiff, CF10 5FE Classification: Hydraulic Equipment & Accessories - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	618	-	318809 174928
202	Contemporary Trade Directory Entries Name: Bayside Garage Ltd Location: 22, Dumballs Road, Cardiff, CF10 5FE Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	618	-	318809 174928
203	Contemporary Trade Directory Entries Name: Bay Services Location: 61, Lynton Court, Chandlery Way, Cardiff, CF10 5NF Classification: Chemical Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	620	-	318777 174810
204	Contemporary Trade Directory Entries Name: Celsa Manufacturing Uk Location: Building 58 Castle Works, East Moors Road, Cardiff, South Glamorgan, CF24 5NN Classification: Steel Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	632	-	319814 175290
205	Contemporary Trade Directory Entries Name: C P L Petroleum Ltd Location: Roeth Dock, Cardiff, South Glamorgan Classification: Oil Companies Status: Active Positional Accuracy: Manually positioned within the geographical locality	A14NW (E)	657	-	320096 174952
206	Contemporary Trade Directory Entries Name: Wheelbase Recovery Service Centre Location: 22, Dumballs Road, Cardiff, CF10 5FE Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	657	-	318779 174960
206	Contemporary Trade Directory Entries Name: C & M Metals Location: 20, Dumballs Road, Cardiff, CF10 5FE Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	702	-	318747 174997

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
207	Contemporary Trade Directory Entries Name: T J Williams Ltd Location: 15-17, Harrowby Street, Cardiff, CF10 5GA Classification: Industrial Instrument & Apparatus Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	666	-	318745 174550
207	Contemporary Trade Directory Entries Name: Baymarine Industrial Services Ltd Location: Aquarian House, Burt St, Cardiff, South Glamorgan, CF10 5FZ Classification: Ship Builders, Repairs & Fittings Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	678	-	318739 174526
207	Contemporary Trade Directory Entries Name: J & E Hall Ltd Location: 1, Burt Street, Cardiff, CF10 5FZ Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	704	-	318714 174522
208	Contemporary Trade Directory Entries Name: E P O S Systems Location: 37, Judkin Court, Heol Tredwen, Cardiff, CF10 5AU Classification: Cash Registers & Check-Out Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	682	-	318708 174713
209	Contemporary Trade Directory Entries Name: Clarence Bridge Service Station Location: Unit 1 Hurman St, Cardiff Bay, Cardiff, South Glamorgan, CF10 5FD Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	690	-	318702 174662
210	Contemporary Trade Directory Entries Name: British Dredging Aggregates Ltd Location: Empire Wharf, Cardiff Docks, Cardiff, South Glamorgan, CF10 4LT Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	710	-	320083 174347
211	Contemporary Trade Directory Entries Name: Eurovehicle Leasing Contracts Ltd Location: Unit 1-9, Old Steel Works, East Moors Road, Cardiff, CF24 5DZ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	730	-	319624 175481
212	Contemporary Trade Directory Entries Name: Evans & Reid Coal Concentration (Cardiff) Ltd Location: East Moors Road, Cardiff, South Glamorgan, CF24 5EE Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	746	-	319682 175481
213	Contemporary Trade Directory Entries Name: Cemex Uk Location: Cold Stores Road, Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LW Classification: Sand, Gravel & Other Aggregates Status: Active Positional Accuracy: Automatically positioned to the address	A9NE (SE)	757	-	320112 174304
213	Contemporary Trade Directory Entries Name: Cemex Uk Location: Cold Stores Road, Empire Wharf, Cardiff, South Glamorgan, CF10 4LW Classification: Concrete & Mortar Ready Mixed Status: Active Positional Accuracy: Automatically positioned to the address	A9NE (SE)	757	-	320112 174304
213	Contemporary Trade Directory Entries Name: Cemex Cardiff Plant Location: North Side, Queen Alexandra Dock, Cardiff, CF10 4LW Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	765	-	320124 174308

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
213	Contemporary Trade Directory Entries Name: Cardiff Licenced Boatmen Location: Lockside, Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LT Classification: Ports, Docks & Harbours Status: Active Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	765	-	320124 174308
213	Contemporary Trade Directory Entries Name: Cemex Cardiff Wharf Location: North Side, Queen Alexandra Dock, Cardiff, CF10 4LW Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	765	-	320124 174308
214	Contemporary Trade Directory Entries Name: Tenershire Marine (Wales) Ltd Location: Coldstores Road, Queen Alexandra Dock, Cardiff, CF10 4LL Classification: Ship Builders, Repairs & Fittings Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	757	-	320186 174446
214	Contemporary Trade Directory Entries Name: Hanson Brick Ltd Location: Coldstores Rd, Cardiff, South Glamorgan, CF10 4LR Classification: Brick Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A14SE (E)	774	-	320196 174428
214	Contemporary Trade Directory Entries Name: Unit Shipping Ltd Location: Compass House, Queen Alexandra Dock, Cardiff, CF10 4LT Classification: Freight Forwarders Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	803	-	320234 174443
214	Contemporary Trade Directory Entries Name: Castle Services Group Ltd Location: Compass House, Queen Alexandra Dock, Cardiff, CF10 4LT Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	803	-	320234 174443
214	Contemporary Trade Directory Entries Name: H C B Location: Compass House, Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LT Classification: Oil Fuel Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	803	-	320234 174443
214	Contemporary Trade Directory Entries Name: Castle Services Group Ltd Location: Compass House, Queen Alexandra Dock, Cardiff, CF10 4LT Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	803	-	320234 174443
214	Contemporary Trade Directory Entries Name: Pearl Logistics Location: Compass House, Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LT Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	803	-	320234 174443
215	Contemporary Trade Directory Entries Name: Martyn Madden Location: 110, Judkin Court, Heol Tredwen, Cardiff, CF10 5AX Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	757	-	318635 174666
216	Contemporary Trade Directory Entries Name: R G Cooper Location: 11, Clarence Place, Cardiff, CF10 5GW Classification: Refrigerators & Freezers - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	778	-	318659 174449

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
217	Contemporary Trade Directory Entries Name: Kingsmaid Location: Penstone Ct, Chandlery Way, Cardiff, South Glamorgan, CF10 5NL Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A12NW (W)	782	-	318618 174842
218	Contemporary Trade Directory Entries Name: Wales Environmental Ltd Location: Unit 3, Regents Court, Nettlefold Road, Cardiff, CF24 5JQ Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	793	-	319876 175443
218	Contemporary Trade Directory Entries Name: Transport Broker Group Location: Unit 2, Regents Court, Nettlefold Road, Cardiff, CF24 5JQ Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	803	-	319886 175448
218	Contemporary Trade Directory Entries Name: Eclean Location: Unit 2 Regents Court, Nettlefold Road, Cardiff, South Glamorgan, CF24 5JQ Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	817	-	319853 175484
218	Contemporary Trade Directory Entries Name: Nitrile Gloves Uk Location: SPLOTT, CARDIFF, CF24 5JQ Classification: Glove Manufacturers & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A19NW (NE)	817	-	319853 175484
219	Contemporary Trade Directory Entries Name: C P I Mortars Ltd Location: Queen Alexandra Dock, Cardiff, CF10 4LT Classification: Mortar Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	810	-	320066 174162
220	Contemporary Trade Directory Entries Name: Plastic Building Materials Ltd Location: 3, Loudoun Square, Cardiff, CF10 5JA Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	830	-	318724 175212
221	Contemporary Trade Directory Entries Name: Cardiff Recycling Location: Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LU Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	833	-	320160 174240
222	Contemporary Trade Directory Entries Name: Jaycee Recycling Ltd Location: Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LU Classification: Recycling Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	843	-	320236 174347
222	Contemporary Trade Directory Entries Name: Boxfast Ltd Location: Longships Road, Cardiff, CF10 4RP Classification: Concrete Pumping Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	857	-	320228 174302
222	Contemporary Trade Directory Entries Name: Progressive Technical Services Location: Envirotech House Longships Road, Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4RP Classification: Tank Cleaning & Repairing Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	857	-	320228 174302

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
222	Contemporary Trade Directory Entries Name: Deborah Services Ltd Location: Longships Road, Cardiff, South Glamorgan, CF10 4RP Classification: Scaffolding & Work Platforms Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	857	-	320228 174302
222	Contemporary Trade Directory Entries Name: New Life Pallets Ltd Location: Queen Alexandra Dock, Cardiff, CF10 4LU Classification: Pallets, Crates & Packing Cases Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	857	-	320228 174302
222	Contemporary Trade Directory Entries Name: New Life Pallet Ltd Location: Queen Alexandra Dock, Cardiff, CF10 4LU Classification: Pallets, Crates & Packing Cases Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	857	-	320228 174302
222	Contemporary Trade Directory Entries Name: Freightmasters Location: Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LU Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	857	-	320228 174302
223	Contemporary Trade Directory Entries Name: Cardiff Galvanizers Holdings Ltd Location: East Moors rd, Cardiff, South Glamorgan, CF24 5ER Classification: Blast Cleaning Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	853	-	319592 175612
223	Contemporary Trade Directory Entries Name: Cardiff Hard Metal Products Ltd Location: Unit 11, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Tool Design, Manufacturers & Makers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	869	-	319615 175624
223	Contemporary Trade Directory Entries Name: Ark Location: Unit 9, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	892	-	319651 175640
223	Contemporary Trade Directory Entries Name: Scrap Yard In Cardiff Htt Location: Unit 9, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	896	-	319648 175645
223	Contemporary Trade Directory Entries Name: E-Linen Services Location: Unit 8 East Moors Business Park, East Moors Road, Cardiff, South Glamorgan, CF24 5JX Classification: Laundries & Launderettes Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	904	-	319638 175655
223	Contemporary Trade Directory Entries Name: M Barnwell Services Ltd Location: Unit 2, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Joint & Seal Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	905	-	319614 175661
223	Contemporary Trade Directory Entries Name: Grove Group Location: Unit 3, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Car Paint & Lacquer Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	912	-	319625 175666

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
224	Contemporary Trade Directory Entries Name: B O C Gas & Gear Location: East Moors Road, Cardiff, CF24 5EE Classification: Gas Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	858	-	319572 175620
224	Contemporary Trade Directory Entries Name: Cardiff Galvanizers Holdings Ltd Location: Cambrian House, East Moors Road, Cardiff, CF24 5EG Classification: Coating Specialists Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	866	-	319554 175631
224	Contemporary Trade Directory Entries Name: E & B Air Compressors Location: East Moors Road, Cardiff, CF24 5EE Classification: Air Compressors Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	868	-	319526 175635
224	Contemporary Trade Directory Entries Name: Radyr Joinery Ltd Location: Globe Works, East Moors Road, Cardiff, CF24 5EU Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	868	-	319526 175635
224	Contemporary Trade Directory Entries Name: Air Channel Location: East Moors Road, Cardiff, South Glamorgan, CF24 5EE Classification: Air Compressors Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	868	-	319526 175635
224	Contemporary Trade Directory Entries Name: Hap Shing Trading Co Ltd Location: Unit 1-4, Globe Works, East Moors Road, Cardiff, CF24 5EU Classification: Food Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	918	-	319532 175685
225	Contemporary Trade Directory Entries Name: Memchem Ltd Location: Edward House, Dowlais Road, Cardiff, CF24 5TW Classification: Cleaning Materials & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	871	-	319877 175533
225	Contemporary Trade Directory Entries Name: Pauls Industrial Services Ltd Location: Edward House, Dowlais Road, Cardiff, CF24 5TW Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	871	-	319877 175533
225	Contemporary Trade Directory Entries Name: Mss Location: Edward House, Dowlais Road, Cardiff, South Glamorgan, CF24 5TW Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19NW (NE)	871	-	319877 175533
226	Contemporary Trade Directory Entries Name: Engine Professionals Location: Express House, Dumballs Road, Cardiff, South Glamorgan, CF10 5FE Classification: Engine Rebuilding & Reconditioning Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	876	-	318636 175161
226	Contemporary Trade Directory Entries Name: Cardiff Car Finder Location: Express House, Dumballs Road, Cardiff, South Glamorgan, CF10 5FE Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	876	-	318636 175161
226	Contemporary Trade Directory Entries Name: Cardiff Bay Press Ltd Location: Unit 4, Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	907	-	318623 175199

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
226	Contemporary Trade Directory Entries Name: Gordons Tyre & Auto Centre Location: Unit 3, Anchor Industrial Estate, Dumballs Road, Cardiff, South Glamorgan, CF10 5FF Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	913	-	318611 175192
226	Contemporary Trade Directory Entries Name: A & D Vehicle Repair Centre Location: Unit 3, Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	913	-	318611 175192
226	Contemporary Trade Directory Entries Name: M Chick Location: Unit 3, Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	913	-	318611 175192
226	Contemporary Trade Directory Entries Name: Enviroquip Ltd Location: Unit 2, Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Classification: Waste Processing Machinery Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	920	-	318600 175186
226	Contemporary Trade Directory Entries Name: J S Enterprises Location: Unit 1, Anchor Industrial Estate, Dumballs Road, Cardiff, South Glamorgan, CF10 5FF Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	926	-	318589 175180
226	Contemporary Trade Directory Entries Name: Proline Location: Unit 7, Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Classification: Leisure & Sportswear Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	938	-	318602 175226
226	Contemporary Trade Directory Entries Name: Lata Motors Location: Unit 7, Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	938	-	318602 175226
227	Contemporary Trade Directory Entries Name: Paragon Servicepoint Location: Cardiff, CF24 5HF Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	876	-	319735 175601
227	Contemporary Trade Directory Entries Name: Eurocell Building Plastics Ltd Location: 3, Quay Point, Ocean Way, CARDIFF, CF24 5HF Classification: PVC-U Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	890	-	319722 175620
227	Contemporary Trade Directory Entries Name: Madol Location: 4, Quay Point, Ocean Way, Cardiff, CF24 5HF Classification: Window Film Manufacturers and Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	890	-	319722 175620
227	Contemporary Trade Directory Entries Name: Alpha Graphics Location: 2, Collivaud Place, Cardiff, CF24 5PD Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	923	-	319748 175646

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
228	Contemporary Trade Directory Entries Name: Breedon Aggregates Location: Roath Dock Road, Cardiff, South Glamorgan, CF10 4ED Classification: Sand, Gravel & Other Aggregates Status: Active Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	892	-	320270 175136
228	Contemporary Trade Directory Entries Name: European Metals Recycling Ltd Location: Roath Dock, Cardiff, CF10 4ED Classification: Scrap Metal Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A19SE (NE)	893	-	320271 175137
228	Contemporary Trade Directory Entries Name: Logistical Carriers Location: Roath Dock, Cardiff, South Glamorgan, CF10 4ED Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A19SE (NE)	911	-	320276 175168
229	Contemporary Trade Directory Entries Name: E Linen Services Location: Unit 8, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Laundries & Launderettes Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	899	-	319664 175645
229	Contemporary Trade Directory Entries Name: Industrial (Friction Materials) Ltd Location: Unit 7, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Brake & Clutch Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	910	-	319677 175653
229	Contemporary Trade Directory Entries Name: Industrial Friction Materials Location: Unit 7, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Brake & Clutch Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	910	-	319677 175653
229	Contemporary Trade Directory Entries Name: Industrial Friction Materials Ltd Location: Unit 7, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Brake & Clutch Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	912	-	319673 175656
229	Contemporary Trade Directory Entries Name: Parkheath Ltd Location: Unit 6, East Moors Business Park, East Moors Road, Cardiff, CF24 5JX Classification: Electronic Component Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	938	-	319664 175685
230	Contemporary Trade Directory Entries Name: Encon Insulation Ltd Location: Glass Av, Cardiff, South Glamorgan, CF24 5EN Classification: Insulation Materials Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19NW (NE)	907	-	319807 175606
231	Contemporary Trade Directory Entries Name: Admet Ltd Location: Unit 5, Templar Park Industrial Estate, East Moors Road, Cardiff, CF24 5EW Classification: Wrought Ironwork Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	920	-	319496 175690
231	Contemporary Trade Directory Entries Name: Admet Ltd Location: Unit 5, Templar Park Industrial Estate, East Moors Road, Cardiff, CF24 5EW Classification: Gate Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	920	-	319496 175690
231	Contemporary Trade Directory Entries Name: E T S Location: Unit 8, Globe Works, East Moors Road, Cardiff, CF24 5EU Classification: Telecommunications Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	925	-	319536 175691

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
231	Contemporary Trade Directory Entries Name: Imagecorp Location: Unit 4, Templar Parc, East Moors Road, Cardiff, South Glamorgan, CF24 5EW Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18NE (N)	926	-	319520 175694
232	Contemporary Trade Directory Entries Name: Aluminium R W Supplies Ltd Location: Unit 6, Curran Road, Cardiff, CF10 5DF Classification: Aluminium Fabricators Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	924	-	318555 175112
233	Contemporary Trade Directory Entries Name: Cardiff Bay Service Station Location: 235, Corporation Road, Cardiff, CF11 7AS Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	926	-	318464 174720
233	Contemporary Trade Directory Entries Name: Esso Location: 235, Corporation Road, Cardiff, CF11 7AS Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	926	-	318464 174720
233	Contemporary Trade Directory Entries Name: Cardiff Bay Service Station Location: 235, Corporation Road, Cardiff, CF11 7AS Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	926	-	318464 174720
233	Contemporary Trade Directory Entries Name: M R H Service Station Location: 235, Corporation Road, Cardiff, CF11 7AS Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	926	-	318464 174720
233	Contemporary Trade Directory Entries Name: Esso Location: 235, Corporation Road, Cardiff, CF11 7AS Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A12NW (W)	926	-	318464 174720
234	Contemporary Trade Directory Entries Name: Wincanton Plc Location: Queen Alexandra Dock, Cardiff, CF10 4LU Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A9NE (E)	937	-	320346 174362
235	Contemporary Trade Directory Entries Name: Royal Hamadryad Hospital Location: Hunter Street, Cardiff, CF10 5UQ Classification: Hospitals Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (W)	943	-	318512 174370
236	Contemporary Trade Directory Entries Name: Cardiff Heating Repairs Location: 79, Overstone Court, Cardiff, CF10 5NT Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	944	-	318484 174981
237	Contemporary Trade Directory Entries Name: Associated British Ports Location: Queen Alexandra House, Cargo Road, Docks, Cardiff, CF10 4LY Classification: Ports, Docks & Harbours Status: Active Positional Accuracy: Automatically positioned to the address	A9NE (SE)	946	-	320310 174267

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
238	Contemporary Trade Directory Entries Name: Atlantic Box Co Ltd Location: Unit 5, Anchor Industrial Estate, Dumballs Road, Cardiff, South Glamorgan, CF10 5FF Classification: Boxes & Cartons Status: Inactive Positional Accuracy: Manually positioned to the address or location	A17SW (NW)	959	-	318566 175205
238	Contemporary Trade Directory Entries Name: Timbertek Location: Unit 4, Canal Ind Park, Cardiff, South Glamorgan, CF10 5FE Classification: Furniture - Repairing & Restoring Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	992	-	318548 175240
238	Contemporary Trade Directory Entries Name: A Eveleigh & Sons Location: Dumballs Road, Cardiff, South Glamorgan, CF10 5FE Classification: Crushing Plants Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	997	-	318532 175223
239	Contemporary Trade Directory Entries Name: Chalkies Location: Queen Alexandra Dock, Cardiff, South Glamorgan, CF10 4LU Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	969	-	320182 174053
240	Contemporary Trade Directory Entries Name: Specialist Site Services Location: Unit 6, Templar Park Industrial Estate, East Moors Road, Cardiff, CF24 5EW Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SE (N)	969	-	319474 175739
240	Contemporary Trade Directory Entries Name: Sims Metal Management Ltd Location: 122-128, East Moors Road, Cardiff, CF24 5EE Classification: Scrap Metal Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	978	-	319470 175748
241	Contemporary Trade Directory Entries Name: C C F Location: Trident Industrial Park, Glass Avenue, Cardiff, CF24 5EN Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A19NE (NE)	974	-	320117 175486
242	Contemporary Trade Directory Entries Name: Applied Automation Uk Ltd Location: Unit 2, Neptune Point, Vanguard Way, Cardiff, CF24 5PG Classification: Automation Systems & Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A19NW (NE)	985	-	320040 175563
243	Contemporary Trade Directory Entries Name: Seaport Environmental Location: Clipper Road, Roath Dock, Cardiff, CF10 4LX Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (E)	992	-	320449 174937
244	Fuel Station Entries Name: Tiger Bay Service Station Location: Bute Street, Butetown, Cardiff, Cardiff, CF10 5LF Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Manually positioned to the address or location	A12NE (W)	388	-	319030 174860
245	Fuel Station Entries Name: Mfg Cardiff Bay Location: 235, Corporation Road, Grangetown, Cardiff, Cardiff, CF11 7AS Brand: Esso Premises Type: Petrol Station Status: Open Positional Accuracy: Automatically positioned to the address	A12NW (W)	926	-	318464 174720

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
246	Points of Interest - Commercial Services Name: J S Transport Ltd Location: 42 Atlas House, Falcon Drive, Cardiff, CF10 4RA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NE (E)	143	8	319619 174754
246	Points of Interest - Commercial Services Name: Mobi Tec Services & Solutions Ltd Location: 84 Sirius House, Falcon Drive, Cardiff, CF10 4RB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (E)	143	8	319619 174754
247	Points of Interest - Commercial Services Name: Graig Shipping Location: 1 Caspian Point, Caspian Way, Cardiff, CF10 4DQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NE (NE)	241	8	319668 174885
248	Points of Interest - Commercial Services Name: Coldra Consult Ltd Location: 113-116 Bute Street, Cardiff, CF10 5AB Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A12SE (W)	325	8	319066 174697
249	Points of Interest - Commercial Services Name: Kusten Vorland UK Ltd Location: 1-2 Mount Stuart Square, Cardiff, CF10 5EE Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A12NE (W)	393	8	318997 174716
249	Points of Interest - Commercial Services Name: Evans & Reid Coal Co Ltd Location: Empire House, Mount Stuart Square, Cardiff, CF10 5QZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12NE (W)	410	8	318982 174753
250	Points of Interest - Commercial Services Name: Global Specialised Services Location: Tyneside Road, Cardiff, CF10 4LR Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (SE)	513	8	319922 174460
251	Points of Interest - Commercial Services Name: Cardiff Stevedoring & Cargo Handling Co Ltd Location: Alexandra House Queens Square, Cargo Road, Docks, Cardiff, CF10 4LY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	569	8	319812 174243
252	Points of Interest - Commercial Services Name: Cardiff Stevedoring & Cargo Handling Location: Compass Place, Cardiff, CF10 4LA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (E)	602	8	320056 174545
253	Points of Interest - Commercial Services Name: Assembly Auto Repairs Location: 2 Harrowby Street, Cardiff, CF10 5GA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	613	8	318795 174568
254	Points of Interest - Commercial Services Name: Express Vehicle Services Location: 22 Dumballs Road, Cardiff, CF10 5FE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	618	8	318809 174927
254	Points of Interest - Commercial Services Name: Bayside Garage Location: 22 Dumballs Road, Cardiff, CF10 5FE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	618	8	318809 174928

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
254	Points of Interest - Commercial Services Name: Bayside Garage Location: 22 Dumballs Rd, Cardiff, South Glamorgan, CF10 5FE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	658	8	318779 174959
254	Points of Interest - Commercial Services Name: Bayside Garage Ltd Location: 22 Dumballs Road, Cardiff, CF10 5FE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	658	8	318779 174959
254	Points of Interest - Commercial Services Name: C & M Metals Location: 20 Dumballs Road, Cardiff, CF10 5FE Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A12NW (W)	702	8	318747 174997
255	Points of Interest - Commercial Services Name: Ryan Transport Ltd Location: Coldstores Road, Queen Alexandra Dock, Cardiff, CF10 4LL Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NE (SE)	835	8	320223 174340
255	Points of Interest - Commercial Services Name: Ryan Transport Ltd Location: Coldstores Road, Queen Alexandra Dock, Cardiff, CF10 4LL Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NE (SE)	835	8	320223 174340
256	Points of Interest - Commercial Services Name: European Metals Recycling Ltd Location: Dowlais Wharf, Roath Dock, Cardiff, CF10 4ED Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A19SE (NE)	853	8	320232 175124
256	Points of Interest - Commercial Services Name: European Metal Recycling Ltd Location: Roath Dock, Cardiff, CF10 4ED Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A19SE (NE)	893	8	320271 175137
256	Points of Interest - Commercial Services Name: Scrap Yard Location: CF10 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	940	8	320311 175162
256	Points of Interest - Commercial Services Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	950	8	320321 175163
257	Points of Interest - Commercial Services Name: M S S Group Location: Edward House, Dowlais Road, Cardiff, CF24 5TW Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A19NW (NE)	871	8	319876 175533
258	Points of Interest - Commercial Services Name: Mobile Sparks Location: Unit 3 Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SW (NW)	913	8	318611 175192
258	Points of Interest - Commercial Services Name: Mobile Sparks Cardiff Ltd Location: Unit 3 Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SW (NW)	913	8	318611 175192

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
258	Points of Interest - Commercial Services Name: Mobile Sparks Cardiff Location: 23 Express House, Dumballs Road, Cardiff, CF10 5FE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SW (NW)	913	8	318611 175192
258	Points of Interest - Commercial Services Name: C J Autocentre Location: Unit 7 Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SW (NW)	938	8	318602 175226
258	Points of Interest - Commercial Services Name: Lata Motors Ltd Location: Unit 7 Anchor Industrial Estate, Dumballs Road, Cardiff, CF10 5FF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SW (NW)	938	8	318602 175226
259	Points of Interest - Commercial Services Name: Admet Ltd Location: Unit 5 Templar Park Industrial Estate, East Moors Road, Cardiff, CF24 5EW Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A18NE (N)	920	8	319496 175690
259	Points of Interest - Commercial Services Name: Cooper Mornmet Ltd Location: 122-128 East Moors Road, Cardiff, CF24 5EE Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A23SE (N)	978	8	319470 175748
260	Points of Interest - Commercial Services Name: Mfg Cardiff Bay Location: 235 Corporation Road, Cardiff, CF11 7AS Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NW (W)	926	8	318464 174720
260	Points of Interest - Commercial Services Name: Car Wash Location: 235 Corporation Road, Cardiff, CF11 7AS Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NW (W)	926	8	318464 174720
261	Points of Interest - Commercial Services Name: Wincanton Location: Queen Alexandra Dock, Cardiff, CF10 4LU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NE (E)	937	8	320346 174362
261	Points of Interest - Commercial Services Name: Wincanton Plc Location: Queen Alexandra Dock, Cardiff, CF10 4LU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NE (E)	938	8	320346 174362
262	Points of Interest - Manufacturing and Production Name: Regus Location: Regus House, Falcon Drive, Cardiff, CF10 4RU Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A13SE (SE)	105	8	319564 174658
263	Points of Interest - Manufacturing and Production Name: Caspian Point 2 Location: 2 Caspian Point, Caspian Way, Cardiff, CF10 4DQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A13NE (NE)	172	8	319615 174837
263	Points of Interest - Manufacturing and Production Name: Executive Communication Centres Location: 1 Caspian Point, Caspian Way, Cardiff, CF10 4DQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A13NE (NE)	242	8	319669 174886

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
263	Points of Interest - Manufacturing and Production Name: Executive Communication Centres Location: 1 Caspian Point, Caspian Way, Cardiff, CF10 4DQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A13NE (NE)	242	8	319669 174886
264	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	419	8	319659 175137
265	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	439	8	319654 175162
265	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	440	8	319629 175175
265	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	456	8	319614 175198
265	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	477	8	319607 175223
265	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	485	8	319574 175240
266	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	483	8	319933 174553
267	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	A8NE (S)	511	8	319496 174151
268	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	A12NE (W)	558	8	318839 174806
269	Points of Interest - Manufacturing and Production Name: Hosking Industrial Estate Location: CF10 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	576	8	318833 174861
269	Points of Interest - Manufacturing and Production Name: Hosking Industrial Estate Location: CF10 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	583	8	318825 174858

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
269	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	A12NE (W)	613	8	318814 174925
269	Points of Interest - Manufacturing and Production Name: Works Location: CF10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	613	8	318814 174925
270	Points of Interest - Manufacturing and Production Name: Douglas Workshops Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	582	8	318837 174536
270	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	A12SE (W)	620	8	318793 174550
271	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	A18SE (N)	586	8	319573 175344
271	Points of Interest - Manufacturing and Production Name: Works Location: CF10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	586	8	319573 175344
272	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	A12NW (W)	651	8	318739 174727
272	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	A12SW (W)	655	8	318735 174711
272	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	A12SW (W)	657	8	318733 174698
272	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	A12SW (W)	661	8	318730 174688
272	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	A12SW (W)	662	8	318730 174660
272	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	A12SW (W)	712	8	318679 174684

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
273	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	A12NW (W)	680	8	318724 174851
274	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	A18NE (N)	686	8	319479 175456
275	Points of Interest - Manufacturing and Production Name: Business Centre Location: CF10 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	711	8	318728 174457
276	Points of Interest - Manufacturing and Production Name: Works (Cement) Location: CF10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	723	8	320149 174446
277	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	A18NE (N)	740	8	319505 175508
277	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	A18NE (N)	779	8	319443 175549
278	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	A12NW (NW)	745	8	318719 175039
278	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	A17SW (NW)	774	8	318702 175071
279	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	A12SW (W)	748	8	318655 174578
279	Points of Interest - Manufacturing and Production Name: Works Location: CF10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	748	8	318655 174577
280	Points of Interest - Manufacturing and Production Name: Tank Location: CF24 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	803	8	320143 175187
281	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	825	8	320222 174360

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
281	Points of Interest - Manufacturing and Production Name: Tanks Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	890	8	320272 174315
282	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	A17SW (NW)	826	8	318675 175129
282	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	A17SW (NW)	855	8	318651 175146
282	Points of Interest - Manufacturing and Production Name: Works Location: CF10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	855	8	318651 175146
282	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	A17SW (NW)	877	8	318636 175164
282	Points of Interest - Manufacturing and Production Name: Works Location: CF10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	878	8	318636 175165
282	Points of Interest - Manufacturing and Production Name: Anchor Industrial Estate Location: CF10 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	929	8	318601 175207
282	Points of Interest - Manufacturing and Production Name: Anchor Industrial Estate Location: CF10 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	943	8	318575 175191
283	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	A18NE (N)	856	8	319659 175602
283	Points of Interest - Manufacturing and Production Name: Works Location: CF24 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	857	8	319659 175603
283	Points of Interest - Manufacturing and Production Name: Tank Location: CF24 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	882	8	319675 175624
284	Points of Interest - Manufacturing and Production Name: East Moors Business Park Location: CF24 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	885	8	319612 175641

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
284	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	A18NE (N)	956	8	319613 175713
284	Points of Interest - Manufacturing and Production Name: Works Location: CF24 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	956	8	319613 175713
284	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	A23SE (N)	998	8	319591 175759
284	Points of Interest - Manufacturing and Production Name: Works Location: CF24 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A23SE (N)	999	8	319591 175760
285	Points of Interest - Manufacturing and Production Name: Globe Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	887	8	319531 175654
285	Points of Interest - Manufacturing and Production Name: Globe Works Location: CF24 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	887	8	319531 175654
285	Points of Interest - Manufacturing and Production Name: Works Location: CF24 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	898	8	319489 175667
285	Points of Interest - Manufacturing and Production Name: Globe Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	900	8	319494 175669
285	Points of Interest - Manufacturing and Production Name: Works Location: CF24 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A23SE (N)	973	8	319482 175743
286	Points of Interest - Manufacturing and Production Name: Factory Location: CF24 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	890	8	319803 175590
286	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	A19NW (NE)	894	8	319810 175591
287	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	A17SW (W)	892	8	318567 175061

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
288	Points of Interest - Manufacturing and Production Name: Works Location: CF10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	916	8	320270 174258
288	Points of Interest - Manufacturing and Production Name: Tank Location: CF10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	956	8	320262 174171
289	Points of Interest - Manufacturing and Production Name: Trident Park - EFW Incineration (DECC) Location: Land at Trident Park, Glass Avenue, Cardiff, CF24 5EN Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to address or location	A19SE (NE)	936	8	320200 175339
290	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	A17SW (NW)	983	8	318509 175151
291	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	A12NW (W)	998	8	318441 175024
292	Points of Interest - Public Infrastructure Name: Tesco Petrol Filling Station Location: Unit 17, Mermaid Quay, Cardiff, CF10 5BZ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (SW)	346	8	319096 174531
292	Points of Interest - Public Infrastructure Name: Tesco Petrol Filling Station Location: Unit 17, Mermaid Quay, Cardiff, South Glamorgan, CF10 5BZ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (SW)	347	8	319095 174530
293	Points of Interest - Public Infrastructure Name: Cardiff Bay Rail Station Location: Bute Street (Stryd Bute), CF10 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12NE (NW)	365	8	319067 174886
293	Points of Interest - Public Infrastructure Name: Cardiff Bay Station Location: Bute Street (Stryd Bute), CF10 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12NE (NW)	365	8	319067 174886
294	Points of Interest - Public Infrastructure Name: Thomas Hosking Ltd Location: Thomas Hosking & Sons Ltd Unit 4 Dumballs Road Industrial Estate, Dumballs Road, Cardiff, CF10 5FG Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A12NE (W)	567	8	318836 174835
295	Points of Interest - Public Infrastructure Name: Cardiff Bay Police Station Location: Bute Town Police Station, James Street, Cardiff, CF10 5EW Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A12SE (W)	621	8	318776 174621
296	Points of Interest - Public Infrastructure Name: Sewage Pumping Station Location: CF10 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	643	8	318848 174360

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
297	Points of Interest - Public Infrastructure Name: Sewage Pumping Station Location: CF10 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	700	8	318750 174432
297	Points of Interest - Public Infrastructure Name: Sewage Pumping Station Location: CF10 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	707	8	318743 174432
298	Points of Interest - Public Infrastructure Name: Refuse Tip Location: CF10 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	713	8	319379 173944
298	Points of Interest - Public Infrastructure Name: Refuse Tip Location: CF10 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	713	8	319381 173944
299	Points of Interest - Public Infrastructure Name: Wales Environmental Ltd Location: Unit 3 Regents Court, Nettlefold Road, Cardiff, CF24 5JQ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A19NW (NE)	793	8	319876 175443
299	Points of Interest - Public Infrastructure Name: Pauls Industrial Services Ltd Location: Edward House, Dowlais Road, Cardiff, CF24 5TW Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A19NW (NE)	871	8	319877 175533
299	Points of Interest - Public Infrastructure Name: Pauls Industrial Services Ltd Location: Edward House, Dowlais Road, Cardiff, CF24 5LQ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A19NW (NE)	871	8	319877 175533
300	Points of Interest - Public Infrastructure Name: Cardiff Recycling Location: Queen Alexandra Dock, Cardiff, CF10 4LU Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A9NE (SE)	857	8	320228 174302
301	Points of Interest - Public Infrastructure Name: Waste Processing Facility Location: CF24 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	885	8	320156 175312
302	Points of Interest - Public Infrastructure Name: Cardiff Bay Service Station Location: 235 Corporation Road, Cardiff, CF11 7AS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	926	8	318464 174720
302	Points of Interest - Public Infrastructure Name: Esso Location: 235 Corporation Road, Cardiff, CF11 7AS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	926	8	318464 174720
302	Points of Interest - Public Infrastructure Name: Esso Location: 235 Corporation Road, Cardiff, CF11 7AS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	926	8	318464 174720

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
302	Points of Interest - Public Infrastructure Name: Cardiff Bay Service Station. Location: 235 Corporation Road, Cardiff, CF11 7AS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	926	8	318464 174720
302	Points of Interest - Public Infrastructure Name: MRH Cardiff Bay Location: 235 Corporation Road, Cardiff, CF11 7AS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	926	8	318464 174720
303	Points of Interest - Public Infrastructure Name: Outfall Location: CF11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	939	8	318463 174865
303	Points of Interest - Public Infrastructure Name: Outfall Location: CF11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	941	8	318461 174863
304	Points of Interest - Public Infrastructure Name: Sewage Pumping Station Location: CF10 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17NE (N)	945	8	319087 175641
305	Points of Interest - Public Infrastructure Name: Seaport Environmental Location: Clipper Road, Roath Dock, Cardiff, CF10 4LX Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A15NW (E)	992	8	320449 174937
305	Points of Interest - Public Infrastructure Name: Seaport Environmental Location: Clipper Road, Roath Dock, Cardiff, CF10 4LX Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A15NW (E)	992	8	320449 174937
306	Points of Interest - Recreational and Environmental Name: Play Area Location: CF10 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	379	8	319417 174277
307	Points of Interest - Recreational and Environmental Name: Play Area Location: CF10 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NE (NW)	449	8	318995 174930
308	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	A17SE (NW)	572	8	319073 175204
308	Points of Interest - Recreational and Environmental Name: Play Ground Location: Halliard Court, CF10 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A17SE (NW)	576	8	319072 175208
309	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)	673	8	318876 174258

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
309	Points of Interest - Recreational and Environmental Name: Playground Location: Bute Esplanade, CF10 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A7NE (SW)	676	8	318875 174254
310	Points of Interest - Recreational and Environmental Name: Play Area Location: CF10 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	799	8	318707 175130
311	Points of Interest - Recreational and Environmental Name: Playground Location: Waverley Square, CF10 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	848	8	318631 174338
311	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	A7NW (SW)	871	8	318595 174361

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
312	Local Nature Reserves Name: Cardiff Bay Wetlands And Hamadryad Park Multiple Area: Y Area (m2): 112910.45 Source: Cardiff Council Designation Date: 31st December 2010	A7NE (SW)	650	6	318903 174261
313	Local Nature Reserves Name: Cardiff Bay Wetlands And Hamadryad Park Multiple Area: Y Area (m2): 42603.78 Source: Cardiff Council Designation Date: 31st December 2010	A7NW (SW)	906	6	318602 174265

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Cardiff Council - Pollution Control Division Vale Of Glamorgan County Borough Council - Environmental Health Department Natural Resources Wales	January 2020 January 2020 June 2020	Annual Rolling Update Annual Rolling Update Annually
Discharge Consents Environment Agency - Welsh Region Natural Resources Wales	August 2014 October 2021	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Welsh Region	March 2013	
Integrated Pollution Controls Environment Agency - Welsh Region	January 2009	
Integrated Pollution Prevention And Control Environment Agency - Welsh Region Natural Resources Wales	January 2021 October 2021	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Vale Of Glamorgan County Borough Council - Environmental Health Department Cardiff Council - Pollution Control Division	June 2014 March 2016	Variable Variable
Local Authority Pollution Prevention and Controls Vale Of Glamorgan County Borough Council - Environmental Health Department Cardiff Council - Pollution Control Division	June 2014 March 2016	Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Vale Of Glamorgan County Borough Council - Environmental Health Department Cardiff Council - Pollution Control Division	June 2014 March 2016	Variable Variable
Nearest Surface Water Feature Ordnance Survey	August 2021	
Pollution Incidents to Controlled Waters Environment Agency - Welsh Region	December 1998	
Prosecutions Relating to Authorised Processes Environment Agency - Welsh Region Natural Resources Wales	July 2015 July 2015	
Prosecutions Relating to Controlled Waters Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	
Registered Radioactive Substances Natural Resources Wales Environment Agency - Welsh Region	January 2015 June 2016	Annually Annually
River Quality Environment Agency - Head Office	November 2001	Not Applicable
Substantiated Pollution Incident Register Environment Agency Wales - South East Area Natural Resources Wales	January 2021 October 2021	Quarterly Quarterly
Water Abstractions Natural Resources Wales Environment Agency - Welsh Region	November 2021 October 2021	Quarterly Quarterly
Water Industry Act Referrals Environment Agency - Welsh Region Natural Resources Wales	October 2017 October 2021	Quarterly Quarterly
Groundwater Vulnerability Map Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations Natural Resources Wales	January 2018	Annually

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations Natural Resources Wales	January 2018	Annually
Source Protection Zones Natural Resources Wales	July 2017	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	Quarterly
Areas Benefiting from Flood Defences Natural Resources Wales	November 2019	Quarterly
Flood Water Storage Areas Natural Resources Wales	August 2019	Quarterly
Flood Defences Natural Resources Wales	November 2019	Quarterly
OS Water Network Lines Ordnance Survey	July 2021	Quarterly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water Suitability Natural Resources Wales	February 2016	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	November 2002	Not Applicable
Historical Landfill Sites Natural Resources Wales	July 2019	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - South East Area Natural Resources Wales	October 2021 October 2021	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Natural Resources Wales Environment Agency Wales - South East Area	April 2021 July 2021	Quarterly Quarterly
Local Authority Landfill Coverage Cardiff Council Vale Of Glamorgan County Borough Council	February 2003 February 2003	Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Cardiff Council Vale Of Glamorgan County Borough Council	October 2018 October 2018	
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	
Registered Landfill Sites Environment Agency Wales - South East Area	March 2006	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - South East Area	April 2018	
Registered Waste Treatment or Disposal Sites Environment Agency Wales - South East Area	June 2015	
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	August 2001	
Planning Hazardous Substance Enforcements Vale Of Glamorgan County Borough Council - Planning Department Cardiff Council - Regulatory Services	January 2016 October 2015	Variable Variable
Planning Hazardous Substance Consents Vale Of Glamorgan County Borough Council - Planning Department Cardiff Council - Regulatory Services	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	December 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	December 2015	Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	October 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2021	Quarterly
Gas Pipelines National Grid	October 2021	Annually
Points of Interest - Commercial Services PointX	December 2021	Quarterly
Points of Interest - Education and Health PointX	December 2021	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2021	Quarterly
Points of Interest - Public Infrastructure PointX	December 2021	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2021	Quarterly
Underground Electrical Cables National Grid	May 2021	Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural Resources Wales	September 2018	Bi-Annually
Areas of Adopted Green Belt Cardiff Council Vale Of Glamorgan County Borough Council	October 2020 October 2020	Quarterly Quarterly
Areas of Unadopted Green Belt Cardiff Council Vale Of Glamorgan County Borough Council	October 2020 October 2020	Quarterly Quarterly
Areas of Outstanding Natural Beauty Natural Resources Wales	June 2019	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 Cardiff Council Vale Of Glamorgan 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	July 2019	Bi-Annually
National Parks Natural Resources Wales	February 2018	Annually
Nitrate Vulnerable Zones The National Assembly for Wales - GI Services (Department of Planning & Countryside) Natural Resources Wales	April 2016 July 2019	Bi-Annually
Ramsar Sites Natural Resources Wales	July 2019	Bi-Annually
Sites of Special Scientific Interest Natural Resources Wales	March 2020	Bi-Annually
Special Areas of Conservation Natural Resources Wales	August 2020	Bi-Annually
Special Protection Areas Natural Resources Wales	August 2018	Bi-Annually

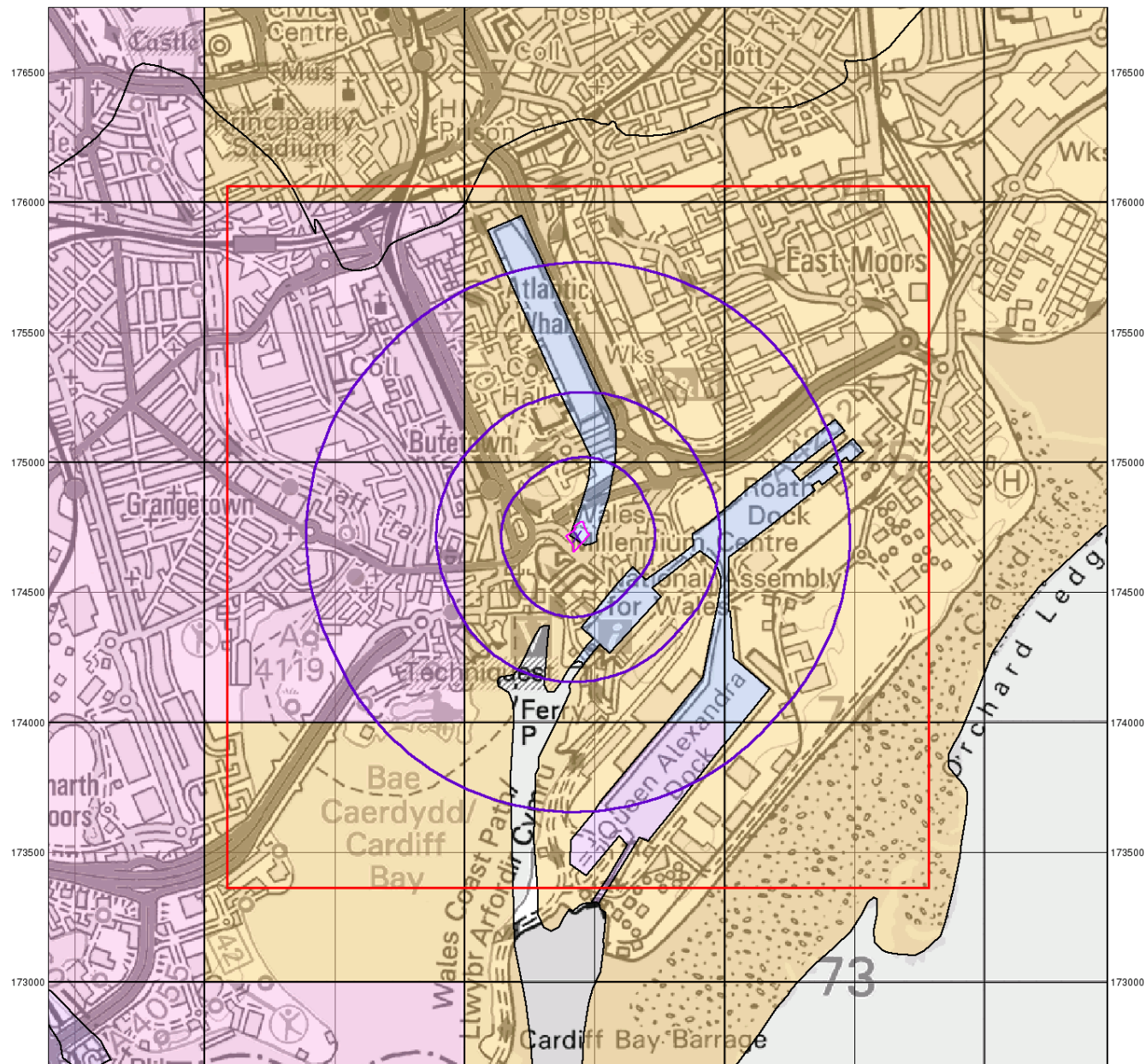
A selection of organisations who provide data within this report

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	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Natural Resources Wales Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
4	Cardiff Council - Pollution Control Division Regulatory Services, City Hall, Cardiff, Mid Glamorgan, CF10 3ND	Telephone: 029 20872000 Fax: 01222 873212 Website: www.cardiff.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	Cardiff Council County Hall, Atlantic Wharf, Cardiff, Mid Glamorgan, CF1 5UW	Telephone: 029 2087 2000 Fax: 029 2087 3212 Website: www.cardiff.gov.uk
7	Health and Safety Executive 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
8	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.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.

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0 1 km



Groundwater Vulnerability

General

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

Agency and Hydrological

Bedrock Aquifers

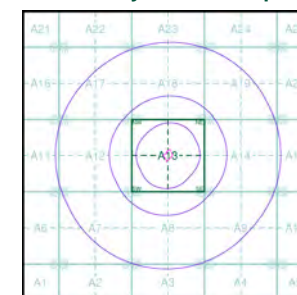
- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Superficial Aquifers

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

- Unproductive Aquifer
- Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

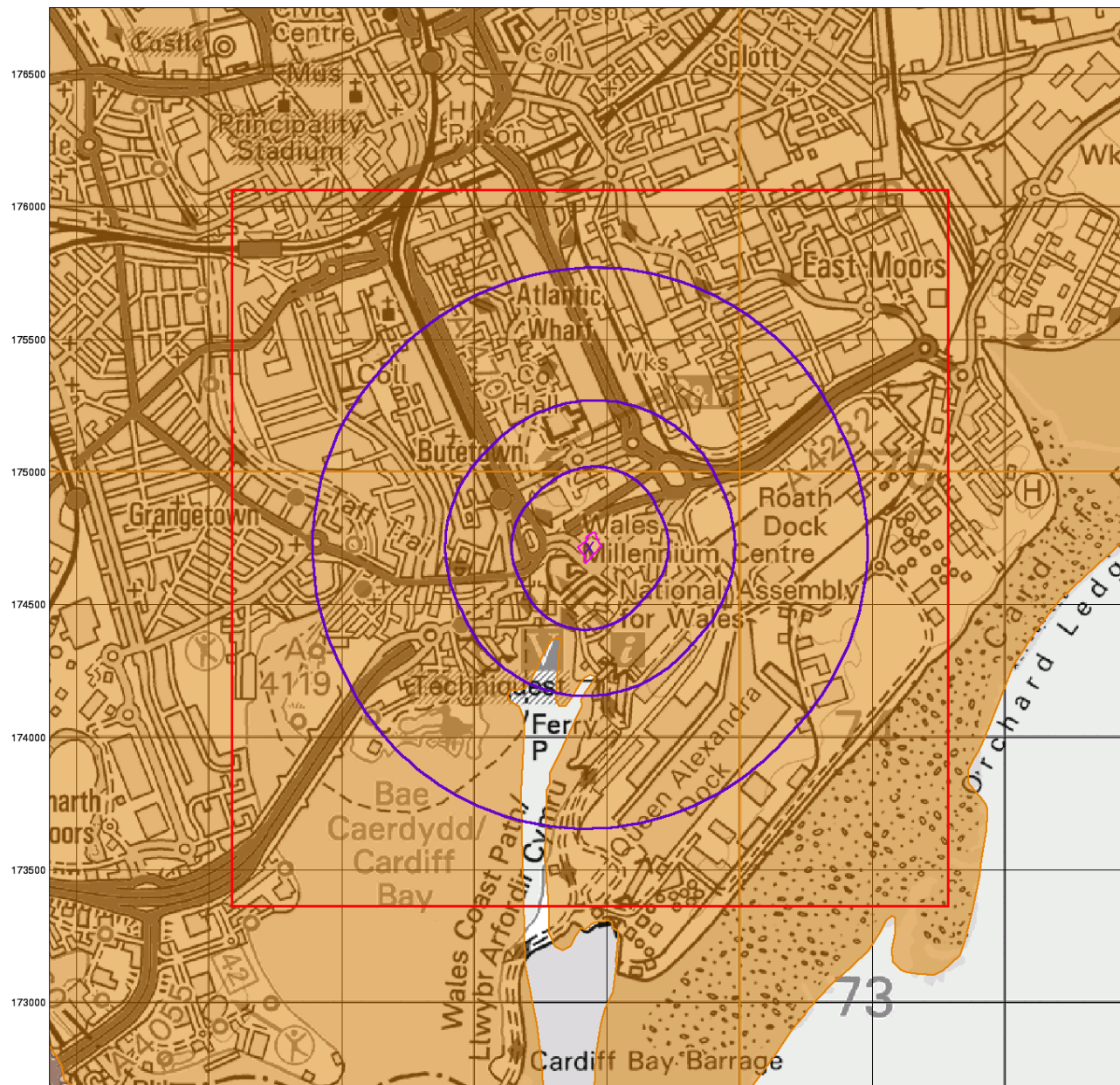
Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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Intégral Géotechnique

Bedrock Aquifer Designation

General

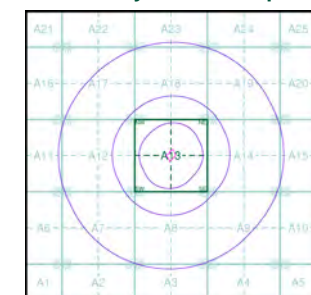
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

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

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

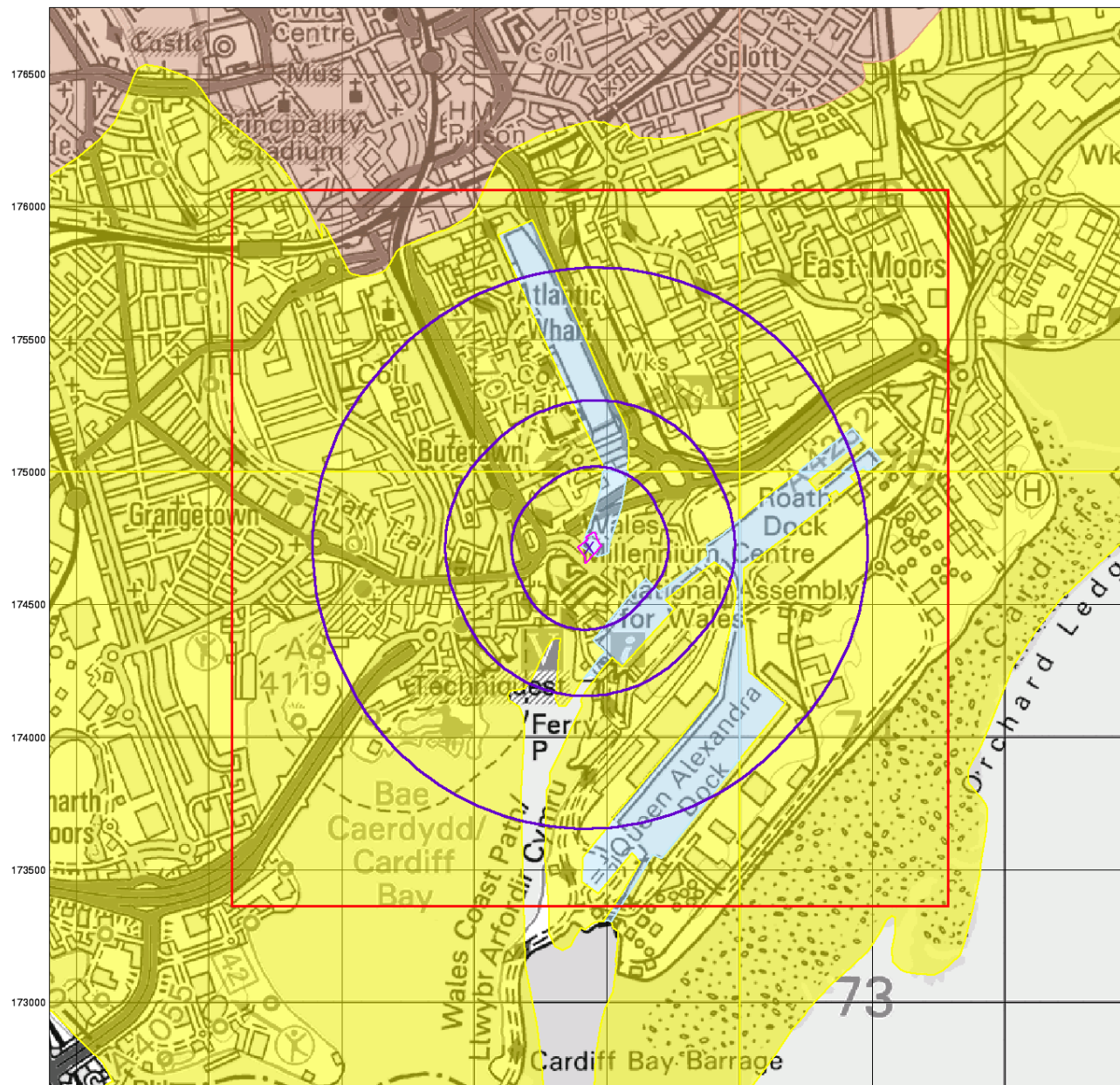
Site Details

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Landmark
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Superficial Aquifer Designation

General

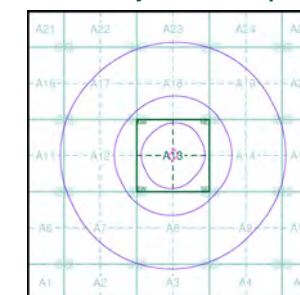
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 289300406_1_1
 Customer Ref: 12967/LP
 National Grid Reference: 319440, 174710
 Slice: A
 Site Area (Ha): 0.5
 Search Buffer (m): 1000

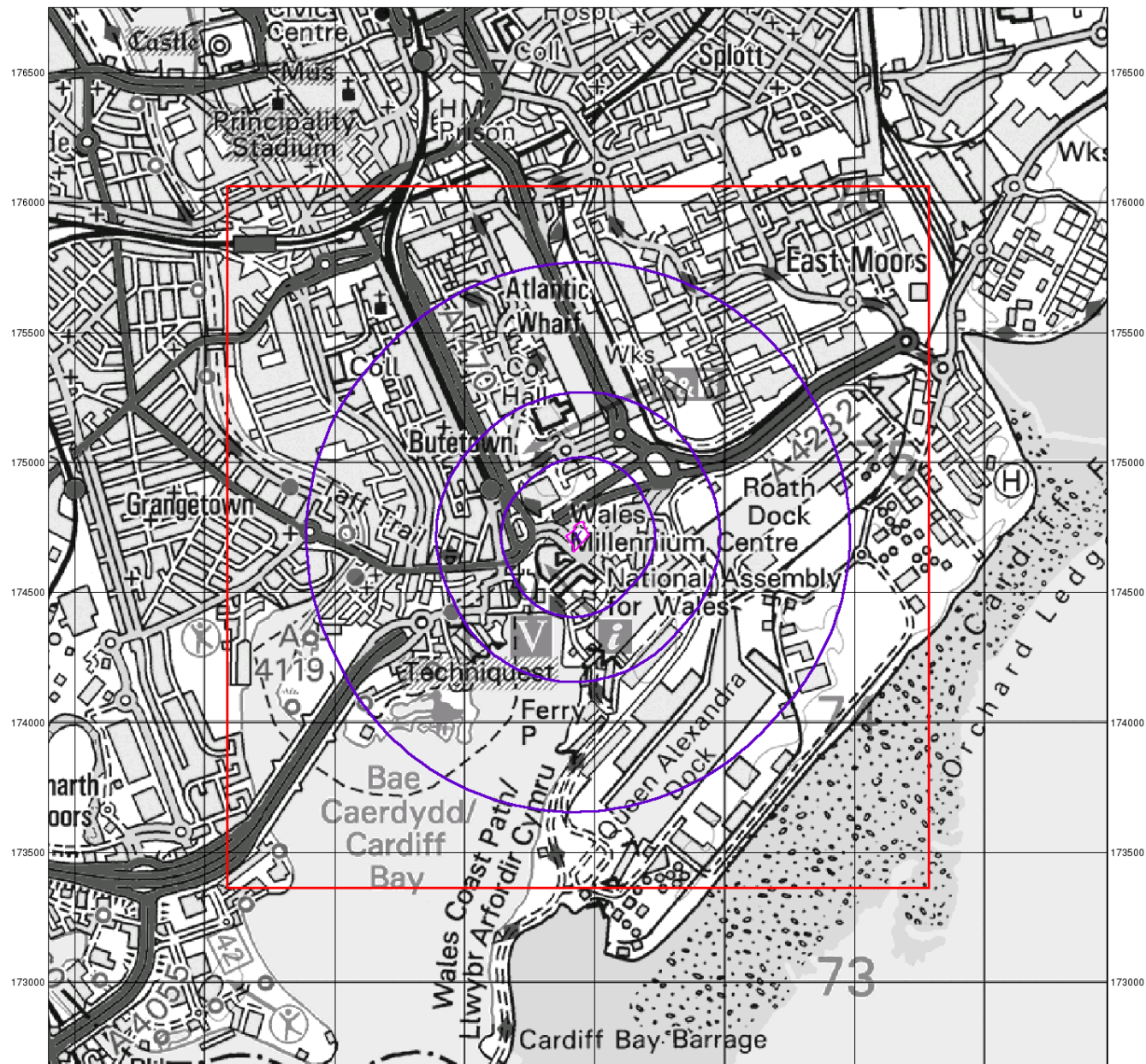
Site Details

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Intégral Géotechnique

Source Protection Zones

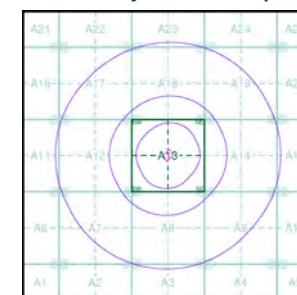
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

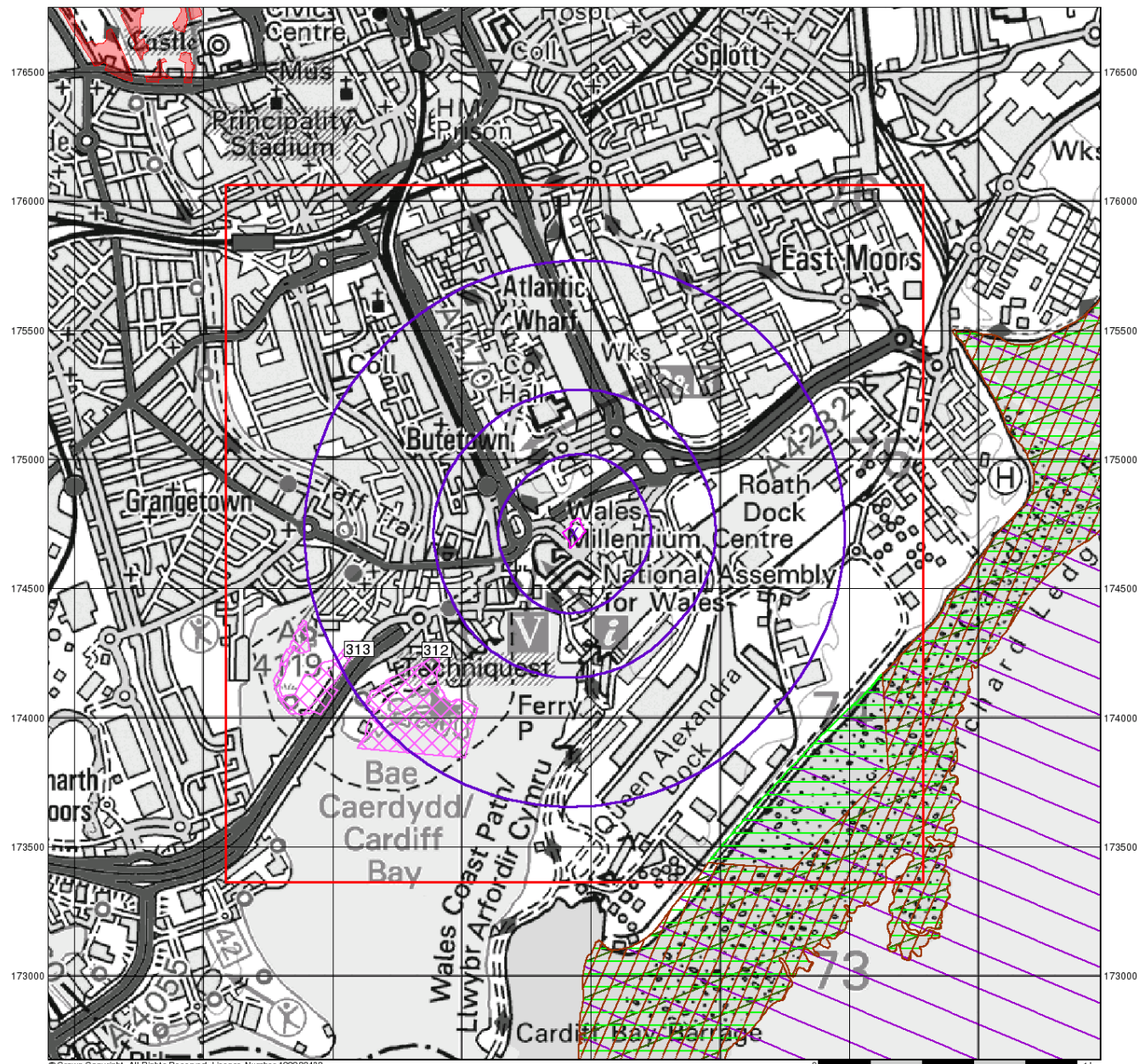
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Intégral Géotechnique

Sensitive Land Uses

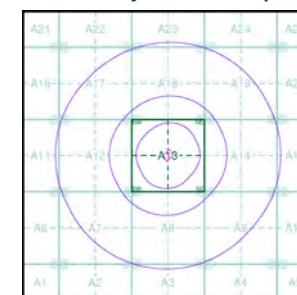
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 289300406_1_1
 Customer Ref: 12967/LP
 National Grid Reference: 319440, 174710
 Slice: A
 Site Area (Ha): 0.5
 Search Buffer (m): 1000

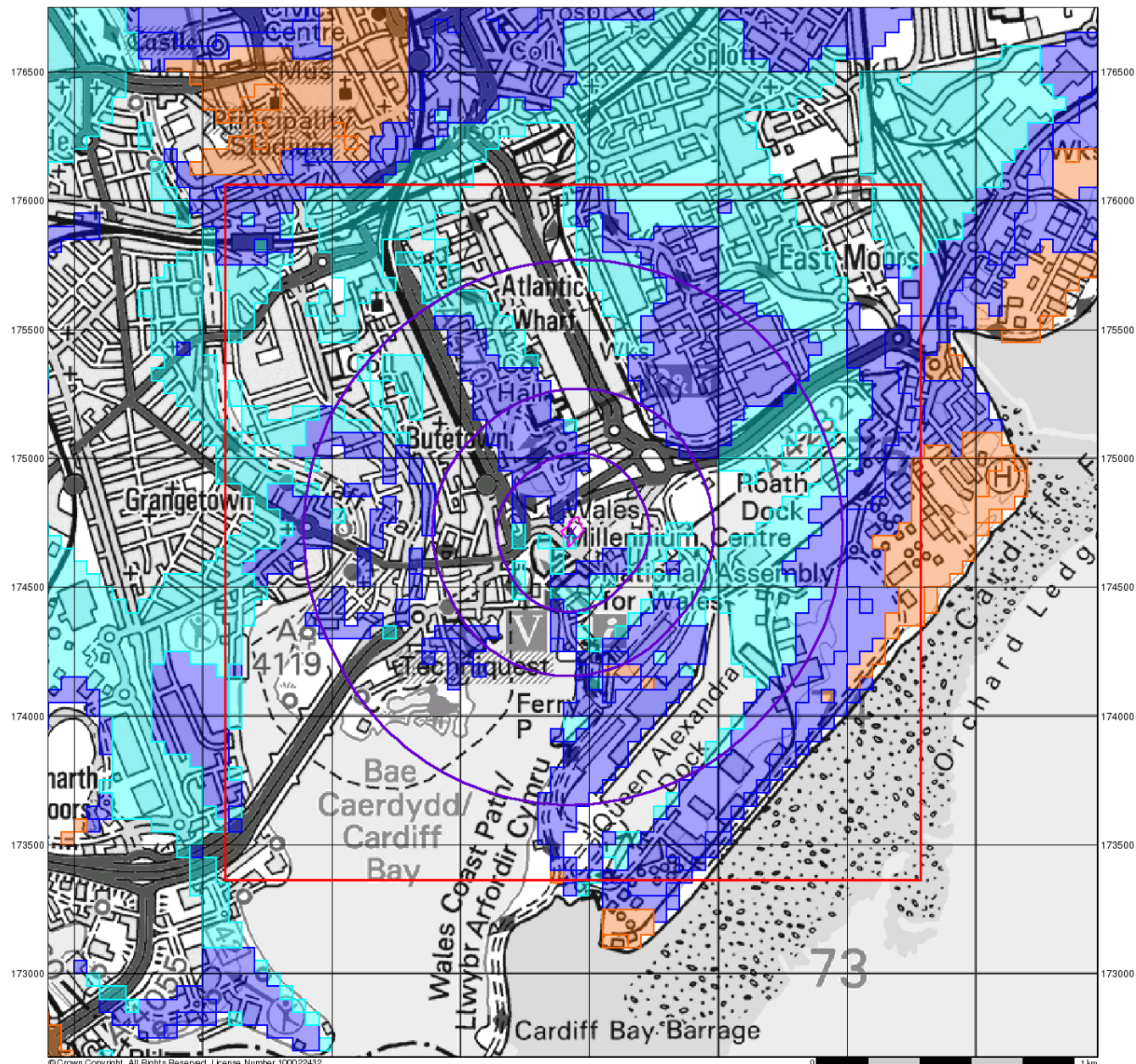
Site Details

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Landmark
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BGS Flood GFS Data

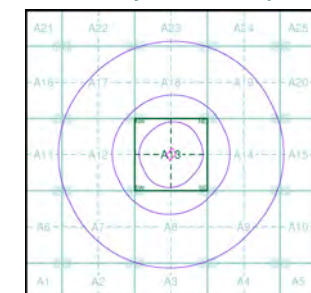
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 289300406_1_1
 Customer Ref: 12967/LP
 National Grid Reference: 319440, 174710
 Slice: A
 Site Area (Ha): 0.5
 Search Buffer (m): 1000

Site Details

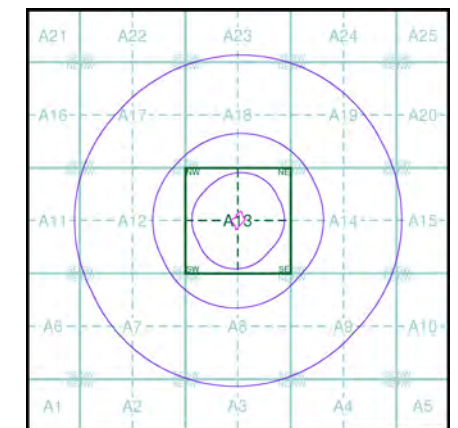
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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

- 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)
 - 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 (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

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Intégral Géotechnique

Industrial Land Use Map

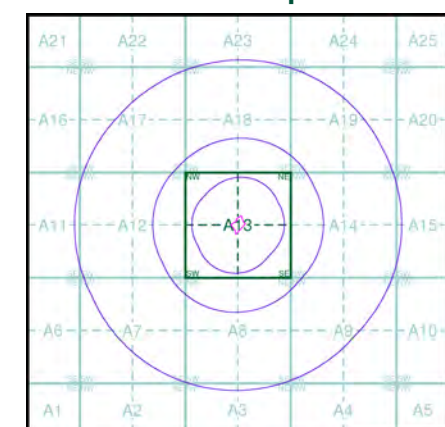
General

- 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

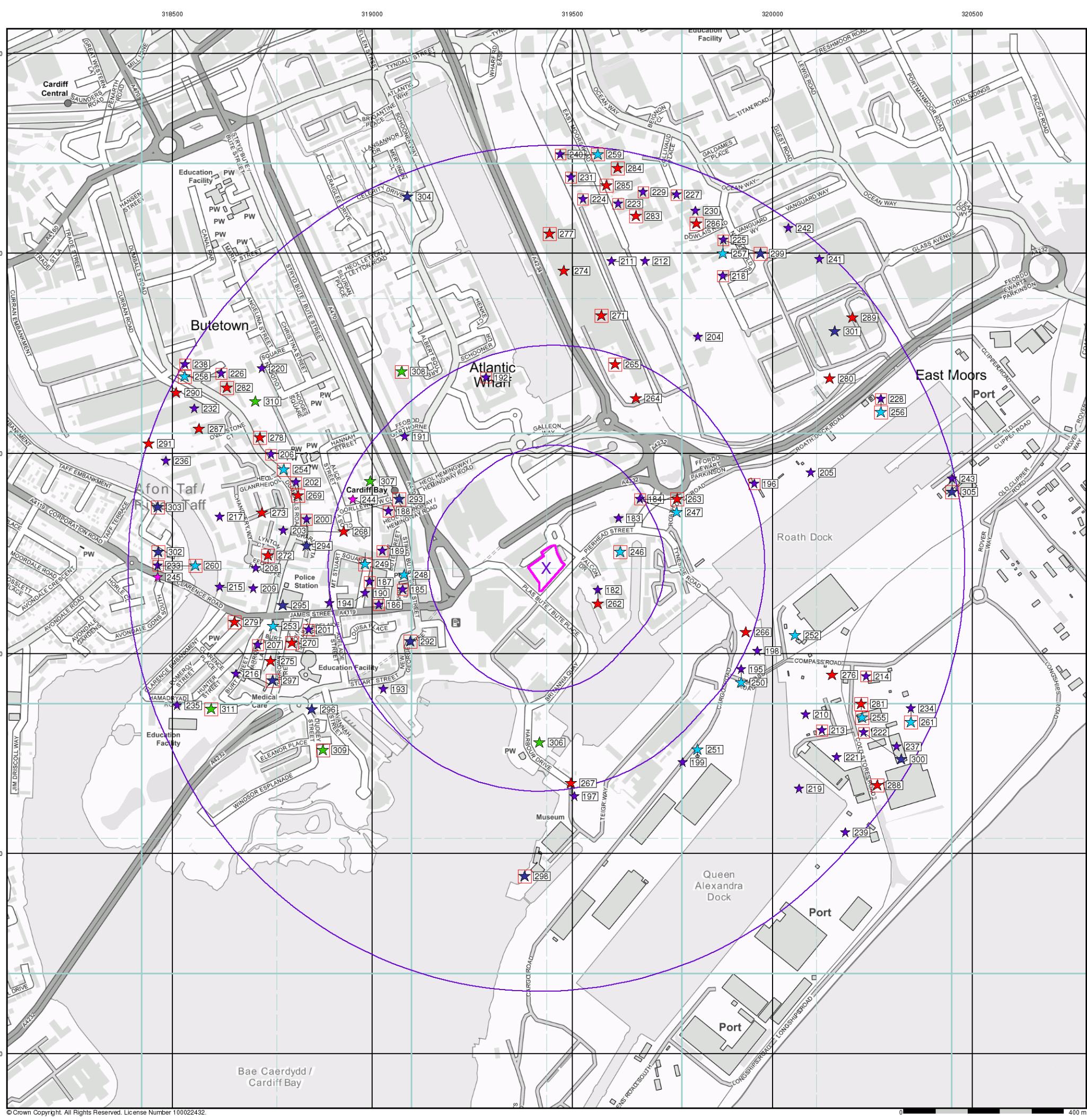
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Landmark
INFORMATION GROUP

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



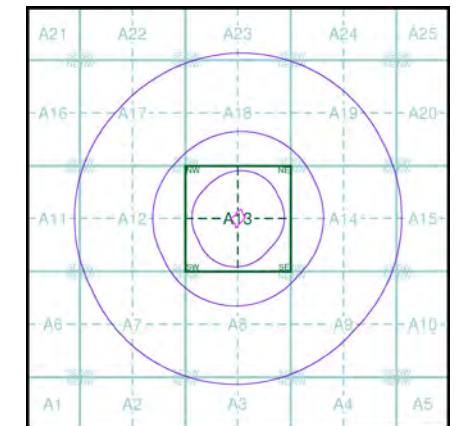
General

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

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

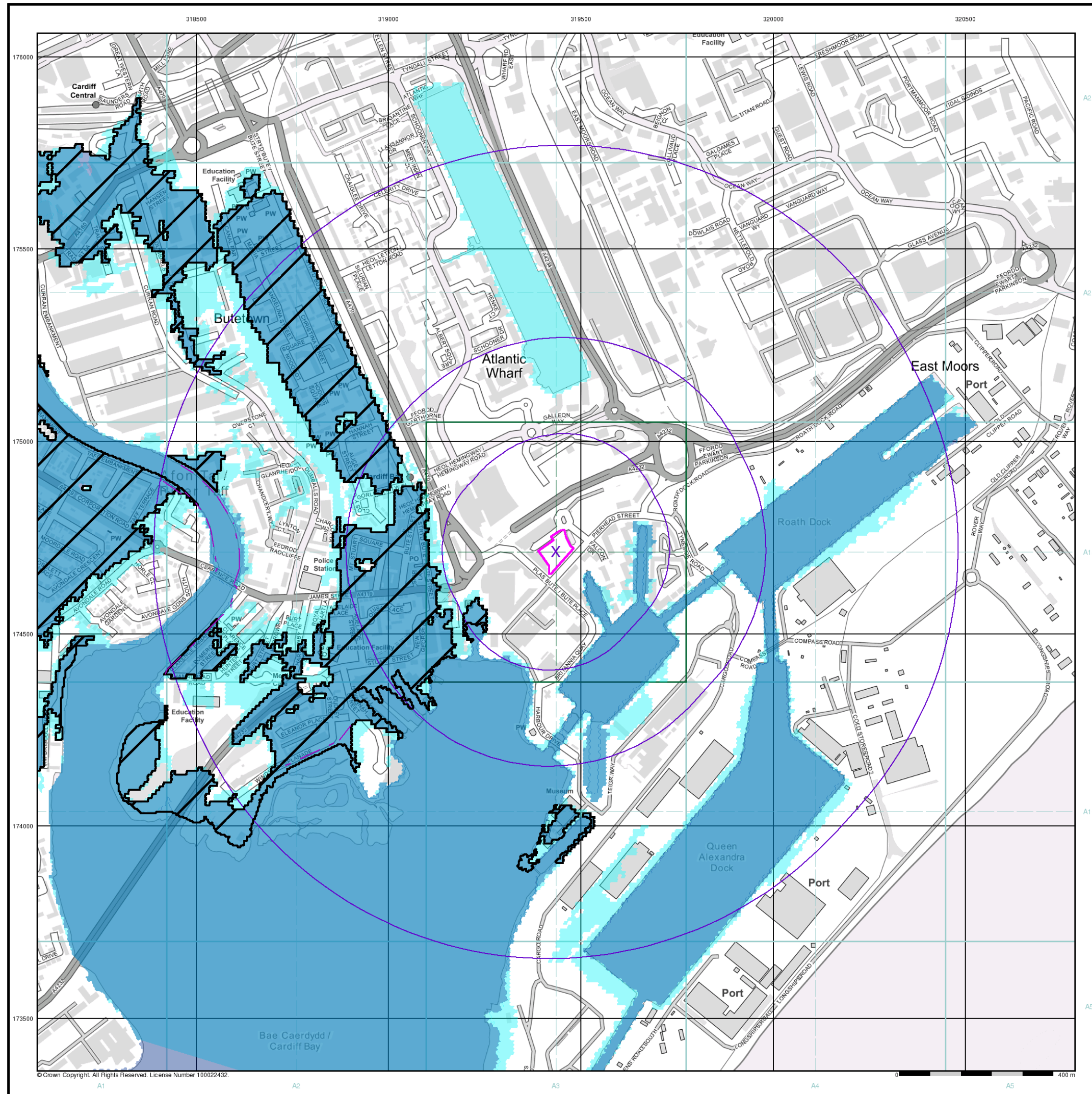


Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



General

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

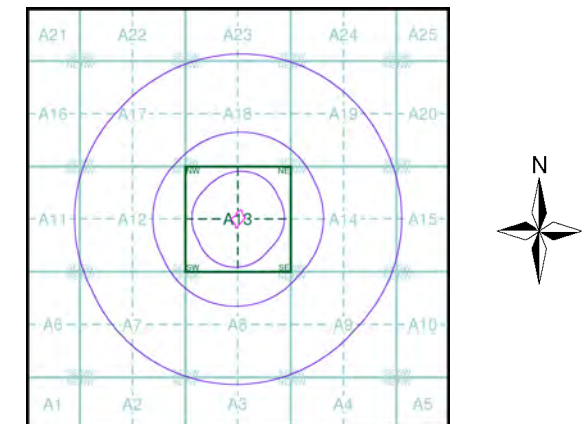
Agency and Hydrological (Boreholes)

- 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: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Intégral Géotechnique

General

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

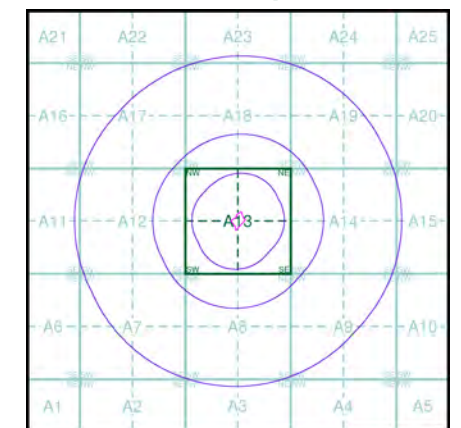
OS Water Network Data

- | | |
|--------------|-------------------------|
| 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
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

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

Risk of Flooding from Surface Water

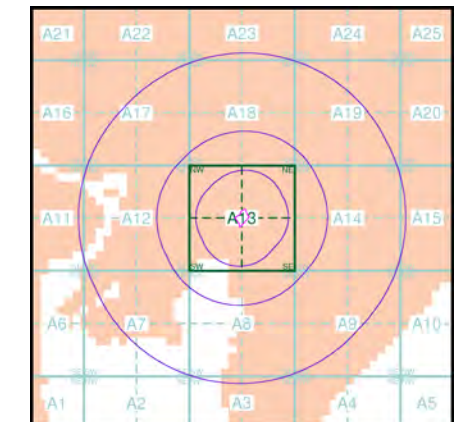
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

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

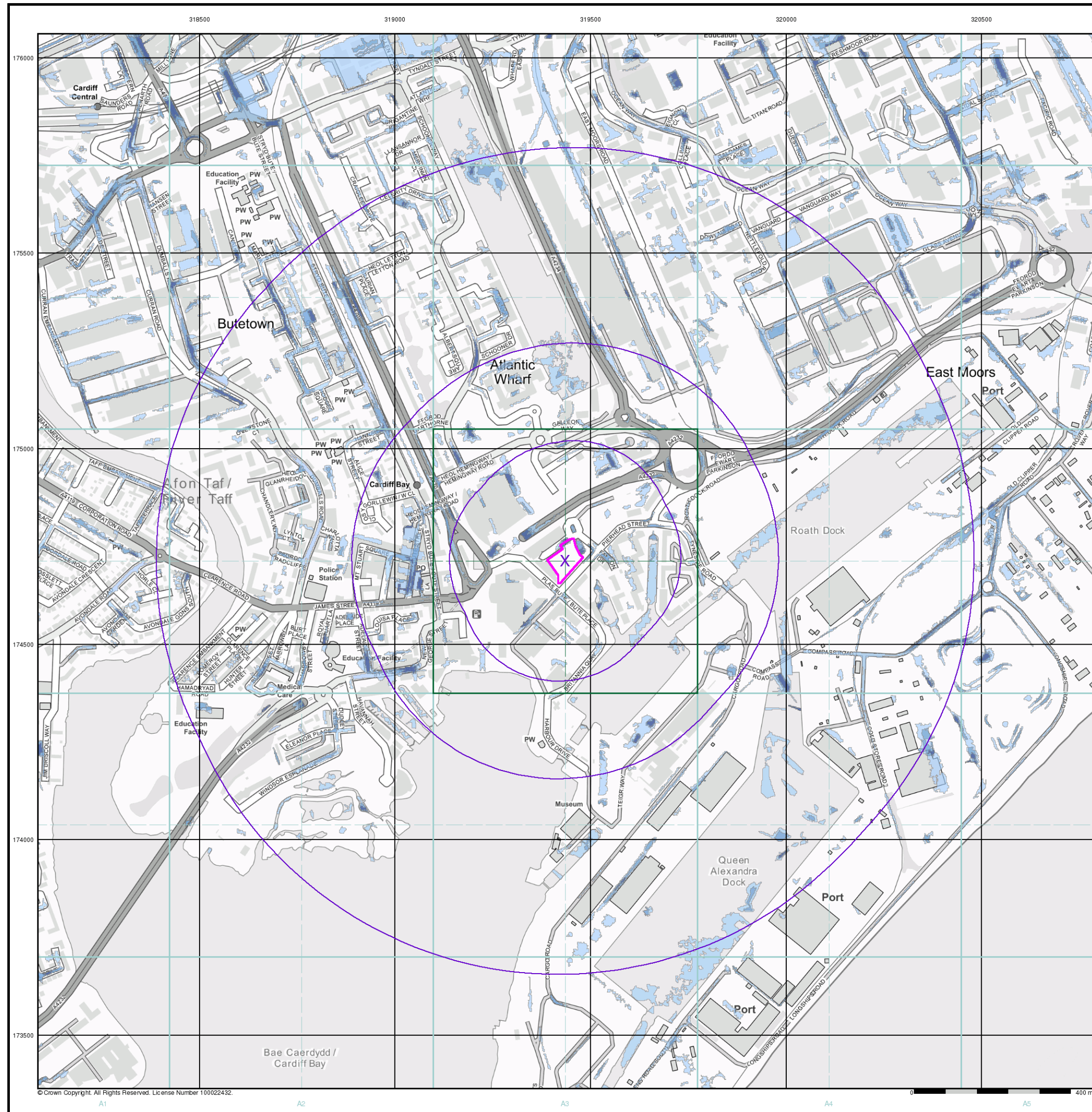


Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



Intégral Géotechnique

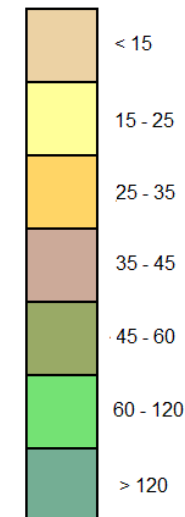
General

Specified Site Specified Buffer(s) Bearing Reference Point

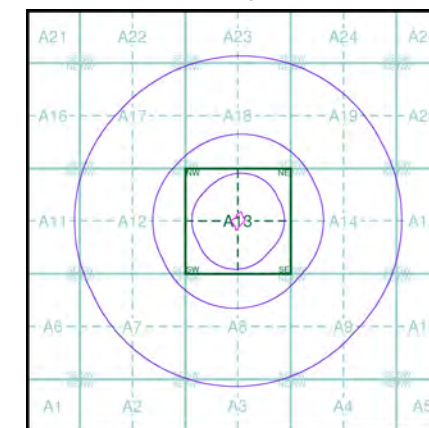
Urban Soil Chemistry Arsenic

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Arsenic Concentrations mg/kg



Urban Soil Chemistry Arsenic - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Landmark
INFORMATION GROUP

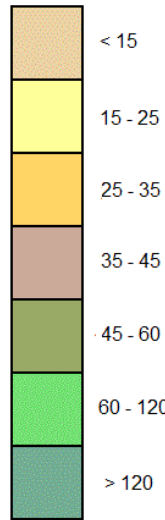
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

General

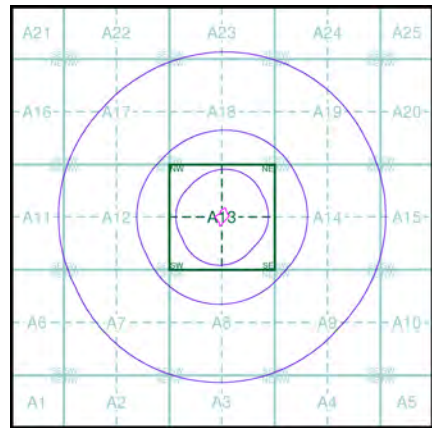
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Intégral Géotechnique

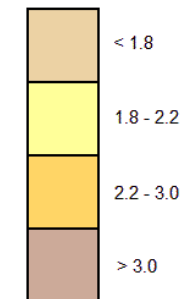
General

Specified Site Specified Buffer(s) Bearing Reference Point

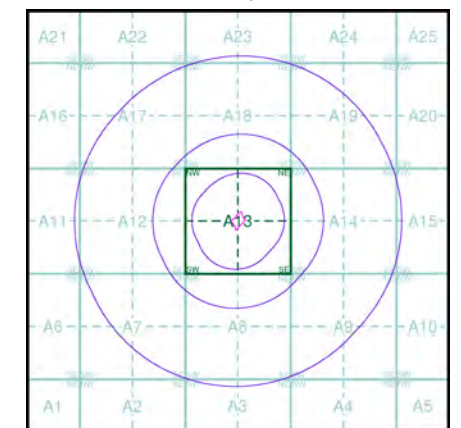
Urban Soil Chemistry Cadmium

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Cadmium Concentrations mg/kg



Urban Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Landmark
INFORMATION GROUP

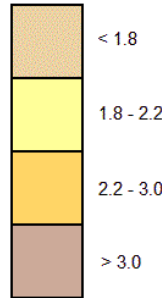
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

General

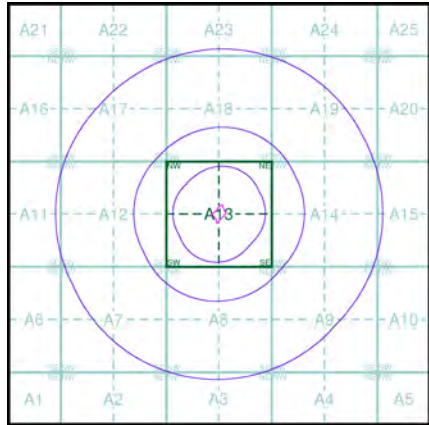
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Intégral Géotechnique

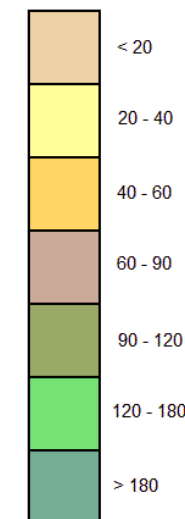
General

Specified Site Specified Buffer(s) Bearing Reference Point

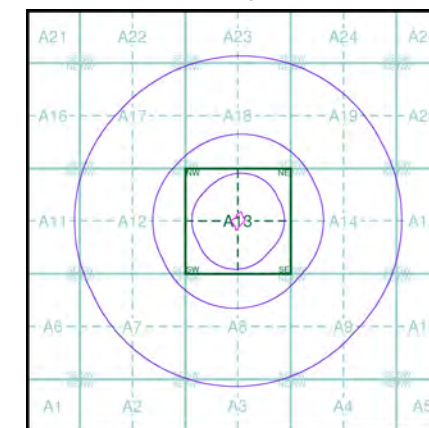
Urban Soil Chemistry Chromium

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Chromium Concentrations mg/kg



Urban Soil Chemistry Chromium - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Landmark
INFORMATION GROUP

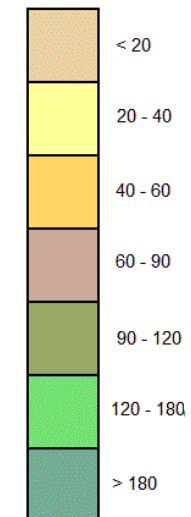
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

General

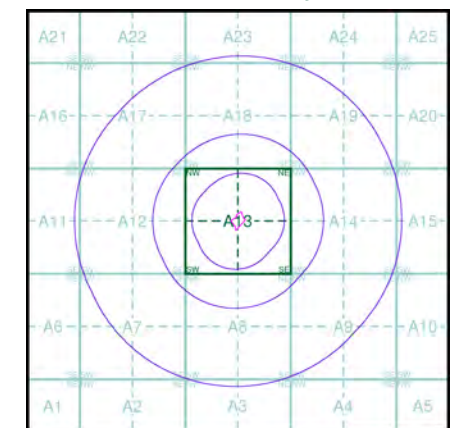
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Intégral Géotechnique

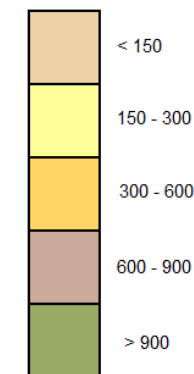
General

Specified Site Specified Buffer(s) Bearing Reference Point

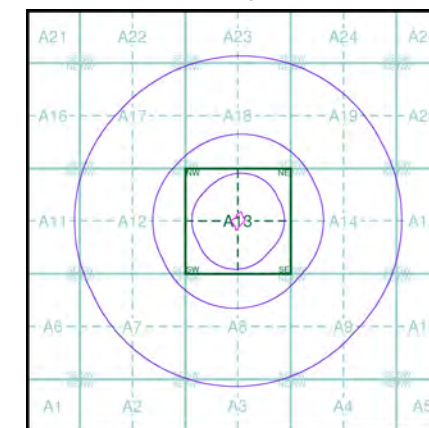
Urban Soil Chemistry Lead

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Lead Concentrations mg/kg



Urban Soil Chemistry Lead - Slice A



Order Details

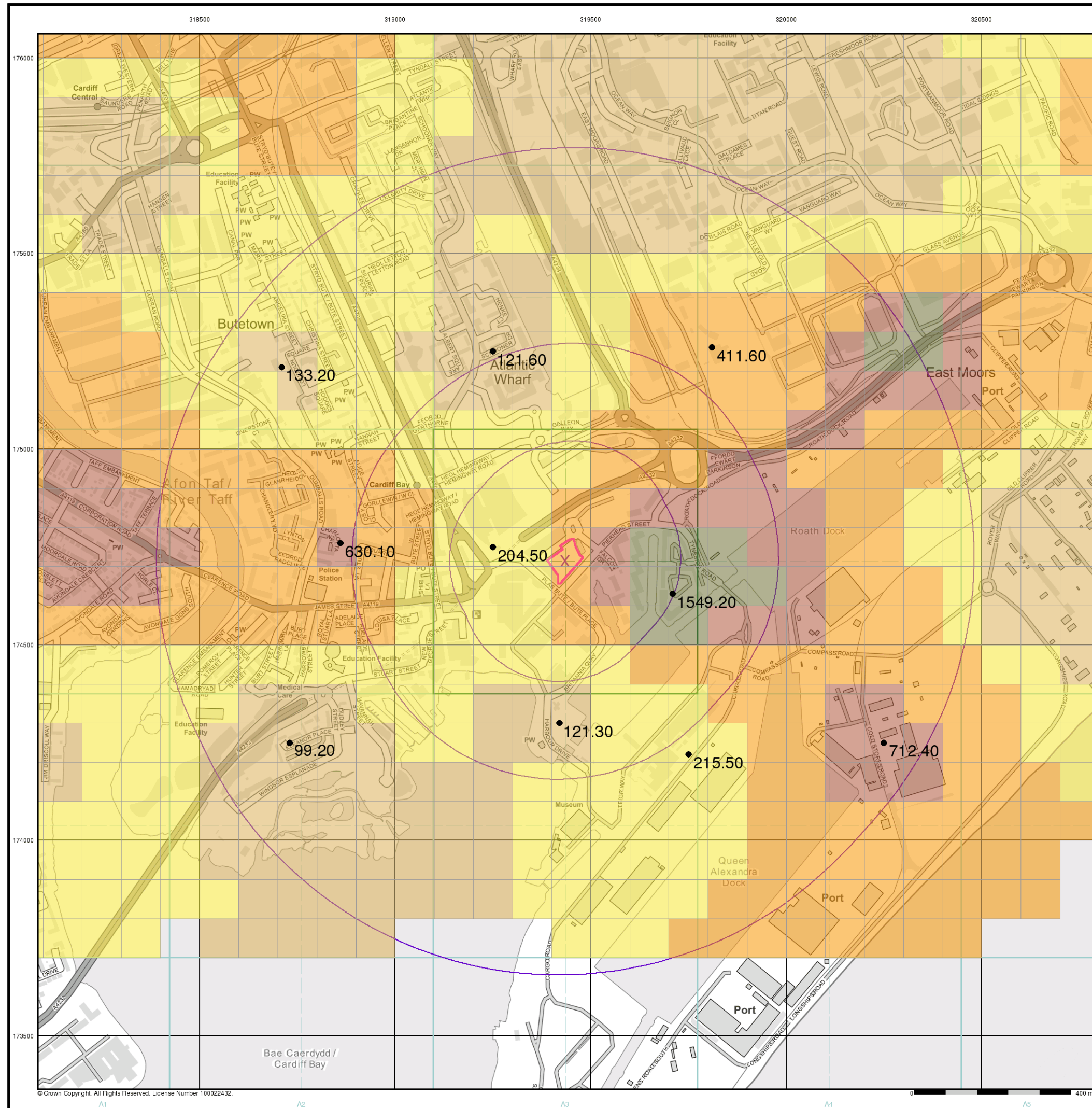
Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Landmark
INFORMATION GROUP

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

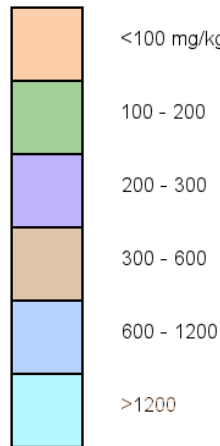


General

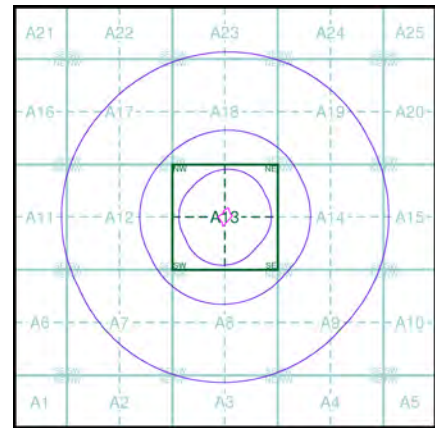
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

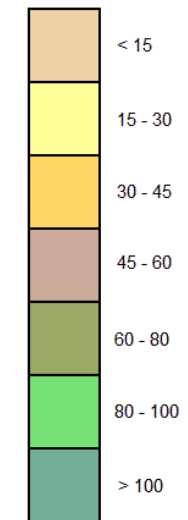
General

Specified Site Specified Buffer(s) Bearing Reference Point

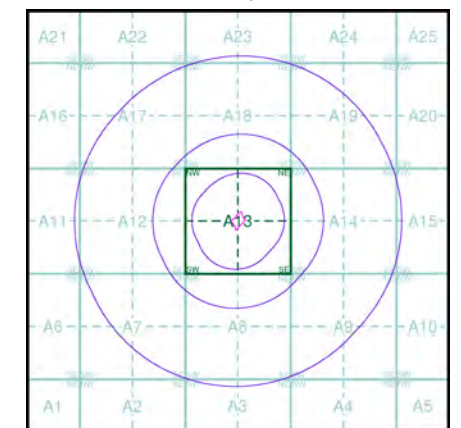
Urban Soil Chemistry Nickel

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

Site Details

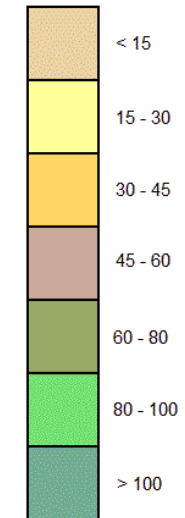
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

General

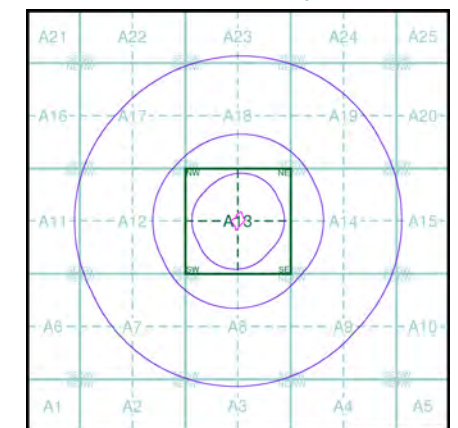
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search buffer (m): 1000

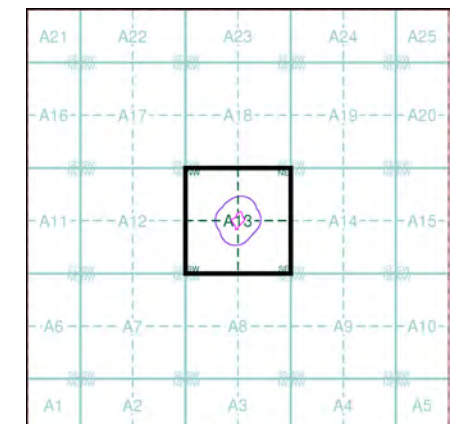
Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

General

- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Types 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 (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

Site Sensitivity Map - Segment A13

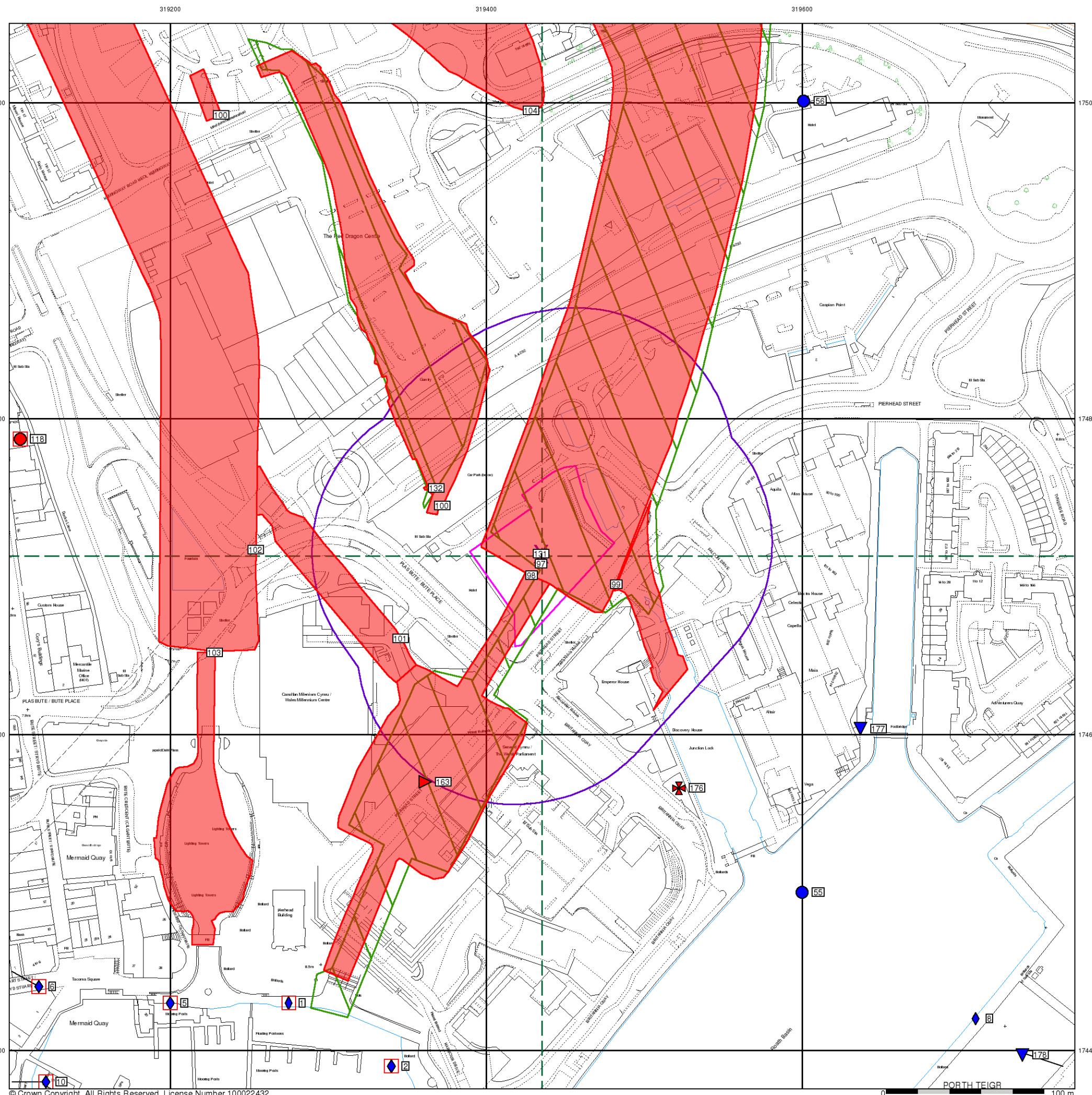


Order Details

Order Number: 289300406_1_1
 Customer Ref: 12967/LP
 National Grid Reference: 319440, 174710
 Slice: A
 Site Area (Ha): 0.5
 Plot Buffer (m): 100


Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SUPNM	Superficial Theme Not Mapped [For Digital Map Use Only]	Water, Type Unspecified	Not Supplied - Not Supplied
	TFD	Tidal Flat Deposits	Clay, Silt and Sand	Not Supplied - Holocene
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	GFSDD	Glaciofluvial Sheet Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	PNG	Penarth Group	Mudstone and Limestone, Interbedded	Not Supplied - Rhaetian
	STM	St Mary's Well Bay Member	Limestone and Mudstone, Interbedded	Not Supplied - Rhaetian
	BAN	Blue Anchor Formation	Mudstone	Not Supplied - Norian
	MMG	Mercia Mudstone Group	Mudstone	Not Supplied - Early Triassic
		Faults		

Intégral Géotechnique

Geology 1:50,000 Maps

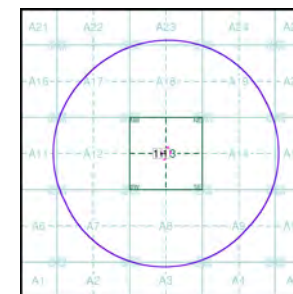
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published 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:	263
Map Name:	Cardiff
Map Date:	1988
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

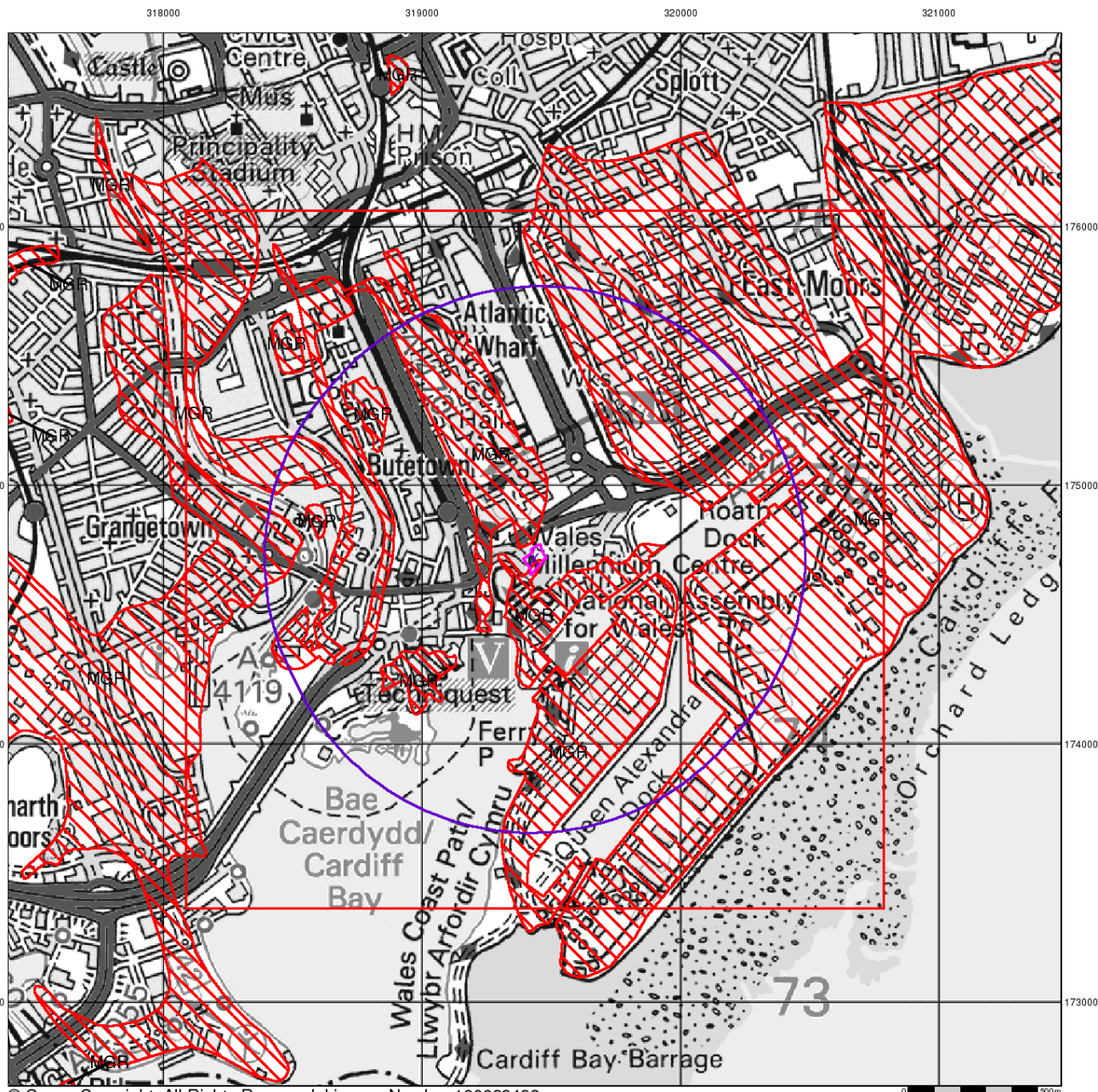


Order Details:

Order Number:	289300406_1_1
Customer Reference:	12967/LP
National Grid Reference:	319440, 174710
Slice:	A
Site Area (Ha):	0.5
Search Buffer (m):	1000

Site Details:

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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Intégral Géotechnique

Artificial Ground and Landslip

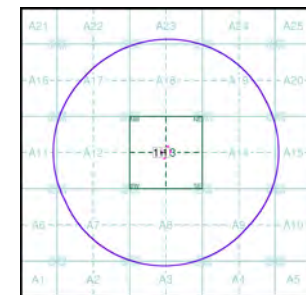
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions 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: 289300406_1_1
Customer Reference: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details:

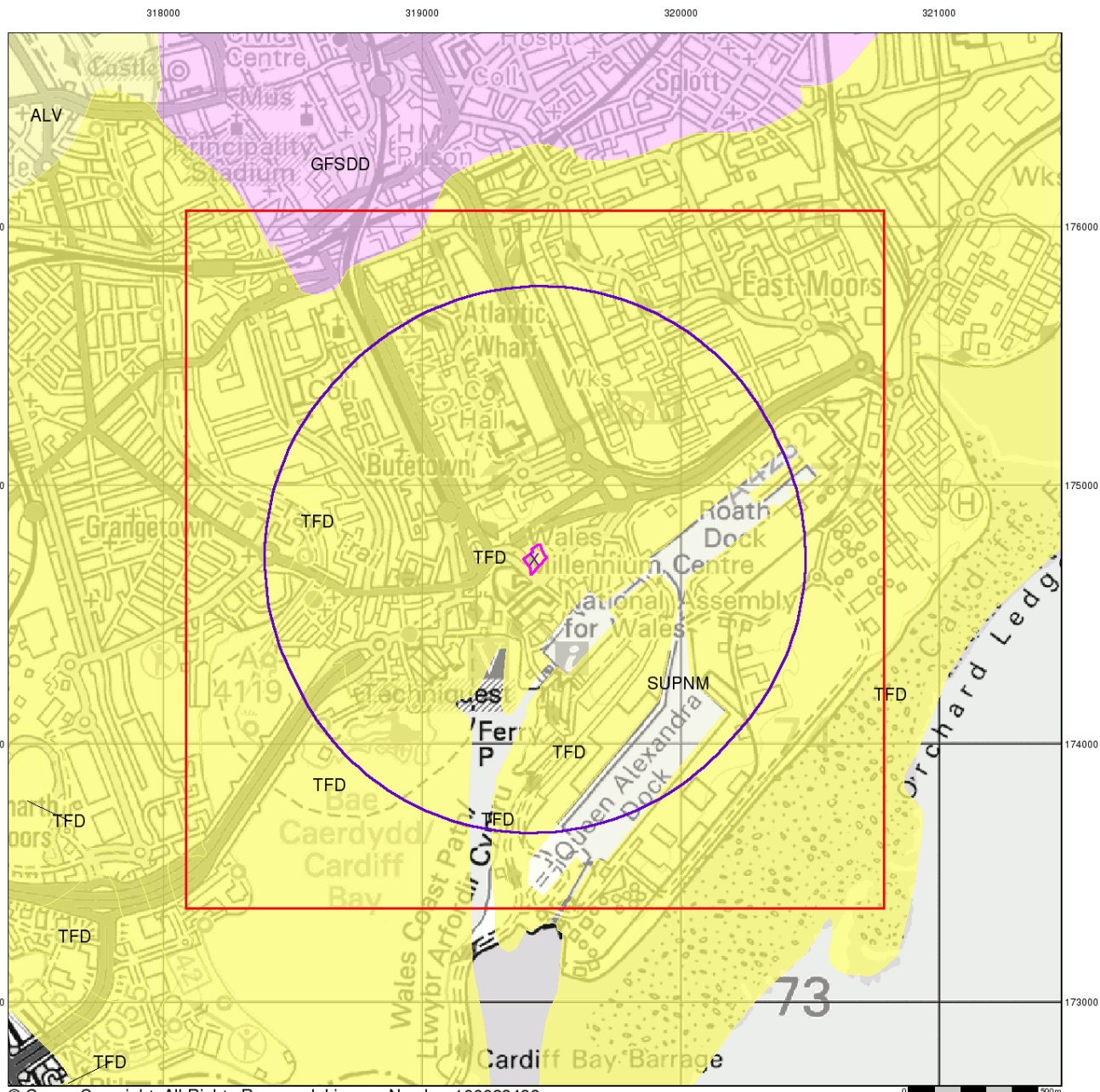
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Landmark
INFORMATION GROUP

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

v15.0 04-Jan-2022

Page 2 of 5



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Intégral Géotechnique

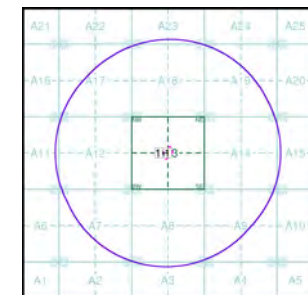
Superficial Geology

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: 289300406_1_1
Customer Reference: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details:

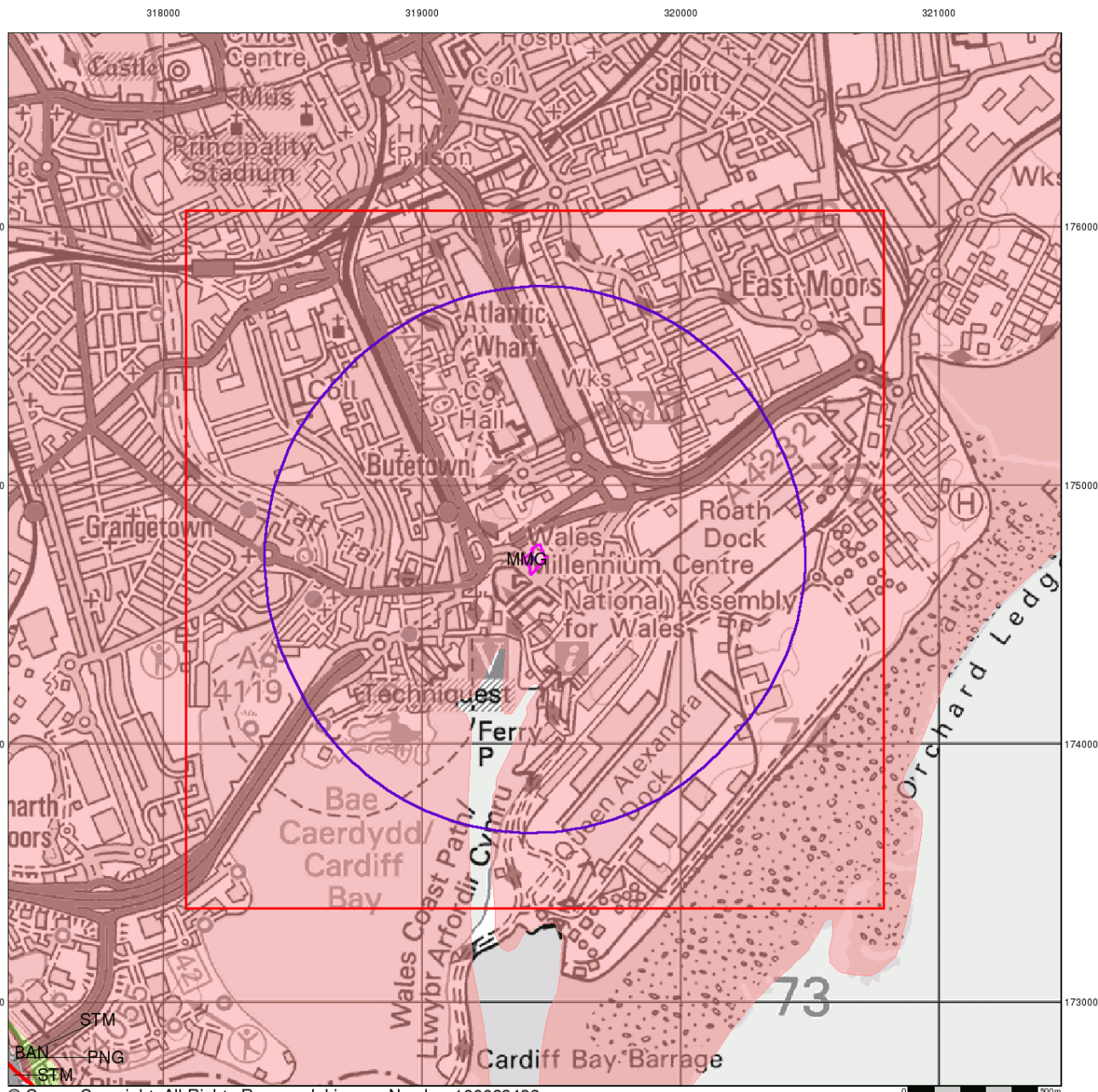
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

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v15.0 04-Jan-2022

Page 3 of 5



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Intégral Géotechnique

Bedrock and Faults

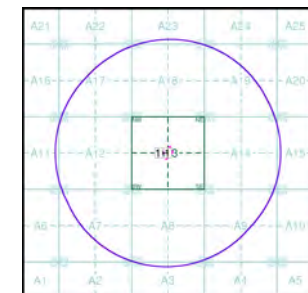
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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: 289300406_1_1
Customer Reference: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details:

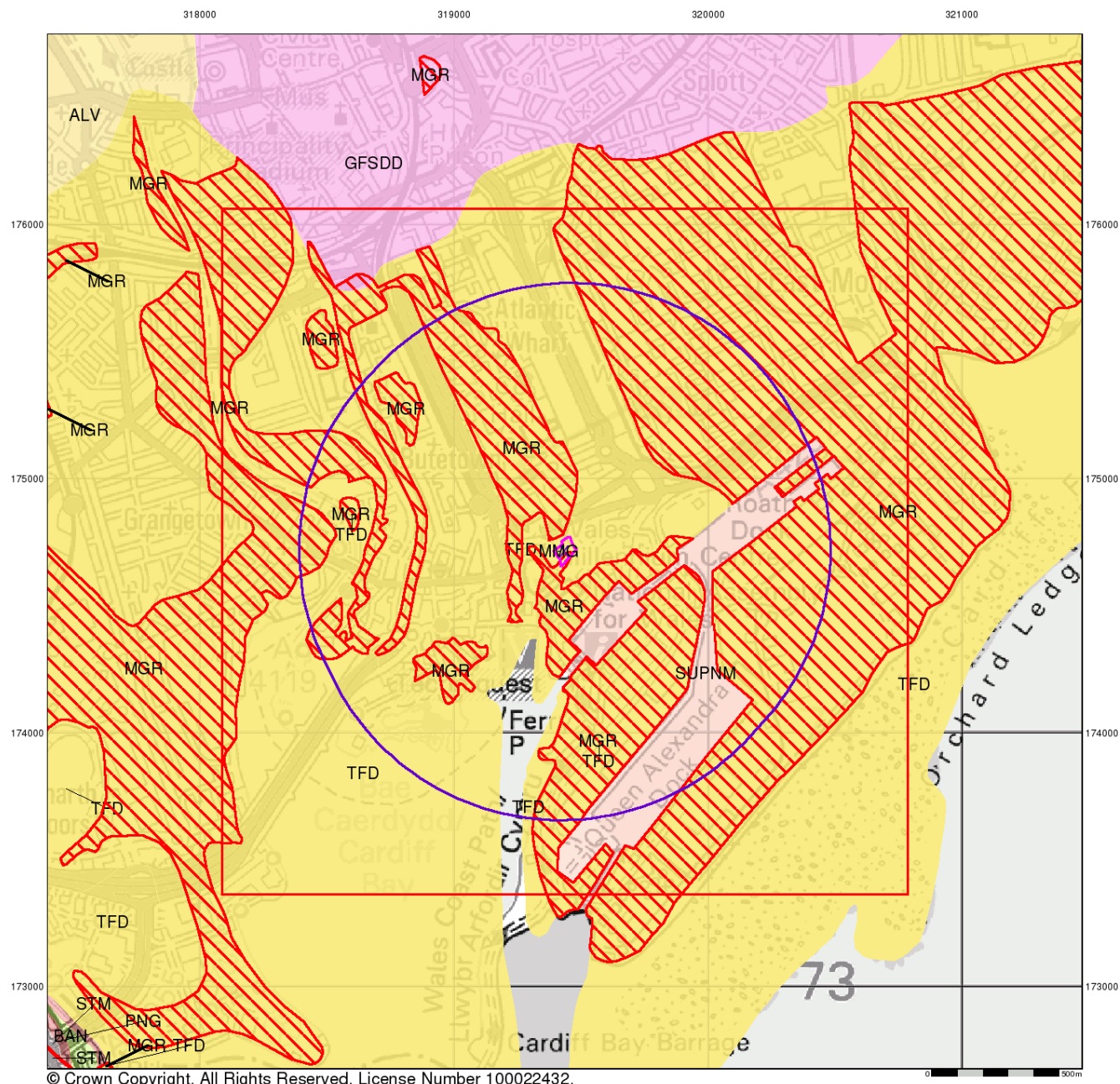
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

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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.

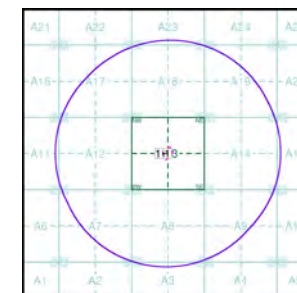
Additional Information

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: 289300406_1_1
Customer Reference: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
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Site Details:

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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		Ch
	CH		F E Sta
	FB		Fn
	GP		MP
	MS		Pol Sta
	PO		PC
	PH		SB
	Spr		TCB
	TCP		W

1:10,000 Raster Mapping

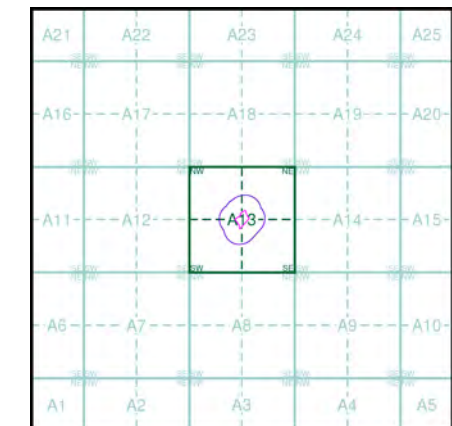
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, 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	1885 - 1886	3
Glamorganshire	1:10,560	1901	4
Glamorganshire	1:10,560	1922	5
Glamorganshire	1:10,560	1938	6
Glamorganshire	1:10,560	1947 - 1951	7
Historical Aerial Photography	1:10,560	1947	8
Historical Aerial Photography	1:10,560	1947	9
Ordnance Survey Plan	1:10,000	1964 - 1965	10
Ordnance Survey Plan	1:10,000	1970 - 1975	11
Cardiff	1:10,000	1982	12
Ordnance Survey Plan	1:10,000	1984 - 1989	13
Ordnance Survey Plan	1:10,000	1991 - 1996	14
Ordnance Survey Plan	1:10,000	1995	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2021	18

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

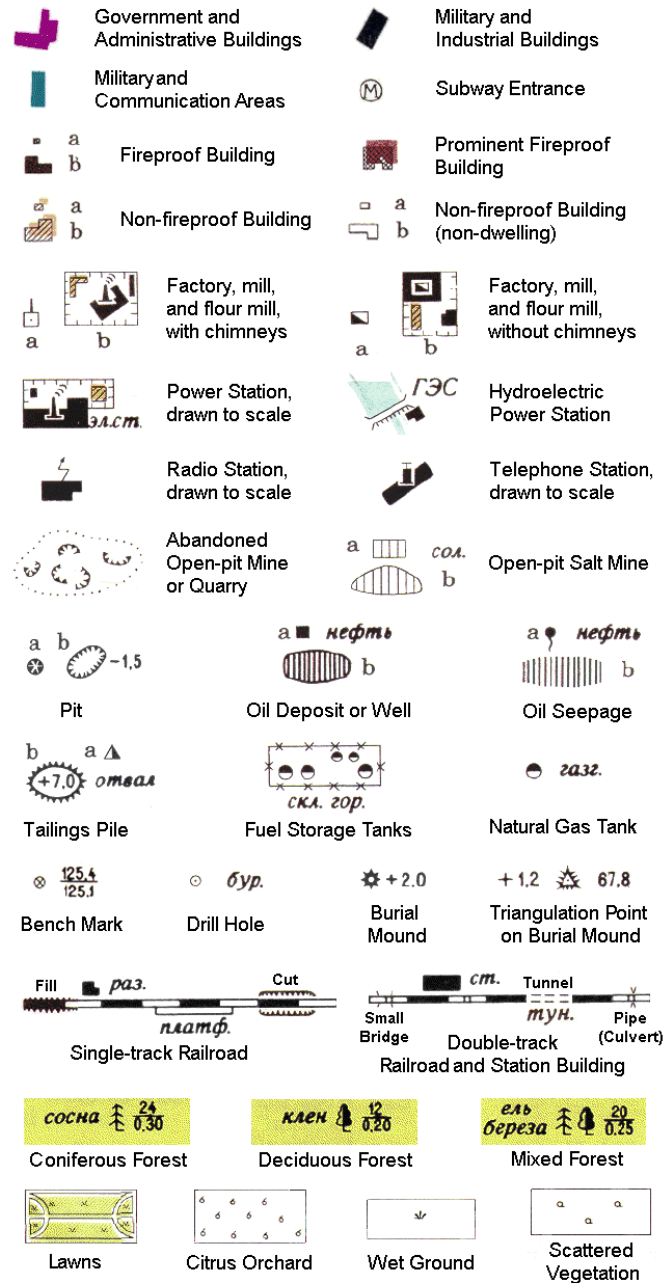
Landmark
INFORMATION GROUP

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Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale



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

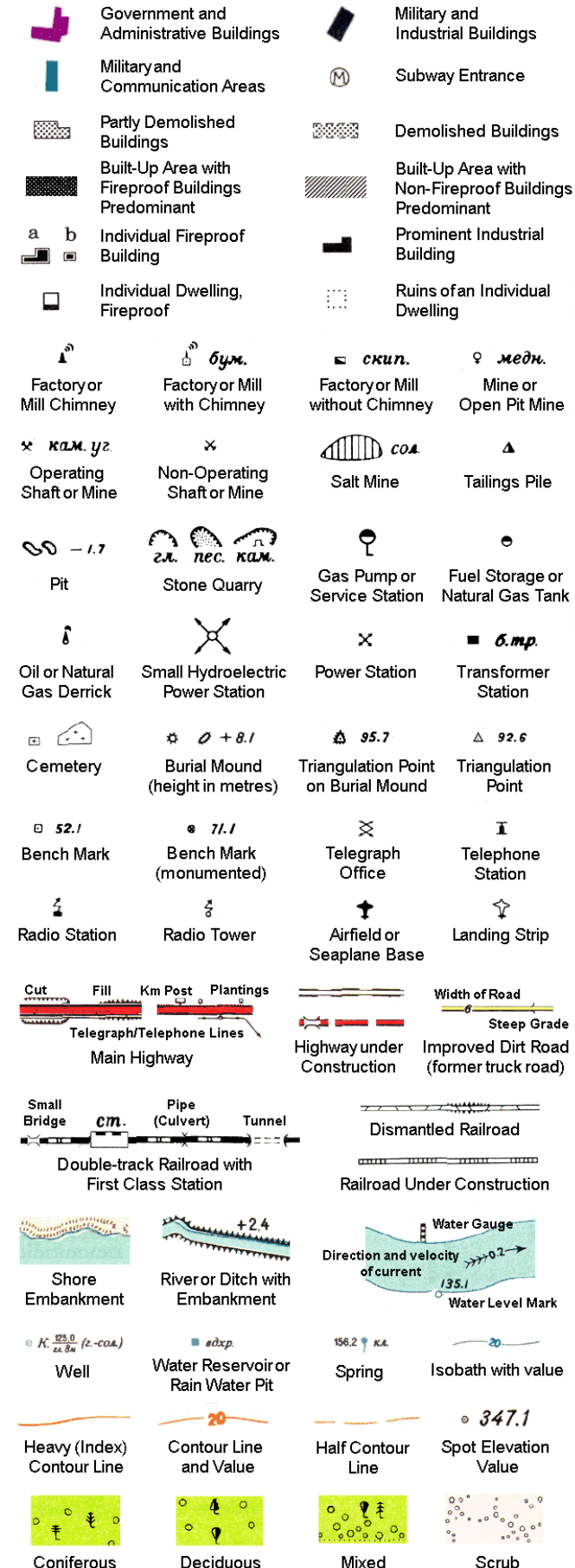
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

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



Key to Numbers on Mapping

ST17NE_Cardiff

No.	Description
10	Workshops (Railway) And Depot (Railway)
17	Factory (Railway Carriages)
20	Factories (Rope) And Sawmill
21	Factory (Locomotives)
44	Factories (Metals And Machinery)
55	Factories (Chemicals, Oxygen And Metals)

ST17SE_Cardiff

No.	Description
3	Dockyard (Ship Repairs)
4	Dockyard (Ship Repairs)
6	Dockyard (Ship Repairs)
9	Hospital (Naval)
22	Factories (Locomotives) And Sawmill
33	Factory (Machinery)
97	Railway Station (Freight)
112	Port Administration

ST27NW_Cardiff

No.	Description
24	Factory (Machinery)
57	Factory (Boats)

ST27SW_Cardiff

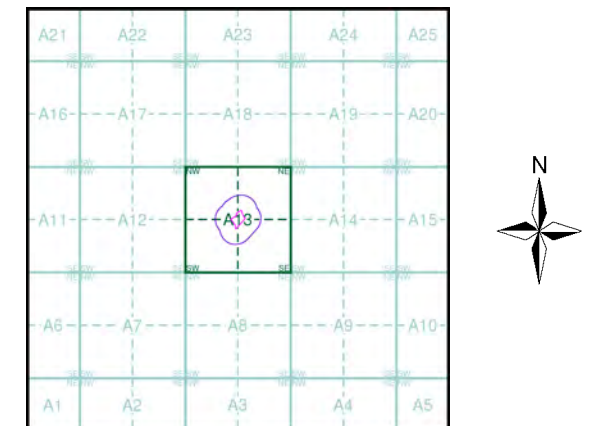
No.	Description
92	Storage (Grain)

Intégral
Géotechnique

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1885 - 1886	3
Glamorganshire	1:10,560	1901	4
Glamorganshire	1:10,560	1922	5
Glamorganshire	1:10,560	1938	6
Glamorganshire	1:10,560	1947 - 1951	7
Historical Aerial Photography	1:10,560	1947	8
Historical Aerial Photography	1:10,560	1947	9
Ordnance Survey Plan	1:10,000	1964 - 1965	10
Ordnance Survey Plan	1:10,000	1970 - 1975	11
Cardiff	1:10,000	1982	12
Ordnance Survey Plan	1:10,000	1984 - 1989	13
Ordnance Survey Plan	1:10,000	1991 - 1996	14
Ordnance Survey Plan	1:10,000	1995	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2021	18

Russian Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

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Glamorganshire

Published 1885 - 1886

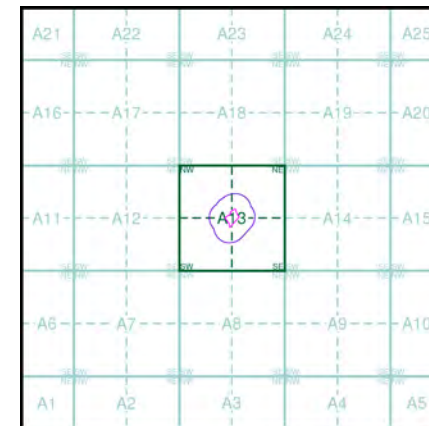
Source map scale - 1:10,560

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)

04300	1886	1:10,560
04700	1885	1:10,560

Historical Map - Slice A



Order Details

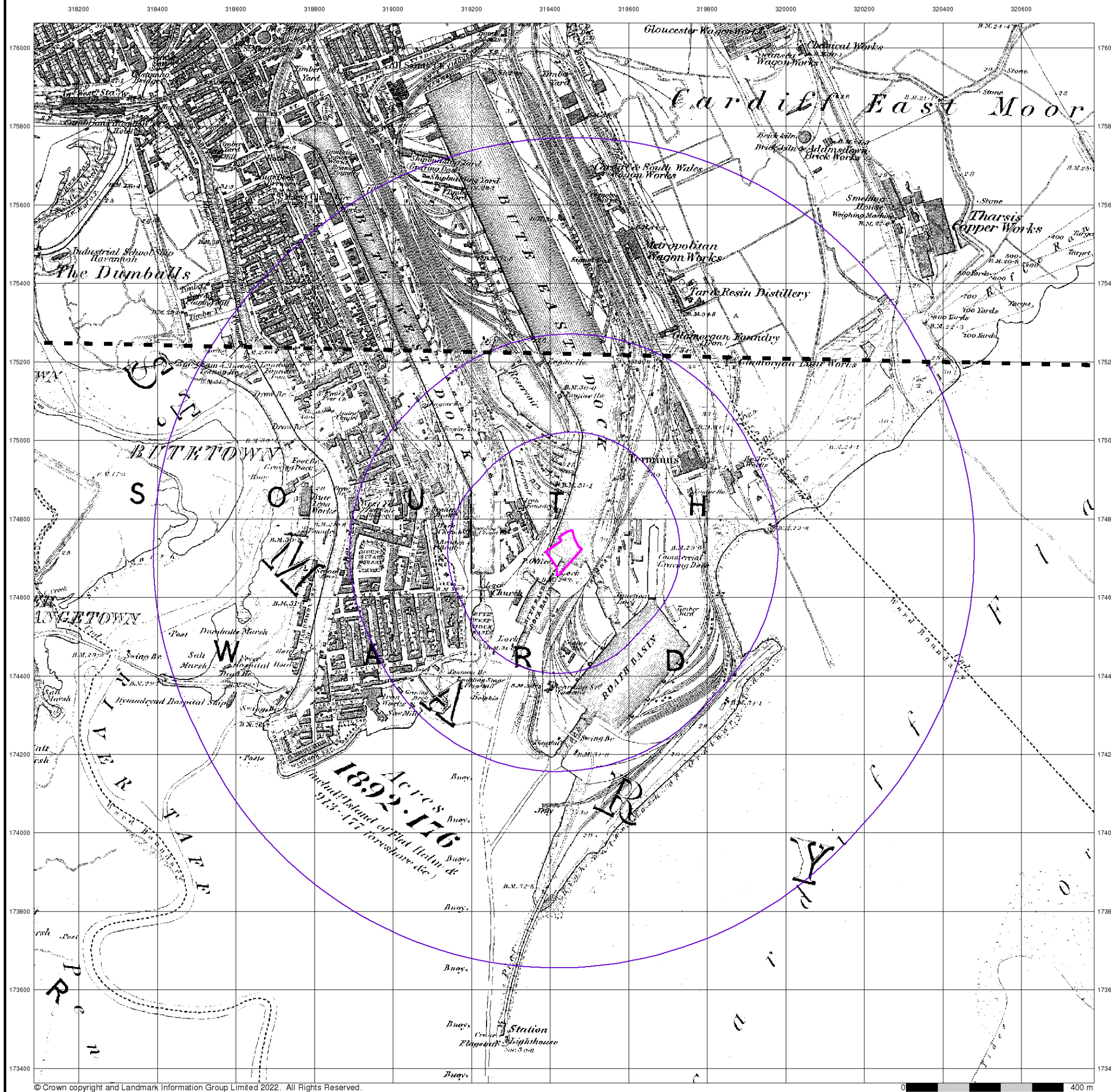
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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Glamorganshire

Published 1901

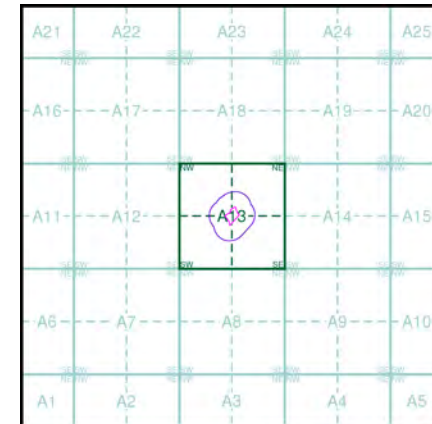
Source map scale - 1:10,560

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)

043SE
1901
1:10,560
047NE
1901
1:10,560

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

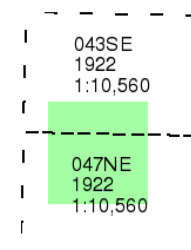
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



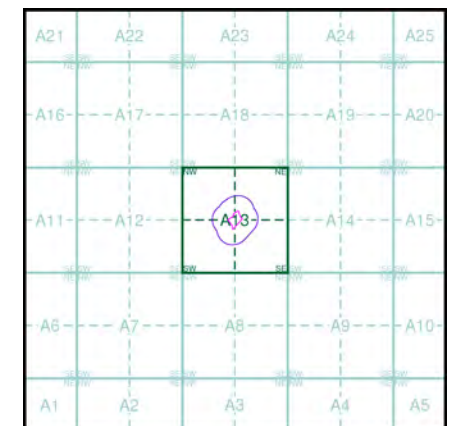
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

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

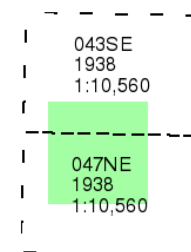
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Customer Ref: 12967/LP
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Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

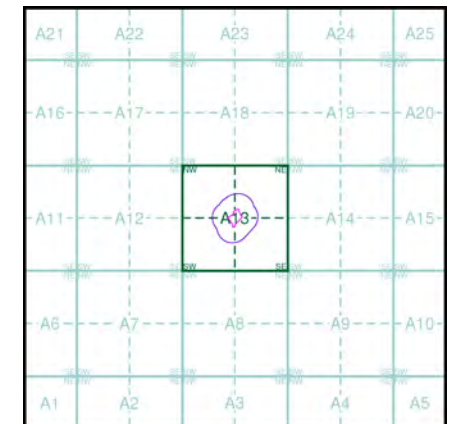
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

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: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

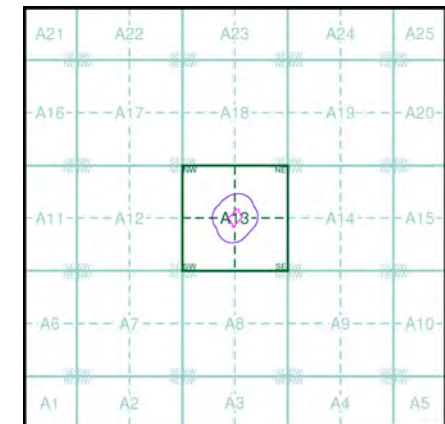
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

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)

043SE
1951
1:10,560
047NE
1947
1:10,560

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



Historical Aerial Photography

Published 1947

Source map scale - 1:10,560

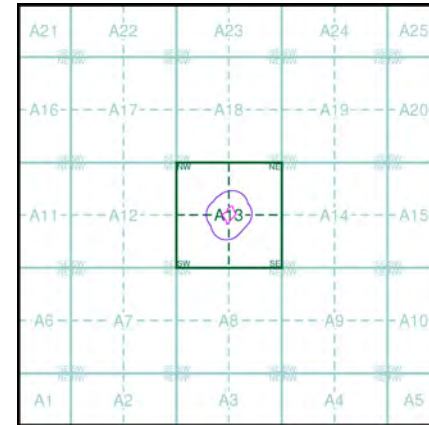
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)

ST17NE 1947 1:10,560	ST27NW 1947 1:10,560
ST17SE 1947 1:10,560	ST27SW 1947 1:10,560

Historical Aerial Photography - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

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Historical Aerial Photography

Published 1947

Source map scale - 1:10,560

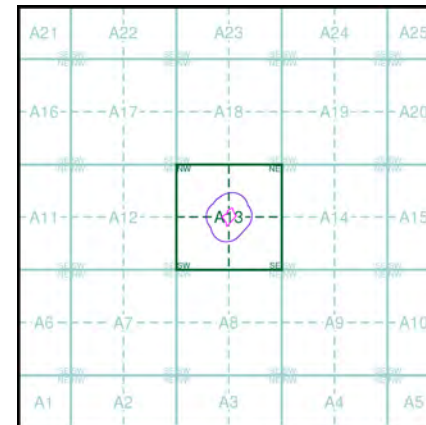
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)

ST17NE 1947 1:10,560	ST27NW 1947 1:10,560
ST17SE 1947 1:10,560	ST27SW 1947 1:10,560

Historical Aerial Photography - Slice A



Order Details

Order Number: 289300406_1_1
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Ordnance Survey Plan

Published 1964 - 1965

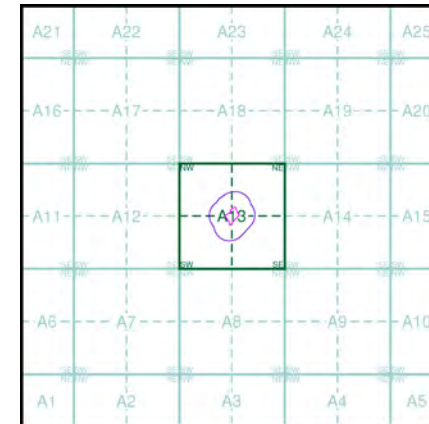
Source map scale - 1:10,000

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)

ST17NE	ST27NW
1965	1965
1:10,560	1:10,560
ST17SE	ST27SW
1965	1964
1:10,560	1:10,560

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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Web: www.envirocheck.co.uk



Ordnance Survey Plan

Published 1970 - 1975

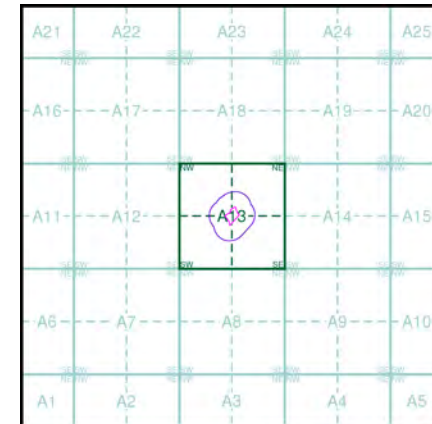
Source map scale - 1:10,000

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)

ST17NE	ST27NW
1975	1975
1:10,000	1:10,000
ST17SE	ST27SW
1974	1970
1:10,000	1:10,000

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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

Cardiff

Published 1982

Source map scale - 1:10,000

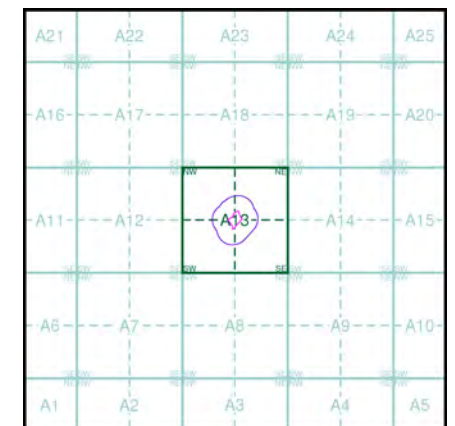
These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed 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)

ST17NE 1982 1:10,000	ST27NW 1982 1:10,000
ST17SE 1982 1:10,000	ST27SW 1982 1:10,000

Russian Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



Ordnance Survey Plan

Published 1984 - 1989

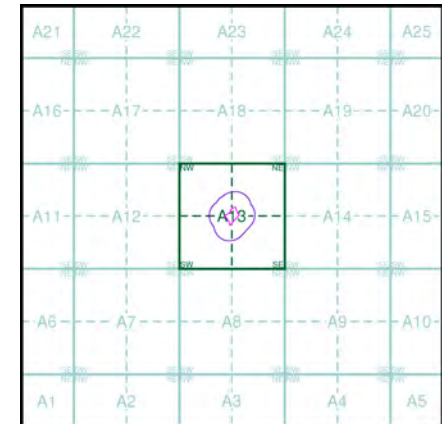
Source map scale - 1:10,000

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)

ST17NE	1986	1:10,000
ST27NW	1989	1:10,000
ST17SE	1984	1:10,000

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan

Published 1991 - 1996

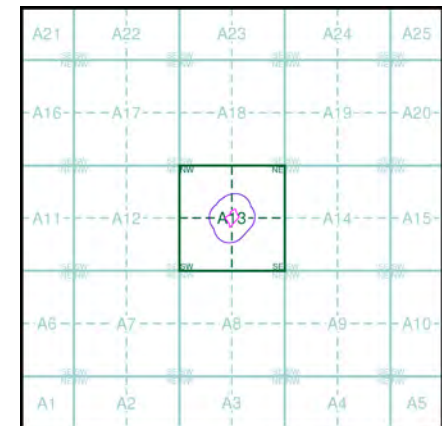
Source map scale - 1:10,000

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)

ST17NE	1991	1:10,000
ST17SE	1996	1:10,000
ST27SW	1993	1:10,000

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

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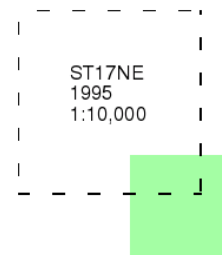
Ordnance Survey Plan

Published 1995

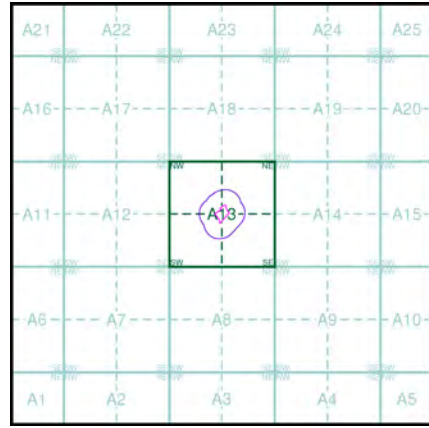
Source map scale - 1:10,000

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: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

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10k Raster Mapping

Published 1999

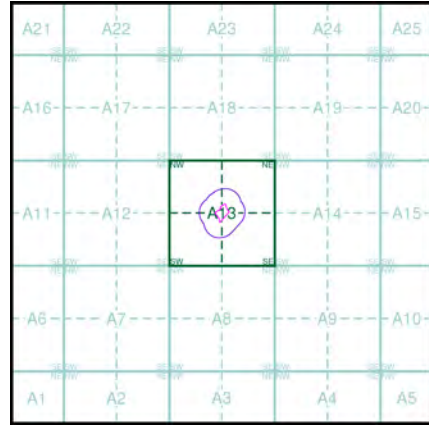
Source map scale - 1:10,000

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)

ST17NE	ST27NW
1999	1999
1:10,000	1:10,000
ST17SE	ST27SW
1999	1999
1:10,000	1:10,000

Historical Map - Slice A



Order Details

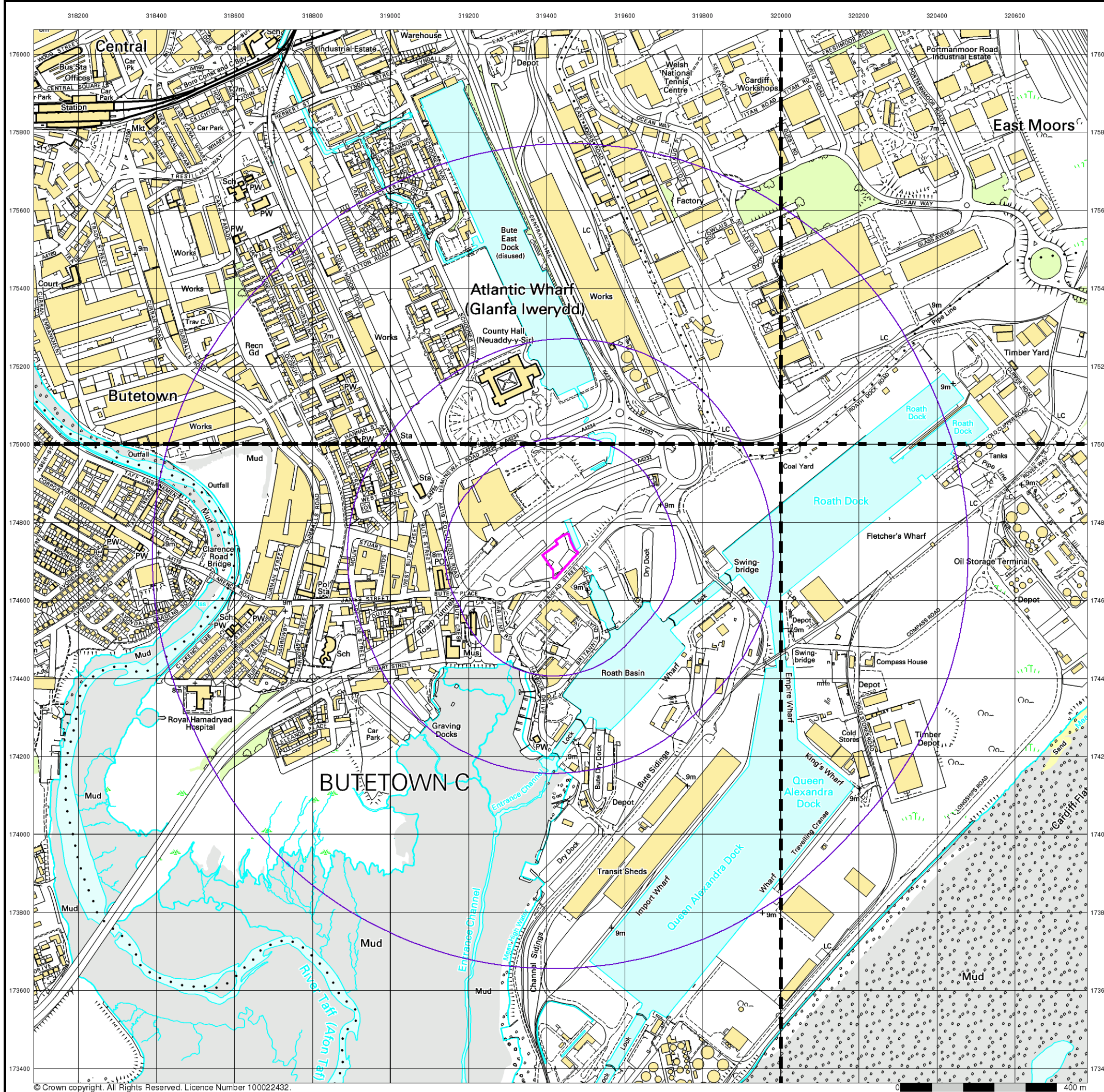
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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Fax: 0844 844 9951
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10k Raster Mapping

Published 2006

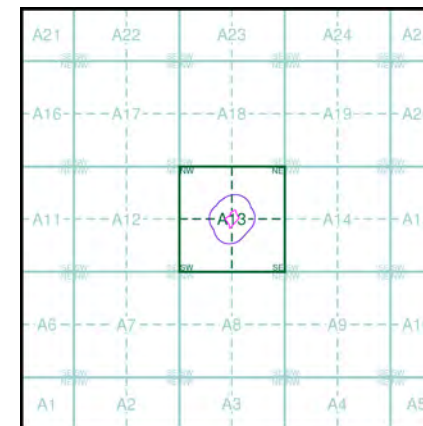
Source map scale - 1:10,000

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)

ST17NE	ST27NW
2006	2006
1:10,000	1:10,000
ST17SE	ST27SW
2006	2006
1:10,000	1:10,000

Historical Map - Slice A



Order Details

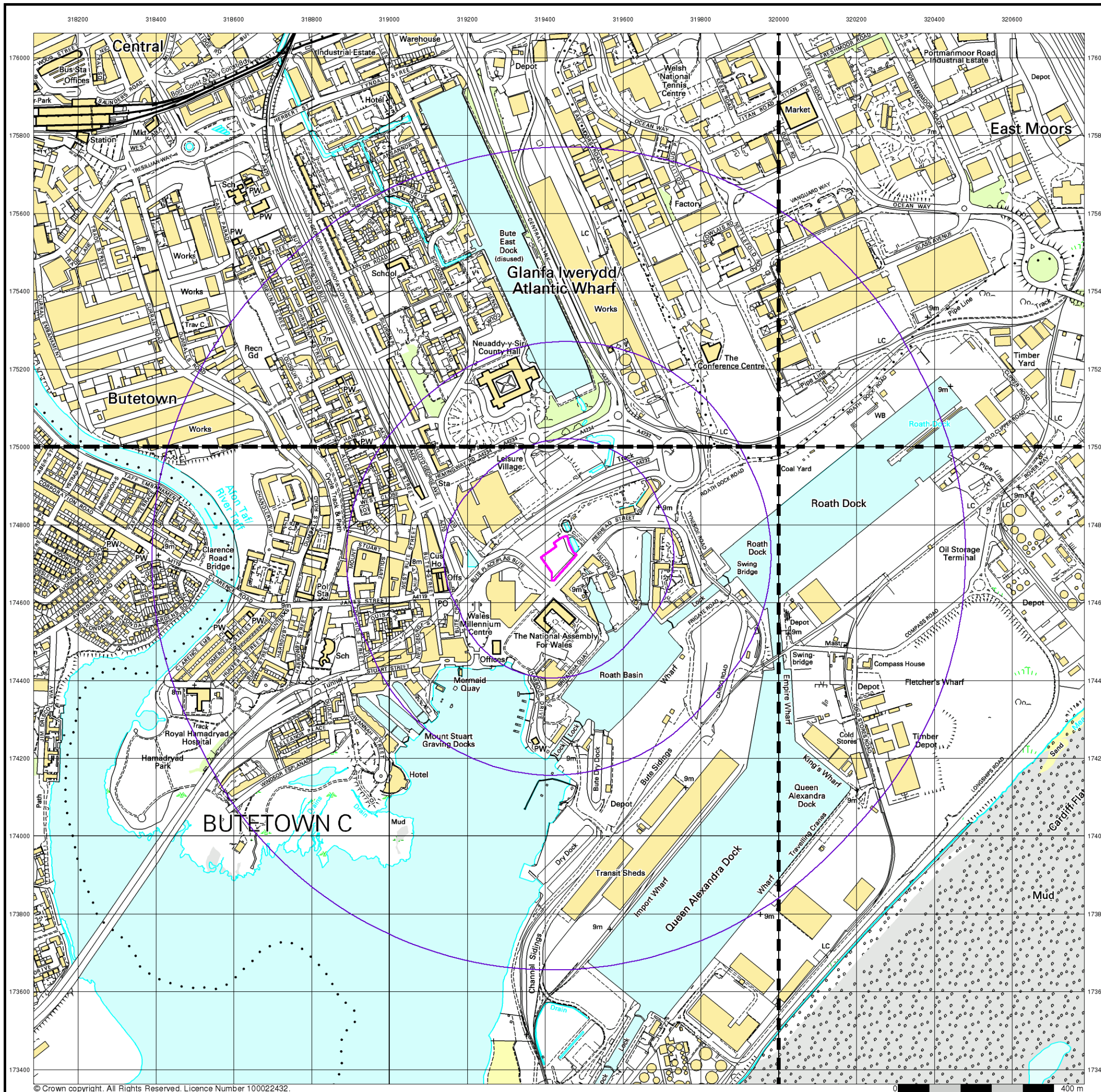
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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VectorMap Local

Published 2021

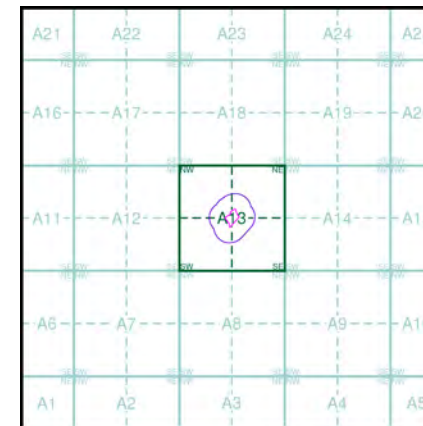
Source map scale - 1:10,000

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)

ST17NE	ST27NW
2021	2021
Variable	Variable
ST17SE	ST27SW
2021	2021
Variable	Variable

Historical Map - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

Site Details

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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



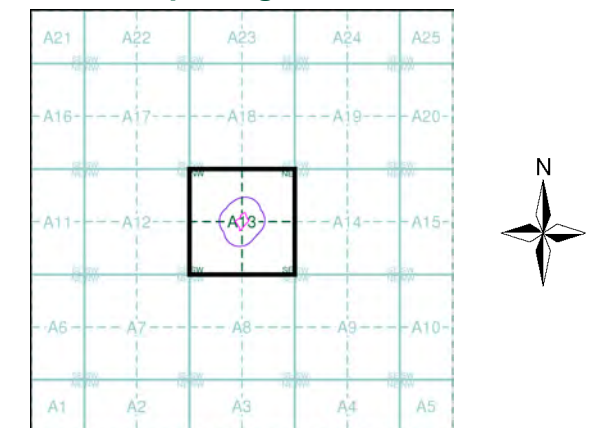
Large-Scale National Grid Data 1:2,500 and 1:1,250



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1880	2
Glamorganshire	1:2,500	1901	3
Glamorganshire	1:2,500	1920	4
Glamorganshire	1:2,500	1941	5
Ordnance Survey Plan	1:1,250	1954	6
Ordnance Survey Plan	1:2,500	1954 - 1955	7
Ordnance Survey Plan	1:1,250	1962 - 1972	8
Ordnance Survey Plan	1:1,250	1970	9
Additional SIMs	1:1,250	1978 - 1992	10
Additional SIMs	1:1,250	1983 - 1987	11
Additional SIMs	1:1,250	1983 - 1987	12
Additional SIMs	1:1,250	1983	13
Large-Scale National Grid Data	1:1,250	1992	14
Large-Scale National Grid Data	1:1,250	1993 - 1995	15
Large-Scale National Grid Data	1:1,250	1995	16
Large-Scale National Grid Data	1:1,250	1996	17
Historical Aerial Photography	1:2,500	2000	18

Historical Map - Segment A13



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

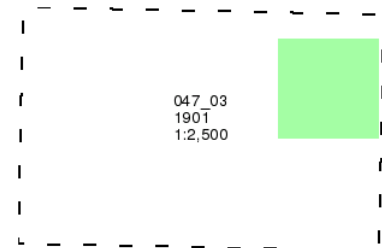
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



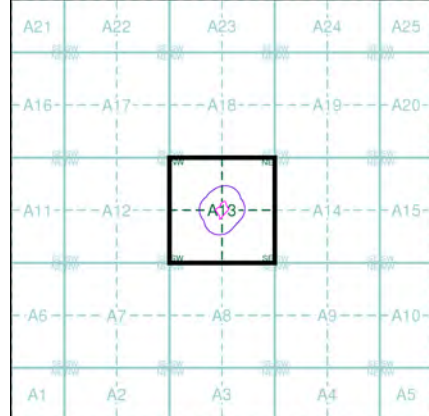
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

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

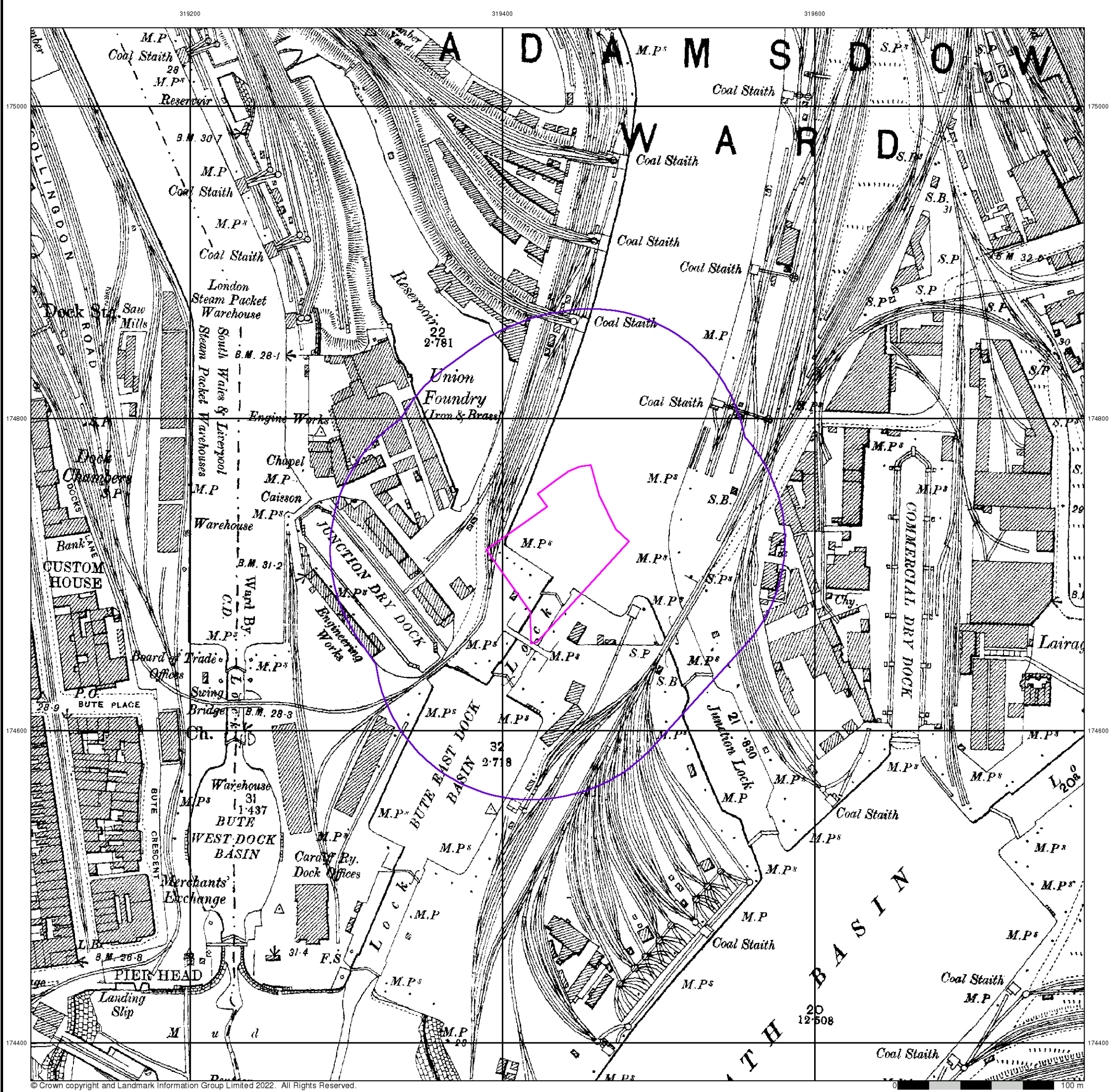


Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

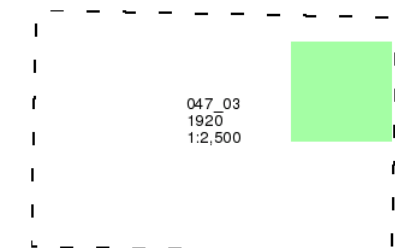
Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

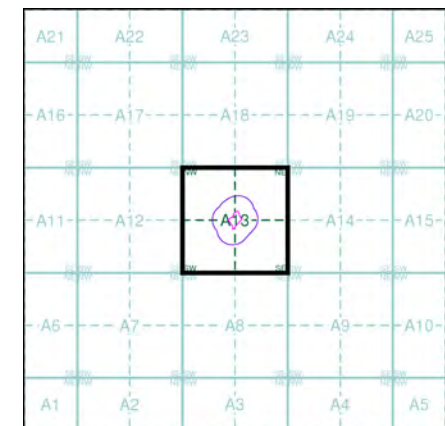


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. 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

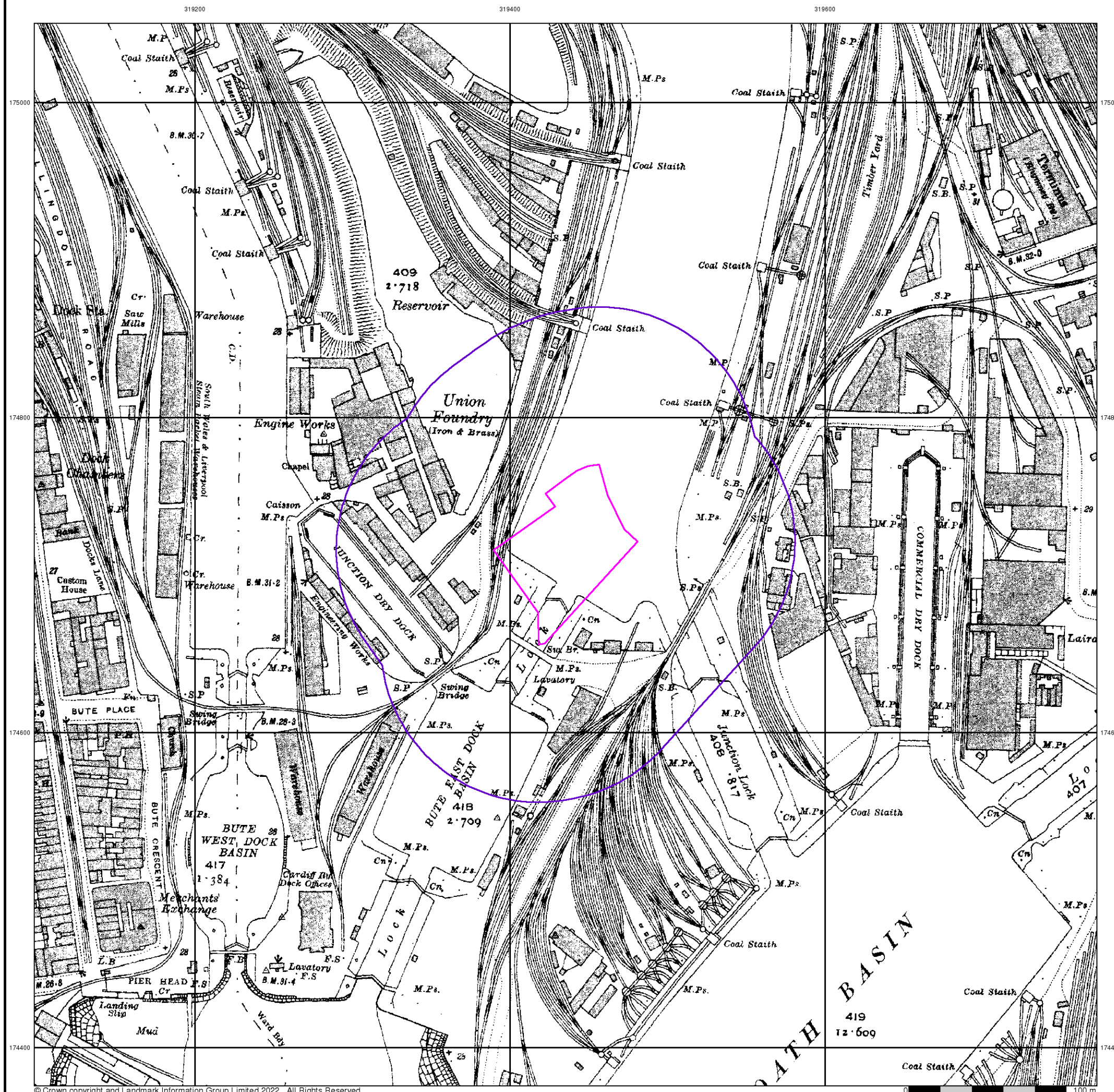


Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

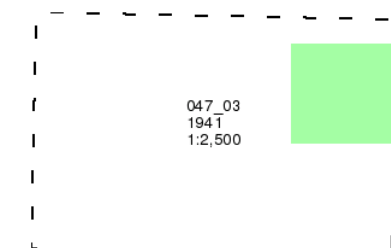
Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

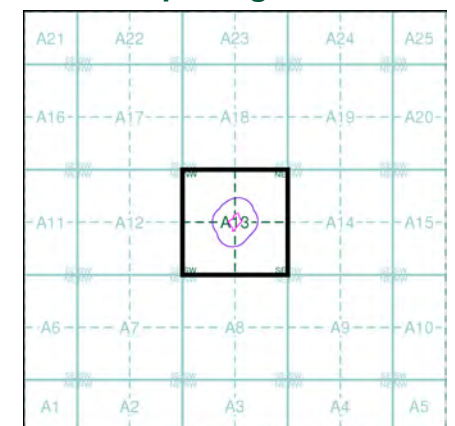


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. 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

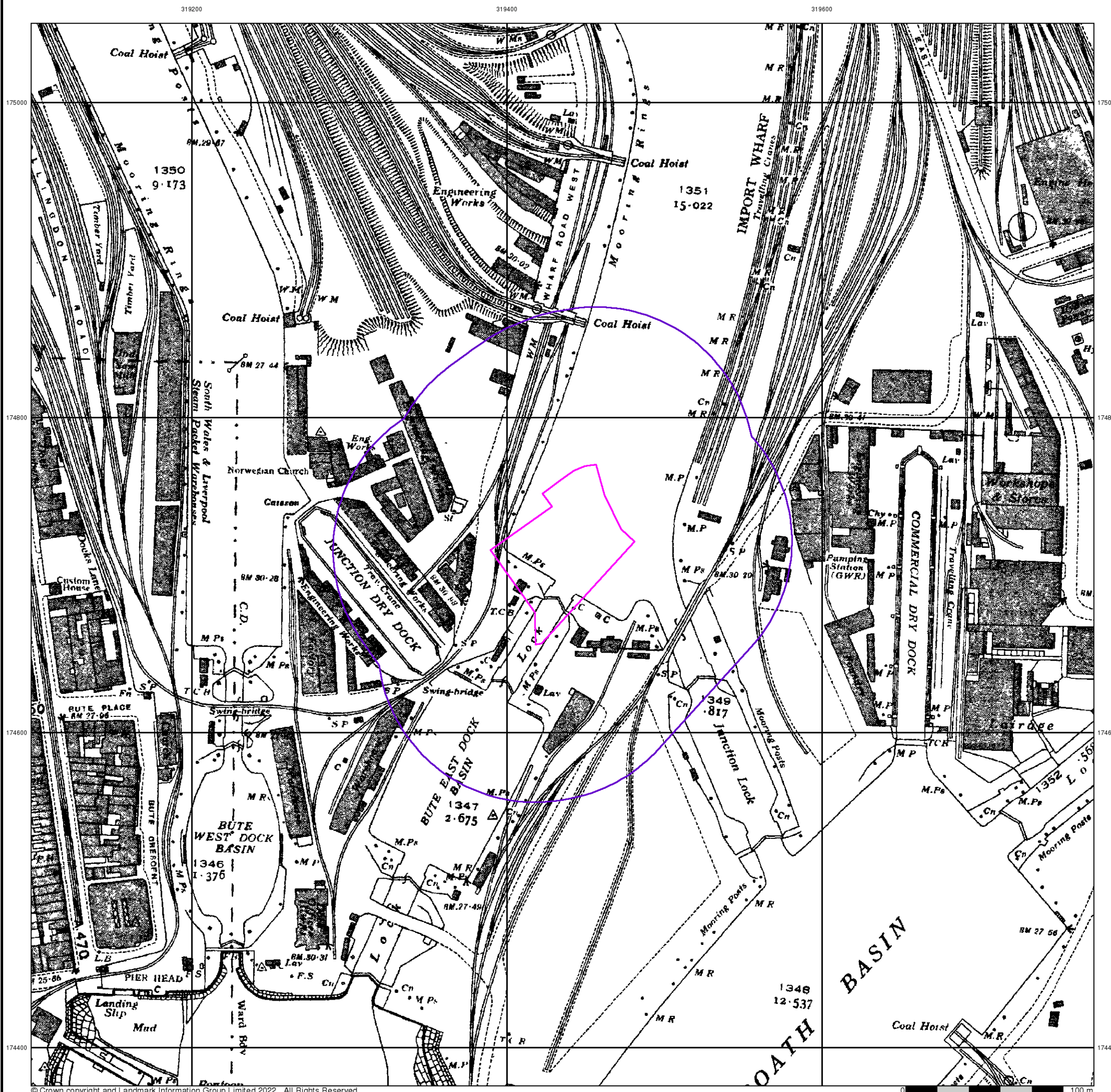


Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH





Ordnance Survey Plan

Published 1954

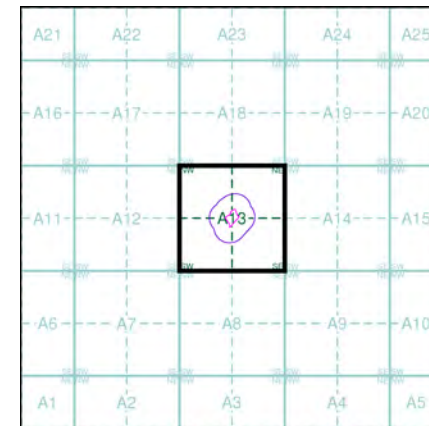
Source map scale - 1:1,250

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)

T1975SV	T1975SE
1954	1954
1:1,250	1:1,250
T1974NV	T1974NE
1954	1954
1:1,250	1:1,250
T1974SW	T1974SE
1954	1954
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

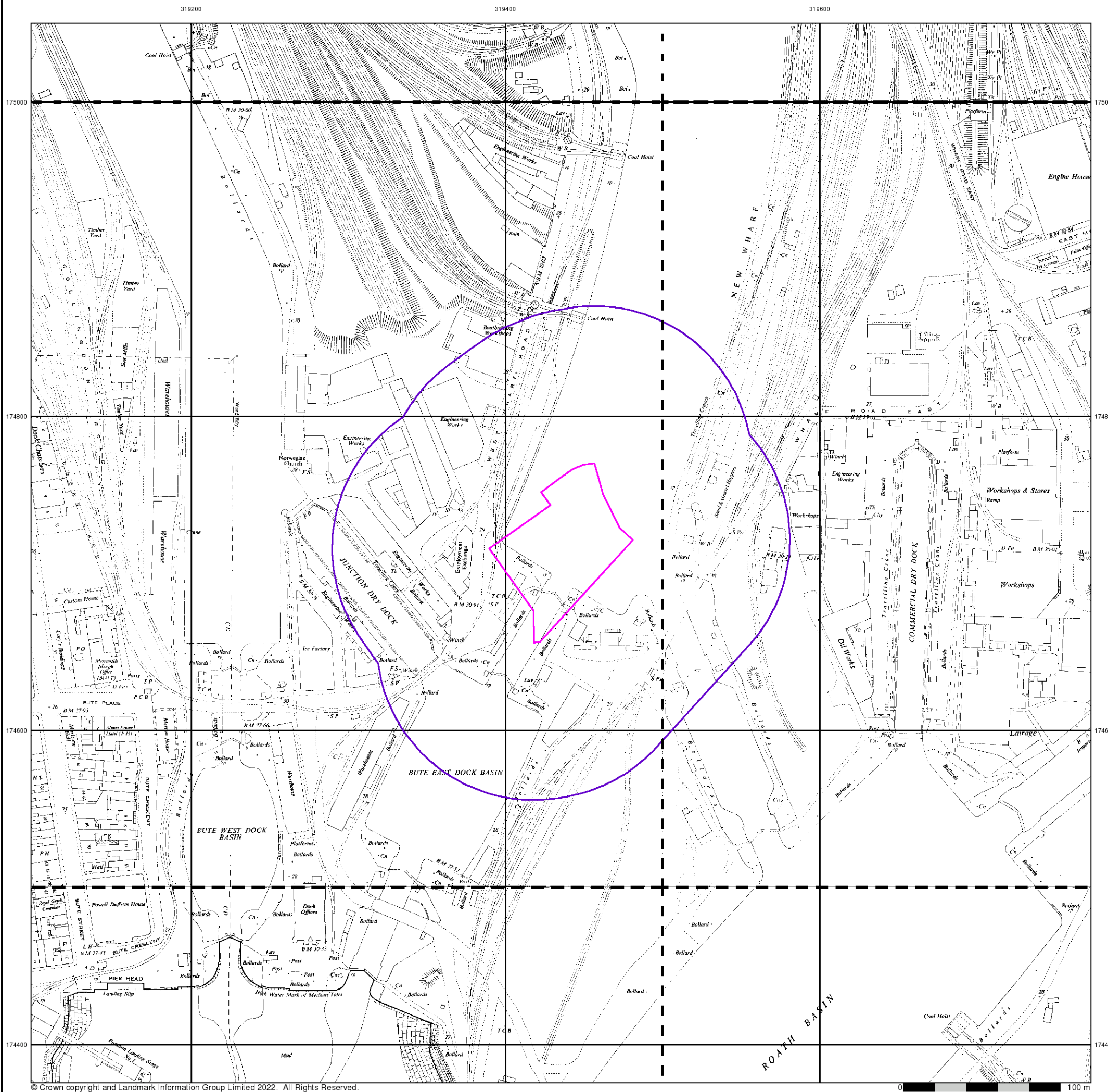
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1954 - 1955

Source map scale - 1:2,500

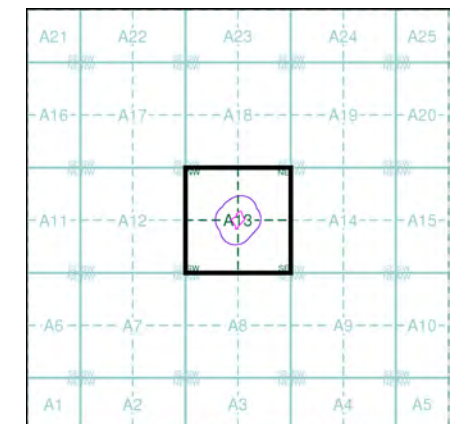
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. 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)

ST1975
1955
1:2,500

ST1974
1954
1:2,500

Historical Map - Segment A13

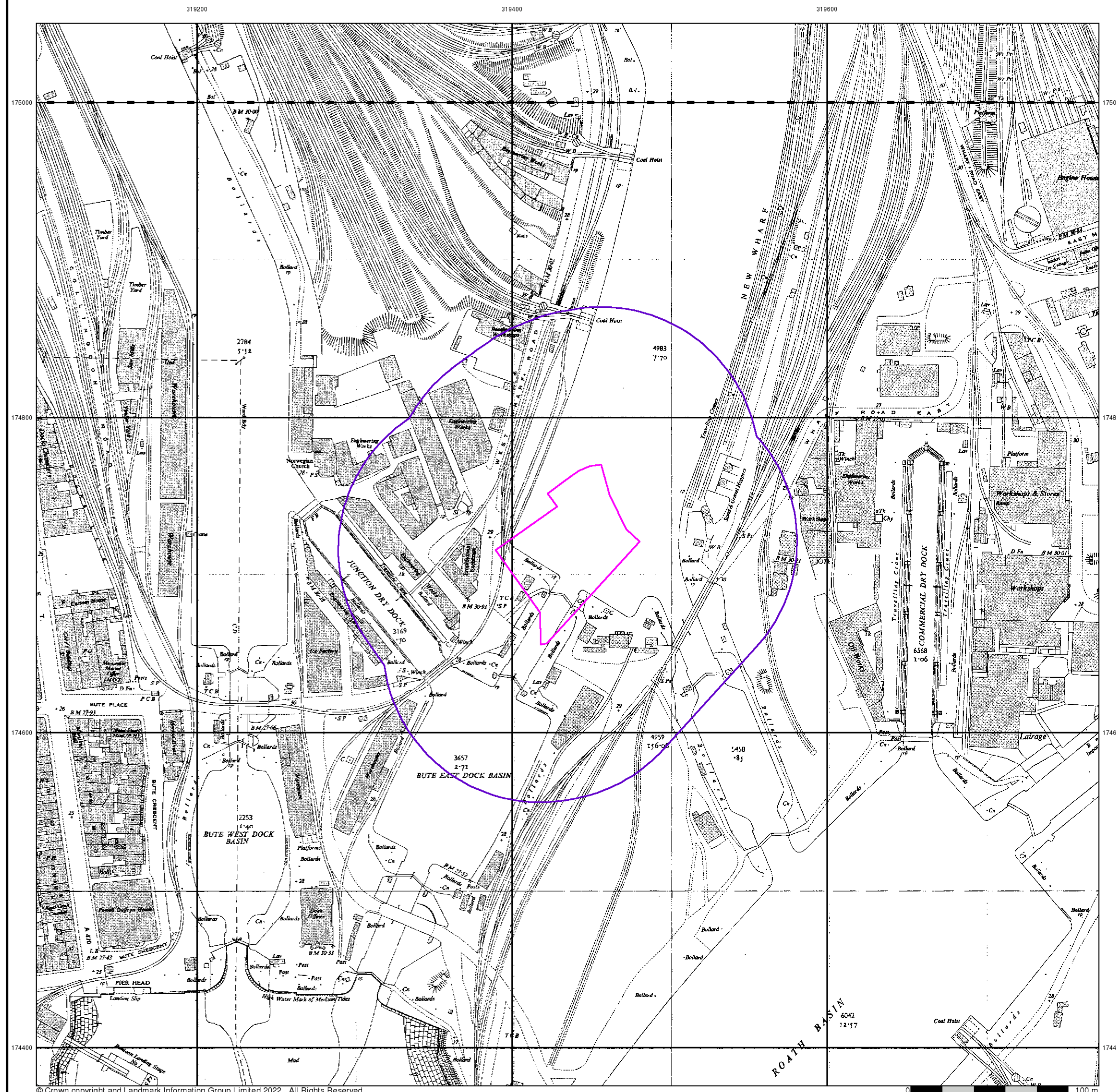


Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



Ordnance Survey Plan

Published 1962 - 1972

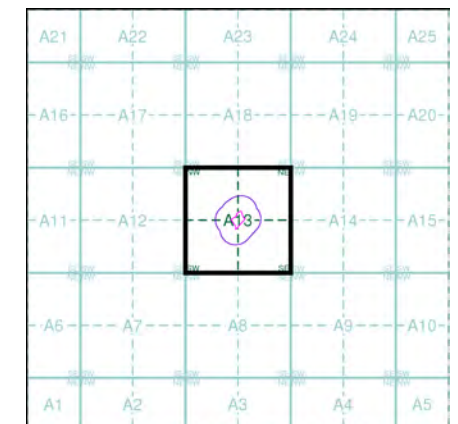
Source map scale - 1:1,250

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)

T1975SV	T1975SE
1970	1962
1:1,250	1:1,250
T1974NV	T1974NE
1970	1969
1:1,250	1:1,250
T1974SW	T1974SE
1972	1969
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



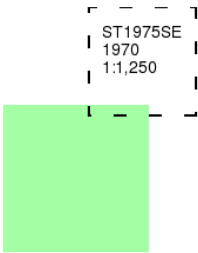
Ordnance Survey Plan

Published 1970

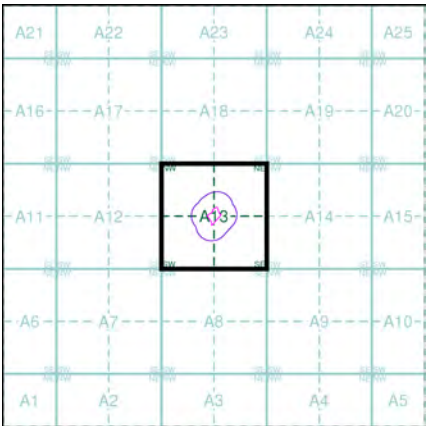
Source map scale - 1:1,250

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: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

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Additional SIMs

Published 1978 - 1992

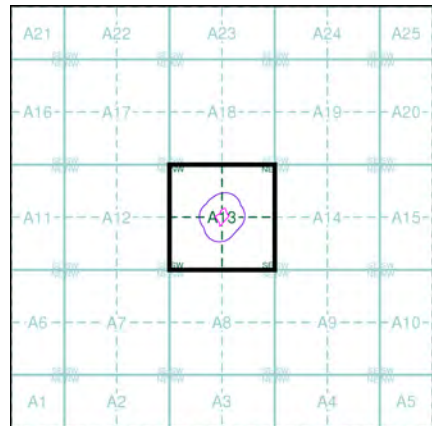
Source map scale - 1:1,250

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)

BT1975SV	BT1975SE
1979	1978
1:1,250	1:1,250
BT1974NV	BT1974NE
1979	1984
1:1,250	1:1,250
BT1974SV	BT1974SE
1992	1979
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

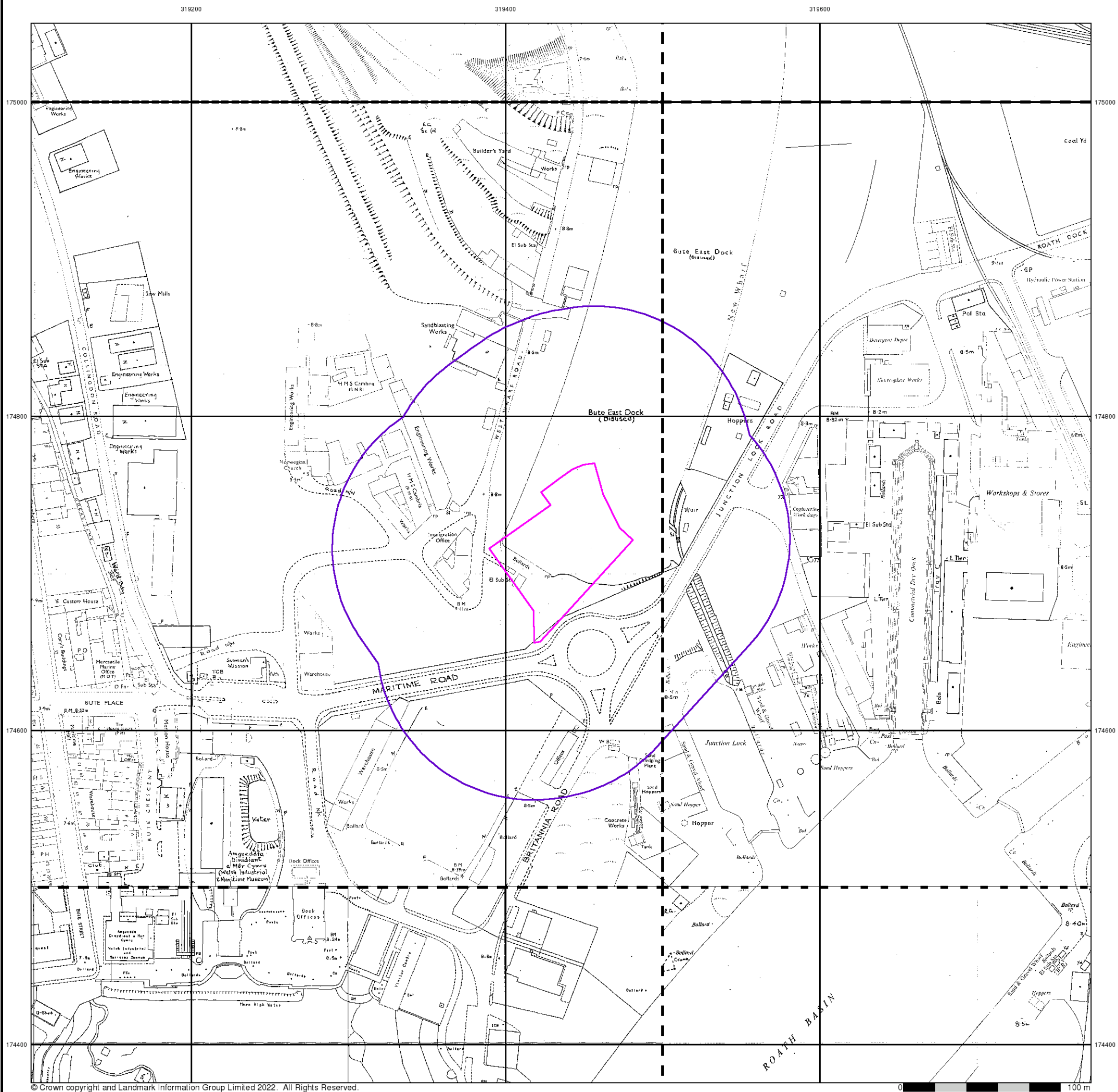
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1983 - 1987

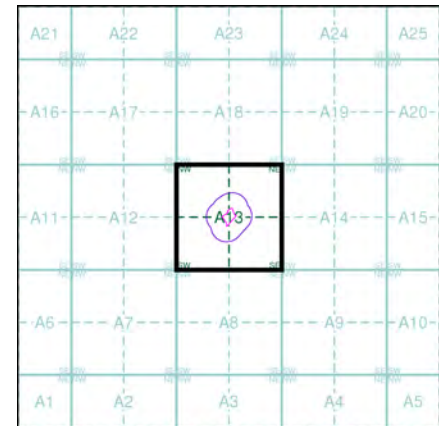
Source map scale - 1:1,250

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)

BT1975SW	BT1975SE
1983	1983
1:1,250	1:1,250
BT1974NW	
1987	
1:1,250	
	BT1974SE
	1986
	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1983 - 1987

Source map scale - 1:1,250

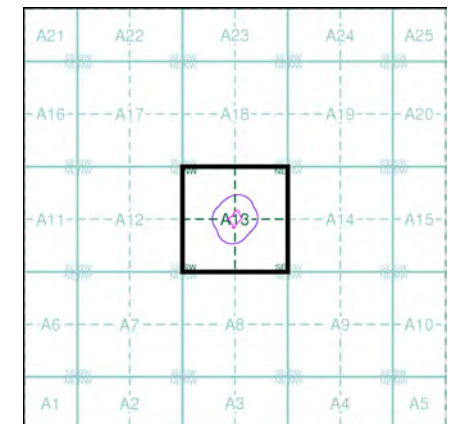
The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)

ST1975SW
1983
1:1,250

ST1974NW
1987
1:1,250

Historical Map - Segment A13



Order Details

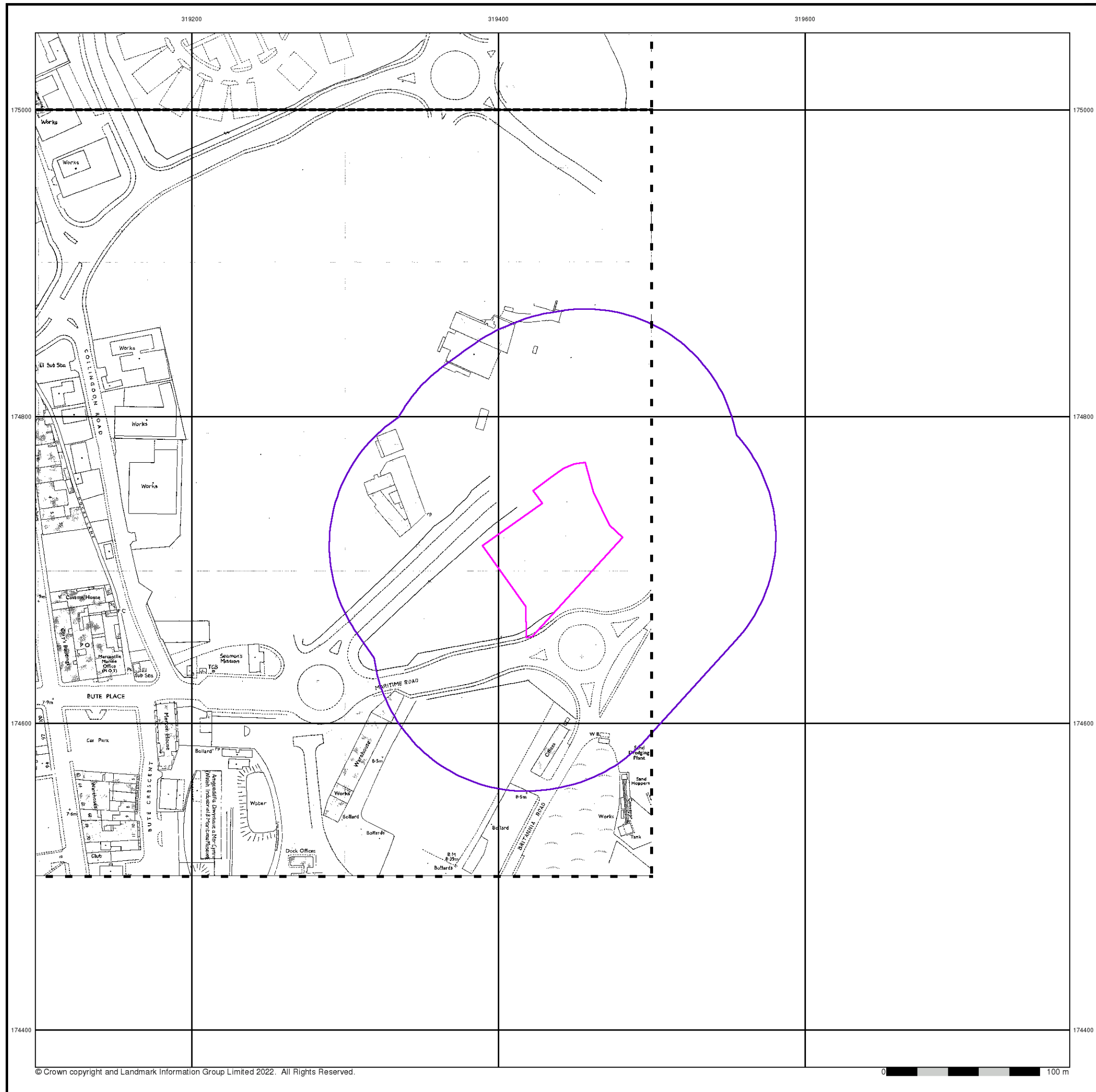
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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





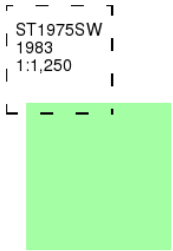
Additional SIMs

Published 1983

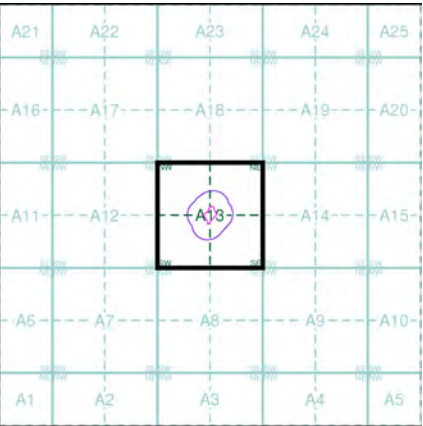
Source map scale - 1:1,250

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

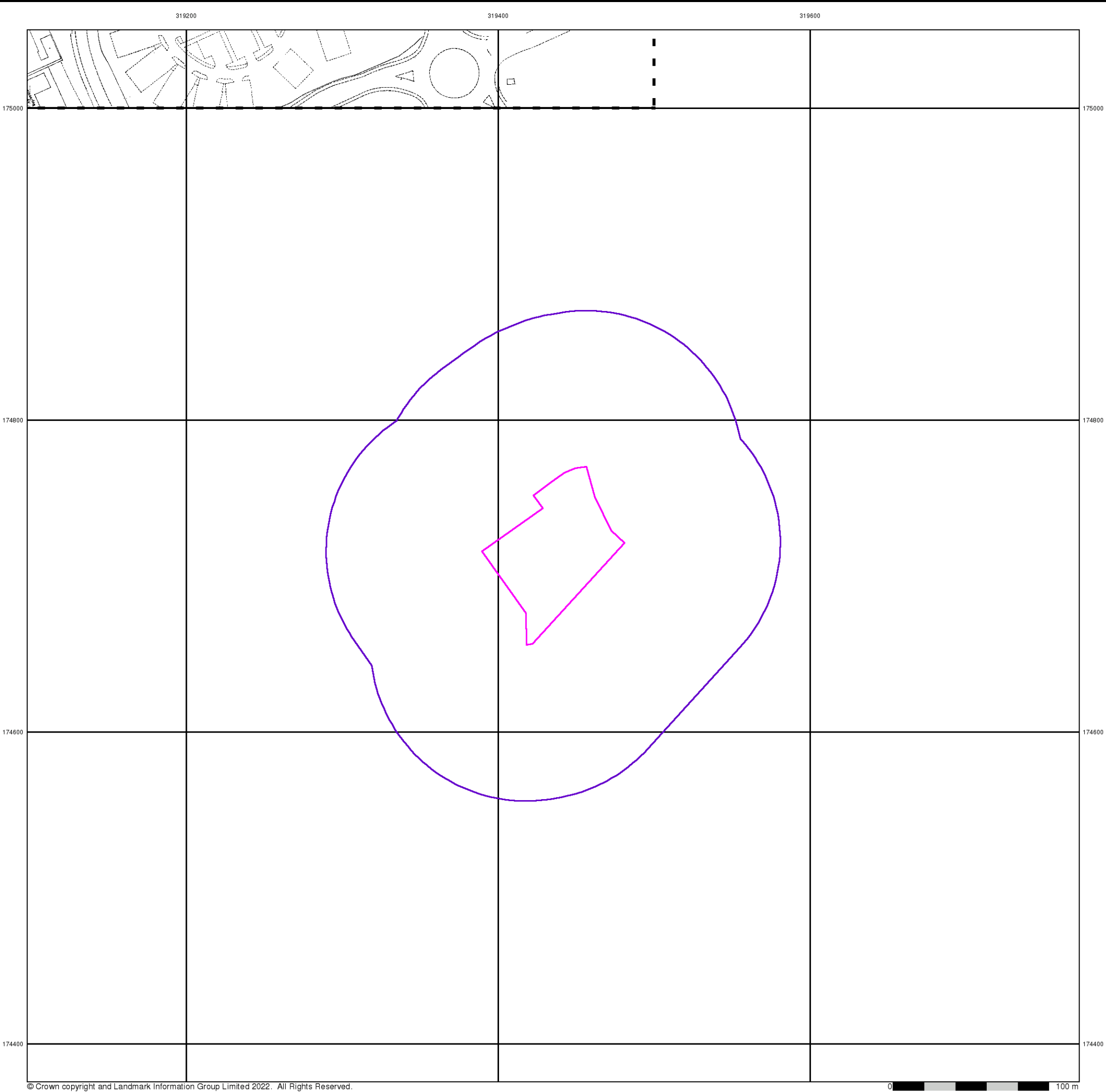
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

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Large-Scale National Grid Data

Published 1993 - 1995

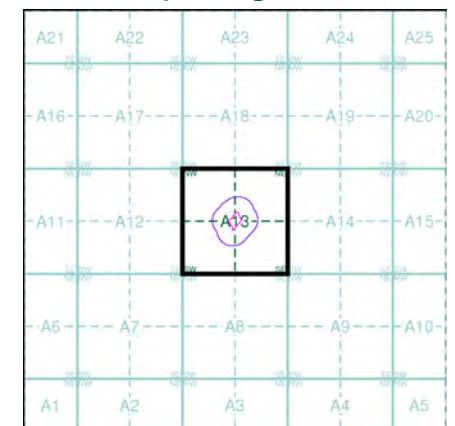
Source map scale - 1:1,250

'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)

BT1975SW	BT1975SE
1995	1995
1:1,250	1:1,250
BT1974NW	BT1974NE
1995	1993
1:1,250	1:1,250
BT1974SW	BT1974SE
1994	1993
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

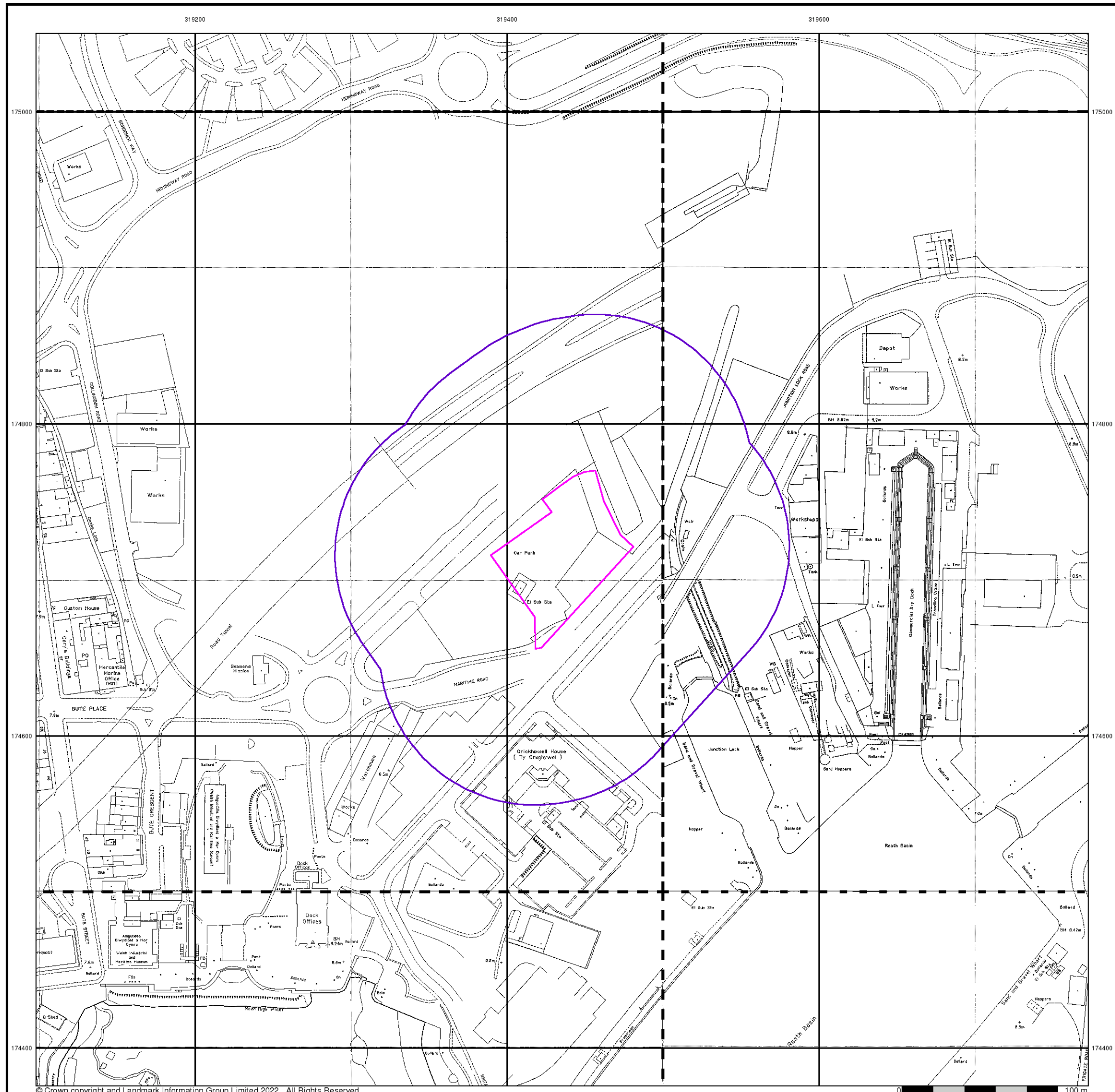
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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





Large-Scale National Grid Data

Published 1995

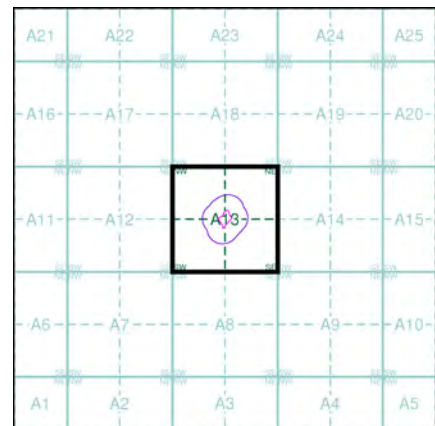
Source map scale - 1:1,250

'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)

BT1975SW	BT1975SE
1995	1995
1:1,250	1:1,250
BT1974NW	BT1974NE
1995	1995
1:1,250	1:1,250
BT1974SW	
1995	
1:1,250	

Historical Map - Segment A13



Order Details

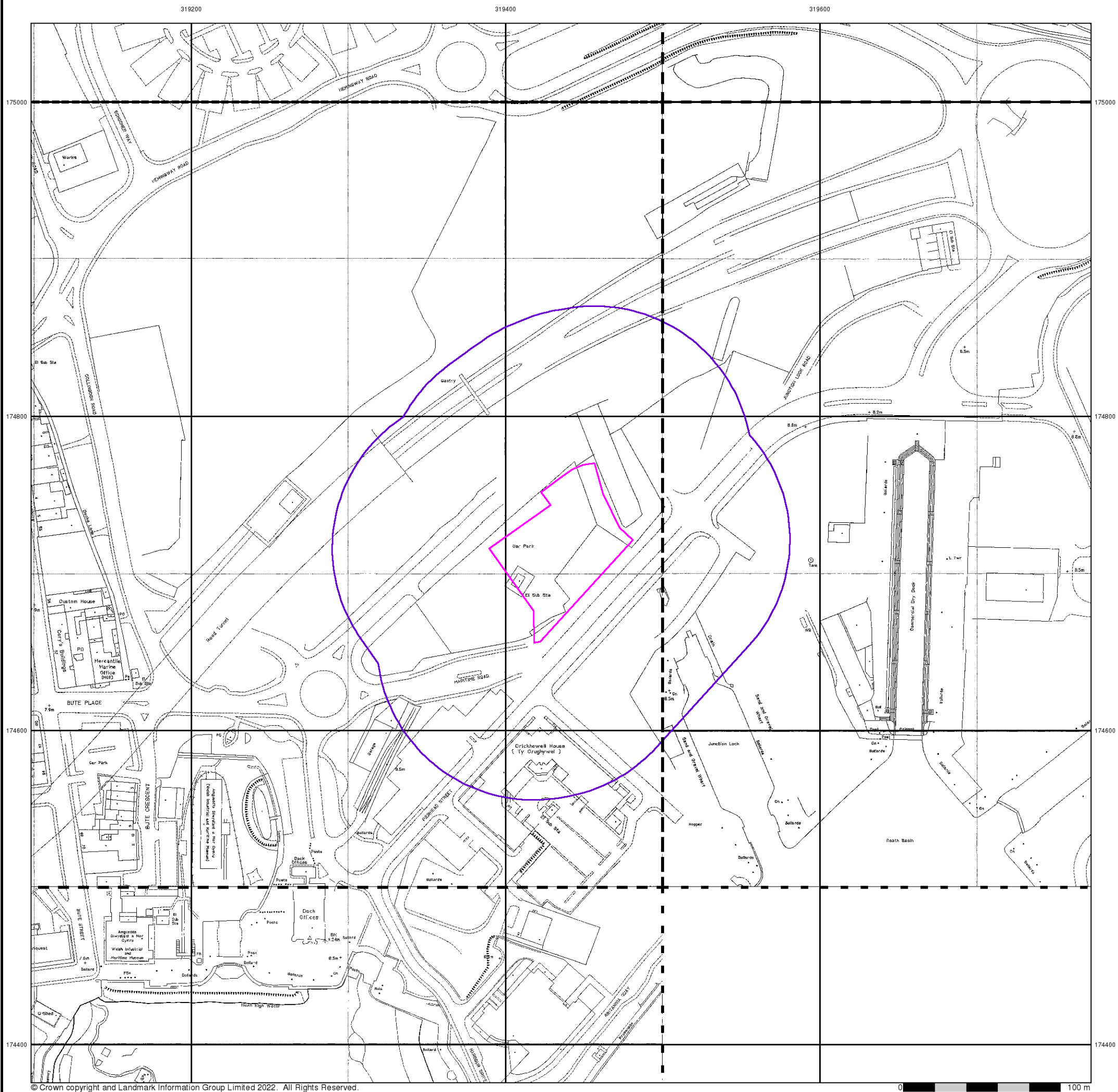
Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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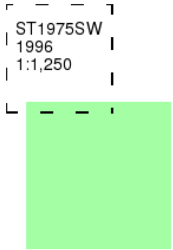
Large-Scale National Grid Data

Published 1996

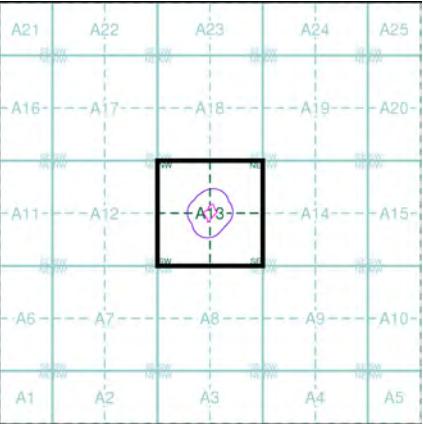
Source map scale - 1:1,250

'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)



Historical Map - Segment A13



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



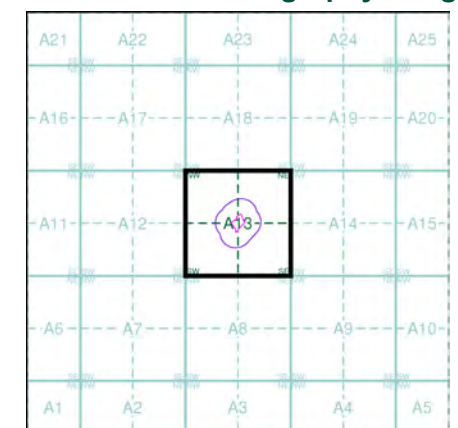
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

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: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Envirocheck[®] Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

289300406_1_1

Customer Reference:

12967/LP

National Grid Reference:

319440, 174710

Slice:

A

Site Area (Ha):

0.5

Search Buffer (m):

1000

Site Details:

Plot 5, Pierhead Street

Butetown

Cardiff

CF10 4PH

Client Details:

MR H Pritchard

Integral Geotechnique

Integral House

7 Beddau Way

Castlegate Business Park

Caerphilly

CF83 2AX

Report Section and Details	Page Number
Summary	-
<p>The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected.</p> <p>For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).</p>	
Mining and Natural Cavities Data	1
<p>The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities.</p> <p>Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.</p>	
Historical Land Use Information (1:2,500)	3
<p>The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative.</p> <p>For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.</p>	
Historical Land Use Information (1:10,000)	4
<p>The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses.</p> <p>For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.</p>	
Ground Stability Data (1:50,000)	6
<p>The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.</p>	
Historical Map List	8
<p>The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.</p>	
Data Currency	9
Data Suppliers	10
Useful Contacts	11

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The brine subsidence data relating to the Droitwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1		1	1	5
Coal Mining Affected Areas			n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability			n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential Mining Areas					
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)	pg 3	2	4	n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts					
Disturbed Ground	pg 4				1
General Quarrying					
Heap, unknown constituents	pg 4				2
Mineral Railway	pg 4			2	
Mining & quarrying general					
Mining of coal & lignite					
Quarrying of sand & clay, operation of sand & gravel pits					
Former Marshes					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 4	1	3	3	25
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 6	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 6	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 6	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 6	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 6	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 6	Yes	Yes	n/a	n/a
Salt Mining Related Features					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	BGS Recorded Mineral Sites Site Name: Brassways Wharf Location: Cardiff Docks, Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10853 Type: Wharf Status: Ceased Operator: Hanson Aggregates, South West Region Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A13SE (SE)	195	1	319637 174605
2	BGS Recorded Mineral Sites Site Name: Roath Basin Location: Cardiff Docks, Cardiff, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 16134 Type: Wharf Status: Ceased Operator: United Marine Dredging Limited Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A13SE (SE)	434	1	319765 174390
3	BGS Recorded Mineral Sites Site Name: Empire Wharf Location: Cardiff Docks, Cardiff, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 244919 Type: Wharf Status: Active Operator: Cemex Uk Materials Ltd. Operator Location: Not Supplied Periodic Type: Not Available Geology: Quarry (Hard Rock) Commodity: Crushed Rock Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	713	1	320099 174368
3	BGS Recorded Mineral Sites Site Name: Empire Wharf Location: Cardiff Docks, Cardiff, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 16135 Type: Wharf Status: Active Operator: Cemex Uk Materials Ltd. Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	713	1	320099 174368
4	BGS Recorded Mineral Sites Site Name: Cardiff Wharf Location: Cardiff Docks, Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10854 Type: Wharf Status: Active Operator: Hanson Aggregates Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A14NE (E)	716	1	320150 174975
4	BGS Recorded Mineral Sites Site Name: Cardiff Wharf Location: Roath Dock, Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10855 Type: Wharf Status: Dormant Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A14NE (E)	716	1	320150 174975

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	BGS Recorded Mineral Sites Site Name: Empire Wharf Location: Cardiff, South Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10856 Type: Wharf Status: Ceased Operator: British Dredging Aggregates Ltd Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	741	1	320100 174315
	Coal Mining Affected Areas In an area which may not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				

Historical Land Use Information (1:2,500)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Extractive Industries or Potential Excavations from 1950-1980 Use: Unspecified Industrial Water Feature First Map Published 1954 Date: Last Map Published 1954 Date:	A13NW (SE)	0	-	319435 174714
7	Extractive Industries or Potential Excavations from 1950-1980 Use: Bute East Dock First Map Published 1954 Date: Last Map Published 1954 Date:	A13NW (SE)	0	-	319435 174714
8	Extractive Industries or Potential Excavations from 1950-1980 Use: Bute West Dock First Map Published 1954 Date: Last Map Published 1954 Date:	A13NW (W)	4	-	319387 174717
9	Extractive Industries or Potential Excavations from 1950-1980 Use: New Wharf First Map Published 1954 Date: Last Map Published 1954 Date:	A13NE (E)	23	-	319504 174714
10	Extractive Industries or Potential Excavations from 1950-1980 Use: Bute East Dock Basin First Map Published 1954 Date: Last Map Published 1954 Date:	A13SW (SW)	29	-	319400 174634
11	Extractive Industries or Potential Excavations from 1950-1980 Use: Unspecified Industrial Water Feature First Map Published 1954 Date: Last Map Published 1954 Date:	A13SW (SW)	62	-	319352 174657

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	Disturbed Ground Use: Not Supplied Date of Mapping: 1901	A19SW (NE)	612	-	319873 175218
13	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1965	A7NE (SW)	611	-	319013 174199
14	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1922	A15SW (E)	976	-	320448 174593
15	Mineral Railway Use: Not Supplied Date of Mapping: 1885	A14NW (NE)	444	-	319849 174978
16	Mineral Railway Use: Not Supplied Date of Mapping: 1885	A14NW (NE)	449	-	319846 174993
17	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A13NW (SE)	0	-	319435 174714
18	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A13NW (NW)	40	-	319368 174756
19	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A13NW (W)	120	-	319275 174752
20	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A13NW (N)	230	-	319424 174997
21	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A14SW (E)	356	-	319832 174662
22	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A14SW (E)	394	-	319850 174587
23	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A8NW (SW)	471	-	319119 174292
24	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12NE (W)	514	-	318880 174772
25	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SE (W)	572	-	318832 174595
26	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A8NE (S)	599	-	319439 174057
27	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19SW (NE)	609	-	319846 175238
28	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19SW (NE)	627	-	319901 175211
29	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A12NW (W)	690	-	318723 174892
30	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	734	-	320045 175208
31	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A14NE (NE)	736	-	320139 175050
32	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	739	-	320108 175118

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A12NW (W)	758	-	318693 175015
34	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	759	-	320075 175209
35	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A19SE (NE)	763	-	320159 175071
36	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19NW (NE)	767	-	319815 175448
37	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SW (NE)	785	-	320092 175231
38	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A7NW (SW)	808	-	318669 174351
39	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A19SE (NE)	809	-	320166 175159
40	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (NE)	829	-	319881 175482
41	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SW (W)	837	-	318555 174673
42	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SW (W)	856	-	318537 174649
43	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A17SW (NW)	891	-	318601 175131
44	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A19SE (NE)	909	-	320261 175192
45	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (NE)	923	-	320094 175437
46	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NE (NE)	948	-	320143 175424
47	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (NE)	989	-	319900 175653
48	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1886	A19NW (N)	1000	-	319817 175702

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
49	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
50	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	319442 174707
51	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	19	1	319408 174769
52	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
53	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	232	1	319483 175000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	205	1	319604 174551
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
54	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
55	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
56	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714
57	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	319442 174707
58	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	19	1	319408 174769
59	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000
60	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	232	1	319483 175000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	205	1	319604 174551
61	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	319435 174714

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
62	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	230	1	319435 175000

The following mapping has been analysed for Historical Land Use Information (1:2,500):








1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	ST1974	1954

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Glamorganshire	047_00	1885
Monmouthshire	037_00	1886
Glamorganshire	043_00	1886
Monmouthshire	037_SE	1901
Glamorganshire	043_SE	1901
Glamorganshire	047_NE	1901
Glamorganshire	043_SE	1922
Glamorganshire	047_NE	1922
Glamorganshire	047_NE	1947
Monmouthshire	037_SE	1951
Glamorganshire	043_SE	1951
Ordnance Survey Plan	ST27SW	1964
Ordnance Survey Plan	ST17NE	1965
Ordnance Survey Plan	ST17SE	1965
Ordnance Survey Plan	ST27NW	1965
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	ST27NW	1989
Ordnance Survey Plan	ST27SW	1993
Ordnance Survey Plan	ST17NE	1995
Ordnance Survey Plan	ST17SE	1996

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	December 2021	Bi-Annually
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Natural Cavities Stantec UK Ltd	December 2021	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	Annual Rolling Update

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
The Coal Authority	
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	
Johnson Poole & Bloomer	

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
-	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

Historical Land Use Information (1:2,500)

General

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

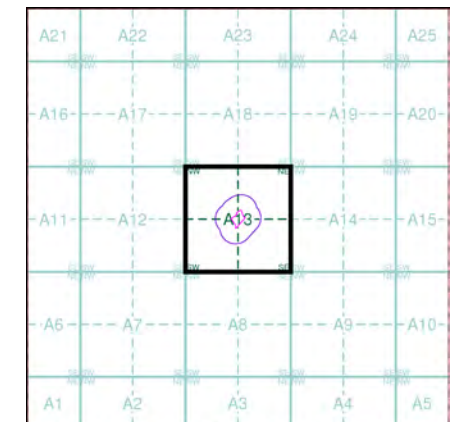
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	■
Extractive Industries Activity from 1893 - 1915	▲	—	■
Extractive Industries Activity from 1906 - 1937	▲	—	■
Extractive Industries Activity from 1924 - 1949	▲	—	■
Extractive Industries Activity from 1950 - 1980	▲	—	■

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	---	■

Mining and Ground Stability - Segment A13

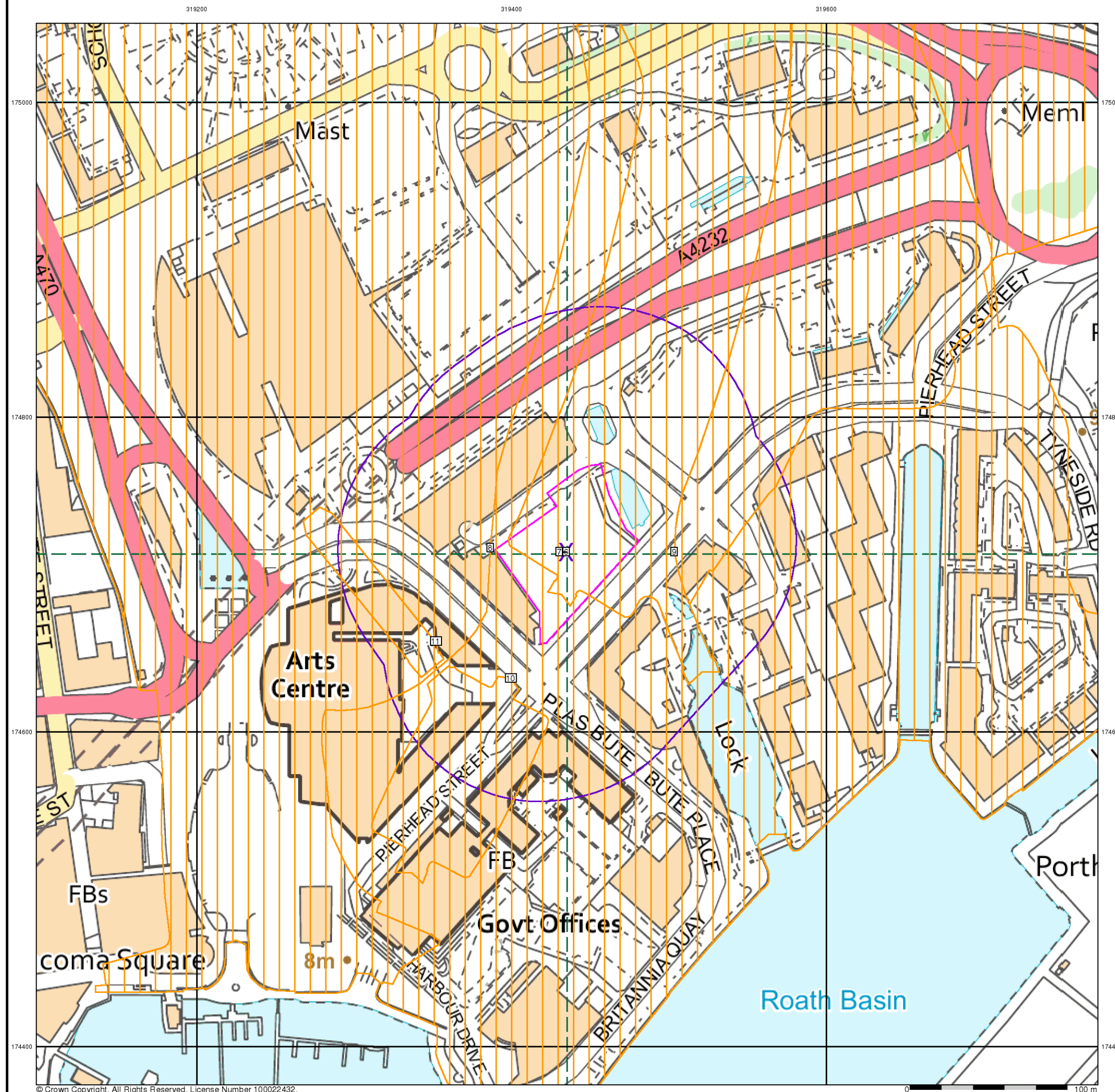


Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Plot Buffer (m): 100

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH





Historical Land Use Information (1:10,000)

General

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

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

	Point	Line	Polygon
Air Shafts			
Disturbed Ground			
General Quarrying			
Heap, unknown constituents			
Mineral Railway			
Mining and Quarrying General			
Mining of Coal & Lignite			
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits			

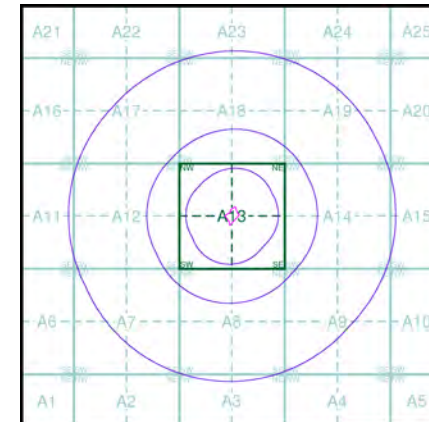
Historical Land Use

	Point	Line	Polygon
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Former Marsh			

Mining Data

- Potential Mining Area
BGS Recorded Mineral Site

Mining and Ground Stability - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

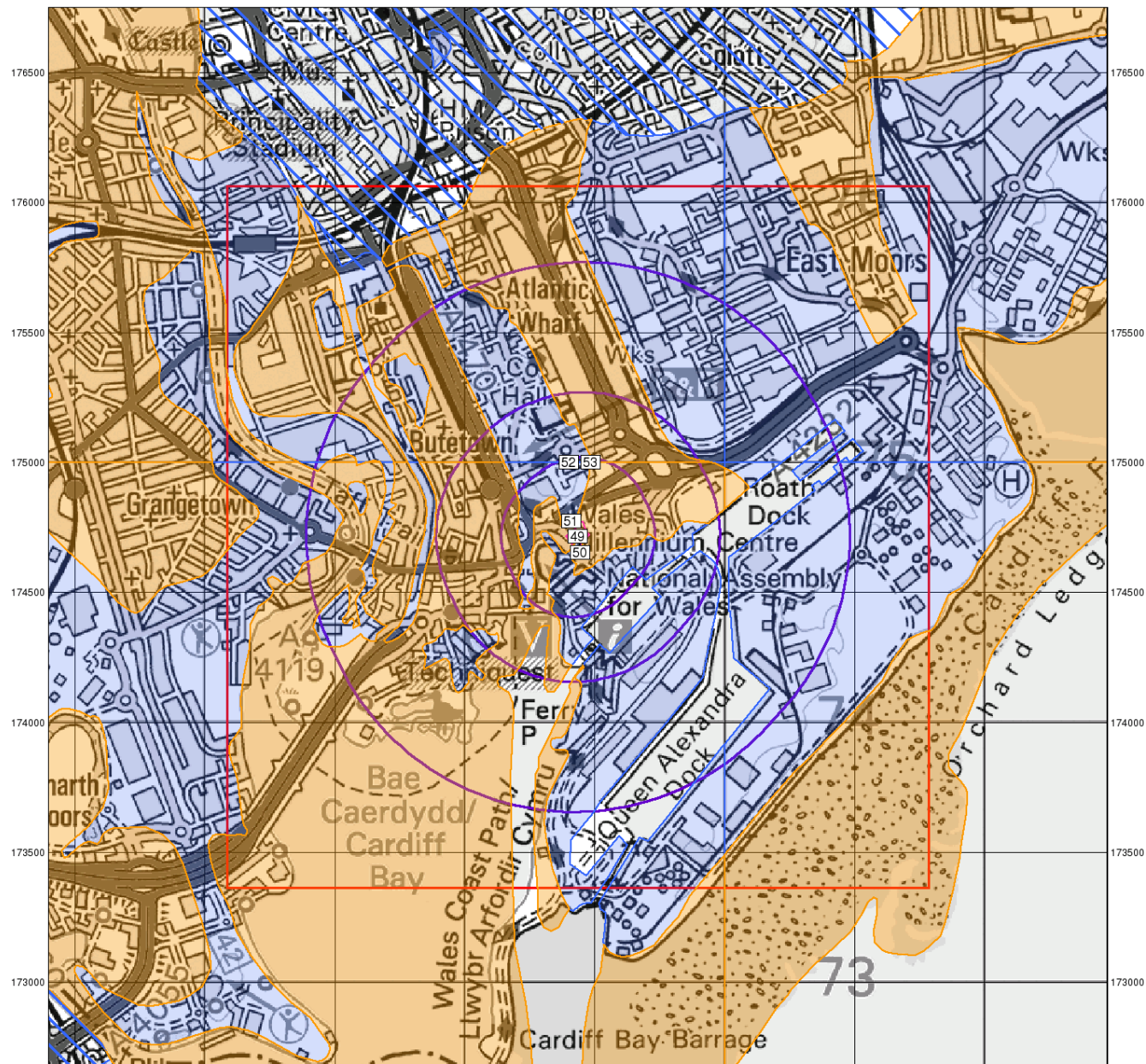
Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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

317500 318000 318500 319000 319500 320000 320500 321000



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0 1 km



Ground Stability Data (1:50,000)

General

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

Potential for Compressible Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Collapsible Ground Stability Hazards

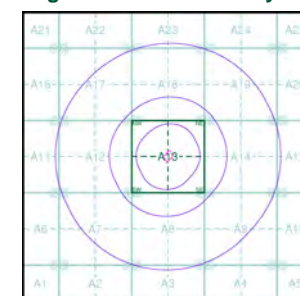
- High
- Moderate
- Low
- Very Low

Brine Pumping and Salt Mining

- Brine Pumping Related Feature
- Salt Mining Related Feature

- Point
- Polygon

Mining and Ground Stability - Slice A



Order Details

Order Number: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174710
Slice: A
Site Area (Ha): 0.5
Search Buffer (m): 1000

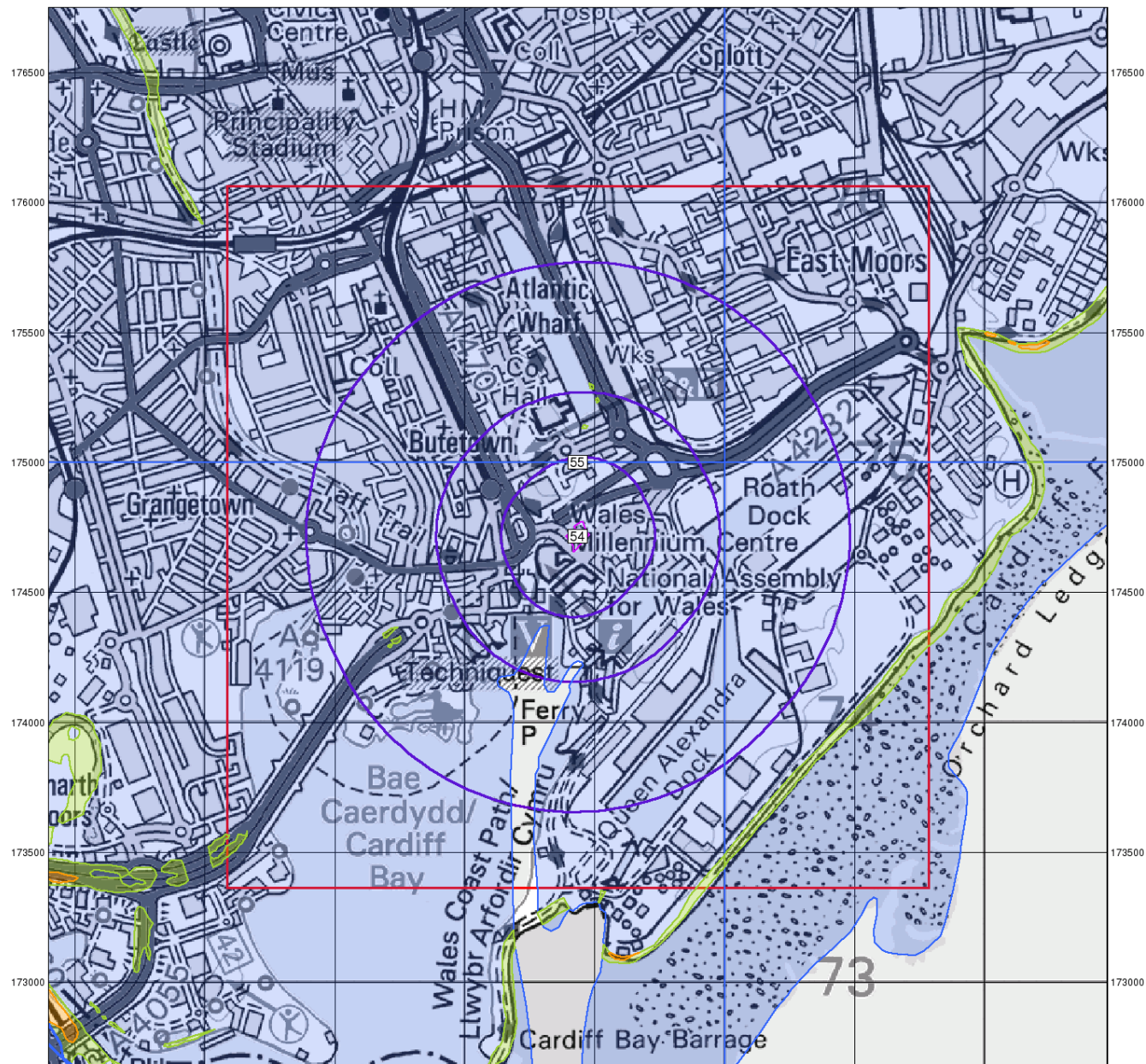
Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH

Landmark
INFORMATION GROUP

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

317500 318000 318500 319000 319500 320000 320500 321000



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0 1 km



Ground Stability Data (1:50,000)

General

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

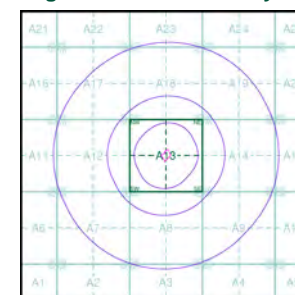
Potential for Landslide Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Ground Dissolution Stability Hazards

- High
- Moderate
- Low
- Very Low

Mining and Ground Stability - Slice A



Order Details

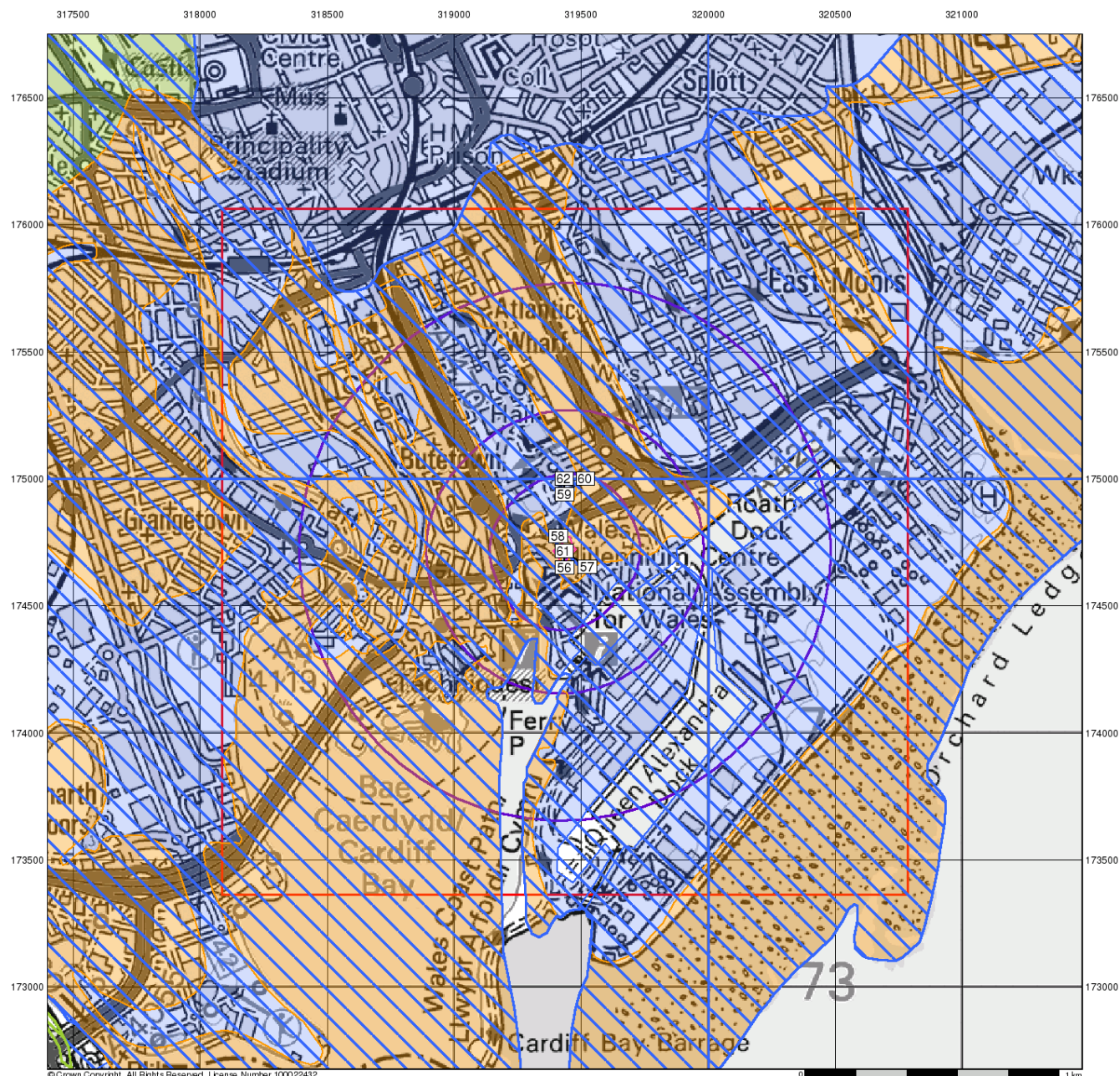
Order Number: 289300406_1_1
 Customer Ref: 12967/LP
 National Grid Reference: 319440, 174710
 Slice: A
 Site Area (Ha): 0.5
 Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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0 1 km



Ground Stability Data (1:50,000)

General

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

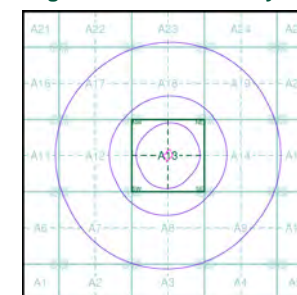
Potential for Running Sand Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Mining and Ground Stability - Slice A



Order Details

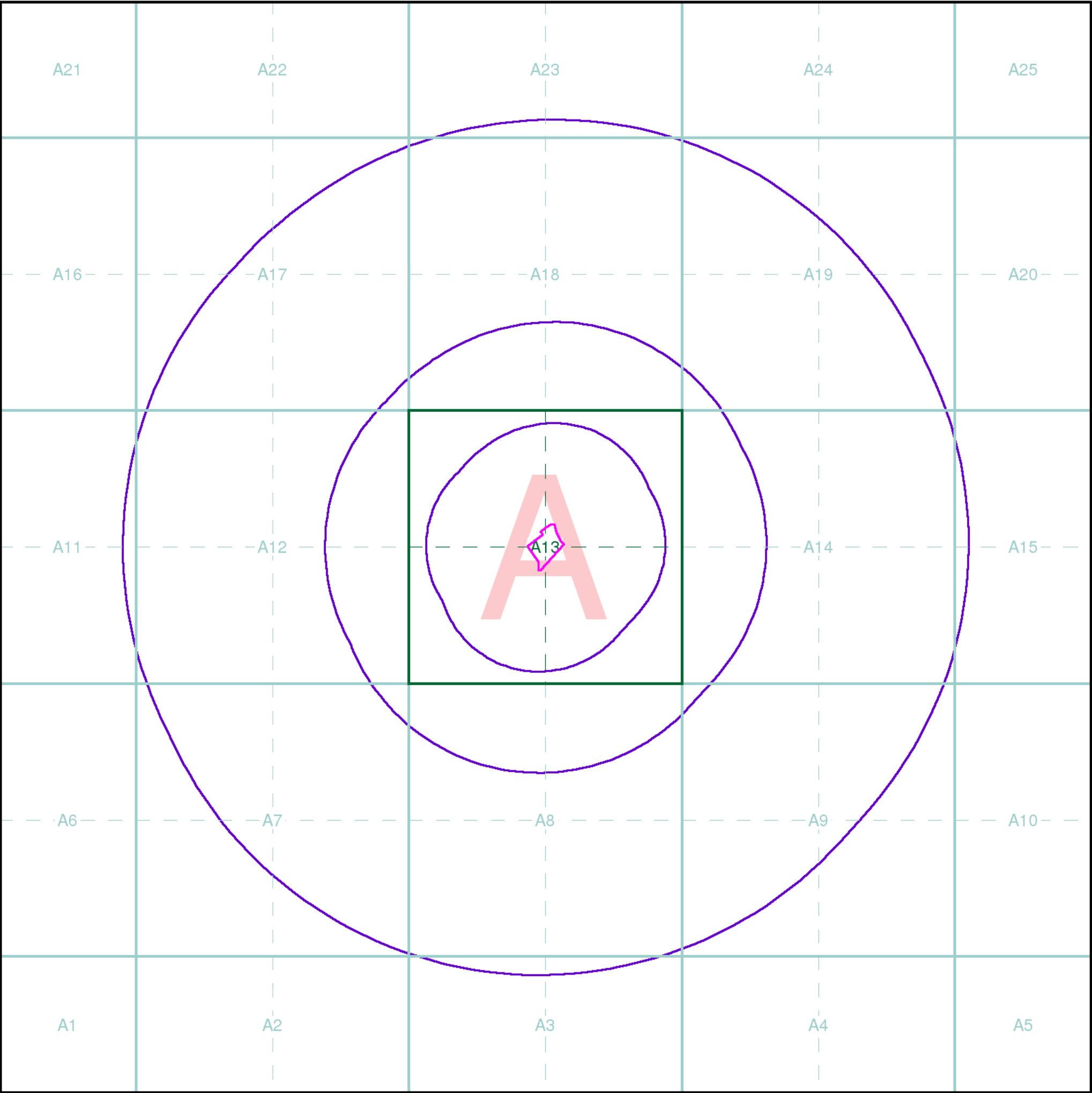
Order Number: 289300406_1_1
 Customer Ref: 12967/LP
 National Grid Reference: 319440, 174710
 Slice: A
 Site Area (Ha): 0.5
 Search Buffer (m): 1000

Site Details

Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH



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



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: 289300406_1_1
Customer Ref: 12967/LP
National Grid Reference: 319440, 174720
Site Area (Ha): 0.5
Search Buffer (m): 1000


Site Details
Plot 5, Pierhead Street, Butetown, Cardiff, CF10 4PH


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


APPENDIX C


WINDOWLESS SAMPLE BOREHOLE LOGS


		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Pierhead Street		Project No.: 12967		Borehole No.: WS01 Sheet 1 of 1	
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College		Coordinates:		Hole Type: WLS	
Equipment: DART				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101mm				Depth of Casing:		Dates 19/01/2022 - 19/01/2022		Logged By: ER	


Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.08			Tarmac	
					0.50			MADE GROUND: Loose reddish brown sandy sub-angular fine to medium limestone GRAVEL. (Sub-base)	
					0.70			MADE GROUND: Loose black slightly clayey sandy GRAVEL. Gravel is sub-angular fine to medium, becoming coarse with depth of shale, mudstone, rare red brick fragments and concrete.	
					1.00			MADE GROUND: Medium dense to dense grey black gravelly SAND with low cobble content. Gravel is sub angular fine to coarse of limestone and concrete.	
		1.00	S	N=49 (8,12/10,14,16,9)	1.00			MADE GROUND: Dense black to greyish black clayey slightly gravelly SAND. Gravel is angular fine of burnt material, mudstone, shale, and sandstone.	1
		1.10	ES		1.40			MADE GROUND: Loose to medium dense sub-angular fine to medium blue grey limestone GRAVEL.	
					1.47			MADE GROUND: Medium dense grey to grey black slightly clayey gravelly SAND. Gravel is sub-angular fine to medium of burnt coal, slag, mudstone, shale, quartzite, and rare ceramic.	
					2.00			MADE GROUND: Loose to medium dense grey black clayey sandy GRAVEL. Gravel is sub-angular fine to medium of mudstone, sandstone, shale, burnt coal and clinker.	2
					2.40			MADE GROUND: Loose to medium dense black to dark grey/black very clayey slightly gravelly SAND. Gravel is sub-angular fine of burnt material, mudstone, shale, and sandstone. Possible faint hydrocarbon odour and sheen.	
					2.70			MADE GROUND: Loose to medium dense grey black clayey sandy GRAVEL. Gravel is sub-angular to sub-rounded fine to medium shale, mudstone, and rare sandstone.	
			3.00	S	N=11 (2,3/3,2,3,3)		MADE GROUND: Medium dense, becoming loose with depth grey black clayey gravelly SAND. Gravel is sub-angular fine to medium of shale, mudstone and burnt coal.	3	
			3.10	ES					
			3.60						
			3.90						
			4.00	S	N=19 (13,9/7,5,3,4)				4
			5.00	S	N=6 (12,3/2,1,1,2)				5
								End of Borehole at 5.00 m	











Remarks: 1. Borehole complete at 5.0m bgl. 2. Material wet below 3.0m bgl.		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: Pierhead Street		Project No.: 12967		Borehole No.: WS03 Sheet 1 of 1	
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College		Coordinates:		Hole Type: WLS	
Equipment: DART				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101mm				Depth of Casing:		Dates 19/01/2022 - 19/01/2022		Logged By: ER	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Tarmac	
					0.30			MADE GROUND: Loose reddish brown sandy GRAVEL. Gravel is sub-angular fine to medium limestone. (Sub-base)	
					0.60			MADE GROUND: Loose brown to dark brown very sandy GRAVEL. Gravel is sub-angular fine to medium sandstone, mudstone, slag, and burnt coal.	
					0.90			MADE GROUND: Loose brown to dark brown very sandy GRAVEL. Gravel is sub-angular fine to coarse of sandstone, clinker, slag, mudstone, shale, and rare red brick fragments.	
					1.30			MADE GROUND: Medium dense yellow brown slightly clayey sandy GRAVEL. Gravel is sub-angular fine to medium sandstone.	1
					1.70			MADE GROUND: Medium dense brown to yellow brown/light brown slightly gravelly SAND. Gravel is sub-angular to sub-rounded fine to medium sandstone.	
					2.00			MADE GROUND: Dense dark brown to brown slightly clayey gravelly SAND. Gravel is sub-angular to sub-rounded fine to medium of red brick fragments, burnt coal, shale, sandstone, mudstone, rare slag and clinker. ...band of red brick, recovered as sub-angular fine to coarse GRAVEL at 1.90m bgl.	2
					2.50				
					2.60				
					3.00				
				3.50					
				3.95					
								End of Borehole at 2.60 m	

Remarks: 1. Borehole terminated at 2.6m bgl due to refusal.		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: Pierhead Street		Project No.: 12967		Borehole No.: WS05 Sheet 1 of 1	
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College		Coordinates:		Hole Type: WLS	
Equipment: DART				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101mm				Depth of Casing:		Dates 19/01/2022 - 19/01/2022		Logged By: ER	


Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.09			Tarmac	
					0.40			MADE GROUND: Loose reddish brown to grey brown sandy GRAVEL. Gravel is sub-angular fine to medium of limestone. (Sub-base)	
		0.50	ES					MADE GROUND: Medium dense becoming dense black to grey black clayey gravelly SAND. Gravel is sub-angular fine to medium of concrete, slag, clinker, shale, and burnt coal.	
		1.00	S	N=46 (14,17/14,13,12,7)			MADE GROUND: Dense reddish brown to dark brown/grey brown clayey gravelly SAND. Gravel is sub-angular fine to medium sandstone, mudstone, slag, shale.	1	
					1.20			MADE GROUND: Stiff reddish brown very gravelly sandy CLAY. Gravel is sub-angular fine to medium mudstone, sandstone, and rare flint.	
					1.50			MADE GROUND: Stiff grey brown speckled black slightly silty CLAY.	
					1.70				
					1.90			MADEGROUND: Dense black gravelly SAND. Gravel is sub-angular fine to medium locally coarse with depth of red brick fragments, clinker, ash, slag, mudstone, shale, and sandstone.	2
		2.00	S	N=46 (12,15/12,13,12,9)					
		2.50	ES						
		3.00	S	N=13 (4,3/4,3,3,3)				3	
		4.00	S	N=6 (2,2/2,1,1,2)				4	
		5.00	S	N=5 (1,1/1,2,1,1)	5.00			5	


Remarks: 1. Borehole complete at 5.0m bgl. 2. Material wet below 3.0m bgl.		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 D


SHELL AND AUGER BOREHOLE LOGS


		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Pierhead Street		Project No.: 12967		Borehole No.: BH01 Sheet 1 of 3	
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 150mm		Level:		Scale 1:50	
Diameter of Boring: 200mm				Depth of Casing: 20.00m		Dates 18/01/2022 - 21/01/2022		Logged By: GNS	


Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00 1.00	B C	N=65 (4,12/18,15,16,16)			MADE GROUND: Dense becoming very loose black and dark grey silty sandy GRAVEL with frequent cobbles and suspected boulders of brick, concrete and sandstone. Gravel is fine to coarse angular and sub angular ash, clinker, vitreous slag, brick, sandstone and slate	1	
		2.00 2.00	B C	N=38 (5,5/9,10,10,9)				2	
		3.00 3.00	B C	N=8 (3,3/2,2,2,2)				3	
	3.90	4.00 4.00	B C	N=3 (1,0/1,0,1,1)				4	
		5.00 5.00	B C	N=4 (1,0/1,0,1,2)				5	
		6.50 6.50	B C	N=3 (1,2/1,0,1,1)				7	
		8.00	C	N=2 (1,0/1,0,1,0)				8	
		9.50 9.50	B C	N=5 (3,3/2,1,1,1)	9.60			9	
								10	


Remarks: 1. Chiselling GL-1.0m for 1.5 hrs, 18.6-18.9m for 1 hr and 20.2-20.7m for 2 hrs 2. Groundwater struck at 3.9m and 15.5m depth, rising to 3.7m and 10.2m after 20 minutes		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:		Project No.:		Borehole No.:	
		Pierhead Street		12967		BH01 Sheet 3 of 3	
Location:		Client:		Coordinates:		Hole Type:	
Pierhead Street, Cardiff Bay		Cardiff Sixth Form College				CP	
Equipment:		Diameter of Casing:		Level:		Scale	
Dando 2000		150mm				1:50	
Diameter of Boring:		Depth of Casing:		Dates		Logged By:	
200mm		20.00m		18/01/2022 - 21/01/2022		GNS	


Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	C	108 (14,22/108 for 225mm)					
					20.70				
							End of Borehole at 20.70 m		21
									22
									23
									24
									25
									26
									27
									28
									29
									30



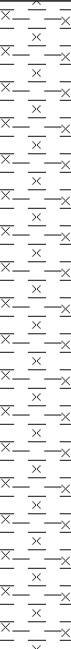
Remarks: 1. Chiselling GL-1.0m for 1.5 hrs, 18.6-18.9m for 1 hr and 20.2-20.7m for 2 hrs 2. Groundwater struck at 3.9m and 15.5m depth, rising to 3.7m and 10.2m after 20 minutes		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split 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: Pierhead Street		Project No.: 12967		Borehole No.: BH02 Sheet 1 of 2	
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 150mm		Level:		Scale 1:50	
Diameter of Boring: 200mm				Depth of Casing: 17.20m		Dates 24/01/2022 - 25/01/2022		Logged By: GNS	


Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00 1.00	B C	N=8 (1,2/3,2,1,2)			MADE GROUND: Loose locally medium dense black and dark grey silty sandy GRAVEL with frequent cobbles and suspected boulders of brick, concrete and sandstone. Gravel is fine to coarse angular and sub angular ash, clinker, vitreous slag, brick, sandstone and slate	1	
		2.00 2.00	B C	N=7 (5,4/2,2,1,2)				2	
		3.00 3.00	B C	N=7 (3,4/2,2,1,2)				3	
	3.80	4.00	C	N=11 (1,2/1,1,4,5)				4	
		5.00 5.00	B C	N=11 (2,2/3,2,3,3)				5	
		6.50 6.50	B C	N=7 (2,1/2,2,1,2)				7	
		8.00	C	N=6 (1,1/1,1,2,2)				8	
		9.50 9.50	B C	N=8 (1,2/2,2,2,2)				9	
		9.80						10	
								Very soft and soft grey brown silty slightly sandy thinly laminated CLAY	


Remarks: 1. Chiselling GL-0.3m for 0.5 hrs and 17.2-17.4m for 2 hrs 2. Groundwater struck at 3.8m and 14.3m depth rising to 3.6m and 7.1m after 20 minutes 3. Unable to advance past obstruction at 17.2m depth		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: Pierhead Street		Project No.: 12967		Borehole No.: BH02 Sheet 2 of 2	
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 150mm		Level:		Scale 1:50	
Diameter of Boring: 200mm				Depth of Casing: 17.20m		Dates 24/01/2022 - 25/01/2022		Logged By: GNS	


Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00	S	N=5 (1,1/1,2,1,1)	14.30			with occasional gravels with depth becoming gravelly	11
		12.50	S	N=3 (1,0/1,0,1,1)				12	
		14.00	S	N=11 (1,0/1,1,3,6)				13	
		15.50	C	N=24 (6,10/9,4,6,5)				14	
		16.00	B					15	
		17.00	C	56 (4,5/56 for 150mm)				16	
								17	
								18	
								19	
								20	
End of Borehole at 17.40 m									



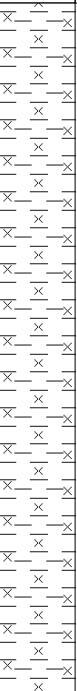

Remarks: 1. Chiselling GL-0.3m for 0.5 hrs and 17.2-17.4m for 2 hrs 2. Groundwater struck at 3.8m and 14.3m depth rising to 3.6m and 7.1m after 20 minutes 3. Unable to advance past obstruction at 17.2m depth				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - 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: Pierhead Street		Project No.: 12967		Borehole No.: BH03 Sheet 1 of 3	
Location: Pierhead Street, Cardiff Bay		Client: Cardiff Sixth Form College		Coordinates:		Hole Type: CP	
Equipment: Dando 2000		Diameter of Casing: 150mm		Level:		Scale 1:50	
Diameter of Boring: 200mm		Depth of Casing: 20.00m		Dates 26/01/2022 - 28/01/2022		Logged By: GNS	


Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00 1.00	B C	N=16 (5,3/5,4,4,3)			MADE GROUND: Very loose, loose, medium dense and locally dense black and dark grey silty sandy GRAVEL with frequent cobbles and suspected boulders of brick, concrete and sandstone. Gravel is fine to coarse angular and sub angular ash, clinker, vitreous slag, brick, sandstone and slate	1	
		2.00 2.00	B C	N=9 (2,2/2,3,2,2)				2	
		3.00 3.00	B C	N=10 (3,3/2,3,3,2)				3	
	3.80	4.00 4.00	B C	N=9 (3,3/3,2,2,2)				4	
		5.00	C	N=3 (3,3/1,1,0,1)				5	
		6.50 6.50	B C	N=15 (3,1/3,3,4,5)				7	
		8.00 8.00	B C	N=37 (7,15/20,10,3,4)				8	
		9.50	C	N=12 (2,3/3,5,2,2)				9	
					9.70				10
								 Very soft and soft grey brown silty slightly sandy thinly laminated CLAY with occasional gravels with depth becoming gravelly	

Remarks: 1. Chiselling GL-0.5m for 1 hr, 7.2m-7.5m for 0.5 hrs, 8.1m-8.4m for 0.5 hrs, 15.0m-15.4m for 0.5 hrs and 20.3m-20.8m for 2 hrs 2. Groundwater struck at 3.8m and 14.6m depth rising to 3.6m and 8.2m after 20 minutes		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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<div>Intégral Géotechnique</div> <div>Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com</div>		Project Name: Pierhead Street				Project No.: 12967		Borehole No.: BH03 Sheet 2 of 3		
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College			Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 150mm			Level:		Scale 1:50	
Diameter of Boring: 200mm				Depth of Casing: 20.00m			Dates 26/01/2022 - 28/01/2022		Logged By: GNS	
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		11.00	S	N=4 (1,0/1,1,1,1)	14.60				11 12 13 14	
		12.50	S	N=4 (1,0/1,1,1,1)						
		14.00	S	N=5 (1,0/1,0,2,2)						
		15.50	S	N=25 (4,4/5,6,8,6)						
		16.00	B							
		17.00	C	N=30 (5,5/6,8,10,6)						
		18.50	B							
		18.50	C	N=50 (3,5/9,11,13,17)						
Remarks:		1. Chiselling GL-0.5m for 1 hr, 7.2m-7.5m for 0.5 hrs, 8.1m-8.4m for 0.5 hrs, 15.0m-15.4m for 0.5 hrs and 20.3m-20.8m for 2 hrs 2. Groundwater struck at 3.8m and 14.6m depth rising to 3.6m and 8.2m after 20 minutes				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 ROD - 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: Pierhead Street			Project No.: 12967		Borehole No.: BH03 Sheet 3 of 3	
Location: Pierhead Street, Cardiff Bay				Client: Cardiff Sixth Form College			Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 150mm			Level:		Scale 1:50	
Diameter of Boring: 200mm				Depth of Casing: 20.00m			Dates 26/01/2022 - 28/01/2022		Logged By: GNS	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	C	N=137 (10,16/21,27,39,50)					
					20.80			End of Borehole at 20.80 m	
									21
									22
									23
									24
									25
									26
									27
									28
									29
									30

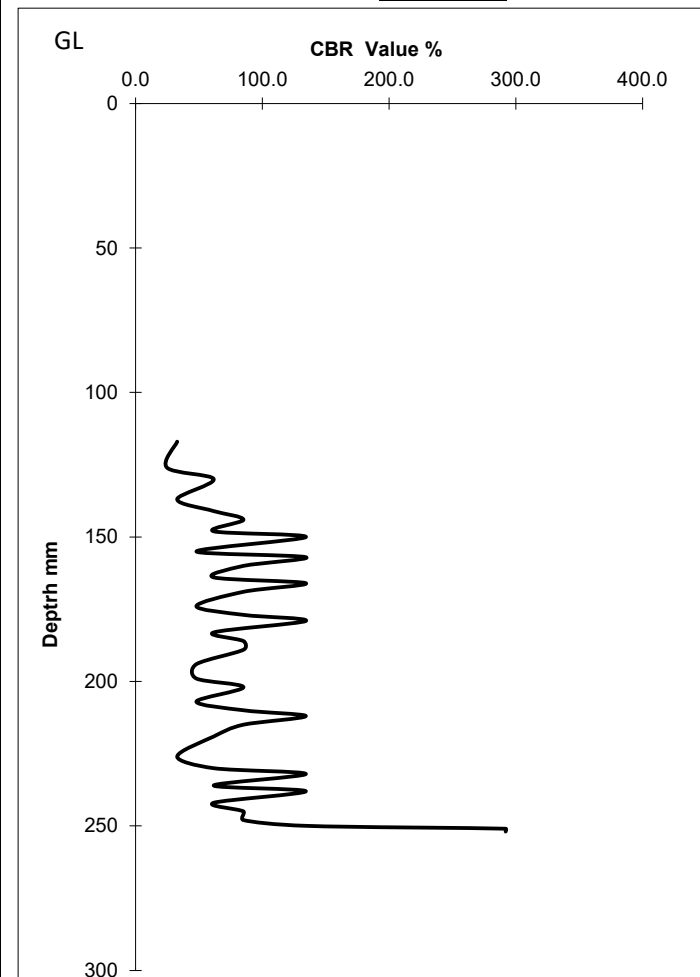
Remarks: 1. Chiselling GL-0.5m for 1 hr, 7.2m-7.5m for 0.5 hrs, 8.1m-8.4m for 0.5 hrs, 15.0m-15.4m for 0.5 hrs and 20.3m-20.8m for 2 hrs 2. Groundwater struck at 3.8m and 14.6m depth rising to 3.6m and 8.2m after 20 minutes		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental 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 E

CBR BY DCP PROBE RESULTS

South Wales Ground Testing - In situ CBR by DCP Probe (test from base of cored hole)

CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	Remarks: Tests commenced from below hard standing Base reading = reading on scale at surface Base reading at surface 5 (mm) Reading on scale hole base 115 (mm)
33.0	7	122	110					
24.9	9	131	117					
61.8	4	135	126					
33.0	7	142	130					
61.8	4	146	137					
85.3	3	149	141					
61.8	4	153	144					
134.3	2	155	148					
48.1	5	160	150					
134.3	2	162	155					
85.3	3	165	157					
61.8	4	169	160					
134.3	2	171	164					
85.3	3	174	166					
48.1	5	179	169					
85.3	3	182	174					
134.3	2	184	177					
61.8	4	188	179					
85.3	3	191	183					
85.3	3	194	186					
48.1	5	199	189					
48.1	5	204	194					
85.3	3	207	199					
48.1	5	212	202					
85.3	3	215	207					
134.3	2	217	210					
85.3	3	220	212					
61.8	4	224	215					
33.0	7	231	219					
61.8	4	235	226					
134.3	2	237	230					
61.8	4	241	232					
134.3	2	243	236					
61.8	4	247	243					
85.3	3	250	247					
85.3	3	253	245					
134.3	2	255	248					
292.0	1	256	250					
292.0	1	257	251					
			252					



Cored to 110mm

CBR derivation after Webster et al, 1992

Remarks: After Transport Research Laboratory 2004

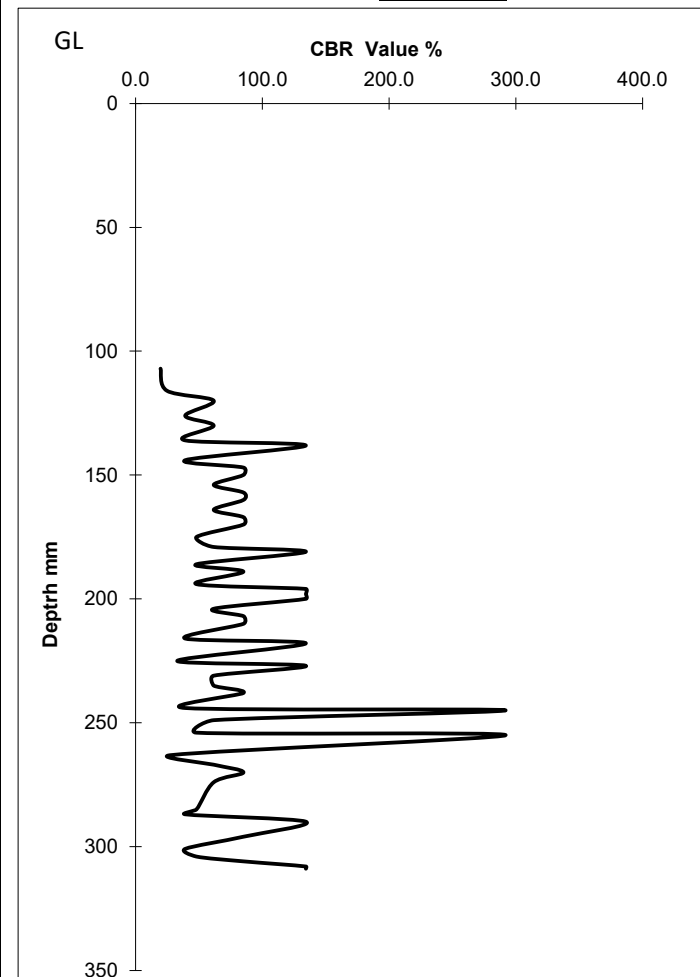
Date: 26.01.22

Reference: DCP 1



South Wales Ground Testing - In situ CBR by DCP Probe (test from base of cored hole)

CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	Remarks: Tests commenced from below hard standing Base reading = reading on scale at surface Base reading at surface 5 (mm) Reading on scale hole base 101 (mm)
			96					
19.9	11	112	107	48.1	5	284	279	
24.9	9	121	116	39.3	6	290	285	
61.8	4	125	120	134.3	2	292	287	
39.3	6	131	126	85.3	3	295	290	
61.8	4	135	130	39.3	6	301	296	
39.3	6	141	136	48.1	5	306	301	
134.3	2	143	138	85.3	3	309	304	
39.3	6	149	144	134.3	2	311	306	
85.3	3	152	147	134.3	2	313	308	
85.3	3	155	150	292.0	1	314	309	
61.8	4	159	154					
85.3	3	162	157					
85.3	3	165	160					
61.8	4	169	164					
85.3	3	172	167					
85.3	3	175	170					
48.1	5	180	175					
61.8	4	184	179					
134.3	2	186	181					
48.1	5	191	186					
85.3	3	194	189					
48.1	5	199	194					
134.3	2	201	196					
134.3	2	203	198					
134.3	2	205	200					
61.8	4	209	204					
85.3	3	212	207					
85.3	3	215	210					
39.3	6	221	216					
134.3	2	223	218					
33.0	7	230	225					
134.3	2	232	227					
61.8	4	236	231					
61.8	4	240	235					
85.3	3	243	238					
39.3	6	249	244					
292.0	1	250	245					
61.8	4	254	249					
48.1	5	259	254					
292.0	1	260	255					
28.4	8	268	263					
61.8	4	272	267					
85.3	3	275	270					
61.8	4	279	274					



Cored to 96mm

CBR derivation after Webster et al, 1992

Remarks: After Transport Research Laboratory 2004

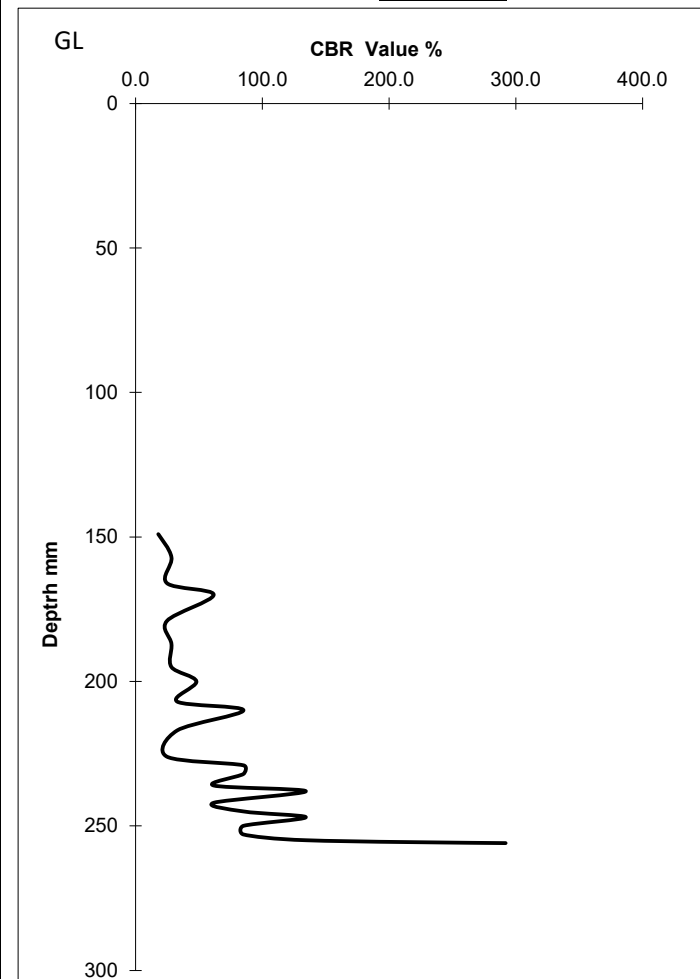
Date: 26.01.22

Reference: DCP 2



South Wales Ground Testing - In situ CBR by DCP Probe (test from base of cored hole)

CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	Remarks: Tests commenced from below hard standing Base reading = reading on scale at surface Base reading at surface 5 (mm) Reading on scale hole base 142 (mm)
18.1	12	154	137					
28.4	8	162	149					
24.9	9	171	157					
61.8	4	175	166					
24.9	9	184	170					
28.4	8	192	179					
28.4	8	200	187					
48.1	5	205	195					
33.0	7	212	200					
85.3	3	215	207					
33.0	7	222	210					
24.9	9	231	217					
85.3	3	234	226					
85.3	3	237	229					
61.8	4	241	232					
134.3	2	243	236					
61.8	4	247	238					
85.3	3	250	242					
134.3	2	252	245					
85.3	3	255	247					
85.3	3	258	250					
134.3	2	260	253					
292.0	1	261	255					
			256					



Cored to 137mm

CBR derivation after Webster et al, 1992

Remarks: After Transport Research Laboratory 2004

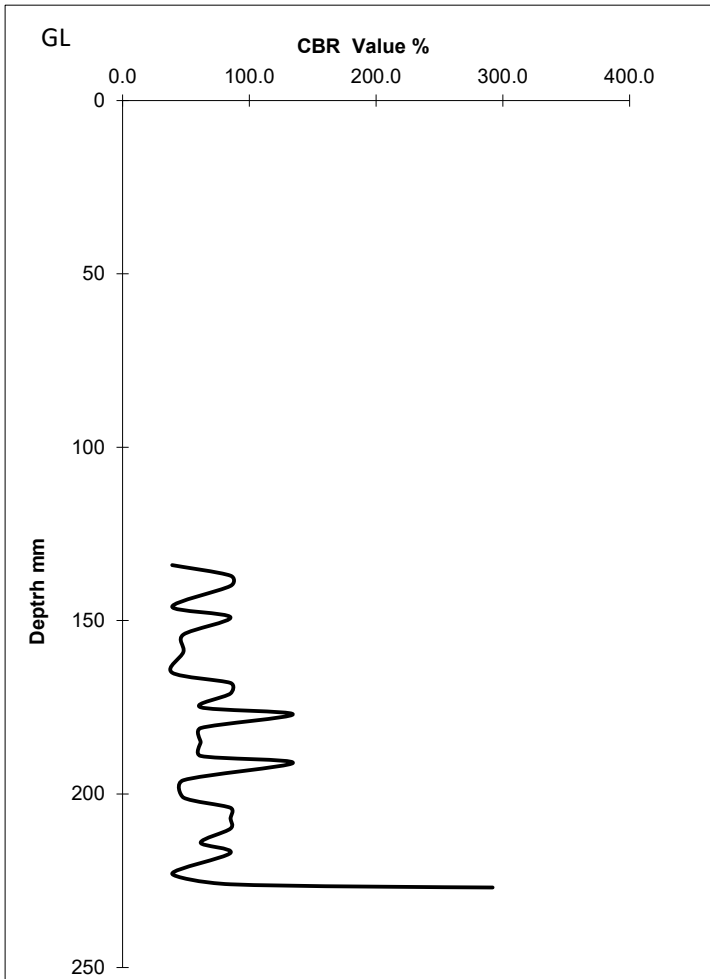
Date: 26.01.22

Reference: DCP 3



South Wales Ground Testing - In situ CBR by DCP Probe (test from base of cored hole)

CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	Remarks: Tests commenced from below hard standing Base reading = reading on scale at surface Base reading at surface 5 (mm) Reading on scale hole base 133 (mm)
39.3	6	139	128					
85.3	3	142	134					
85.3	3	145	137					
39.3	6	151	140					
85.3	3	154	146					
48.1	5	159	149					
48.1	5	164	154					
39.3	6	170	159					
85.3	3	173	165					
85.3	3	176	168					
61.8	4	180	171					
134.3	2	182	175					
61.8	4	186	177					
61.8	4	190	181					
61.8	4	194	185					
134.3	2	196	189					
48.1	5	201	191					
48.1	5	206	196					
85.3	3	209	201					
85.3	3	212	204					
85.3	3	215	207					
61.8	4	219	210					
85.3	3	222	214					
39.3	6	228	217					
85.3	3	231	223					
292.0	1	232	226					
			227					



Hole cored to 280mm

CBR derivation after Webster et al, 1992

Remarks: After Transport Research Laboratory 2004

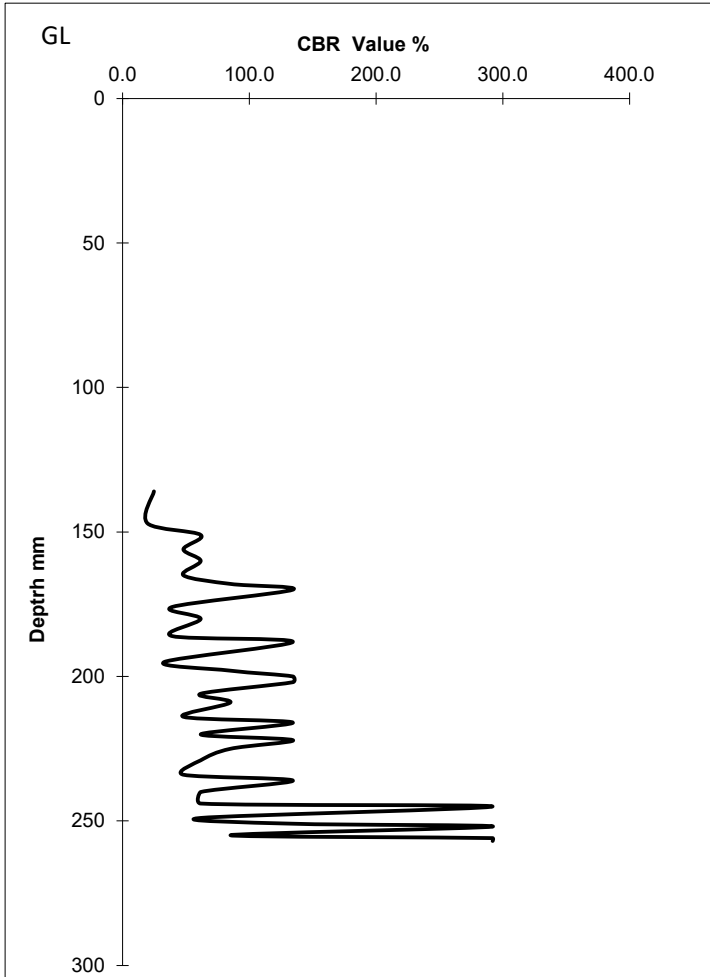
Date: 26.01.22

Reference: DCP 4



South Wales Ground Testing - In situ CBR by DCP Probe (test from base of cored hole)

CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	CBR Value %	mm per blow	Reading on Scale (mm)	Depth From GL (mm)	Remarks: Tests commenced from below hard standing Base reading = reading on scale at surface Base reading at surface 5 (mm) Reading on scale hole base 132 (mm)
24.9	9	141	127					
19.9	11	152	136					
61.8	4	156	147					
48.1	5	161	151					
61.8	4	165	156					
48.1	5	170	160					
85.3	3	173	165					
134.3	2	175	168					
39.3	6	181	170					
61.8	4	185	176					
39.3	6	191	180					
134.3	2	193	186					
33.0	7	200	188					
85.3	3	203	195					
134.3	2	205	198					
134.3	2	207	200					
61.8	4	211	202					
85.3	3	214	206					
48.1	5	219	209					
134.3	2	221	214					
61.8	4	225	216					
134.3	2	227	220					
85.3	3	230	222					
61.8	4	234	225					
48.1	5	239	229					
134.3	2	241	234					
61.8	4	245	236					
61.8	4	249	240					
292.0	1	250	244					
61.8	4	254	245					
134.3	2	256	249					
292.0	1	257	251					
85.3	3	260	252					
292.0	1	261	255					
292.0	1	262	256					
			257					



Cored to 127mm

CBR derivation after Webster et al, 1992

Remarks: After Transport Research Laboratory 2004

Date: 26.01.22

Reference: DCP 5

APPENDIX F

LABORATORY CHEMICAL TEST RESULTS



Emily Rogers
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i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 22-34879

Replaces Analytical Report Number: 22-34879, issue no. 1
Additional analysis undertaken.

Project / Site name:	Pierhead Street	Samples received on:	24/01/2022
Your job number:	12967	Samples instructed on/ Analysis started on:	24/01/2022
Your order number:	12967	Analysis completed by:	01/03/2022
Report Issue Number:	2	Report issued on:	01/03/2022
Samples Analysed:	6 soil samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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.

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: 22-34879
Project / Site name: Pierhead Street
Your Order No: 12967

Lab Sample Number				2146650	2146651	2146652	2146653	2146654
Sample Reference				WS01	WS01	WS02	WS03	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	3.10	0.60	0.80	1.50
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
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	32	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.9	17	7.8	6.1	16
Total mass of sample received	kg	0.001	NONE	0.90	0.90	0.90	0.90	0.90

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	MDB	MDB	MDB	MDB	MDB

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.5	8.5	10.4	10.5	9.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1100	630	2500	8300	1600
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.18	0.11	0.35	1.4	0.48
Sulphide	mg/kg	1	MCERTS	89	45	870	2700	96
Total Sulphur	mg/kg	50	MCERTS	1200	2200	1700	6700	1600
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	6.7	-	2.3	1.3	1.1
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	6.3	-	-	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	27.6	45.1	9.0	2.5	3.3

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	4.6	43	0.73	< 0.05	0.31
Acenaphthylene	mg/kg	0.05	MCERTS	6.1	120	0.50	< 0.05	0.32
Acenaphthene	mg/kg	0.05	MCERTS	9.4	230	0.44	0.48	0.35
Fluorene	mg/kg	0.05	MCERTS	6.5	130	0.79	0.25	0.46
Phenanthrene	mg/kg	0.05	MCERTS	18	380	4.2	0.76	2.1
Anthracene	mg/kg	0.05	MCERTS	3.7	67	1.2	< 0.05	0.41
Fluoranthene	mg/kg	0.05	MCERTS	18	380	5.9	0.47	3.2
Pyrene	mg/kg	0.05	MCERTS	24	510	5.7	0.53	3.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.0	60	3.4	0.28	1.6
Chrysene	mg/kg	0.05	MCERTS	4.0	59	3.1	0.38	1.6
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	6.1	73	3.9	0.37	2.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2.4	36	2.1	0.17	0.81
Benzo(a)pyrene	mg/kg	0.05	MCERTS	6.7	110	4.0	0.30	2.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.2	52	1.9	< 0.05	0.93
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.68	6.4	0.52	< 0.05	0.30
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.7	90	2.1	< 0.05	1.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	123	2340	40.2	3.99	21.5
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Analytical Report Number: 22-34879
Project / Site name: Pierhead Street
Your Order No: 12967

Lab Sample Number	2146650	2146651	2146652	2146653	2146654
Sample Reference	WS01	WS01	WS02	WS03	WS05
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.00	3.10	0.60	0.80	1.50
Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	22	19	8.0	14
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.94	0.72	2.2	5.2	1.0
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1	0.8	2.6	4.1	5.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	1.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	26	110	340	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	88	330	110	70	69
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	170	110	69	86
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.0	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	33	32	32	29	32
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	25	23	50	160	38
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	240	270	350	530

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	2.9	9.7	< 1.0	< 1.0	1.7
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	9.1	180	< 2.0	< 2.0	6.8
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	18	310	12	< 8.0	13
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	220	3200	85	150	56
TPH-CWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL	mg/kg	10	MCERTS	240	3500	97	150	69
TPH-CWG - Aliphatic > EC35 - EC44 EH_CU_1D_AL	mg/kg	8.4	NONE	190	1600	230	620	120
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	250	3700	97	160	77
TPH-CWG - Aliphatic (EC5 - EC44) EH_CU+HS_1D_AL	mg/kg	10	NONE	440	5200	330	770	200

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	0.044	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	0.051	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	0.027	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	4.2	29	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	35	630	7.0	5.3	2.4
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	71	1600	30	16	13
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	260	2500	160	250	35
TPH-CWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	240	540	110	310	33
TPH-CWG - Aromatic > EC35 - EC44 EH_CU_1D_AR	mg/kg	8.4	NONE	310	780	210	480	120
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	370	4800	200	270	50
TPH-CWG - Aromatic (EC5 - EC44) EH_CU+HS_1D_AR	mg/kg	10	NONE	680	5600	410	750	170

TPH Total C5 - C44 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	1100	11000	740	1500	370
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-34879
Project / Site name: Pierhead Street
Your Order No: 12967

Lab Sample Number				2146655
Sample Reference				WS05
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	54
Moisture Content	%	0.01	NONE	5.9
Total mass of sample received	kg	0.001	NONE	0.90

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.010
Asbestos Quantification Total	%	0.001	ISO 17025	0.010
Asbestos Analyst ID	N/A	N/A	N/A	MDB

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	11.0
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2300
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.14
Sulphide	mg/kg	1	MCERTS	300
Total Sulphur	mg/kg	50	MCERTS	1300
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.2
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	6.2

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	4.1
Acenaphthylene	mg/kg	0.05	MCERTS	0.47
Acenaphthene	mg/kg	0.05	MCERTS	1.6
Fluorene	mg/kg	0.05	MCERTS	1.4
Phenanthrene	mg/kg	0.05	MCERTS	16
Anthracene	mg/kg	0.05	MCERTS	4.2
Fluoranthene	mg/kg	0.05	MCERTS	30
Pyrene	mg/kg	0.05	MCERTS	26
Benzo(a)anthracene	mg/kg	0.05	MCERTS	24
Chrysene	mg/kg	0.05	MCERTS	16
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	27
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	11
Benzo(a)pyrene	mg/kg	0.05	MCERTS	23
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	12
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	3.7
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	13

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	212
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Analytical Report Number: 22-34879
Project / Site name: Pierhead Street
Your Order No: 12967

Lab Sample Number	2146655
Sample Reference	WS05
Sample Number	None Supplied
Depth (m)	0.50
Date Sampled	Deviating
Time Taken	None Supplied

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	3.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.9
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	370
Copper (aqua regia extractable)	mg/kg	1	MCERTS	89
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	130
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	550

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	5.9
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	28
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	100
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	130
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	120
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	MCERTS	130
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	250

TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	1.6
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	11
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	89
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	270
TPH-CWG - Aromatic >EC35 - EC40 _{EH,CU,1D,AR}	mg/kg	10	NONE	81
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	150
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	MCERTS	370
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	520

TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	780
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 22-34879
Project / Site name: Pierhead Street
Your Order No: 12967

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-PL 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
2146655	WS05	0.50	193	Hard/Cement Type Material	Chrysotile	0.010	0.010

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

Analytical Report Number : 22-34879

Project / Site name: Pierhead Street

* 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 *
2146650	WS01	None Supplied	1	Grey clay and sand with gravel.
2146651	WS01	None Supplied	3.1	Grey clay and sand with gravel.
2146652	WS02	None Supplied	0.6	Grey clay and sand with stones.
2146653	WS03	None Supplied	0.8	Brown sand with gravel.
2146654	WS05	None Supplied	1.5	Grey clay with gravel.
2146655	WS05	None Supplied	0.5	Grey sand with stones.

Analytical Report Number : 22-34879

Project / Site name: Pierhead Street

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
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.	L038-PL	D	MCERTS
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
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
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
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.	L047-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	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
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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-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 sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-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
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.	L038-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.	L009-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 22-34879
Project / Site name: Pierhead Street

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
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

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.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Analytical Report Number : 22-34879

Project / Site name: Pierhead Street

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS01	None Supplied	S	2146650	a	None Supplied	None Supplied	None Supplied
WS01	None Supplied	S	2146651	a	None Supplied	None Supplied	None Supplied
WS02	None Supplied	S	2146652	a	None Supplied	None Supplied	None Supplied
WS03	None Supplied	S	2146653	a	None Supplied	None Supplied	None Supplied
WS05	None Supplied	S	2146654	a	None Supplied	None Supplied	None Supplied
WS05	None Supplied	S	2146655	a	None Supplied	None Supplied	None Supplied



Apex Testing Solutions Limited
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Village Farm Industrial Estate
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Attention: Andrew Grogan

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
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Tel: (01244) 528700
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CERTIFICATE OF ANALYSIS

Date of report Generation:	21 February 2022
Customer:	Apex Testing Solutions Limited
Sample Delivery Group (SDG):	220212-53
Your Reference:	D22072
Location:	Pier Head Street
Report No:	634405
Order Number:	ATS 1565

We received 5 samples on Saturday February 12, 2022 and 5 of these samples were scheduled for analysis which was completed on Monday February 21, 2022. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

Validated

SDG: 220212-53
Client Ref.: D22072

Report Number: 634405
Location: Pier Head Street

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
25808206	BH1		11.00	11/02/2022
25808208	BH1		15.50	11/02/2022
25808211	BH1		20.00	11/02/2022
25808214	BH3		16.00	11/02/2022
25808216	BH3		18.50	11/02/2022

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

Validated

SDG: 220212-53
Client Ref.: D22072

Report Number: 634405
Location: Pier Head Street

Superseded Report:

Results Legend

- X** Test
- N** No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)

Customer Sample Reference

AGS Reference

Depth (m)

Container

Sample Type

Ammoniacal N as NH4 in 2:1 extract

All

NDPs: 0
Tests: 2

		X		X

Anions by Kone (soil)

All

NDPs: 0
Tests: 5

X	X	X	X	X
---	---	---	---	---

Magnesium (BRE)

All

NDPs: 0
Tests: 2

		X		X
--	--	---	--	---

NO3, NO2 and TON by KONE (s)

All

NDPs: 0
Tests: 2

		X		X
--	--	---	--	---

pH

All

NDPs: 0
Tests: 5

X	X	X	X	X
---	---	---	---	---

Sample description

All

NDPs: 0
Tests: 5

X	X	X	X	X
---	---	---	---	---

Total Sulphate

All

NDPs: 0
Tests: 2

		X		X
--	--	---	--	---

Total Sulphur

All

NDPs: 0
Tests: 2

		X		X
--	--	---	--	---



CERTIFICATE OF ANALYSIS

Validated

SDG: 220212-53
Client Ref.: D22072

Report Number: 634405
Location: Pier Head Street

Superseded Report:

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
-----------	----------	------	-----------------	--------	-------------	--------	------------	-------------	-------

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
25808206	BH1	11.00	Dark Brown	Clay Loam	Stones	Tar
25808208	BH1	15.50	Dark Brown	Loamy Sand	Stones	None
25808211	BH1	20.00	Dark Brown	Sandy Clay Loam	Stones	None
25808214	BH3	16.00	Dark Brown	Sand	Stones	None
25808216	BH3	18.50	Dark Brown	Sandy Clay Loam	None	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

Validated

SDG: 220212-53
Client Ref.: D22072

Report Number: 634405
Location: Pier Head Street

Superseded Report:

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid Extractable Sulphate in Soils by ICP OES
TM243		Mixed Anions In Soils By Kone
TM248	In-House Method	Determination of Ammonium BRE (2:1 Extract) on solids
TM282		Extraction of Magnesium by BRE Method

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.



CERTIFICATE OF ANALYSIS

Validated

SDG: 220212-53
Client Ref.: D22072

Report Number: 634405
Location: Pier Head Street

Superseded Report:

Test Completion Dates

Lab Sample No(s)
Customer Sample Ref.

AGS Ref.

Depth

Type

	25808206	25808208	25808211	25808214	25808216
	BH1	BH1	BH1	BH3	BH3
	11.00	15.50	20.00	16.00	18.50
	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammoniacal N as NH4 in 2:1 extract			18-Feb-2022		18-Feb-2022
Anions by Kone (soil)	18-Feb-2022	18-Feb-2022	18-Feb-2022	18-Feb-2022	18-Feb-2022
Magnesium (BRE)			18-Feb-2022		18-Feb-2022
NO3, NO2 and TON by KONE (s)			21-Feb-2022		21-Feb-2022
pH	15-Feb-2022	15-Feb-2022	15-Feb-2022	15-Feb-2022	15-Feb-2022
Sample description	14-Feb-2022	14-Feb-2022	14-Feb-2022	14-Feb-2022	14-Feb-2022
Total Sulphate			18-Feb-2022		18-Feb-2022
Total Sulphur			21-Feb-2022		21-Feb-2022



CERTIFICATE OF ANALYSIS

SDG:	220212-53	Client Reference:	D22072	Report Number:	634405
Location:	Pier Head Street	Order Number:	ATS 1565	Superseded Report:	

Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

General

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. Asbestos

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

APPENDIX G

LABORATORY GEOTECHNICAL TEST RESULTS

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22072	Client:	Integral Geotechnique
Project Name:	12967 - Plot 5 Pier Head Street, Cardiff	Address:	Integral House 7 Beddau Way Castlegate Business Park Caerphilly CF83 8PH
ATS Sample No:	27058		

Site Ref / Hole ID:	BH1	Depth (m):	11.00 -
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brown very gravelly sandy CLAY
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:		Material Supplier:	Unknown
Sampled By:	Client	Specification:	ISO 17892
Date Received:	10 February 2022	Date Tested:	14 February 2022

Test Results

Moisture Content (%)

38.1

Remarks:

QA Ref.

EN ISO 17892-
1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



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Approver

A Grogan

A Grogan, Laboratory Manager

Date

15/02/2022

Fig

MC

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

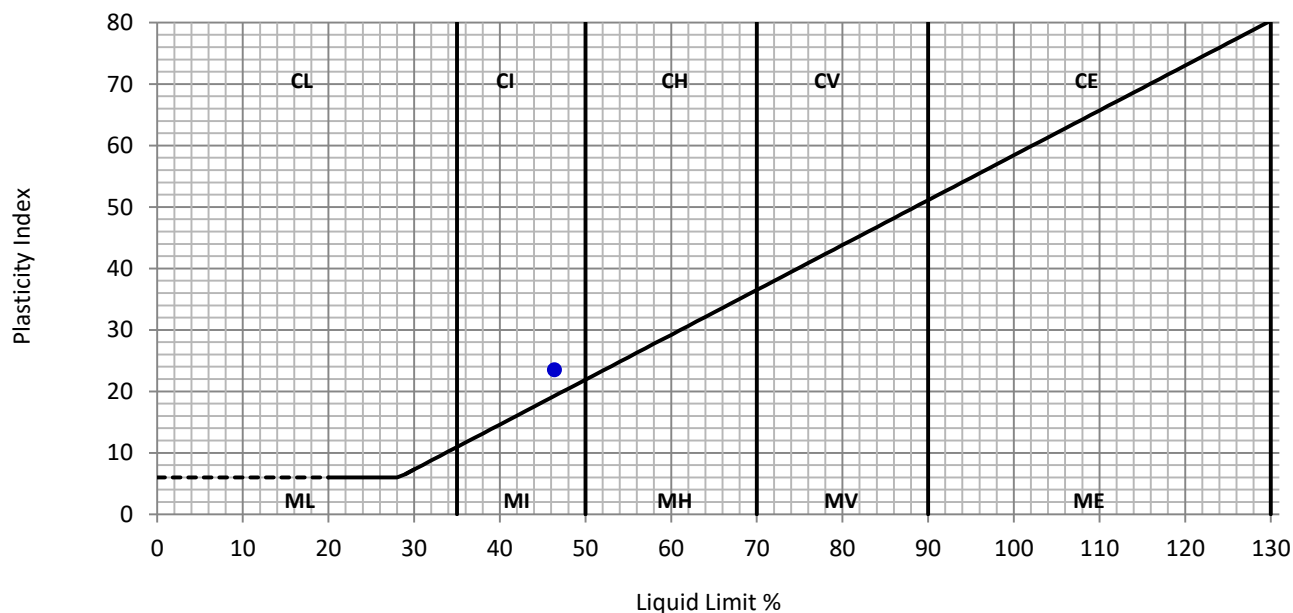
Project No:	D22072	Client:	Integral Geotechnique
Project Name:	12967 - Plot 5 Pier Head Street, Cardiff	Address:	Integral House 7 Beddau Way Castlegate Business Park Caerphilly CF83 8PH
ATS Sample No:	27058		

Site Ref / Hole ID:	BH1	Depth (m):	11.00 -
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brown very gravelly sandy CLAY
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:		Material Supplier:	Unknown
Sampled By:	Client	Specification:	BS1377
Date Received:	10 February 2022	Date Tested:	14 February 2022

Test Results

Liquid Limit	46	%
Plastic Limit	23	%
Plasticity Index	23	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	73 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 2.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



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Approver

K Lester

Date

15/02/2022

Fig.

ATT

K Lester senior technician

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22072	Client:	Integral Geotechnique
Project Name:	12967 - Plot 5 Pier Head Street, Cardiff	Address:	Integral House 7 Beddau Way Castlegate Business Park Caerphilly CF83 8PH
ATS Sample No:	27059		

Site Ref / Hole ID:	BH3	Depth (m):	18.50 -
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brown very sandy gravelly CLAY
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:		Material Supplier:	Unknown
Sampled By:	Client	Specification:	ISO 17892
Date Received:	10 February 2022	Date Tested:	14 February 2022

Test Results

Moisture Content (%)

25.3

Remarks:

QA Ref.

EN ISO 17892-
1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



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Approver

A Grogan

A Grogan, Laboratory Manager

Date

15/02/2022

Fig

MC

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

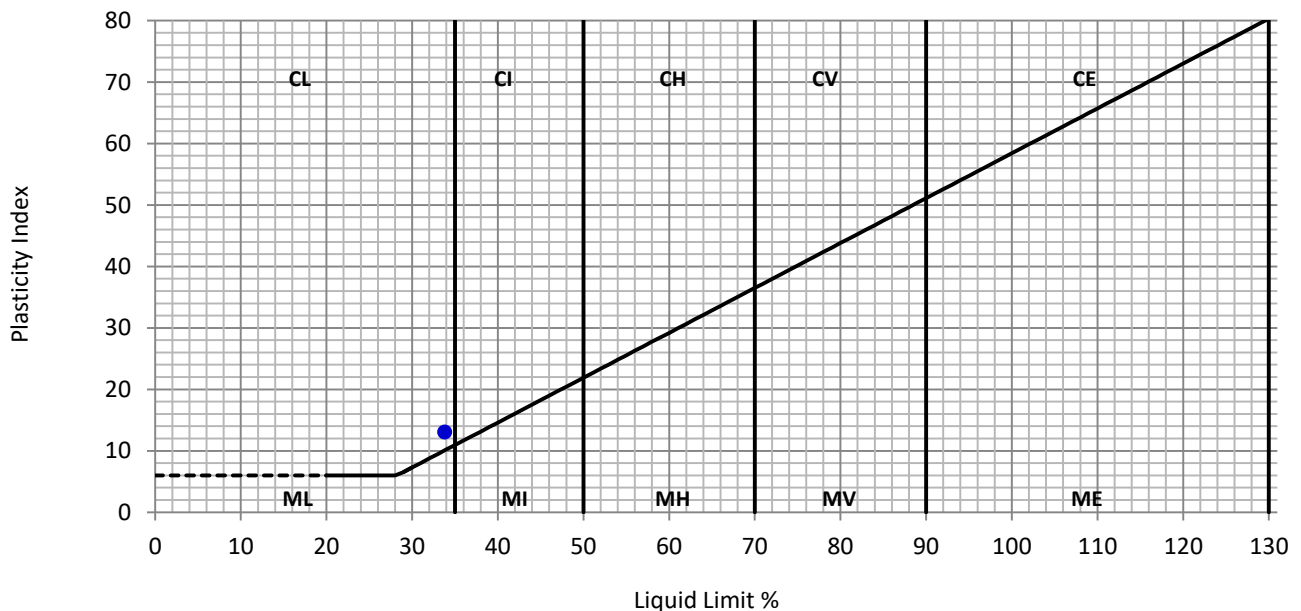
Project No:	D22072	Client:	Integral Geotechnique
Project Name:	12967 - Plot 5 Pier Head Street, Cardiff	Address:	Integral House 7 Beddau Way Castlegate Business Park Caerphilly CF83 8PH
ATS Sample No:	27059		

Site Ref / Hole ID:	BH3	Depth (m):	18.50 -
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brown very sandy gravelly CLAY
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:		Material Supplier:	Unknown
Sampled By:	Client	Specification:	BS1377
Date Received:	10 February 2022	Date Tested:	14 February 2022

Test Results

Liquid Limit	34	%
Plastic Limit	21	%
Plasticity Index	13	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	19 %



Remarks:

APPENDIX H

IN-SITU GAS MONITORING RESULTS

FIELD GAS MONITORING RESULTS

Job No.: 12967
 Site: Plot 5 Pierhead Street
 Monitoring Date: 03.02.22
 Monitoring Round: 1

Monitoring Conditions

Weather: Light Rain
 Ambient Temp: 10 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 1013
 During Monitoring: 1013
 End of Monitoring: 1013

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 1	2.82	Dry	0.10	0.10	2.00	2.00	13.60	14.10	0.10	0.10	6.00	<1	0.10	0.30
BH 2	4.04	3.29	<0.5	<0.5			16.50	16.50	0.10	0.10	1.00	<1	<0.3	<0.3
BH 3	3.01	Dry	0.10	0.10	2.00	2.00	15.20	15.20	0.10	0.10	28.00	<1	0.10	0.50

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.: 12967
 Site: Plot 5 Pierhead Street
 Monitoring Date: 18.02.22
 Monitoring Round: 2

Monitoring Conditions

Weather: Storm Eunice
 Ambient Temp: 11 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 981
 During Monitoring: 981
 End of Monitoring: 981

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 1	2.82	Dry	0.20	0.20	4.00	4.00	14.10	14.10	0.10	0.10	7.00	<1	0.10	0.10
BH 2	4.04	3.27	<0.5	<0.5			16.90	17.20	0.10	0.10	2.00	<1	<0.3	<0.3
BH 3	3.01	Dry	0.10	0.10	2.00	2.00	17.10	17.10	0.10	0.10	12.00	<1	0.10	0.30

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.: 12967
 Site: Plot 5 Pierhead Street
 Monitoring Date: 08.03.22
 Monitoring Round: 3

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 8 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 998
 During Monitoring: 998
 End of Monitoring: 998

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 1	2.82	Dry	0.20	0.10	4.00	2.00	15.20	15.20	0.20	0.10	6.00	<1	0.10	0.20
BH 2	4.04	3.22	<0.5	<0.5			16.20	16.20	0.10	0.10	3.00	<1	<0.3	<0.3
BH 3	3.01	Dry	0.20	0.10	4.00	2.00	18.60	18.60	0.20	0.20	8.00	<1	<0.3	0.20

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.: 12967
 Site: Plot 5 Pierhead Street
 Monitoring Date: 21.03.22
 Monitoring Round: 4

Monitoring Conditions

Weather: Sunny
 Ambient Temp: 14 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 1012
 During Monitoring: 1012
 End of Monitoring: 1012

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 1	2.82	Dry	0.10	0.10	2.00	2.00	15.20	15.20	0.10	0.10	5.00	<1	0.10	0.10
BH 2	4.04	3.29	<0.5	<0.5			18.20	18.20	0.10	0.10	1.00	<1	<0.3	<0.3
BH 3	3.01	Dry	0.20	0.10	4.00	2.00	17.90	17.90	0.10	0.10	6.00	<1	0.10	0.20

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.: 12967
 Site: Plot 5 Pierhead Street
 Monitoring Date: 08.04.22
 Monitoring Round: 5

Monitoring Conditions

Weather: Sunny
 Ambient Temp: 11 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 991
 During Monitoring: 991
 End of Monitoring: 991

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 1	2.82	Dry	0.10	0.10	2.00	2.00	15.10	15.10	0.20	0.20	4.00	<1	0.10	0.10
BH 2	4.04	3.29	<0.5	<0.5			17.40	17.40	0.10	0.10	1.00	<1	<0.3	<0.3
BH 3	3.01	Dry	0.10	0.10	2.00	2.00	17.50	17.50	0.10	0.10	5.00	<1	0.10	0.10

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.: 12967
 Site: Plot 5 Pierhead Street
 Monitoring Date: 29.04.22
 Monitoring Round: 6

Monitoring Conditions

Weather: Sunny
 Ambient Temp: 15 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 1015
 During Monitoring: 1015
 End of Monitoring: 1015

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 1	2.82	Dry	0.10	0.10	2.00	2.00	16.80	16.80	0.20	0.20	3.00	<1	0.10	0.10
BH 2	4.04	3.23	<0.5	<0.5			17.80	17.80	0.20	0.10	3.00	<1	<0.3	<0.3
BH 3	3.01	Dry	0.10	0.10	2.00	2.00	18.90	18.90	0.10	0.10	5.00	<1	<0.3	0.10

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 I

SUMMARY OF LABORATORY CHEMICAL TEST RESULTS

SUMMARY OF LABORATORY SOIL TEST RESULTS

METALS AND SEMI-METALS

Job No.: 12967
Site: Plot 5, Pierhead Street, Cardiff
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)
1	WS01	1.00	14	2.1	0.94	< 0.2	31	< 4.0	88	110	1	33	< 1.0	25	230
2	WS01	3.10	22	0.8	0.72	< 0.2	26	< 4.0	330	170	< 0.3	32	< 1.0	23	240
3	WS02	0.60	19	2.6	2.2	< 0.2	110	< 4.0	110	110	< 0.3	32	< 1.0	50	270
4	WS03	0.80	8	4.1	5.2	1.2	340	< 4.0	70	69	< 0.3	29	< 1.0	160	350
5	WS05	1.50	14	5.2	1.0	< 0.2	36	< 4.0	69	86	< 0.3	32	< 1.0	38	530
6	WS05	0.50	12	3.1	1.1	0.9	370	< 4.0	89	110	< 0.3	22	< 1.0	130	550
Screening Criteria Value			40.0	11000.0	1.7	85.0	-	6.0	7100.0	310.0	1.2	180.0	430.0	1200.0	40000.0
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	-	S4UL	S4UL	C4SL	S4UL	S4UL	S4UL	S4UL	S4UL

SUMMARY OF LABORATORY SOIL TEST RESULTS

INORGANIC CHEMICALS & OTHERS

Job No.: 12967
Site: Plot 5, Pierhead Street, Cardiff
Soil Type: Made Ground
Soil Organic Matter: 1%

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 (%)
1	WS01	1.00	< 1.0	27.60	9.9	< 1.0	8.50	0.18	1100.00	89.00	1200.00	6.70	11.52	Not-detected	-
2	WS01	3.10	< 1.0	45.10	17	< 1.0	8.50	0.11	630.00	45.00	2200.00	6.30	10.84	Not-detected	-
3	WS02	0.60	< 1.0	9.00	7.8	< 1.0	10.40	0.35	2500.00	870.00	1700.00	2.30	3.96	Not-detected	-
4	WS03	0.80	< 1.0	2.50	6.1	< 1.0	10.5	1.4	8300	2700	6700.00	1.30	2.24	Not-detected	-
5	WS05	1.50	< 1.0	3.30	16	< 1.0	9.9	0.48	1600	96	1600.00	1.10	1.89	Not-detected	-
6	WS05	0.50	< 1.0	6.20	5.9	< 1.0	11.0	0.14	2300	300	1300.00	2.20	3.78	Detected	0.01
Screening Criteria Value			34.0	-	-	440.0	-	-	-	-	-	-	-	-	0.001
Source of Screening Criteria Value			ATRISK	-	-	S4UL	-	-	-	-	-	-	-	-	IOM

SUMMARY OF LABORATORY SOIL TEST RESULTS

POLYAROMATIC HYDROCARBONS (PAH)

Job No.: 12967
Site: Plot 5, Pierhead Street, Cardiff
Soil Type: Made Ground
Soil Organic Matter: 1%

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(ah)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(123cd)pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
1	WS01	1.00	9.4	6.1	3.7	6	6.7	6.1	4.7	2.4	4	0.68	18	6.5	3.2	4.6	18	24
2	WS01	3.10	230	120	67	60	110	73	90	36	59	6.4	380	130	52	43	380	510
3	WS02	0.60	0.44	0.5	1.2	3.4	4	3.9	2.1	2.1	3.1	0.52	5.9	0.79	1.9	0.73	4.2	5.7
4	WS03	0.80	0.48	< 0.05	< 0.05	0.28	0.3	0.37	< 0.05	0.17	0.38	< 0.05	0.47	0.25	< 0.05	< 0.05	0.76	0.53
5	WS05	1.50	0.35	0.32	0.41	1.6	2.1	2.3	1.2	0.81	1.6	0.3	3.2	0.46	0.93	0.31	2.1	3.6
6	WS05	0.50	1.6	0.47	4.2	24	23	27	13	11	16	3.7	30	1.4	12	4.1	16	26
Screening Criteria Value			3000.0	2900.0	31000.0	11.0	3.2	3.9	360.0	110.0	30.0	0.31	1500.0	2800.0	45.0	2.3	1300.0	3700.0
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL

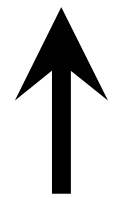
SUMMARY OF LABORATORY SOIL TEST RESULTS

PETROLEUM HYDROCARBONS

Job No.: 12967
Site: Plot 5, Pierhead Street, Cardiff
Soil Type: Made Ground
Soil Organic Matter: 1%

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)
1	WS01	1.00	< 0.001	< 0.001	< 0.001	2.9	9.1	240	190	0.044	0.051	0.027	4.2	35	71	260	240
2	WS01	3.10	< 0.001	< 0.001	< 0.001	9.7	180	3500	1600	< 0.001	< 0.001	< 0.001	29	630	1600	2500	540
3	WS02	0.60	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	97	230	< 0.001	< 0.001	< 0.001	< 1.0	7.0	30	160	110
4	WS03	0.80	< 0.001	< 0.001	< 0.001	< 1.0	< 2.0	150	620	< 0.001	< 0.001	< 0.001	< 1.0	5.3	16	250	310
5	WS05	1.50	< 0.001	< 0.001	< 0.001	1.7	6.8	69	120	< 0.001	< 0.001	< 0.001	< 1.0	2.4	13	35	33
6	WS05	0.50	< 0.001	< 0.001	< 0.001	< 1.0	5.9	130	120	< 0.001	< 0.001	< 0.001	1.6	11	89	270	81
Screening Criteria Value			42.0	100.0	27.0	130.0	1100.0	65000.0	65000.0	0.4	880.0	47.0	250.0	1800.0	1900.0	1900.0	1900.0
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL

FIGURES



NORTH

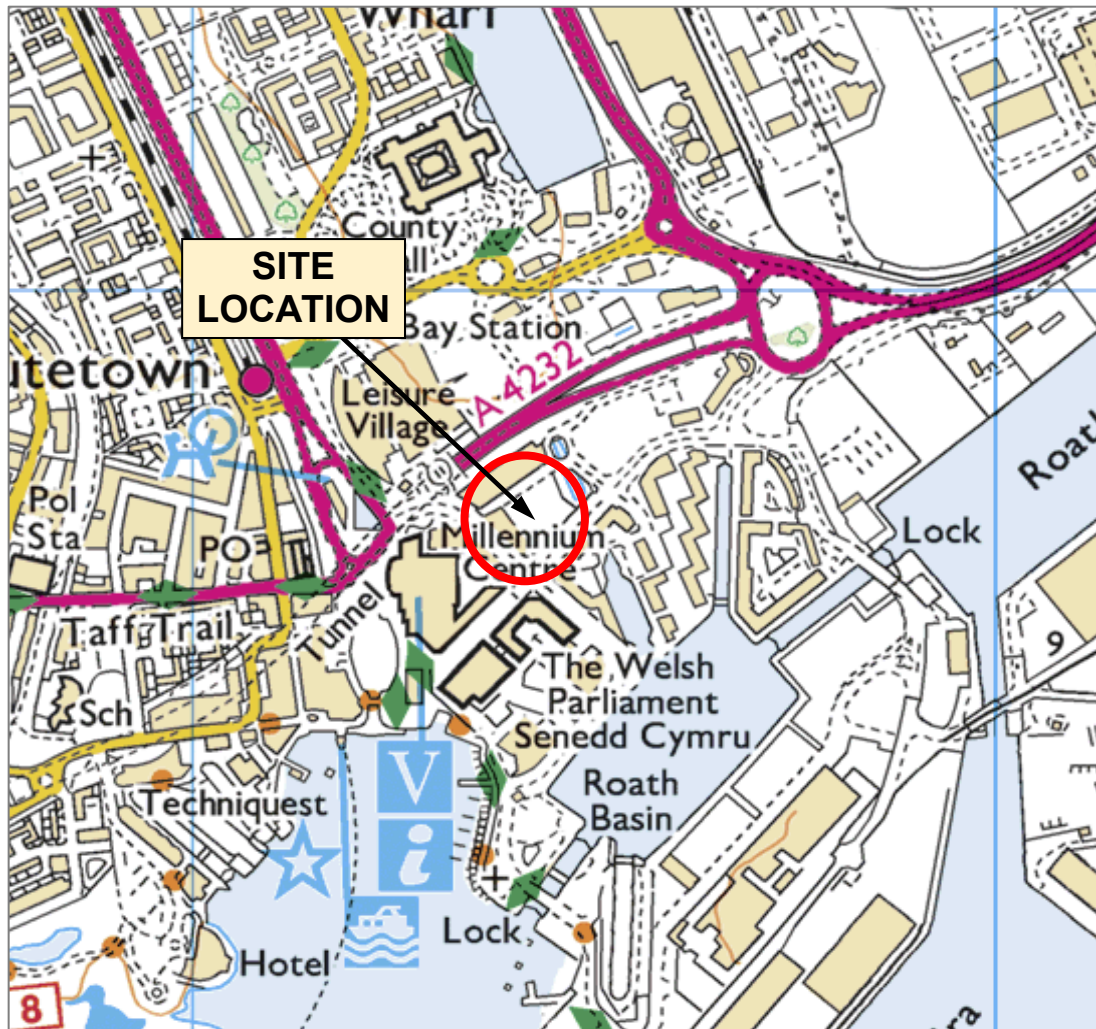


FIGURE 1: SITE LOCATION

Plot 5, Pierhead Street, Cardiff Bay

Intégral
Géotechnique

Intégral House
7 Beddau Way
Castlegate Business Park
Caerphilly
CF83 2AX
Tel: 029 2080 7991
Fax: 029 2086 2176

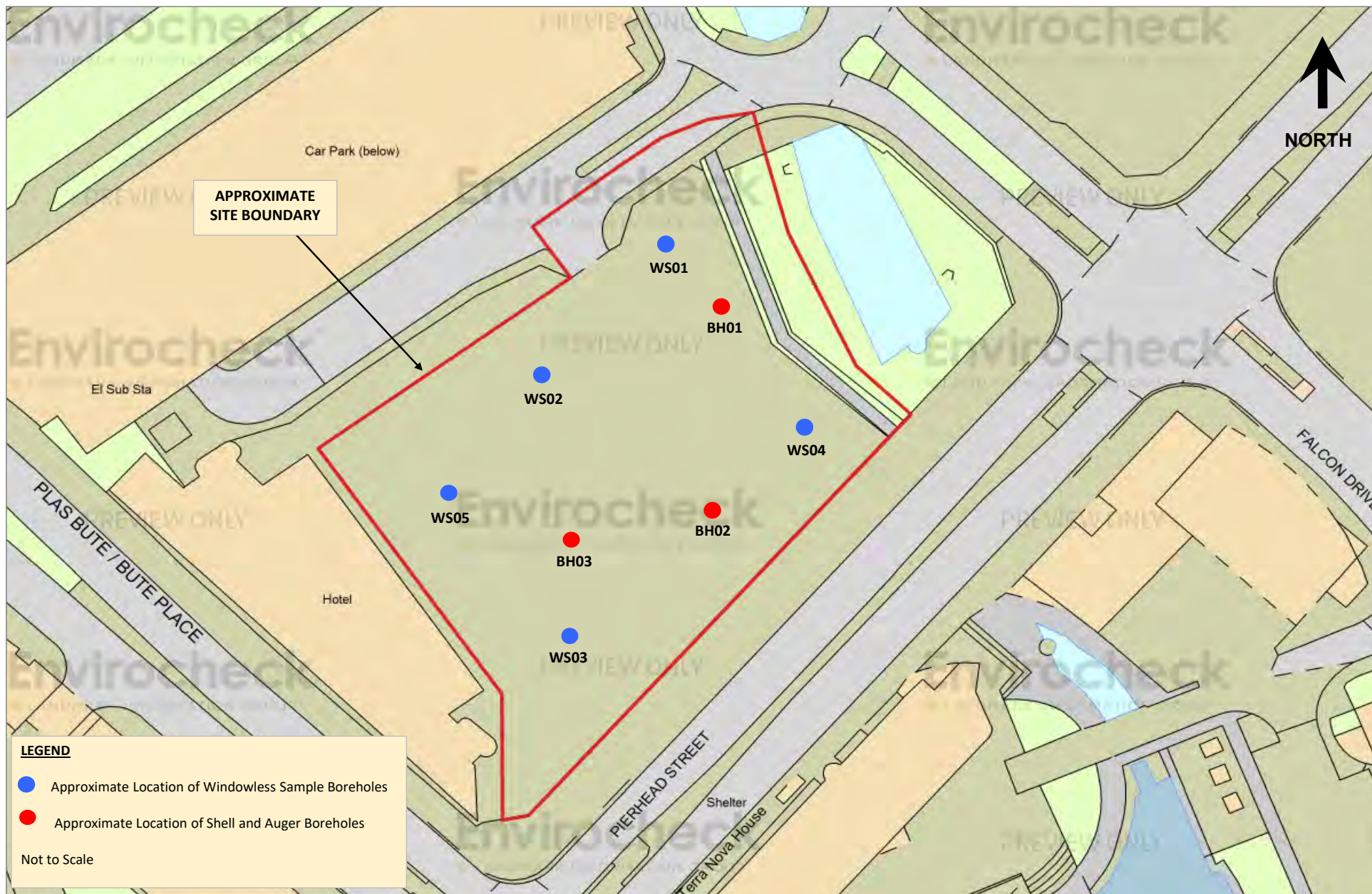


FIGURE 2: SITE PLAN

Plot 5, Pierhead Street, Cardiff Bay

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Géotechnique

Intégral House
7 Beddau Way
Castlegate Business Park
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CF83 2AX
Tel: 029 2080 7991
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