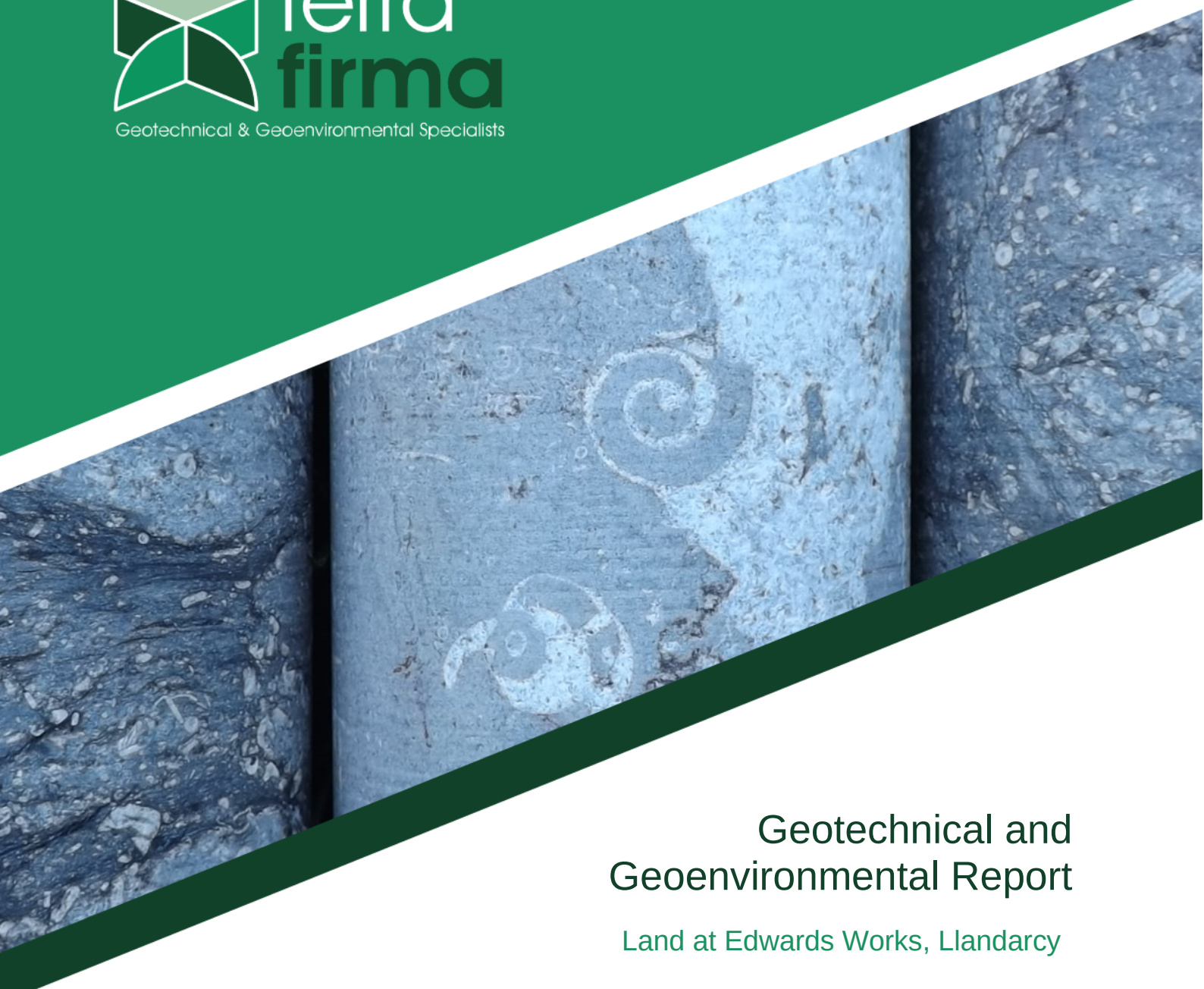




Geotechnical and Geoenvironmental Report

Land at Edwards Works, Llandarcy

Prepared For: SigmaRoc PLC

Issue Date: April 2024

Job No: 16461

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Land at Edwards Works, Llandarcy**

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01	26 th January 2021	-
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03	2 nd February 2024	Rotary Boreholes, Groundwater Testing, Additional Soil Samples, PID Testing
04	20 th February 2024	Includes chemical test results for samples taken from Red Jacket Pill
05	29 th April 2024	Update in response to NPT's EHO and NRW comments

	Name	Signature
Prepared	Aaron Case BSc, FGS	
Checked	Michael Watkins MESci, FGS	
Approved	Gwyn Lake BSc (Hons). PhD, CGeol, FGS	

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All amendments made to this document are detailed on the Document Revision & Amendment Register BMS-CR-002 and authorised by the appropriate personnel.



Executive Summary

Site Location and Proposed Development	SigmaRoc PLC is proposing the development of commercial premises at Edwards Works, Skewen, Swansea SA10 6JY.																												
Site History	The site operated as Briton Ferry Chemical Works until the late 1930's. During the 1940's the chemical works was demolished. In the early 1970's the site became a gas works. The site has not undergone significant change since this period.																												
Geology	The site is underlain by the Birthdir Member. Above the bedrock is tidal flat deposits. Made ground covers the site.																												
Radon	No radon protective measures are required for new developments on the investigation site.																												
Coal Mining Risk Assessment	The site is not within a surface area that could be affected by any past recorded underground coal mining.																												
Ground Conditions	<table border="1"> <thead> <tr> <th colspan="3">Depth (m)</th><th>Thickness (m)</th><th>Stratum</th></tr> </thead> <tbody> <tr> <td>0.00</td><td>-</td><td>0.3/0.8</td><td>0.3/0.8</td><td>MADE GROUND. (Medium dense)* grey mottled black and light brown sandy GRAVEL of asphalt, slag material, and sandstone.</td></tr> <tr> <td>0.3/0.8</td><td>-</td><td>3.4/4.8</td><td>2.9/4.5</td><td>MADE GROUND. (Dense) grey mottled light brown sandy GRAVEL with high cobble and low boulder content of slag material.</td></tr> <tr> <td>3.4/4.80</td><td>-</td><td>5.5/6.5</td><td>0.7/3.1</td><td>Light brown mottled yellowish brown variably clayey variably gravelly SAND.*</td></tr> <tr> <td>4.2/6.5</td><td>-</td><td>>7.5/>9.0</td><td>>2.0/3.5</td><td>Dark grey mottled orangish brown and light grey SAND.</td></tr> </tbody> </table>				Depth (m)			Thickness (m)	Stratum	0.00	-	0.3/0.8	0.3/0.8	MADE GROUND. (Medium dense)* grey mottled black and light brown sandy GRAVEL of asphalt, slag material, and sandstone.	0.3/0.8	-	3.4/4.8	2.9/4.5	MADE GROUND. (Dense) grey mottled light brown sandy GRAVEL with high cobble and low boulder content of slag material.	3.4/4.80	-	5.5/6.5	0.7/3.1	Light brown mottled yellowish brown variably clayey variably gravelly SAND .*	4.2/6.5	-	>7.5/>9.0	>2.0/3.5	Dark grey mottled orangish brown and light grey SAND .
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Contamination of Concern	Soil – Arsenic, Lead, Chrysotile (asbestos) Groundwater – Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Selenium, Sulphate, Zinc																												
Remediation and Mitigation Measures	The advice of an asbestos specialist will be required and as a minimum the following precautions should be employed: - Dust suppression and measures to dampen the material - Suitable PPE for site workers - Air monitoring on the site boundary - Personal air monitors (for a time to determine actual personnel / fibre interaction) In addition to the above it is best practise to clean down plant and change air filters on any plant used in the works with asbestos contaminated material. To protect future site users from the identified contamination the site will need to be capped. The capping should consist of the proposed buildings and hard standings. In landscaped areas the capping should consist of 600mm of suitable inert soil. The soft landscaping should be underlain by a no-dig barrier comprising a geogrid and geotextile membrane to prevent excavation beyond the capping layer and mixing between the capping and contaminated made ground.																												
Foundation Solution	It is recommended that reinforced concrete strip foundations be used; founded within the made ground at an approximate depth of 0.75m below the existing ground level. An allowable bearing pressure of 100kN/m² may be used for strips up to 750mm wide. Foundations must sit at least 200mm within the founding horizon. For the given foundation solutions and bearing pressure, maximum total settlements of 25mm should result with differential movements of the superstructure not exceeding 1:750. Floor slabs may be designed as reinforced ground bearing.																												

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ANNEX B Coal Authority Mining Report
ANNEX C Risk Assessment Definitions
ANNEX D Trial Pit Logs
ANNEX E Windowless Sampler Borehole Logs
ANNEX F Rotary Boreholes
ANNEX G Soakaway Results
ANNEX H CBR Correlations
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ANNEX J Laboratory Groundwater and Surface Water Test Results
ANNEX K Assessment of Volumetric Stability of Iron and Steel Industry Slag
ANNEX L Water Level Logging - Data
ANNEX M PID Data
ANNEX N Asbestos Air Fibre Testing

Drawings

Drawing 01 Proposed Site Layout

SECTION 1 Introduction and Proposed Development

1.1 Introduction

SigmaRoc PLC (the Client) is proposing the development of commercial premises at Edwards Works, Skewen, Swansea SA10 6JY.

TFW Group Ltd (Terra Firma) have been commissioned by the Client to undertake a geoenvironmental assessment and geotechnical investigation of the site.

The main objectives of the geoenvironmental assessment programme are:

- Investigate the potential human health and environmental liabilities at the site associated with any contamination.
- Provide a summary of the human health and environmental conditions at the site, together with any necessary further intrusive works and / or remediation works to render the site fit for its intended use.

The main objectives of the geotechnical site investigation are:

- Investigated the type, strength and bearing characteristics of the shallow superficial and underlying solid geology.
- Investigate the risk, if any, from historical shallow underground mining features
- Provide engineering foundation and floor slab recommendations for the proposed development.
- Provide infiltration rates and stormwater drainage viability.
- Provide recommendations regarding any other geotechnical aspects pertaining to the development.

To achieve the above objectives, TFW Group Ltd carried out an assessment programme including a site walkover, a review of existing data, followed by a field investigation to collect geotechnical and geoenvironmental data from selected locations.

1.2 Limitations and Exceptions of Investigation

The Client has requested that a Geoenvironmental Site Assessment (GSA) and Geotechnical Investigation (GI) be performed to enable the outlined main objectives.

The GSA and GI were conducted, and this report has been prepared for the sole internal reliance of the Client and their design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of TFW Group Ltd. If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill. The report represents the findings and opinions of experienced geoenvironmental and geotechnical consultants. TFW Group Ltd does not provide legal advice and the advice of lawyers may be required.

The subsurface geological profiles, any contamination and other plots are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

The investigation was limited by the resistance of the ground; this prevented windowless sampling from being conducted at the site in the December 2020/January 2021 (Phase 1) investigation. In addition, some of the specified trial pits could not be excavated due to the proximity of services in both the first phase of investigation and the supplementary investigation that followed. A buried concrete structure located at the south of the site, and adjacent to Red Jacket Pill prevented excavation. The approximate position of the buried structure is illustrated on **Drawing 01**.

1.3 Quality Assurance

The quality and environmental aspects of the assessment and investigation comply with UKAS Accredited ISO 9001:2015 and ISO 14001:2015 standards.

SECTION 2 Review of Existing Data

2.1 Physical Setting and Current Site Use

The development site is rectangular in shape and located at Edwards Works, Llandarcy, Neath Port Talbot, SA10 6JY. The site centres on an approximate National Grid Reference of 272600 194820, occupying a plan area of approximately 1.2 Hectares.

The site consists of an active industrial building to the south of the site with an adjacent asphalt-covered car park. The centre and north of the site appear to be used as a car park for lorries and cars and is covered by crushed aggregate.

Site boundaries are defined by an active road to the east. The site boundary to the south is a small river / tributary. The western border is adjacent to an area of land occupied by gas storage tanks and large shipping containers. The northern margin is adjacent to a tarmac area with containers.

The main offsite feature is the small tributary flowing to the site's southern border. The site is located within an industrial estate and other notable features include an active gas storage facility (Flo Gas) to the west of the site and a few industrial buildings located approximately 30m east of the site's border.

The site elevation is approximately 5m AOD and is topographically flat.

The site location can be seen on **Figure 2.1** along with the proposed site layout on **Figure 2.2**

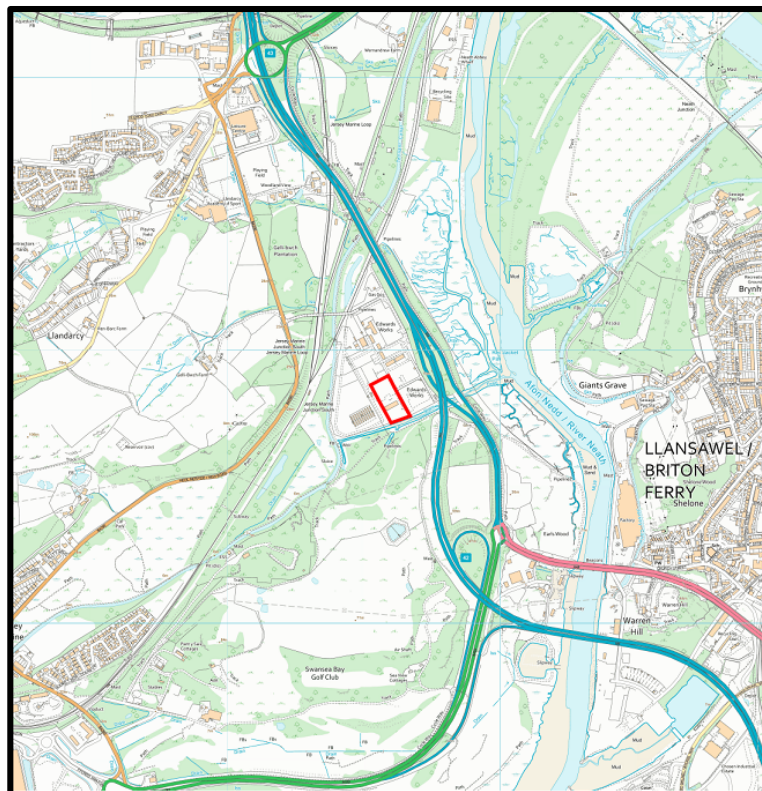


Figure 2.1 Site Location

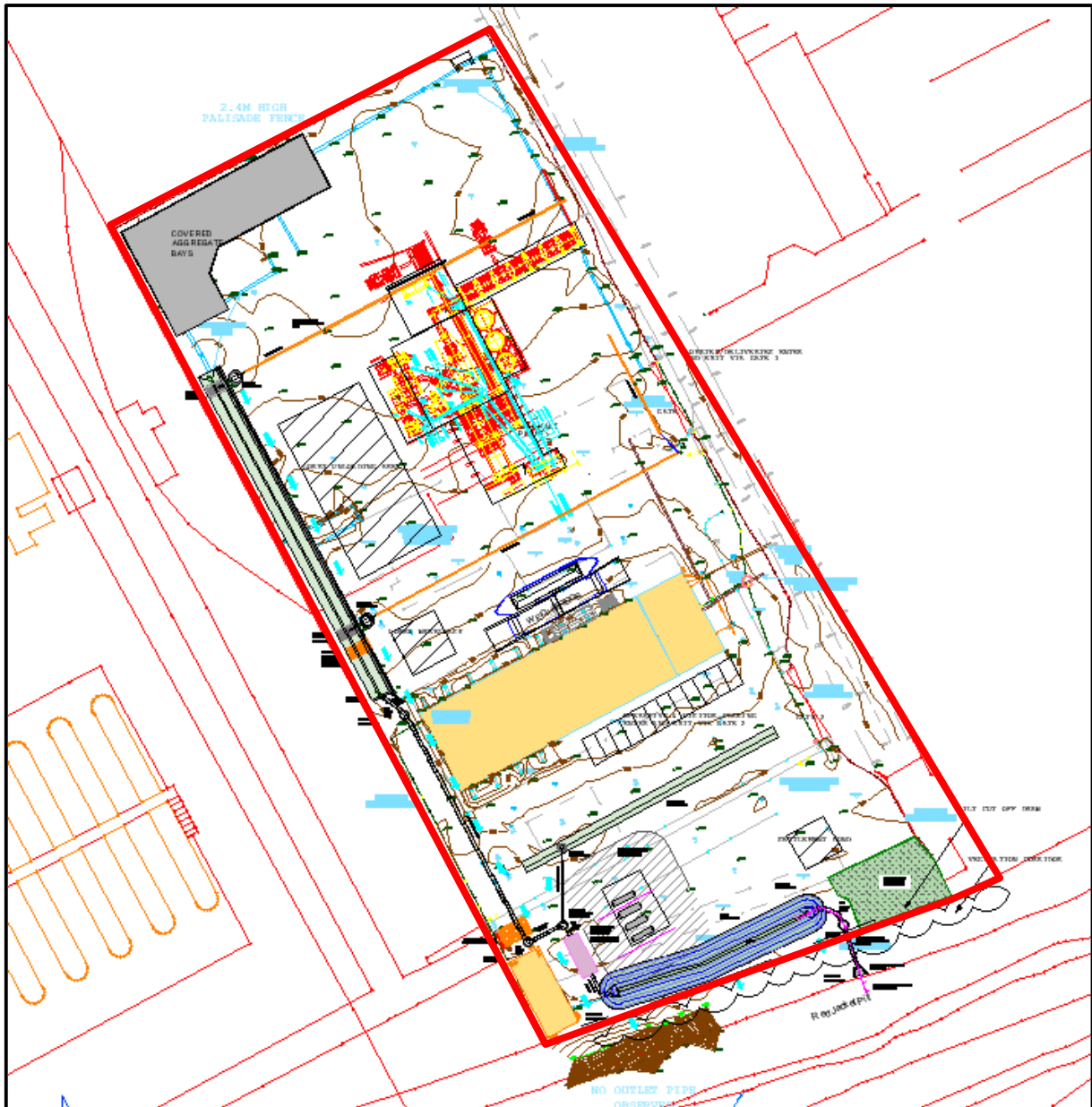


Figure 2.2 Proposed Site Layout

2.2 Site History

Historical maps of the site have been obtained in an Envirocheck Report, provided by Landmark Information Group. The history plans are supplied in **Annex A** of this report, and the most relevant editions are summarised in **Table 2.1**. Distances are (where quoted) approximate, and any changes in-between map editions may not be recorded.

Table 2.1 Historical Development from Map Information

Map Edition & Scale	Key Features on Site	Key Features off Site
1878 (1:2,500)	River channels and small embankments/raised land occupy much of the site. Rough grasses are located at the northeast of site. No infrastructure has been built on the site during this period.	Salt marsh located circa 100m northwest of the site. Briton Ferry Copper Works borders the southwestern border. Tennant Canal is located around 100m northwest of the site and Red Jacket Pill to the immediate south.

		At 190m to the site's western border lies the Great Western Railway.
1899 (1:2,500)	The site is occupied by the buildings, tramlines and chimneys of Briton Ferry Chemical Works. The river channel / stream has now been filled in.	Around 50m southwest of the site's boundary is the Cape Copper Works. The Great Western Railway remains active. A Chimney is located around 20m off the site's southwestern boundary.
1921 (1:1,10,500)	Minor alterations to the buildings/structures on site.	No significant changes off site.
1938(1:10,560)	Most of the Briton Ferry Chemical Works has been demolished (pre WWII bombing raids) and left in ruins.	Most buildings related to Briton Ferry Chemical Works and Cape Copper Works have been demolished.
1945 – 1949 (Aerial Image)	The infrastructure once on the site appears to be in ruins.	The buildings surrounding the site appear to be in ruins.
1971 (1:2,500)	The site is now occupied by a "gas works." A substation is seen at the south of the site. A road passes through the south of the site.	At 30m west of the site are four tanks within a bund. Twenty large gas cylinders are located 30m off the boundary of the site. Multiple sub stations, chimneys and tanks are located to the north and east of the site, ranging from a distance circa 100 – 250m. A small road network surrounds the site.
1980 (1:1,10,000)	No significant changes.	No significant changes.
1993 (1:2500)	The site is occupied by four rectangular buildings at the south of the site. A tank is located at the east of the site.	Small changes have been made to the surrounding industrial estate, including the removal of buildings, chimneys and tanks, and introduction of new buildings. The four banded tanks to the west are no longer evident.
2000 (Aerial Image)	The tank is no longer evident. No further significant changes are identified.	No significant changes.
2020 (1:10,000)	The building at the far southeast of the site is no longer evident.	No significant changes.

2.3 Geological Setting

2.3.1 Geology

The 1:50,000 scale British Geological Map of the area (Sheet 263) was consulted for geology underlying the site. The site is shown to be underlain by the Brithdir Member rock. Detailed stratigraphical information is provided in **Table 2.2**.

Table 2.2 Detailed Stratigraphical Information

Period	Group	Member
--------	-------	--------

Carboniferous	Warwickshire Group	Birthdir Member - Green – grey, lithic arenites (“Pennant sandstones”) with thin mudstones / siltstones and seatearth interbeds and mainly thin coals.
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Superficial deposits are recorded as being tidal flat deposits. These Quaternary aged deposits include mud flats and sand flat deposits. They consist of unconsolidated sediment of mainly clay, silt and sand.

Made ground of unknown composition and depth is anticipated at the site.

2.3.2 BGS Borehole Information

No BGS boreholes are present on or within proximity of the site.

2.3.3 Radon

The Envirocheck Report (**Annex A**) details that no radon protective measures are necessary at the site.

2.3.4 Mining

The Coal Authority Report states the site is not within a surface area that could be affected by any past recorded underground coal mining. The site is additionally not within a surface area that could be affected by present underground mining.

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining. Furthermore, The Coal Authority has no record of a mine gas emission requiring action.

The Coal Authority Report states there are no known mine entries within 20m of the site.

Coal Authority Report information. The Coal Authority Consultants Coal Mining Report is appended in (**Annex B**).

There are no BGS mineral sites recorded within 250m of the site.

Based upon the above it is concluded that the site is unaffected by shallow mining.

2.3.5 Natural Hazards

The underlying geology is not prone to dissolution. The risk of natural cavities in the bedrock is considered negligible.

Given the flat topography associated with the site, there is negligible risk of slope instability.

There is no hazard associated with collapsible ground stability hazards on site.

There is no hazard associated with compressible ground stability hazards on site.

There is no hazard associated with dissolution stability hazards on site.

Landslides are considered to have a very low potential to occur at the site.

The potential for running sand conditions is considered to be of no hazard.

There is very low potential associated with the shrinking and swelling of clays.

2.4 Environmental Setting

The following sections have been compiled using the Landmark Information Group Envirocheck datasheet and maps which can be found in **Annex A**.

2.4.1 Hydrogeology

Superficial deposits beneath the site have an aquifer designation of /secondary aquifer – Undifferentiated.

The bedrock deposits beneath the site have an aquifer designation of secondary aquifer – A.

Deeper groundwater flow within the underlying bedrock will be controlled by the strata dip and any fractures or bedding planes within the rock units.

The hydraulic gradient will be at its steepest during periods of heavy rainfall and aquifer recharge.

It is anticipated that the groundwater is in hydrological continuity with Red Jacket Pill located along the site's southern boundary. This is corroborated by the presence of a north northeast to south southwest stream that flowed through the site from rough pasture, and into Red Jacket Pill in 1882. The site has since been raised and the stream diverted however the groundwater is likely to lie at the same/similar depth as this stream.

Google Earth clearly shows the boundary of the site having been built up with made ground soils above the natural 'mud' of the tidal zone at between 2m and 3m above Ordnance Datum. The aerial image also shows Red Jacket Pill standing at between 1m to 2m above Ordnance Datum. Groundwater will almost certainly lie at similar depth to the river/stream, and groundwater is therefore expected to fluctuate around this interface. This would make groundwater lie approximately 3m to 4m below ground level at the site. Historical maps show rough pasture prior to the raising of ground levels with made ground. This area of low-lying land was most likely a flood plain at the time. As Red Jacket Pill is tidal, the groundwater beneath the site will be strongly influenced by the tide.

The site is not located within a groundwater source protection zone.

There are no groundwater abstraction points situated within 250m of the site.

2.4.2 Hydrology

The nearest surface water feature locates off site to the south at approximately 15m and comprises a small stream / tributary (Red Jacket Pill). The other significant surface water feature is the Tenant Canal placed 150m west of the site.

The topography of the site is generally flat.

2.4.3 Flooding

The site is at risk from extreme flooding from rivers without sea defences as reported by the BGS Envirocheck report.

The Envirocheck report also states the site is at a "low risk" (1000-year return) from flooding from surface water.

There is potential for groundwater flooding to occur below ground level and at the surface of the site, according to the Envirocheck Report.

2.4.4 Waste

There are no recorded landfill sites within 250m of the site.

There are no licensed waste management facilities or waste transfer sites within 250m of the site.

There are seven discharge consents within 250m of the site's boundaries. This is seen in **Table 2.2**.

Table 2.3 BGS Discharge Consents Table

Operator	Distance / Direction
British Gas Properties	1m / south
British Gas Properties	1m / south
Crawshaw Bailey Industries Ltd.	76m / east
Lattice Property Holdings	76m / east
British Gas Wales	76m / east
British Gas Properties	134m / southeast
British Gas Properties	134m / southeast

2.4.5 Pollution

One pollution incident was recorded to have occurred within 250m radius of the site. The incident concerned pollution to controlled waters approximately 237m to the east. This occurred at Wales Gas, Llandarcy. The pollutant was crude sewage and was categorised as a Category 3 – Minor incident. This incident occurred on the 29th August 1995.

2.4.6 Sensitive Land Use

The site is not located within 250m of a sensitive land use area.

The closest sensitive land use area is approximately 328m to the northwest, comprising of ancient and semi-natural woodland.

2.4.7 Measured Urban Soil Chemistry

The BGS have published measured urban soil chemistry concentrations locally to the site for a number of common contaminants, i.e. arsenic, cadmium, chromium, lead and nickel. All the given determinants have anticipated concentrations that are below the recognised trigger levels for a residential with plant uptake scenario.

2.4.8 Industrial Land Use

Relevant contemporary trade directory entries recorded within proximity of the site are summarised in **Table 2.**

Table 2.4 Relevant Contemporary Trade Summary

Company	Distance/Direction from site	Classification	Status
CSL Ltd	44m / north	Automation Systems & Equipment	Inactive

Automation Special Purpose Machines	44m / north	Engineering Machine Services	Inactive
Flo Gas Pc	73m / north	Gas Suppliers	Active
P & O Transeuropean	102m / north	Road Haulage Services	Inactive
Ferry Bridge Auto Spares	145m / north	Commercial Vehicle Breakdown & Recovery Services	Inactive
Portacover Machinery Movements Ltd	148m / north	Mechanical Handling Engineers	Active
L P Gas Wales Direct	174m / north	Gas Suppliers	Active

2.4.9 Infilled Land

Potentially infilled land features within 250m of the site are summarised in **Table 2..**

Table 2.5 Potentially Infilled Land

Feature	Distance/Direction from site
Unknown Filled Ground (Pit, quarry etc)	218m / south
Unknown Filled Ground (Pit, quarry etc)	290m / southwest

2.5 Local Authority Search

An Environmental information request was made to Neath Port Talbot Council with regards to the former Briton Ferry Chemical Works and the later gasworks site to obtain any information regarding its decommissioning and remediation. A response has not been received to date and any information regarding this will be produced in an updated report.

SECTION 3 Preliminary Human Health and Environmental Risk Assessment

3.1 General

The preliminary human health and environmental risk assessment is a qualitative evaluation of unacceptable risks to human health or the environment from potential 'contaminated land', based on reviewed information in preceding sections of this report.

For 'contaminated land' to exist as defined in Part 2A of the Environmental Protection Act (EPA) 1990, a Pollutant Linkage needs to be identified. Pollutant linkages are defined by having a valid 'source – pathway – receptor' as established in the preliminary conceptual site model.

For our definitions of pollution linkage and how we define risk please refer to **Annex C** which includes our classifications of consequence and probability, and risk assessment matrix.

3.2 Potential Sources of Contamination

Potential or known sources of contamination associated the sites current and historical land use are summarised in **Table 3.1**.

Table 3.1 Contamination Sources

ID	Source	Contaminant
S1	Natural and Made Ground (likely comprising fill) Soils – Historic and Current	Metals, metalloids, PAHs, VOCs and SVOCs, TPH, PCBs, Asbestos.
S2	Railway and Train Tracks – Historic	Metals and metalloids, PCBs, TPH, PAHs, Asbestos.
S3	Previous Industrial Site Uses (Gas works, copper works, chemical works, tank) - Historic	Metals, metalloids, PAHs, VOCs and SVOCs, TPH, PCBs, Asbestos.

As identified in Section 2, the site has a long history of previous use by several industries.

The chemical works was identified at the site from sometime between 1878 and 1899 until sometime between 1921 and 1938 when the site was left in ruins. Extensive research into the type of chemical works has been carried out but no information is available. However, from process of elimination the most likely chemical works is an inorganic chemical works. With reference to Department of Environment (DoE) Industry Profiles (published in 1995) it is considered that metals, organic compounds, pH and sulphates amongst many other chemicals detailed in **Table 3.1** are sufficient to determine the severity of contamination from the former chemical works.

Based upon metal smelting industries that dominated the local area in the 19th and early 20th century, the made ground beneath the site is likely to contain a large amount of slag-rich soils. These soils are typically a source of heavy metals and metalloids. These soils, which are also likely to contain demolition rubble from the previous works, could also be a source of asbestos and PAHs. Tramlines and railways that previously crossed the site may have been a source of hydrocarbons. The copperworks is a possible source of hydrocarbons, and metals.

An electricity substation at the south of the site is a potential source of PCBs. A tank, of unknown use is identified at the centre of the site. Unless the tank was used to store water, as the site was used as a depot, the next most likely substance would be fuel. Petroleum hydrocarbons should therefore be tested for. A VOC and SVOC test suite would be suitable to determine any contamination from less common substances.

The site has been identified as a gas works where town gas was manufactured from 1964 until its closure in 1974 when natural gas arrived in the UK. Following its closure the site was cleared and used by Wales & West Utilities as a storage area. As can be seen in an aerial photograph shown on **Figure 3.1**, the actual gas works manufacture took place on land to the east of the site. This seems to correlate with the historic maps that shows few buildings or infrastructure on site during this time. The site appears to have been used as a storage compound, whilst the surrounding area was occupied by tanks and gasworks infrastructure. Potential contaminants include PAHs, BTEX, phenol, petroleum hydrocarbons, metals, and asbestos.

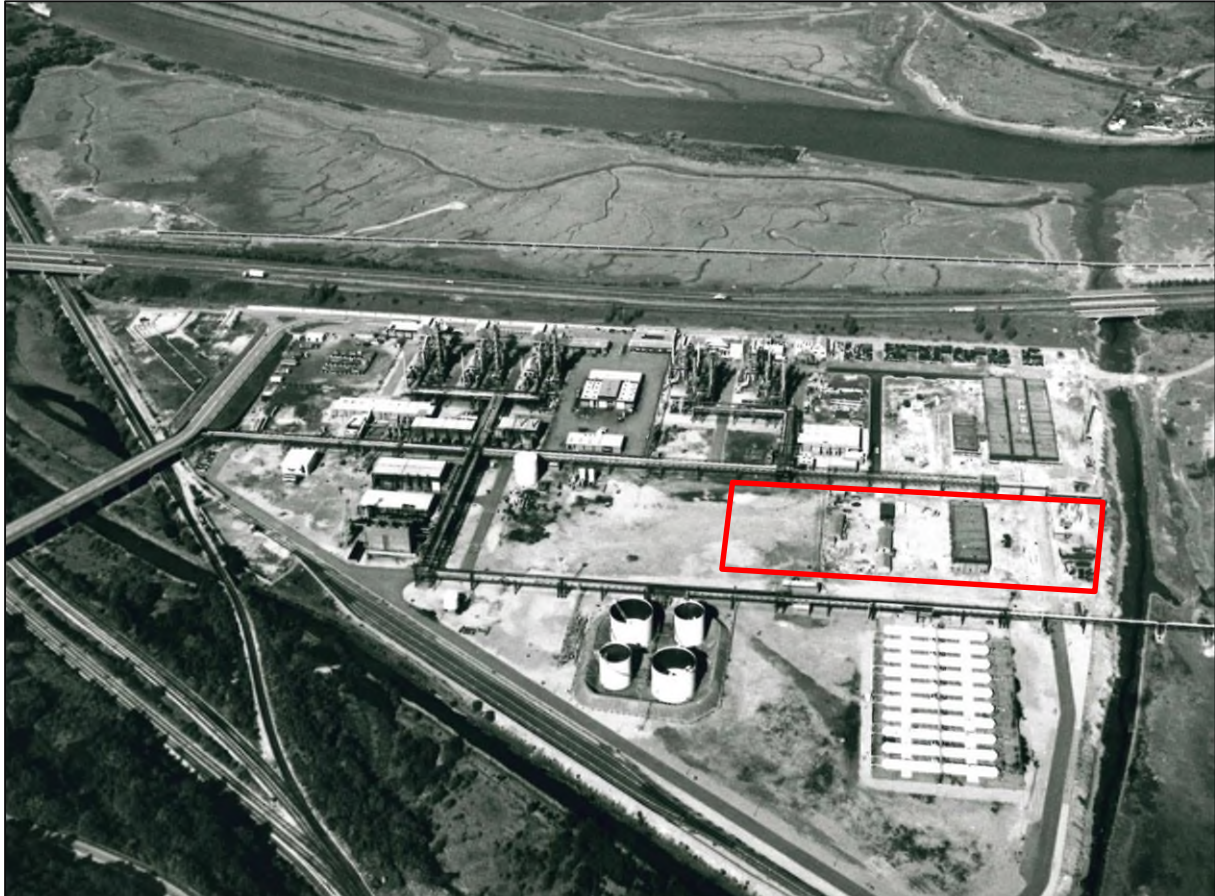


Figure 3.1 Aerial photograph dated 1960s

3.3 Omitted Sources of Contamination

It is considered that the made ground beneath the site is not a significant source of ground gas. The made ground at the site has been in-situ for at least 53 years. The likelihood of ground gas still being emitted in any significant concentration that would lead to the migration into buildings is remote.

Made ground soils are not inherently a significant source of hazardous ground gas. Typically, substantial proportions of putrescible materials such as vegetation, food waste, paper, cardboard, wood are required to be a source of gas in the ground. The likely source of made ground on site needs to be considered when determining if it is a credible source of gas.

In addition to the above, there are no new internal areas proposed as part of the development. The only buildings on site are the existing garage and the existing workshop building.

No other significant potential on-site or off-site sources of contamination have been identified during the desk study.

3.4 Potential Pollution Pathways

Potential contaminant pathways associated with a commercial land use are as follows.

- P1 – Direct soil and dust ingestion
- P2 – Dermal contact
- P3 – Inhalation of dust and vapours
- P4 – Vertical migration of leachates (unsaturated zone)
- P5 – Horizontal and vertical migration of contaminants (saturated zone)
- P6 – Artificial contaminant pathway (borehole, pile, excavation etc)
- P7 – Surface run-off
- P8 – Plant uptake
- P9 – Horizontal and vertical migration of ground gasses and vapours
- P10 – Direct contact with construction materials
- P11 – Inhalation of asbestos fibres

3.5 Potential Receptors

There are human and hydrological receptors to any contamination that may be present on site. Potential receptors include.

- R1 – Construction and maintenance workers
- R2 – Future site users (employees)
- R3 – Passers-by or neighbouring site users
- R4 – Groundwater (aquifer)
- R5 – Surface waters (river/lake)
- R6 – Area of public open space
- R7 – Construction materials (concrete/potable water pipes)

3.6 Preliminary Conceptual Site Model

The preliminary conceptual site model establishes potential pollutant linkages between contaminants (source), pathways and receptors, realised during the preparation of the desk study report. Where a potential pollutant linkage is identified an assessment of risk is subsequently undertaken. The preliminary conceptual site model is tabulated in **Table 3.2**.

Outcomes of the preliminary conceptual site model are used as a basis for the design and implementation of the site investigation, whereby areas of potential contamination can be targeted as well as investigating the wider site.

Findings of the site investigation can in turn be used to develop and refine the conceptual site model.

Table 3.2 Preliminary Conceptual Site Model

Source	Pathway	Receptor	Preliminary Risk Assessment		
			Consequence	Probability	Risk
Human Health					
Contaminated Soils S1, S2, S3	Direct soil and dust ingestion P1 Dermal contact P2	Construction and maintenance workers R1	Medium	Low Likelihood	Low Risk - COSHH assessment and good level of PPE/ hygiene by site workers/ staff; dust suppression measures if required. Suitably designed site investigation recommended
	Inhalation of dust and vapours P3 and asbestos P11	Passers-by or neighbouring site users R3	Medium	Unlikely	Near Zero - Dust suppression measures if required.
	Direct soil and dust ingestion P1 Dermal contact P2 Inhalation of dust and vapours P3 Plant uptake P8	Future site users (workers/employees) R2	Medium	High Likelihood	High Risk: The site has had an industrial history, ie; railway lines, gas works, chemical works. An electrical substation was also recorded on site. A suitably designed site investigation is recommended.
Volatile Contamination S1, S3	Horizontal and vertical migration of ground gasses and vapours P9	Future site users R2, Construction and maintenance workers R1	Medium	Likely	Medium Risk: A significant source of volatile contamination has been identified by the desk study (gas works/chemical works). Additional testing may be required depending on the findings of the site investigation.
Contaminated Soils S1, S2, S3	Direct Contact P10	Construction materials (water pipes) R7	Mild	Low Likelihood	Low Risk: An appropriate water supply pipe material should be chosen after the potable water supplier has completed an assessment in accordance with UK Water Industry Research guidance; Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites, UKWIR Report Ref: 10/WM/03/21.
Aggressive ground conditions Sulphates S1, S2, S3		Construction materials (concrete) R7			Low Risk: Chemical analysis of the soils should be undertaken, and the appropriate classification of concrete should be specified as per BRE Special Digest 1: Concrete in Aggressive Ground.
Aquatic Environment					
Contaminated Soils S1, S2, S3	Vertical migration of leachates (unsaturated zone) P4	Groundwater (aquifer) R4 Surface waters (river/lake) R5	Medium	Likely	Medium Risk: Significant contamination is expected across the site. Leachate from the made ground soils, or free phase produce may have migrated into the groundwater, and possibly into the nearby surface water. It is recommended groundwater sampling will be required.
	Surface run-off P7	Surface waters (river/lake) R5			Medium Risk: Significant contamination is expected across the site. Impacted surface water could flow directly into the nearby surface water bodies, either by overground flow or through on-site drainage.

	Horizontal and vertical migration of contaminants (saturated zone) P5				Medium Risk: Significant contamination is expected across the site and, with the local surface water features close by to site, any contaminated groundwater beneath the site could influence the surrounding surface water bodies. Any free phase product could also migrate through the saturated zone off-site.
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SECTION 4 Field Investigation

4.1 Site Works

A geotechnical and geoenvironmental site investigation comprising 2No. windowless sample boreholes, 6No trial pits, and 1No soakaway test was undertaken on the 21st December 2020.

A second phase of investigation comprising 4No. rotary boreholes, 6No. trial pits and PID monitoring was undertaken from the 5th to the 9th of December 2023.

Groundwater sampling from the rotary boreholes was undertaken on the 2nd and 10th of January 2024 respectively.

The fieldwork was supervised by TFW Group Ltd, who logged the exploratory holes to the requirements of BS 5930:2015+A1:2020. The proposed locations of the exploratory holes were determined by TFW Group Ltd in general accordance with BS 10175:2011+A2:2017 in order to assess the findings of the preliminary conceptual site model.

The ground levels and coordinates at each exploratory hole for Phase 2 works were established by TFW Group Ltd using GPS techniques.

Trial pits referenced TP01 to TP06 and TP101 to TP107 were formed using a JCB 3CX and 9-tonne excavator, respectively, with a 0.60m wide bucket.

Breaking out of buried concrete was required at trial pit TP06.

Representative disturbed samples were taken and retained in airtight containers for environmental and geotechnical testing.

On completion all trial pits were backfilled with materials arisings compacted in layers using the excavator bucket. The ground surface was reinstated and left proud to accommodate future settlement of backfilled materials.

The trial pit logs are presented in **Annex D**.

The windowless sampler boreholes referenced WS01 and WS02, were formed using a Terrier 2000 rig. Dynamic sampling techniques were employed from surface to produce a continuous disturbed sample.

Due to the density of the ground, the windowless sampler boreholes were unable to penetrate beyond 0.3m in either of the boreholes. Due to the consistent ground conditions recorded by the trial pitting across the site, the drilling was abandoned.

The windowless sampler borehole logs are presented in **Annex E**.

Soakaway tests were carried out in trial pits TP01, TP03 and TP04 in general accordance with BRE DG 365:2016. The excavation sides were squared using the excavator bucket and dimensions recorded within the test section. The trial pit was partially filled with clean water using a dedicated bowser with a 75mm diameter outlet and the fall in level recorded against time. The results are presented in **Annex G**.

Dynamic Cone Penetrometer tests, referenced CBR01 to CBR02, were carried out using a CNS Farnell A2465 dynamic cone penetrometer. Probe depths were measured with respect to ground level and the number of blows for the penetration of the probe was recorded. Equivalent CBR values have been calculated and presented with the results in **Annex H**.

Boreholes reference BH01 to BH04 were formed using a track mounted rotary drilling rig. Dynamic sampling techniques were employed from surface to produce a continuous disturbed sample. Boreholes were monitored for groundwater ingress as drilling proceeded.

The boreholes were terminated at approximately 5.0m below groundwater level.

On completion, boreholes were installed with slotted standpipes consisting of a 50mm ID HDPE slotted tube set in a granular filter zone and sealed above with a bentonite plug for the purposes of groundwater monitoring and sampling. Installations were protected at surface with an upstanding cover. Full installation details are recorded on the relevant logs.

The borehole logs are presented in **Annex F**.

In the rotary boreholes, 4No. Water Level Loggers were installed, recording relevant data from the 15th of December 2023 to the 10th of January 2024. Monitoring readings are presented in **Annex L**.

Representative grab samples from each borehole at regular depths were tested with a Photoionization Detector (PID) to detect any Volatile Organic Compounds (VOC) which may be present. Monitoring readings are presented in **Annex M**.

EnQuin Environmental Ltd conducted air testing during the drilling of the boreholes (BH01 to BH04) to quantify respirable asbestos fibres. Full results are appended in **Annex N**.

Exploratory hole locations are shown on **Drawing 01**.

4.2 Ground Conditions

The ground conditions encountered by the exploratory holes in Phase 1 and Phase 2 works can in general be summarised as shown in **Table 4.1**.

Table 4.1 Summary of Typical Ground Conditions

Depth (m)			Thickness (m)	Stratum
0.00	-	0.30/0.80	0.30/0.80	MADE GROUND. (Medium dense)* grey mottled black and light brown sandy GRAVEL of asphalt, slag material, and sandstone.
0.30/0.80	-	3.40/4.80	2.90/4.50	MADE GROUND. (Dense) grey mottle light brown sandy GRAVEL with high cobble and low boulder content of slag material.
3.40/4.80	-	5.50/6.50	0.70/3.10	Light brown mottled yellowish brown variably clayey variably gravelly SAND .*
4.20/6.50	-	>7.50/>9.00	>2.00/3.50	Dark grey mottled orangish brown and light grey SAND .
Notes:				
*Absent in BH03				

4.3 Stability and Obstructions

All trial pits were unstable during excavation during Phase 1 works, leading to early termination due to continuous collapse of the pit sides preventing further excavation. Buried concrete was encountered from 0.3m to 0.4m in TP06 (Phase 1).

All trial pits were spalling during excavation during Phase 2 works. The majority of the trial pits were terminated early due to hard strata and slow progress, in conjunction with the spalling.

Trial pits TP101 to TP103 were terminated early due to buried concrete. Contractors on site that have been excavating in the area stated that the structure extends to 2m depth.

During drilling, blowing sands were encountered between 4.20/6.50m to 7.50m/9.00m, subsequently leading to early termination of the boreholes.

Drilling through the blowing sands, even with casing installed, caused an uplift of these sands which then collapsed once the drill run had been completed. For the benefit of groundwater well installations, the boreholes were terminated once collapse of the blowing sands had begun.

4.4 Laboratory Chemical Testing

4.4.1 Sampling Strategy

For Phase 1 works, soil sampling locations were selected on a non-targeted basis to characterise the site. A herringbone sampling pattern was adopted.

For Phase 2 works, the majority of soil and groundwater sampling locations were selected on both a non-targeted basis to characterise the potential contamination from the site's previous industrial history (i.e; chemical works, gas works), and a targeted basis to obtain data from the chemical test data from made ground soils, and from areas of the site previously occupied by Briton Ferry Chemical Works.

Trial pit TP107 was excavated and sampled to characterise the potential contamination from the recorded historical "tank" on site.

Volatile Organic Compounds (VOC's) were tested in grab samples from each Phase 2 borehole using a Photoionization Detector (PID), all results were of low concentrations, indicative of background levels.

Sample locations, depths and suspected/known contamination source targets are summarised in **Table 4.2**:

Table 4.2 Sample Locations, Depths and Targets

Location	Depth (m)	Contamination Targets
Phase 1		
TP01	1.00	S1, S2, S3
TP02	0.60	
TP03	0.30	
TP04	0.60	
TP05	0.60	
TP06	1.00	
Phase 2 (Soils)		
TP101	0.20	S1, S2, S3
	1.70	
TP102	0.60	
	2.00	
TP103	0.30	
	1.00	
TP104	0.50	
	1.00	
TP105	0.50	
	1.20	
TP106	0.40	

	1.40	
TP107	0.30	S1, S3 (Tank)
	0.60	
	0.90	
Phase 2 (Groundwater)		
BH01	3.50 (Round 1 of Groundwater Testing)	S1, S2, S3
	3.00 (Round 2 of Groundwater Testing)	
BH02	3.10 (Round 1 of Groundwater Testing)	
	3.50 (Round 2 of Groundwater Testing)	
BH03	3.20 (Round 1 of Groundwater Testing)	
	4.00 (Round 2 of Groundwater Testing)	
BH04	3.00 (Round 1 of Groundwater Testing)	
	3.50 (Round 2 of Groundwater Testing)	

4.4.2 Soil Laboratory Analysis

During the site investigation works, soil and groundwater samples were taken and despatched to the accredited laboratories of Eurofins Chemtest for laboratory chemical testing. Soil samples were tested for the determinants listed in **Table 4.3**.

Table 4.3 Soil Laboratory Analysis

Metals & Metalloids	In-Organics	Organics	Others
Arsenic	Cyanide	Phenols	pH (acidity)
Cadmium	Sulphate	PAH	Asbestos
Chromium III		Petroleum Hydrocarbons	
Chromium VI		VOCs	
Copper		SVOCs	
Lead		PCBs	
Mercury		BTEX	
Nickel		MTBE	
Selenium			
Zinc			

The results are discussed in detail in **SECTION 6** and the laboratory test results certificates for Phase 1 and Phase 2 may be found in **Annex I**.

4.4.3 Soil Leachate Laboratory Analysis

Leachate laboratory testing was undertaken on the determinants listed in **Table 4.4**.

Table 4.4 Leachate Laboratory Analysis

Metals & Metalloids	In-Organics	Organics	Others
Arsenic	Cyanide	Phenols	pH (acidity)
Boron	Sulphate	PAH	

Cadmium		Petroleum Hydrocarbons	
Chromium		VOCs	
Copper		SVOCs	
Lead		PCBs	
Mercury			
Nickel			
Selenium			
Zinc			

The results are discussed in detail in **SECTION 6** and the laboratory test results certificates may be found in **Annex I**.

4.4.4 Groundwater Laboratory Analysis

Upon completion of site investigation works groundwater samples were collected from installation wells and submitted to the laboratories of Eurofins Chemtest. Samples were tested for the determinants listed in **Table 4.5**.

Table 4.5 Groundwater Laboratory Analysis

Metals & Metalloids	In-Organics	Organics	Others
Arsenic	Cyanide	Phenols	pH (acidity)
Cadmium	Sulphate	PAH	Hardness
Chromium III	Sulphide	Petroleum Hydrocarbons	Electrical Conductivity
Chromium VI		VOCs	Oxygen Demands
Chromium		SVOCs	
Copper		PCBs	
Lead		Phenols	
Mercury		BTEX	
Nickel			
Selenium			

The results are discussed in detail in **SECTION 6** and the laboratory test results certificates for Phase 2 may be found in **Annex K**.

4.5 Soil Property Testing

4.5.1 In-situ Permeability Testing

During the Phase 1 site investigation, three trial pit soakaway tests were undertaken in TP01, TP03 and TP04 and carried out in general accordance with BRE DG 365:2016.

Due to the speed at which the water infiltrated from the TP01 and TP03 a head of water could not be established, and therefore the rate of infiltration could not be calculated.

Due to a slower rate of infiltration within TP04 a head of water was established. An infiltration rate could therefore be calculated and is summarised in **Table 4.6**.

Table 4.6 Summary of Soakaway Results

Trial Pit	Depth Range of Test (m)	Infiltration Rate (ms ⁻¹)
TP04	1.49-1.60	3.20x10 ⁻⁰³
	1.50-1.60	2.94x10 ⁻⁰³
	1.50-1.60	2.94x10 ⁻⁰³

The test results are discussed in **SECTION 9.6** and the calculation sheets may be found in **Annex G**.

4.5.2 Laboratory Geotechnical Testing

A schedule of laboratory tests was prepared by TFW Group Ltd and samples were despatched to relevant laboratories. A summary of the testing carried out is presented in **Table 4.7**.

Table 4.7 Summary of Geotechnical Testing

Geotechnical Test	Standard	No. Tested
Assessment of Volumetric Stability of Iron and Steel Industry Slag*	-	3
Notes: *Thomas Research Services Limited		

The test results are presented in **Annex K** and discussed in **SECTION 7** of this report.

4.6 Exploratory Investigation of Tank

Based on historical mapping at the site, an above ground tank was present at the east of the site sometime between the years of 1980 and 2000 an above ground tank.

During the Phase 1 investigation an exploratory investigation beneath the area of the former tank could not be carried out due to the possible presence of drainage and underground services in its vicinity.

During the second phase of investigation, shallow samples were taken from beneath the removed tank (TP107) to confirm whether the shallow soils have been affected by any leaks in the past.

SECTION 5 Level Logging Data

5.1 Groundwater Depth vs Ordnance Datum

Prior to installing the level loggers, based on the topography and direction to the Red Jacket Pill, the flow hydraulic gradient was presumed likely to fall to the south.

Groundwater samples were taken on 2nd and 10th of January 2024. The full data collected can be found in **Annex L**.

The depth to groundwater prior to sampling and during level logging (maximum and minimum depth) is presented in **Table 5.1** and **Table 5.2**.

Table 5.1 Groundwater Levels Prior to Groundwater Sampling

Location	Well head above OD (m)	Water Depth Below Ground Level (m) – Groundwater Sampling		Water Depth Above Ordnance Datum (m) – Groundwater Sampling	
		02/01/2024	10/01/2024	02/01/2024	10/01/2024
BH01	7.28	3.20	2.00	4.08	5.28
BH02	7.45	3.40	3.33	4.05	4.12
BH03	7.25	3.50	3.52	3.75	3.73
BH04	7.20	2.80	3.10	4.40	4.10

When comparing the groundwater depths to the borehole logs, it can be seen that the groundwater straddles both made ground and the natural superficial deposits.

Table 5.2 Groundwater Levels During Level Logging

Location	Well head above OD (m)	Water Depth Below Ground Level (m) – Level Logging (Minimum / Maximum Depth)	Water Depth Above Ordnance Datum (m) – Level Logging
BH01	7.28	1.70 / 3.55	5.58 / 3.73
BH02	7.45	2.84 / 3.53	4.61 / 3.92
BH03	7.25	2.90 / 3.53	4.35 / 3.72
BH04	7.20	2.78 / 3.17	4.42 / 4.03

5.2 Groundwater vs Tidal Cycle

Groundwater levels were monitored from the 15th December 2023 to the 10th January 2024 using Level Loggers installed in boreholes BH01 to BH04.

The groundwater levels were recorded on a half-hourly basis.

Figure 5.1 shows the information collected in a graphical form. The height of the water column has been used as this provides a clear indication of the relationship between groundwater level and the tidal level. The tide heights have been obtained by UK Hydrographic Office – EasyTide)

During high tide, the groundwater level often rises due to increased hydrostatic pressure from the sea. Conversely, during low tide, the groundwater level tends to decrease.

The full data collected can be found in **Annex M**.

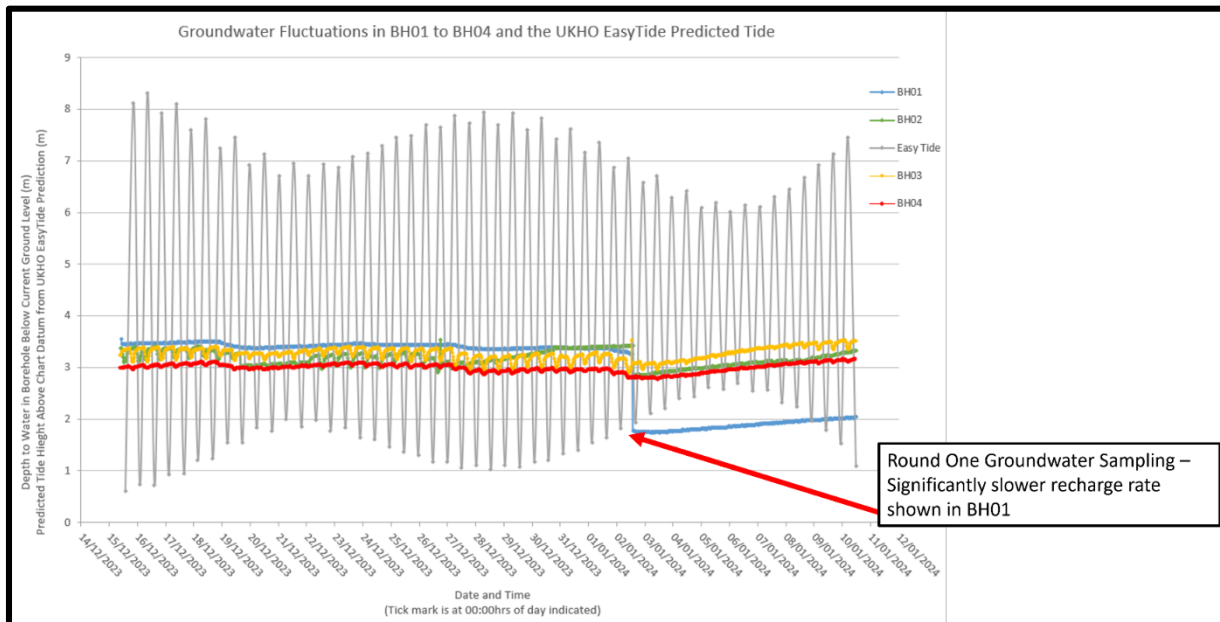


Figure 5.1 Graphical Presentation of Tidal Monitoring against Groundwater (Level Loggers) – BH01 to BH04

The groundwater monitoring has identified that the groundwater level in BH02 to BH04 is tidally influenced. There is approximately a six-hour delay behind the tidal cycle in these locations.

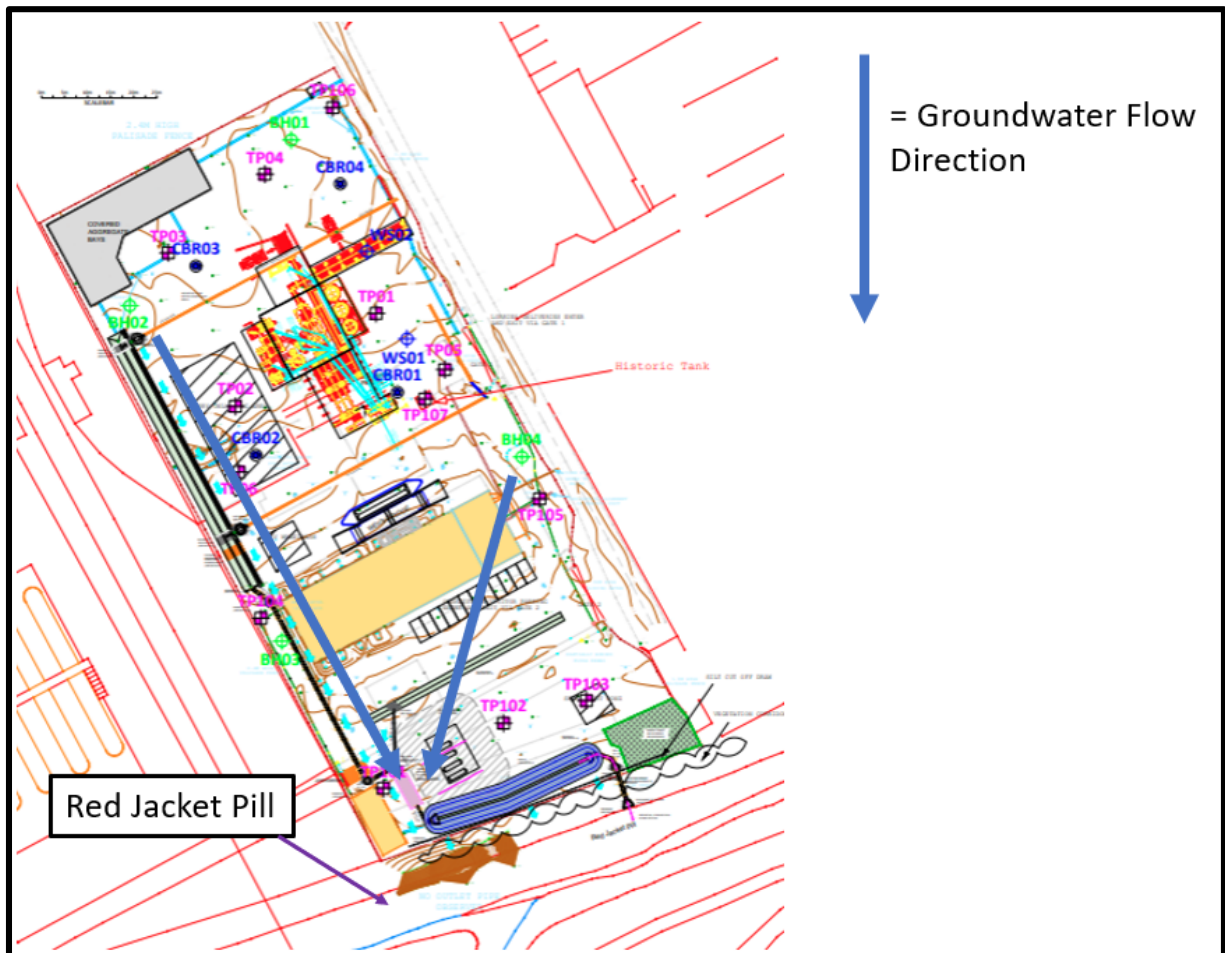
The groundwater level in BH01 does not appear to be tidally influenced. BH01 showed a significantly slower recharge rate of groundwater compared to the other boreholes, as indicated by the groundwater depth not rising to previously recorded levels following sampling. There appears to be no tidal recharge of the groundwater in this area of the site. The maximum and minimum groundwater depth (**Section 5.1**) according to Ordnance Datum is misleading therefore for BH01, as this was influenced by sampling.

It should also be noted that BH01 is the furthest borehole away from the Red Jacket Pill, which is located approximately 180m to the south.

It is therefore apparent that most of the groundwater beneath the site is tidally influenced, as three of the four boreholes showed fluctuations corresponding to the tidal cycle. The groundwater is, therefore in hydraulic continuity with Red Jacket Pill, and confirms our hypothesis in Section 2.4.1.

5.3 Groundwater Direction of Travel

Level logger data has allowed the direction of the groundwater flow to be determined. The hydraulic gradient is shown to be flowing in a north to south direction to the Red Jacket Pill, as illustrated in **Figure 2.1**.



SECTION 6 Evaluation of Geoenvironmental Analytical Results

6.1 Assessment Methodology

Comparison of the analytical results has been made with the 2015 Suitable 4 Use Levels (S4UL) provided by Land Quality Management (LQM) Limited and the Chartered Institute of Environmental Health (CIEH) or provisional Category 4 Screening Levels (pC4SL).

Soil leachate and groundwater analytical results have been compared with available published guidelines in the Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 and Drinking Water Directive (98/83/EC).

Sulphate results have been compared to guidelines presented in British Research Establishment (BRE SD1:2015). Sulphate levels need only be considered for buried concrete risk assessment and are not human health related.

Soils subjected to a UK Water Industry Research (UKWIR) suite of testing have been compared with guidelines set out in UKWIR Guidance for the Selection of Water Supply Pipes to be Used in Brownfield Sites (Ref 10/WM/03/21).

6.2 Soil Test Results

A summary of the chemical test results which include the regulatory soil guideline values used in a commercial setting are given in the following tables. The complete results can be found in **Annex I**.

6.2.1 Inorganics & Miscellaneous

Eighteen samples were tested for a standard suite of inorganics, pH and organic matter. The summarised results are in **Table 6.1** and **Table 6.2**.

Table 6.1 Summary of Soil Chemical Test Results – Inorganics & Miscellaneous (Phase 1 and 2 Combined)

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Arsenic	640	LQM/CIEH	12	1300	1
Cadmium	190	LQM/CIEH	<0.10	11	0
Chromium III	8600	LQM/CIEH	18	68	0
Chromium VI	33	LQM/CIEH	<0.5	<0.5	0
Copper	68000	LQM/CIEH	59	5700	0
Lead	2300	pC4SL	73	5000	3
Mercury (inorganic)	1100	LQM/CIEH	1.8	49	0
Nickel	980	LQM/CIEH	11	160	0
Selenium	12000	LQM/CIEH	1.9	56	0
Zinc	730000	LQM/CIEH	17	3000	0
*Cyanide (Total)	-	-	<0.5	1.0	-
*Cyanide (Free)	-	-	<0.5	<0.5	-
*Cyanide (Complex)	-	-	<0.5	1.0	-
Boron	240000	LQM/CIEH	<0.40	1.1	0
Sulphate (%)	-	-	0.075	3.6	-
Organic Matter (%)	-	-	<0.10	4.9	-
pH	-	-	8.1	10.7	-

Notes:
- No available guideline

Table 6.2 Summary of Soil Chemical Test Results - Speciated Polycyclic Aromatic Hydrocarbons (Phase 1 and 2 Combined)

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Naphthalene	190	LQM/CIEH	<0.01	0.28	0
Acenaphthylene	83000	LQM/CIEH	<0.01	0.91	0
Acenaphthene	84000	LQM/CIEH	<0.01	0.16	0
Fluorene	63000	LQM/CIEH	<0.01	0.81	0
Phenanthrene	22000	LQM/CIEH	<0.01	4.1	0
Anthracene	520000	LQM/CIEH	<0.01	1.6	0
Fluoranthene	23000	LQM/CIEH	<0.01	4.4	0
Pyrene	54000	LQM/CIEH	<0.01	3.1	0
Benzo(a)anthracene	170	LQM/CIEH	<0.01	2.6	0
Chrysene	350	LQM/CIEH	<0.01	2.1	0
Benzo(b)fluoranthene	44	LQM/CIEH	<0.01	2.4	0
Benzo(k)fluoranthene	1200	LQM/CIEH	<0.01	0.93	0
Benzo(a)pyrene	35	LQM/CIEH	<0.01	1.5	0
Indeno(123cd)pyrene	500	LQM/CIEH	<0.01	1.0	0
Dibenzo(ah)anthracene	3.5	LQM/CIEH	<0.01	0.35	0
Benzo(ghi)perylene	3900	LQM/CIEH	<0.01	1.5	0
Total PAH	-	-	<2.0	16	-

Notes:
Thresholds based on 1.0% soil organic matter
- No available guidelines
* see section 6.2.2

Eighteen samples were tested for petroleum hydrocarbon.

The summarised results are shown in **Table 6.3**.

Table 6.3 Summary of Soil Chemical Test Results Petroleum Hydrocarbons

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Aliphatic					
PH C5 – C6 Ali	3200	LQM/CIEH	<0.05	<1.0	0
PH C6 – C8 Ali	7800	LQM/CIEH	<0.1	<1.0	0
PH C8 – C10 Ali	2000	LQM/CIEH	<0.05	<1.0	0
PH C10 – C12 Ali	9700	LQM/CIEH	<1.0	3.4	0
PH C12 – C16 Ali	59000	LQM/CIEH	<1.0	29	0
PH C16 – C21 Ali	1600000*	LQM/CIEH	<1.0	51	0
PH C21 – C35 Ali	1600000*	LQM/CIEH	<1.0	110	0
PH C35 – C44 Ali	1600000	LQM/CIEH	<1.0	<1.0	0
Aromatic					
PH C5 – C7 Arom	3200	LQM/CIEH	<0.05	<1.0	0
PH C7 – C8 Arom	7800	LQM/CIEH	<0.05	<1.0	0

PH C8 – C10 Arom	2000	LQM/CIEH	<0.05	<1.0	0
PH C10 – C12 Arom	9700	LQM/CIEH	<1.0	<1.0	0
PH C12 – C16 Arom	59000	LQM/CIEH	<1.0	7.3	0
PH C16 – C21 Arom	1600000*	LQM/CIEH	<1.0	40	0
PH C21 – C35 Arom	1600000*	LQM/CIEH	<1.0	690	0
PH C35 – C44 Arom	1600000	LQM/CIEH	<1.0	250	0

Notes:

PH – Petroleum Hydrocarbon

Ali – Aliphatic

Arom – Aromatic

Thresholds based on 1.0% soil organic matter

* – Ali C16-21 and C21-C35 based on criteria for Ali EC >16-35

Table 6.4 Summary of Soil Chemical Test Results – Phenols, BTEX & MTBE

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Phenols	440	LQM/CIEH	<0.10	<0.10	0
Benzene	27	LQM/CIEH	<1.0	<1.0	0
Toluene	56000	LQM/CIEH	<1.0	6.5	0
Ethylbenzene	5700	LQM/CIEH	<1.0	1.1	0
o- xylene	6600	LQM/CIEH	<1.0	2.5	0
m- xylene*	6200	LQM/CIEH	<1.0	<1.0	0
p- xylene*	5900	LQM/CIEH	<1.0	<1.0	0
MTBE	-	-	<1.0	<1.0	-

Notes:

*Combined m-xylene and p-xylene in Phase 2

All eighteen samples were tested for a full suite of volatile and semi-volatile organic compounds. No compounds exceeding laboratory limits of detection were recorded.

All eighteen samples were tested for polychlorinated biphenyl (PCB). The summarised results are presented in **Table 6.5**.

Table 6.5 Summary of Soil Chemical Test Results – PCB

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
PCB 90+101	-	-	<0.0010*	<0.01	-
PCB 118	-	-	<0.0010*	<0.01	
PCB 138	-	-	<0.0010*	<0.01	
PCB 153	-	-	<0.0010*	<0.01	
PCB 180	-	-	<0.0010*	<0.01	
PCB 28	-	-	<0.0010*	<0.01	
PCB 52	-	-	<0.0010*	<0.01	
Total PCBs	0.24	CLEA	<0.1	<0.1	0

Notes:

*Phase 2

VOC's were tested for using a PID in grab bag samples from every borehole from Phase 2 of the investigation, with all samples having low recorded levels of VOC's.

6.2.2 Cyanide

* Despite the cyanide concentration being above the laboratory detection limits, there is insignificant risk to receptors.

Cyanides encountered in the soil environment can be divided into several classes, and the toxicity of cyanide varies significantly depending upon which class it belongs to.

In the soil environment cyanides may be Free, Weakly Complexed (Weak Acid Dissociable) or Strongly Complexed (Strong Acid Dissociable).

Cyanide has a strong propensity to form complexes and these are often very stable. Cyanide can form very stable metal-ligand complexes with extremely low solubility products (K_{sp}). Free cyanide's toxicity in humans arises from its propensity to complex with iron. Cyanide acts as an irreversible enzyme inhibitor. The cyanide ion (CN^-) binds irreversibly to iron within cytochrome C oxidase, preventing it from transporting electrons in the aerobic cellular respiration chain (See Simeonova et al, 2004).

Shifrin et al (1996) report that over 97% of cyanides encountered in the soil environment are in the iron-complexed form.

Free Cyanide is in the form of either the hydrogen cyanide molecule ($H-CN$) or ionic cyanide (CN^-). Free-Cyanide is defined as being capable of diffusing as a gas at room temperature and at a pH of 6.

Weak Acid Dissociable (WAD) Cyanide is defined as a group of cyanide species that will dissociate when refluxed under mildly acidic conditions (pH 4.5 – 6) and consequently liberate free-cyanide. This group includes weak metal-cyanide complexes.

Strong Acid Dissociable (SAD) Cyanide are those cyanide species that dissociate under strongly acidic conditions (sometimes with the assistance of UV radiation. This group includes strong metal-cyanide complexes. This group includes the strong ferrocyanide complex (solubility product) commonly encountered at manufactured (town) gas sites.

During the derivation of the former CLEA Soil Guideline Value, detailed in the now withdrawn report TOX 5 (Contamination in Soil: Collation of Toxicological Data and Intake Values for Humans. Inorganic Cyanide), toxicological data for the most toxic, free-cyanide form, was used.

For example, TOX 5 describes ferrocyanide complexes as 'relatively non-toxic' compared to the 'highly toxic free cyanide forms'.

In all soil samples tested, cyanide was split into the free and complex forms. The most toxic free-form of cyanide was detected below laboratory guidelines in all samples, and well below the no-withdrawn residential CLEA guideline of 8mg/kg. It is therefore considered that there is negligible risk to site end users from the presence of cyanide in soils at the site.

6.2.3 Asbestos Testing

EnQuin Environmental Ltd conducted air testing during the drilling of the boreholes (BH01 to BH04) to quantify respirable asbestos fibres. Respirable concentrations of asbestos were calculated to be <0.010 fibres/ml- cm^3 at every borehole location. Full results are appended in **Annex O**.

All made ground soil samples were scheduled for asbestos screening. Asbestos was detected in 7No. samples. Samples testing positive for asbestos were further scheduled for gravimetric quantification of ACM and fibres in soil/fibre quantification in soils. The results are summarised in **Table 6.6**.

Table 6.6 Summary of Soil Chemical Test Results – Asbestos Quantification

Sample	Depth (m)	Comment	Result (mass %)
Phase 1			
TP03	0.30	Chrysotile (fibres/clumps)	0.002
TP04	0.60		0.002
TP05	0.60		0.001
TP06	1.00		0.002
Phase 2			
TP101	0.20	Chrysotile (fibres/clumps)	0.005
	1.70		0.034
TP106	0.40		0.002

6.2.4 Leachate Test Results

Two soil samples were submitted for leachate testing (Phase 1). The results are summarised in **Table 6.7** and **6.9**.

Table 6.7 Summary of Leachate Chemical Test Results– Inorganics & Miscellaneous

Substance	Threshold Value (µg/l)	Source	Measured Concentrations (µg/l)		Number of Exceedances
			Minimum	Maximum	
Arsenic	50	WFD2	15	42	0
Cadmium	0.08	WFD1	<0.08	<0.08	0
Chromium	3.4*	WFD2	<1.0	2.6	0
Copper	1.0	WFD2	2.7	3.0	2
Lead	1.2	WFD1	4.3	27	2
Mercury	0.07	WFD3	0.16	0.87	2
Nickel	4	WFD1	<1.0	<1.0	0
Selenium	10	DWD	16	37	2
Zinc	10.9	WFD2	<1.0	1.6	0
Cyanide, Total	1.0	WFD2	<50	<50	BLDL
Sulphate (mg/l)	400	BRE	15	28	0
pH	-	-	9.6	10.0	-

Notes:

WFD1 - Water Framework Directive – Inland Surface Waters (AA)
 WFD2 - Water Framework Directive – Freshwater (Long Term Mean)
 WFD3 - Water Framework Directive – Inland Surface Waters (MAC)
 DWD – Drinking Water Directive
 BRE – British Research Establishment
 - No available guideline
 * Conservative threshold for Chromium VI used
 BLDL - Below laboratory detection limit
 ALDL - Above laboratory detection limit

Table 6.8 Summary of Leachate Chemical Test Results – Organics

Substance	Threshold Value	Source	Measured Concentrations (µg/l)	Number of Exceedances
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	(µg/l)		Minimum	Maximum	
Naphthalene	2	WFD1	<0.01	<0.01	0
Acenaphthylene	-	-	<0.01	<0.01	BLDL
Acenaphthene	-	-	<0.01	<0.01	BLDL
Fluorene	-	-	<0.01	<0.01	BLDL
Phenanthrene	-	-	<0.01	<0.01	BLDL
Anthracene	0.1	WFD1	<0.01	<0.01	0
Fluoranthene	0.0063	WFD1	<0.01	<0.01	BLDL
Pyrene	-	-	<0.01	<0.01	BLDL
Benzo(a)anthracene	-	-	<0.01	<0.01	BLDL
Chrysene	-	-	<0.01	<0.01	BLDL
Benzo(b)fluoranthene	0.017	WFD3	<0.01	<0.01	0
Benzo(k)fluoranthene	0.017	WFD3	<0.01	<0.01	0
Benzo(a)pyrene	0.00017	WFD1	<0.01	<0.01	BLDL
Indeno(123cd)pyrene	-	-	<0.01	<0.01	BLDL
Dibenzo(ah)anthracene	-	-	<0.01	<0.01	BLDL
Benzo(ghi)perylene	0.0082	WFD3	<0.01	<0.01	BLDL
TPH (C6-C40)	-	-	<10	<10	BLDL
Phenols	7.7	WFD2	<5	<5	0
Notes: WFD1 - Water Framework Directive – Inland Surface Waters (AA) WFD2 - Water Framework Directive – Freshwater (Long Term Mean) WFD3 - Water Framework Directive – Inland Surface Waters (MAC) - No available guideline ALDL - Above laboratory detection limit BLDL - Below laboratory detection limit					

Two samples were tested for a full suite of volatile and semi-volatile organic compounds, MTBE, BTEX, and PCBs from soil leachate. No compounds exceeding laboratory limits of detection were recorded.

6.2.5 Groundwater Test Results

Eight groundwater samples were collected from boreholes BH01 to BH04 (two samples each respectively). The samples were tested for suite of inorganic and organic determinands. The results are summarised in **Table 6.9** and **Table 6.8**.

Table 6.9 Summary of Groundwater Chemical Test Results – Inorganics & Miscellaneous

Substance	Threshold Value (µg/l)	Source	Measured Concentrations (µg/l)		Number of Exceedances
			Minimum	Maximum	
Arsenic	50	WFD2	4.1	850	4
Cadmium	0.11	WFD1	<0.11	1.2	5
Chromium	3.4*	WFD2	<0.50	5.9	2
Copper	1.0	WFD2	3.3	22	8
Lead	1.2	WFD1	<0.50	1.3	1
Mercury	0.07	WFD3	<0.01	<0.01	0

Nickel	4	WFD1	1.9	22	7
Selenium	10	DWD	1.5	50	5
Zinc	10.9	WFD2	30	100	8
Cyanide, Total	1.0	WFD2	<0.0050	<0.0050	BLDL
Sulphide	-	-	<0.050	<0.050	BLDL
Sulphate (mg/l)	400	BRE	110	550	3
pH	-	-	6.8	8.0	-
BOD (mg/l)	-	-	<4.0	18	-
COD (mg/l)	-	-	<10	24	-
Electrical Conductivity (uS/cm)	-	-	450	3100	-
Hardness (mg/l)	-	-	190	660	-

Notes:

WFD1 - Water Framework Directive – Inland Surface Waters (AA)

WFD2 - Water Framework Directive – Freshwater (Long Term Mean)

WFD3 - Water Framework Directive – Inland Surface Waters (MAC)

DWD – Drinking Water Directive

BRE – British Research Establishment

- No available guideline

* Conservative threshold for Chromium VI used

BLDL - Below laboratory detection limit

ALDL - Above laboratory detection limit

Table 6.10 Summary of Groundwater Chemical Test Results – Organics

Substance	Threshold Value (µg/l)	Source	Measured Concentrations(µg/l)		Number of Exceedances
			Minimum	Maximum	
Naphthalene	2	WFD1	<0.10	<0.10	0
Acenaphthylene	-	-	<0.10	<0.10	BLDL
Acenaphthene	-	-	<0.10	<0.10	BLDL
Fluorene	-	-	<0.10	<0.10	BLDL
Phenanthrene	-	-	<0.10	<0.10	BLDL
Anthracene	0.1	WFD1	<0.10	<0.10	0
Fluoranthene	0.0063	WFD1	<0.10	<0.10	BLDL
Pyrene	-	-	<0.10	<0.10	BLDL
Benzo(a)anthracene	-	-	<0.10	<0.10	BLDL
Chrysene	-	-	<0.10	<0.10	BLDL
Benzo(b)fluoranthene	0.017	WFD3	<0.10	<0.10	0
Benzo(k)fluoranthene	0.017	WFD3	<0.10	<0.10	0
Benzo(a)pyrene	0.00017	WFD1	<0.10	<0.10	BLDL
Indeno(123cd)pyrene	-	-	<0.10	<0.10	BLDL
Dibenzo(ah)anthracene	-	-	<0.10	<0.10	BLDL
Benzo(ghi)perylene	0.0082	WFD3	<0.10	<0.10	BLDL
TPH (C6-C40)	-	-	<10	<10	BLDL
Phenol	7.7	WFD2	<0.0050	<0.0050	0

Notes:

WFD1 - Water Framework Directive – Inland Surface Waters (AA)

WFD2 - Water Framework Directive – Freshwater (Long Term Mean)

WFD3 - Water Framework Directive – Inland Surface Waters (MAC)

- No available guideline

ALDL - Above laboratory detection limit

BLDL - Below laboratory detection limit

Eight samples were tested for a full suite of volatile and semi-volatile organic compounds, MTBE, BTEX, and PCBs from groundwater. No compounds exceeding laboratory limits of detection were recorded. Full results are appended in **Annex K**.

6.2.6 Surface Water Test Results

Two surface water samples were collected from Red Jacket Pill, which lies to the immediate south of the site. The samples were obtained from upstream and downstream of the site. The samples were tested for metals and metalloids which were recorded at elevated concentrations in the groundwater beneath the site. The rationale for taking the samples from the river was to check whether the groundwater was contributing considerable concentrations of contaminants to the nearby surface water bodies. The results are summarised in **Table 6.9**.

Table 6.11 Summary of Surface Water Chemical Test Results – Inorganics & Miscellaneous

Substance	Threshold Value (µg/l)	Source	Measured Concentrations (µg/l)		Number of Exceedances
			Upstream	Downstream	
Arsenic	50	WFD2	3.2	5.6	0
Cadmium	0.11	WFD1	<0.11	<0.11	0
Chromium	3.4*	WFD2	<0.50	<0.50	0
Copper	1.0	WFD2	2.6	2.1	2
Lead	1.2	WFD1	<0.50	<0.50	0
Nickel	4	WFD1	1.0	1.1	0
Selenium	10	DWD	<0.5	1.3	0
Zinc	10.9	WFD2	20	21	2
Sulphate (mg/l)	400	BRE	49	48	0

Notes:

WFD1 - Water Framework Directive – Inland Surface Waters (AA)

WFD2 - Water Framework Directive – Freshwater (Long Term Mean)

WFD3 - Water Framework Directive – Inland Surface Waters (MAC)

DWD – Drinking Water Directive

BRE – British Research Establishment

- No available guideline

* Conservative threshold for Chromium VI used

BLDL - Below laboratory detection limit

ALDL - Above laboratory detection limit

SECTION 7 Geotechnical Testing Results

7.1 BRE SD1 Testing

Six samples were subject to BRE SD1 testing for concrete classification. The results are summarised in **Table 7.1** and are discussed further in **Section 9.4**.

Table 7.1 BRE SD1 Testing Summary

Location	Depth (m)	2:1 Water/Soil Extract SO ₄ (mg/l)	2:1 Water/Soil Extract Mg (mg/l)	Total Potential Sulphate (%)	Acid Soluble Sulphate (%)	Oxidisable Sulphate (%)	pH
TP01	1.0	130	<20	3.3	1.1	2.2	9.7
TP02	0.6	35	<20	2.67	1.0	1.67	9.1
TP03	0.3	34	<20	1.98	0.84	1.14	8.8
TP04	0.6	68	<20	1.93	0.74	1.19	8.7
TP05	0.6	47	<20	2.22	0.49	1.73	8.8
TP06	1.0	63	<20	2.16	0.77	1.39	10.7

7.2 Assessment of Volumetric Stability of Iron and Steel Industry Slag – Petrological Examination

Table 7.1 summarises the samples taken and dispatched to the laboratories of Thomas Research Services Limited. All three samples contained significant quantities of slag.

Table 7.2 Summary of Geotechnical Testing

Sample Location	Sample Depth (m)
TP01	1.0
TP03	1.0
TP06	1.0

Following a petrological examination of the three slag-containing samples, the following conclusions were drawn:

- The samples were similar, consisting predominantly of materials from acid steel furnaces and/or foundries.
- The main materials present included dark silicic glassy material, high temperature silica, quartz, corundum, pyroxenes, metal and iron oxides.
- Other materials present in the samples included quartz, alumino-silicate brick, iron & manganese ore, limestone, metal, fume, shale, coke and clay.
- Minor amounts of blast furnace slag were seen in samples 01 & 03.
- No basic steel slag or basic refractory material was seen in any of the samples.
- As little conventional slag was seen in the samples, no expansion testing is recommended on this set of samples.

A copy of the report is presented in **Annex L**.

SECTION 8 Quantitative Risk Assessment

8.1 Contaminants of Concern

Contaminants identified as part of the investigation are summarised in **Table 8.1**, along with an interpretation of the likely contamination source. Where applicable, the contaminant, source relationship is based on the inferences made in the preliminary conceptual site model.

Table 8.1 Contaminants of Concern

Location	Depth	Contaminant	Likely Source
Soils			
TP02	0.60	Lead	Made Ground Soils (S1) – imported slag, demolition of existing buildings, or imported building rubble brought in to raise site levels.
TP03	0.30	Chrysotile (asbestos)	
TP04	0.60	Lead Chrysotile (asbestos)	
TP05	0.60	Chrysotile (asbestos)	Previous Site Uses (S3), e.g. the copper works.
TP06	1.00		
TP101	0.20	Lead Chrysotile (asbestos)	Made Ground Soils (S1) – imported slag, demolition of existing buildings, or imported building rubble brought in to raise site levels.
	1.70	Chrysotile (asbestos)	
TP104	0.50	Arsenic	Previous Site Uses (S3), e.g. the copper works.
TP106	0.40	Chrysotile (asbestos)	
Groundwater			
BH01 (Round 1 of 2)	3.50	Sulphate, Arsenic, Copper, Nickel, Zinc	Made Ground Soils (S1) – Leaching of metals from slag and metalloids to groundwater.* Previous Site Uses (S3) – Leaching of metal-rich soils acquired from the metalliferous industry.*
BH01 (Round 2 of 2)	3.00	Cadmium, Chromium, Copper, Nickel, Selenium, Zinc	
BH02 (Round 1 of 2)	3.10	Cadmium, Copper, Selenium, Zinc	
BH02 (Round 2 of 2)	3.50	Arsenic, Cadmium, Chromium, Copper, Nickel, Selenium, Zinc	
BH03 (Round 1 of 2)	3.20	Sulphate, Arsenic, Copper, Nickel, Lead, Zinc	
BH03 (Round 2 of 2)	4.00	Cadmium, Copper, Nickel, Selenium, Zinc	
BH04 (Round 1 of 2)	3.00	Sulphate, Arsenic, Copper, Nickel, Zinc	
BH04 (Round 2 of 2)	3.50	Cadmium, Copper, Nickel, Selenium, Zinc	
Red Jacket Pill (off-site)			
Upstream	-	Copper, Zinc	Site and surrounding area, which have been occupied by heavy industry in the past, transport infrastructure, and made ground, rich in slag.
Downstream	-	Copper, Zinc	

Notes:

*Sources of chromium contamination can come from both natural and anthropogenic activities. These include metal works, steel and metal alloys production, paint manufacturing, wood and paper processing, dyeing, and

wastewater. In addition, the fall out of ashes produced by the incineration of coal or municipal waste for energy generation and the production of second-generation fertilizers contribute to the elevated Cr (VI) content in soil and water.

Sources of copper are widespread, and include but are not limited to industrial works, domestic wastewater, plumbing runoff from transport, and agriculture.

Sources of cadmium contamination can come from both natural and anthropogenic activities. These include phosphate fertilisers, presence of sewage sludge and various industrial uses such as NiCd batteries, metal plating, production of pigments and stabilisers in plastics.

Nickel is used mainly in the production of stainless steels, nonferrous alloys, electroplating, batteries and in some pigments and electronic equipment. The main anthropogenic sources of nickel in water are from nickel production, metallurgical processes, combustion and incineration of fossil fuels, chemical and catalyst production, and discharges of industrial and municipal wastes.

Natural atmospheric releases of selenium result from volatilization of selenium by plants and bacteria, and from volcanic activity. Some selenium is released to water via sewage effluent, agricultural runoff, and industrial wastewater.

Zinc sources can come from discharges of smelter slags, wastes, coal and bottom fly ash, mine tailings, and the use of products such as fertilisers and wood preservatives.

Inorganic arsenic is found naturally in soils, rocks, and sediments; human activities such as coal burning, smelting, agriculture and mining may further distribute arsenic in the environment. Arsenic is used in a number of industries for making electronic components, special alloys and in the manufacture of certain glass and ceramic products. Arsenic compounds may be used in the preservation of wood.

8.2 Pollutant Linkages

Based on the findings of the intrusive site investigation and identified contaminants, the preliminary conceptual site model has been revised. Significant pollutant linkages are tabulated in the refined conceptual site model **Table 8.2**. Identified pollutant linkages will require detailed risk assessment, appropriate mitigation or remedial measures.

Table 8.2 Refined Conceptual Site Model

Source	Pathway	Receptor
S1	P1, P3, P4, P11, P12	R1, R2, R3, R7
S3	P5, P6	R4, R5

8.3 Mitigation and Remedial Measures

The following sections summarise the likely mitigation and remedial measures suitable for the identified contamination and proposed development. Detailed methodology to achieve the measures should be prescribed in a Remediation Strategy Report and the results presented in a Validation Report upon completion of the development.

8.3.1 Human Health

8.3.1.1 Contaminated Soils

The advice of an asbestos specialist will be required and as a minimum the following precautions should be employed:

- Dust suppression and measures to dampen the material.
- Suitable PPE for site workers.
- Air monitoring on the site boundary.
- Personal air monitors (for a time to determine actual personnel / fibre interaction).

In addition to the above it is best practise to clean down plant and change air filters on any plant used in the works with asbestos contaminated material.

To protect future site users from the identified contamination the site will need to be capped. The capping should consist of the proposed buildings and hard standings. In landscaped areas the capping should consist of 600mm of suitable inert soil. No soft landscaping is proposed for the current development. Any new proposed soft landscaping should be underlain by a no-dig barrier comprising a geogrid and geotextile membrane to prevent excavation beyond the capping layer and mixing between the capping and contaminated made ground.

As good practice, construction workers should adhere to good site management, COSHH, good standards of hygiene and appropriate health & safety on site, with personal protection equipment (PPE) and dust suppression where appropriate.

All imported soils should be validated as clean and suitable for use in accordance with 'Requirements for the Chemical Testing of Imported Soils for Various End Uses and Validation Cover Systems'.

For proposed new supply water pipes, the UK Water Industry Research publication 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (Report 10/WM/03/21)' should be consulted.

In accordance with EC Regulation 1272/2008 and Environment Agency Guidance WM3 soils destined for off-site disposal should be classified on the basis of their hazard phrases prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties.

8.3.1.2 Tank (Historical Map) & Vapours

A trial pit (TP107) was excavated within the soils at the location of a former tank during the second phase of investigation. The made ground was inspected and shallow samples were taken.

No olfactory or visual evidence of any petroleum hydrocarbons were encountered. Photographs are provided in **Figure 2.1**.

Soil laboratory testing is currently being undertaken. Following receipt of the results, the report will be updated and re-issued.



Figure 8.1 Area of Historic Tank (TP107)

Reinforced concrete strip foundations have been adopted at the site, as per **Section 8.2**. Foundations have been laid directly adjacent to the anecdotal tank, down to a depth of 0.75m. No evidence of olfactory or visual evidence of TPH contamination was encountered during these excavations.

No evidence of a tank has been encountered in both trial pit TP107 and the adjacent foundation excavations. It is therefore concluded that the tank is no longer present on site.

8.3.1.3 Ground Gas & Radon

Whilst the site is underlain by a significant thickness of made ground, no deleterious organic material was encountered in any of the exploratory holes. It is therefore considered that the made ground is not a source of significant concentrations of carbon dioxide or methane, and that ground gas protection measures are not required for the proposed development.

No radon protection measures are necessary at the site.

It is considered that the made ground beneath the site is not a significant source of ground gas. The made ground at the site has been in-situ for at least 53 years. The likelihood of ground gas still being emitted in any significant concentration that would lead to the migration into buildings is remote.

Made ground soils are not inherently a significant source of hazardous ground gas. Typically, substantial proportions of putrescible materials such as vegetation, food waste, paper, cardboard, wood are required to be a source of gas in the ground. The likely source of made ground on site needs to be considered when determining if it is a credible source of gas.

The made ground typically comprises grey, brown, and black sandy gravel with high cobble and low boulder content of angular slag, with little sandstone, brick, and concrete. Whilst an average soil organic matter concentration of 2.9% (equating to approximately 1.7% Total Organic Carbon and Gas Characteristic Situation 2 protection measures), these values are based upon the finer soil content following the removal of coarse slag material such as gravel, cobbles and boulders. Consequently, this would give an exaggerated SOM concentration.

In addition to the above, there are no new internal areas proposed as part of the development. The only buildings with external areas on site are the existing garage and workshop. No ground gas issues have been identified at the site over the past few decades when the workshop building has been present and occupied.

It is considered that ground gas protection measures are not required as part of the proposed development.

8.3.2 Aquatic Environment

Leachate testing has identified elevated concentrations of copper, lead, mercury, and selenium. Groundwater testing has identified elevated concentrations of arsenic, cadmium, chromium, copper, nickel, selenium, and zinc.

Sources of the elevated metal concentrations are most likely caused by leaching of the slag in the made ground, and possibly from the historic smelting that took place at the site.

Upon development the site will be surfaced with hardstanding and appropriate surface water drainage will be installed, thereby reducing transmission of rain waters into the underlying made ground and by corollary reduce leaching from the made ground and migration of substances to groundwater.

According to the level logging data, the hydraulic gradient is orientated falling from north to south, which implies that the groundwater will be flowing into the Red Jacket Pill to the immediate south. It is also confirmed that the groundwater table straddles both the made ground and the superficial deposits. Contaminants from the made ground are therefore likely to be leached by the groundwater and will have done throughout the period that the made ground has been in-situ.

Whilst the concentrations of metals within the groundwater are recorded at concentrations that are significantly higher than the threshold values, it is considered that the metal and metalloid concentrations are consistent with those expected in an area that has seen centuries of heavy contaminative industries and built up with slag waste. It has been demonstrated that the groundwater beneath the site is likely to be in hydraulic continuity with Red Jacket Pill. Contaminants identified within the groundwater will therefore make their way into the surface water.

Laboratory chemical testing of surface water samples taken from upstream and downstream of the site do not demonstrate any considerable contribution from the groundwater beneath the site. Most of the surface water test results are low and within target concentrations. Only copper and zinc are recorded above target concentrations in the surface water; both of which are relatively minor exceedances.

It should be noted that no other contaminants tested for, which could be linked with the site's history such as petroleum hydrocarbons, PAHs, PCBs and volatile organic compounds were recorded above their threshold levels; most of them were recorded below laboratory detection limits.

Defra guidance (Environmental Protection Act 1990: Part 2A) "seeks to identify and deal with significant pollution (rather than lesser levels of pollution), the local authority should seek to focus on pollution which: (i) may be harmful to human health or the quality of aquatic

ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems; (ii) which may result in damage to material property; or (iii) which may impair or interfere with amenities and other legitimate uses of the environment.”

Part 2A also defines that the following types of pollution (Points 1 to 4) should be considered to constitute significant pollution of controlled waters:

1. Pollution equivalent to “environmental damage” to surface water or groundwater as defined by The Environmental Damage (Prevention and Remediation) Regulations 2009, but which cannot be dealt with under those Regulations.

The contamination identified in the waters on the site are highly unlikely to equate to environmental damage. Envirocheck data indicates that no Sensitive Land Uses are present within 250m of the site. Red Jacket Pill is located adjacent to the site and is therefore a sensitive receptor. However, the concentrations obtained from the groundwater and surface water testing indicate that the elevated concentrations within the groundwater are unlikely to be any imminent threat of damage to protected species, habitats, surface/ground water and land.

2. Inputs resulting in deterioration of the quality of water abstracted, or intended to be used in the future, for human consumption such that additional treatment would be required to enable that use.

There are no groundwater abstraction points within 250m of the site. Given that the groundwater beneath the site lies directly above a Secondary A – Undifferentiated aquifer, and in an area known to be affected by its industrial legacy it is considered that future abstractions would be very unlikely.

3. A breach of a statutory surface water Environment Quality Standard, either directly or via a groundwater pathway.

The guideline values for waters are very low and realistically are difficult to achieve. It has been demonstrated by sampling of Red Jacket Pill that most chemicals recorded above their thresholds in the groundwater are below threshold in the surface water and there is no indication that the groundwater from the site is causing significant deterioration to the quality of the surface water.

4. Input of a substance into groundwater resulting in a significant and sustained upward trend in concentration of contaminants (as defined in Article 2(3) of the Groundwater Daughter Directive (2006/118/EC)5).

The contaminants of concern within the water are metals and metalloids. These have most likely leached from the made ground beneath the site and surrounding area. The latest that this made ground could have been placed beneath the site is in 1964 when the gasworks was constructed. As activity relating to the source of the contamination has ceased for a considerable amount of time, there should not be a sustained upward trend in the concentration of contamination in the groundwater.

For the above reasons it is considered that the site falls into the lesser level of pollution and that the risk to the aquatic environment from waters and soils under the site is low.

During the construction period, there is a risk to the environment/adjacent sites from de-watering, digging foundations, moving contaminated soil, drainage misconnections, discharges to local surface waters or the ground, runoff from construction materials and/or exposed ground, wheel washings and oil or chemical spills.

The risk is considered to be negligible as any adverse effects will be easily preventable by due diligence to good construction practise and housekeeping in preventing surface runoff and the spillage of materials.

The basic measures that should be taken are as follows:

- Prepare a drainage plan and mark the manholes to prevent pollutants accidentally reaching the surface water sewers;
- Carry out any activities that could cause pollution in a designated, bunded area, away from rivers or boreholes. Where possible it should drain to the foul sewer;
- Use settlement ponds to remove silty water;
- Store all oils and chemicals in a fully bunded area to prevent leaks or spills;
- Get advice on whether you need an environmental permit and apply in good time

SECTION 9 Engineering Recommendations

9.1 Preparation of Site

Allowances should be made for any temporary/permanent support works to any existing adjacent structure necessary as a result of the proposed works.

Contingencies should be made for the protection/diversion of any underground/overhead services present beneath/above the site brought about as a result of the proposed works.

Any reduced levels should be brought up to the required levels with suitable inert mainly granular materials. Department of Transport (DTp) type 2 sub-base or similar should be used and compacted in layers to the requirements of the Specification for Highway Works.

Allowances should also be made for the excavation of any soft spots/areas and their replacement with well compacted imported granular materials.

In accordance with EC Regulation 1272/2008 and Environment Agency Guidance WM3 soils and other materials destined for off-site disposal should be classified on the basis of their hazard phrases prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties. Terra Firma (Wales) Ltd offer this service if required.

9.2 Foundation and Floor Slab Solution

Based upon the information provided by Thomas Research Services Limited (**Section 6.2**), significant expansion of the slag-rich soils is unlikely.

It is therefore recommended that reinforced concrete strip foundations be used; founded within the made ground at an approximate depth of 0.75m below the existing ground level. An allowable bearing pressure of 100kN/m² may be used for strips up to 750mm wide.

Foundations must sit at least 200mm within the founding horizon.

For the given foundation solutions and bearing pressure, maximum total settlements of 25mm should result with differential movements of the superstructure not exceeding 1:750.

Floor slabs may be designed as reinforced ground bearing.

Allowances should be made for the removal of any 'soft spots' and their replacement with well-compacted granular materials. Department of Transport (DoT) Type 2 materials or similar could be used and should be compacted in layers to the specification for Highway Works.

All foundation formations should be inspected by a suitably qualified Engineer before being concreted.

9.3 Excavations and Formations

Most of the shallow excavations will be possible with normal soil excavating machinery. Breaker attachments will be required when excavating out concrete or buried obstructions.

Shallow perched water and groundwater flows were not encountered during the investigation. Any water inflows together with rainwater infiltration should be dealt with by conventional pumping techniques. However, it should be noted that during times of heavy rainfall a higher water table will be encountered.

The sides of any excavations deeper than 1.20m, or shallower if unstable, should be supported by planking and strutting or other proprietary means. Significant instability was encountered throughout the trial pit excavations, and from very shallow depth.

The sub-formations/formations are likely to be susceptible to loosening, softening and deterioration by exposure to weather (rain, frost and drying conditions), the action of water (flood water or removal of groundwater) and site traffic.

Formations should never be left unprotected and continuously exposed to rain causing degradation, or left exposed/uncovered overnight, unless permitted by a qualified engineer.

Construction plant and other vehicular traffic should not be operated on unprotected formations.

As a minimum the formation/excavation surfaces must be protected by blinding concrete immediately after exposure.

Allowances should be made for the removal of soft spots/areas and their replacement with well compacted granular materials.

Allowances should also be made for special precautions to prevent formation deterioration in addition to the above.

9.4 Protection of Buried Concrete

When the results are compared with Table C2 of BRE Digest 1:2005, it indicates that concrete should generally conform to DS-4 Class AC-4. This elevated ACEC classification is caused by high concentrations of total potential sulphates recorded by the soil laboratory chemical testing.

9.5 Access Roads and Car Parking Areas

Based upon the CBR testing undertaken at the site, for car parking and road areas, formations within the in-situ natural soils a CBR value of 5% may be used from 0.15m depth for design purposes.

Allowances should be made for the removal of any 'soft spots/areas' and their replacement with well-compacted granular materials as previously described.

Please note that the Local Council / Highways Authority may require in-situ CBR testing to be undertaken before a road is adopted. In-situ CBR Testing should be performed following earthworks to verify the performance of the engineered fill.

9.6 Storm Water Drainage

During the site investigation three soakaway tests were undertaken in general accordance with BRE DG 365:2016. The soakaway tests were carried out in trial pit TP01, TP03 and TP04 within mad ground soils.

Due to the speed at which the water infiltrated from the TP01 and TP03 a head of water could not be created, and therefore the rate of infiltration could not be calculated.

Due to a slower rate of infiltration within TP04 a head of water was formed. Infiltration rates of between 2.94×10^{-03} and 3.20×10^{-03} were recorded.

The use of soakaway stormwater drainage is therefore considered viable on site in the locations and depths tested.

Proposed soakaways should be positioned at least 5.0m away from any structure.

Based on the leachate test results (discussed in Section 7.3.2) it has been demonstrated that the use of soakaways is unlikely to significantly mobilise contaminants from the made ground.

SECTION 10 Recommended Further Work

It is recommended that further soil samples are taken from the south and centre of the site to gain a greater understanding of the risks from contaminated soils in these areas of the site. The report will be re-issued following receipt and evaluation of the results.

**ANNEX A
Envirocheck Report**

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

270552102_1_1

Customer Reference:

16461-MW

National Grid Reference:

272600, 194820

Slice:

A

Site Area (Ha):

1.2

Search Buffer (m):

1000

Site Details:

Land at Edwards Works

Llandarcy

Neath

SA10 6JY

Client Details:

Mr M Watkins

Terra Firma (Wales) Ltd

5 Deryn Court

Wharfdale Road

Pentwyn

Cardiff

CF23 7HB

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Waste	54
Hazardous Substances	62
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Industrial Land Use	85
Sensitive Land Use	91
Data Currency	92
Data Suppliers	98
Useful Contacts	99

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 4		7		34
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 14				3
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 15		1		4
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 15		Yes		
Pollution Incidents to Controlled Waters	pg 16		1		11
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 18		1		1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points	pg 18				1
Substantiated Pollution Incident Register	pg 19				3
Water Abstractions	pg 19				3 (*6)
Water Industry Act Referrals	pg 21				1
Groundwater Vulnerability Map	pg 21	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 21	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 21	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 21	Yes	Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 22		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 22		15	88	179

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 54				1
Historical Landfill Sites	pg 54			2	2
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 55			1	1
Licensed Waste Management Facilities (Locations)	pg 55				13
Local Authority Landfill Coverage	pg 58	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 58				2
Potentially Infilled Land (Non-Water)	pg 58		1	1	13
Potentially Infilled Land (Water)	pg 59	1	6	1	5
Registered Landfill Sites	pg 60				1
Registered Waste Transfer Sites	pg 60				3
Registered Waste Treatment or Disposal Sites	pg 61				1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 62		2		
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)	pg 62				1
Planning Hazardous Substance Consents	pg 62		2	4	
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 64	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 64	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 76			5	19
BGS Urban Soil Chemistry	pg 80		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 82	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 82	Yes	n/a	n/a	n/a
Mining Instability	pg 82	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 82		Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 82		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 83	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 84		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 84	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 85		7		12
Fuel Station Entries					
Points of Interest - Commercial Services	pg 86				4
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 86	3	19		17
Points of Interest - Public Infrastructure	pg 90		5		4
Points of Interest - Recreational and Environmental					
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 91			2	2
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 91				1
Marine Nature Reserves					
National Nature Reserves	pg 91				1
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites	pg 91				1
Sites of Special Scientific Interest	pg 91		1		1
Special Areas of Conservation	pg 91				1
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 of Property Situated Below Ground Level	A13SE (NW)	0	1	272595 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	0	1	272595 194750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (S)	0	1	272600 194750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	1	1	272650 194750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (W)	23	1	272500 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (S)	33	1	272600 194700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (E)	33	1	272700 194800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	33	1	272595 194700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	37	1	272500 194900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	54	1	272650 194900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	74	1	272700 194850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (E)	83	1	272750 194800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	93	1	272700 194900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	95	1	272595 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	96	1	272550 194650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	102	1	272550 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	114	1	272650 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	125	1	272500 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	128	1	272500 194650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	140	1	272800 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	148	1	272700 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	165	1	272500 194600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	186	1	272800 194900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	189	1	272750 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	196	1	272600 195100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	199	1	272450 194600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	205	1	272850 194850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	210	1	272800 194950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	218	1	272750 195050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	226	1	272700 195100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	233	1	272800 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	235	1	272450 194550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	237	1	272900 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	246	1	272600 195150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	251	1	272900 194850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	253	1	272650 195150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	254	1	272850 194950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	273	1	272250 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	283	1	272950 194800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	286	1	272950 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	295	1	272595 195200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	297	1	272900 194950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	323	1	272200 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	324	1	272200 194900

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	A12NE (W)	333	1	272200 194950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	338	1	273000 194700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	340	1	272350 194500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	345	1	272595 195250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	346	1	272600 195250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	381	1	272150 194950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	387	1	273050 194700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	396	1	272700 194350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	410	1	272150 194700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	433	1	273100 194750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	437	1	273100 194700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SW (N)	437	1	272400 195300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (NW)	440	1	272300 195250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	442	1	272100 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	446	1	273100 194650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A17SE (NW)	461	1	272200 195200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	474	1	273100 194950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	476	1	272400 194300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	477	1	272100 194650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NE (SW)	481	1	272250 194400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	483	1	272600 194250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14SW (E)	483	1	273150 194800

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	A14SW (E)	483	1	273150 194750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	485	1	272550 194250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14SW (E)	485	1	273150 194817
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	490	1	272050 195000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	492	1	273150 194850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	496	1	273100 195000
1	Discharge Consents Operator: British Gas Properties Property Type: Public Gas Supply Location: Point C E M Edwards Works Llandarcy, E M Edwards Works, Neath, Sa10 6jy Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bb4006503 Permit Version: 1 Effective Date: 8th October 1973 Issued Date: 8th October 1973 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Red Jacket Pill Trib Of Neath Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m	A13SE (S)	1	2	272600 194733
1	Discharge Consents Operator: British Gas Properties Property Type: Not Supplied Location: Point C E M Edwards Works Llandarcy, E M Edwards Works, Neath, Sa10 6jy Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bb4006503 Permit Version: 1 Effective Date: 8th October 1973 Issued Date: 8th October 1973 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Red Jacket Pill Trib Of Neath Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SE (S)	1	2	272600 194733
2	Discharge Consents Operator: Crawshaw Bailey Industries Ltd Property Type: Water Treatment Works Location: Llandarcy District Office Site, Neath, Port Talbot, Sa10 6jy Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bm0027001 Permit Version: 2 Effective Date: 18th July 2019 Issued Date: 24th July 2019 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Red Jacket Pill Trib Of River Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SE (E)	76	2	272740 194780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Discharge Consents Operator: Lattice Property Holdings Property Type: Not Supplied Location: Llandarcy District Office Site Lla, Llandarcy Neath Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: BM0027001 Permit Version: 1 Effective Date: 15th December 1982 Issued Date: 15th December 1982 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Red Jacket Pill Trib Of River Status: Effective Positional Accuracy: Located by supplier to within 100m	A13SE (E)	76	2	272740 194780
2	Discharge Consents Operator: British Gas Wales Property Type: Public Gas Supply Location: Llandarcy District Office Site Lla, Llandarcy Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bb4006501 Permit Version: 1 Effective Date: 8th October 1973 Issued Date: 8th October 1973 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge: Freshwater Stream/River Environment: Receiving Water: Red Jacket Pill Trib Of Neath Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A13SE (E)	76	2	272740 194780
3	Discharge Consents Operator: British Gas Properties Property Type: Public Gas Supply Location: Point D E M Edwards Works Llandarcy, E M Edwards Works Llandarcy Neat, Llandarcy Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bb4006504 Permit Version: 1 Effective Date: 8th October 1973 Issued Date: 8th October 1973 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Red Jacket Pill Trib Of Neath Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	134	2	272466 194694
3	Discharge Consents Operator: British Gas Properties Property Type: Not Supplied Location: Point D E M Edwards Works Llandarcy, E M Edwards Works Llandarcy Neat, Llandarcy Neath Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bb4006504 Permit Version: 1 Effective Date: 8th October 1973 Issued Date: 8th October 1973 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Red Jacket Pill Trib Of Neath Status: Effective Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	134	2	272466 194694

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	Discharge Consents Operator: Mr R G Williams Property Type: Domestic Property (Single) Location: Gellibwch Farm Llandarcy Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: BP0004001 Permit Version: 1 Effective Date: 28th October 1985 Issued Date: 28th October 1985 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge: Into Land Environment: To Land Receiving Water: To Land Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A12NW (W)	624	2	271900 194900
5	Discharge Consents Operator: Neath Waste Management Co Ltd Property Type: Not Supplied Location: Giants Grave Waste Dis Site Giants, Giants Grave Road Briton Ferry N, Briton Ferry Neath Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bp0236201 Permit Version: 2 Effective Date: 1st March 1996 Issued Date: 28th February 1996 Revocation Date: Not Supplied Discharge Type: Waste Site - Unspecified Discharge: Saline Estuary Environment: The Neath Estuary Receiving Water: The Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	637	2	273070 195320
5	Discharge Consents Operator: Neath Waste Management Co Ltd Property Type: Unspecified Tip Location: Giants Grave Waste Dis Site Giants, Giants Grave Road Briton Ferry N, Briton Ferry Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: BP0236201 Permit Version: 2 Effective Date: 1st March 1996 Issued Date: 28th February 1996 Revocation Date: Not Supplied Discharge Type: Waste Site - Unspecified Discharge: Saline Estuary Environment: The Neath Estuary Receiving Water: The Neath Estuary Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	637	2	273070 195320
5	Discharge Consents Operator: Neath Waste Management Co Ltd Property Type: Unspecified Tip Location: Giants Grave Waste Dis Site Giants, Giants Grave Road Briton Ferry N, Briton Ferry Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0236201 Permit Version: 1 Effective Date: 20th February 1995 Issued Date: 20th February 1995 Revocation Date: 29th February 1996 Discharge Type: Waste Site - Unspecified Discharge: Not Supplied Environment: The Neath Estuary Receiving Water: The Neath Estuary Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	637	2	273070 195320

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: Sso Sth Of Giants Grave Point J Authority: Natural Resources Wales Catchment Area: River Neath Reference: BB4000502 Permit Version: 2 Effective Date: 14th March 1994 Issued Date: 14th March 1994 Revocation Date: 31st March 2003 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Neath Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A14SE (E)	704	2	273360 194630
6	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Sso Sth Of Giants Grave Point J Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4000502 Permit Version: 1 Effective Date: 8th November 1972 Issued Date: 8th November 1972 Revocation Date: 13th March 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Neath Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A14SE (E)	704	2	273360 194630
7	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Giants Grave Sps Pill Terrace, Pill Terrace Giants Grave, Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp028330101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary 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	A14SE (E)	723	2	273390 194730
7	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Giants Grave Sps Pill Terrace, Pill Terrace Giants Grave, Neath Authority: Environment Agency, Welsh Region Catchment Area: Not Supplied Reference: Bp028330102 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary 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	A14SE (E)	723	3	273390 194730

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Giants Grave Sps Pill Terrace, Pill Terrace Giants Grave, Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283301 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A14SE (E)	723	2	273390 194730
7	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Giants Grave Sps Pill Terrace, Pill Terrace Giants Grave, Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283301 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A14SE (E)	723	2	273390 194730
7	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Giants Grave Sps Pill Terrace, Pill Terrace Giants Grave, Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283301 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A14SE (E)	723	2	273390 194730
7	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Giants Grave Sps Pill Terrace, Pill Terrace Giants Grave, Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283301 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A14SE (E)	723	2	273390 194730

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Giants Grave Sps Pill Terrace, Pill Terrace Giants Grave, Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp028330101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Neath Estuary Receiving Water: Neath Estuary 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	A14SE (E)	723	2	273390 194730
8	Discharge Consents Operator: Carlton Industries Ltd Property Type: Undefined Or Other Location: Earlswood Off Jersey Marine Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4006301 Permit Version: 1 Effective Date: 8th October 1973 Issued Date: 8th October 1973 Revocation Date: 2nd July 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Unnamed Trib Of R. Neath Receiving Water: Unnamed Trib Of R. Neath Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	737	2	273150 194200
9	Discharge Consents Operator: High Duty Alloys Ltd Property Type: Metal Treatment, Bolts, Nuts Etc. Location: Neath Wern Works Briton Ferry, Wern Works, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: River Neath Reference: Ba2015101 Permit Version: 1 Effective Date: 21st August 1963 Issued Date: 21st August 1963 Revocation Date: 31st October 1996 Discharge Type: Trade Effluent Discharge: Freshwater Stream/River Environment: River Neath Receiving Water: River Neath Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 100m	A14SE (E)	777	2	273400 194500
10	Discharge Consents Operator: Star Aluminium Co Ltd Property Type: Undefined Or Other Location: Neath Alusuisse Extruded Prods Ltd, Alusuisse Extruded Prods Ltd Wer, Wern Works. Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4024001 Permit Version: 1 Effective Date: 20th October 1977 Issued Date: 20th October 1977 Revocation Date: 16th March 1992 Discharge Type: Trade Effluent Discharge: Not Supplied Environment: River Neath Receiving Water: River Neath Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	785	2	273350 194370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	Discharge Consents Operator: Monkstone Cruising And Sailing Club Property Type: Recreational & Cultural Location: Cruising & Sailing Club Earlswood J, Earlswood Jersey Marine Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: BB3023801 Permit Version: 2 Effective Date: 28th March 1994 Issued Date: 28th March 1994 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: River Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	787	2	273100 194100
11	Discharge Consents Operator: Monkstone Cruising And Sailing Club Property Type: Recreational & Cultural Location: Cruising & Sailing Club Earlswood J, Earlswood Jersey Marine Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb3023801 Permit Version: 1 Effective Date: 29th April 1971 Issued Date: 29th April 1971 Revocation Date: 27th March 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Neath Estuary Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	787	2	273100 194100
12	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Giants Grave Outfall Briton Ferry Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064305 Permit Version: 3 Effective Date: 29th March 1996 Issued Date: 28th March 1996 Revocation Date: 31st December 1997 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A14SE (E)	843	2	273510 194780
12	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Giants Grave Outfall Briton Ferry Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064305 Permit Version: 2 Effective Date: 28th November 1992 Issued Date: 28th August 1992 Revocation Date: 28th March 1996 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A14SE (E)	843	2	273510 194780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Giants Grave Outfall Briton Ferry Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064305 Permit Version: 1 Effective Date: 9th October 1987 Issued Date: 9th October 1987 Revocation Date: 27th November 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A14SE (E)	843	2	273510 194780
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Briton Ferry North Outfall Drainage, Drainage Area 10 Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064304 Permit Version: 3 Effective Date: 29th March 1996 Issued Date: 28th March 1996 Revocation Date: 31st December 1997 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	875	2	273380 194250
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Briton Ferry North Outfall Drainage, Drainage Area 10 Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064304 Permit Version: 2 Effective Date: 28th November 1992 Issued Date: 28th August 1992 Revocation Date: 28th March 1996 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	875	2	273380 194250
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Briton Ferry North Outfall Drainage, Drainage Area 10 Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064304 Permit Version: 1 Effective Date: 9th October 1987 Issued Date: 9th October 1987 Revocation Date: 27th November 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	875	2	273380 194250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Georges Row Sps Georges Row Neath, Georges Row Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp028310101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary 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	A9NE (SE)	889	2	273390 194240
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Georges Row Sps Georges Row Neath, Georges Row Authority: Environment Agency, Welsh Region Catchment Area: Not Supplied Reference: Bp028310102 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary 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	A9NE (SE)	889	3	273390 194240
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Georges Row Sps Georges Row Neath, Georges Row Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	889	2	273390 194240
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Georges Row Sps Georges Row Neath, Georges Row Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	889	2	273390 194240

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Georges Row Sps Georges Row Neath, Georges Row Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	889	2	273390 194240
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Georges Row Sps Georges Row Neath, Georges Row Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0283101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	889	2	273390 194240
13	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Georges Row Sps Georges Row Neath, Georges Row Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp028310101 Permit Version: 1 Effective Date: 15th December 2000 Issued Date: 15th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary 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	A9NE (SE)	889	2	273390 194240
14	Discharge Consents Operator: Neath Port Talbot Waste Management Co Ltd Property Type: Household, Commercial and Industrial Waste Landfills Location: D2 Se Corner Giants Grave Landfill, D2 Se Corner Giants Grave Lfill, Giants Grave Road, Briton Ferry Neath, Sa11 Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp027880101 Permit Version: 1 Effective Date: 9th November 1999 Issued Date: 9th November 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary 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	A19SE (NE)	971	2	273450 195350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Discharge Consents Operator: Neath Port Talbot Waste Management Co Ltd Property Type: Not Supplied Location: D2 Se Corner Giants Grave Landfill, D2 Se Corner Giants Grave Lfill, Giants Grave Road, Briton Ferry Neath, Sa11 Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0278801 Permit Version: 1 Effective Date: 9th November 1999 Issued Date: 9th November 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Effective Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	971	2	273450 195350
15	Discharge Consents Operator: Sims Group Uk Limited Property Type: Trade (Unknown/Other) Location: Sims Group Uk Limited Neath Abbey, Neath Abbey Wharf, Skewen, Neath, Sa10 6bl Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0328001 Permit Version: 1 Effective Date: 28th October 2004 Issued Date: 28th October 2004 Revocation Date: 11th October 2007 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Open Culvert To River Neath Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A23SE (N)	983	2	272757 195873
16	Integrated Pollution Prevention And Control Name: Neath Port Talbot Waste Management Co Ltd Location: Giants Grave Landfill Site, Giants Grave Road, Neath, Neath Port Talbot, SA11 2LN Authority: Natural Resources Wales Permit Reference: YP3533MC Original Permit Ref: Hp3535ps Effective Date: 8th August 2008 Status: Effective Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N	A14NW (E)	542	2	273170 194960
17	Integrated Pollution Prevention And Control Name: Neath Port Talbot Waste Management Co Ltd Location: Giants Grave Landfill Site, Giants Grave Road, NEATH, West Glamorgan, SA11 2LN Authority: Natural Resources Wales Permit Reference: Hp3535ps Original Permit Ref: Hp3535ps Effective Date: 16th May 2005 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A14NE (E)	914	2	273573 194877

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	Integrated Pollution Prevention And Control Name: Neath Port Talbot Waste Management Company Limited Location: Giants Grave Landfill Site, Giants Grave Landfill, Giants Grave Road, SA11 2LN Authority: Natural Resources Wales Permit Reference: EP3831LW Original Permit Ref: Hp3535ps Effective Date: 4th January 2007 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Manually positioned to the address or location Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N	A14NE (E)	923	2	273555 195011
19	Local Authority Pollution Prevention and Controls Name: East West Demolition Ltd Location: Adj To Flogas, Llandarcy, Neath Port Talbot Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/110 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG3/16 Mobile screening and crushing processes Status: Authorised Positional Accuracy: Located by supplier to within 10m	A13NW (N)	250	4	272541 195150
20	Local Authority Pollution Prevention and Controls Name: Bfs Location: Giants Grave, Briton Ferry, Swansea Authority: Swansea Bay Port Health Authority Permit Reference: E2/8/F Dated: 28th January 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG3/5 Coal, coke and coal product processes Status: Permitted Positional Accuracy: Manually positioned within the geographical locality	A14SE (E)	736	5	273402 194804
21	Local Authority Pollution Prevention and Controls Name: Neath Cargo Terminal Location: Giants Wharf, Briton Ferry, NEATH, SA11 2LP Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E2/8/F Dated: 28th January 1993 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	A14SE (E)	860	4	273527 194753
22	Local Authority Pollution Prevention and Controls Name: Nx Infrastructure (Wales) Ltd Location: Wern Works, Briton Ferry, NEATH, West Glamorgan, SA11 2JX Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/62 Dated: 26th February 1999 Process Type: Local Authority Air Pollution Control Description: PG2/9 Metal decontamination processes Status: Authorised Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	909	4	273466 194324
23	Local Authority Pollution Prevention and Controls Name: S & G Soils Ltd Location: Area 1 Neath Abbey Wharf, Skewen, Sa10 6bl Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E2/1/120 Dated: 23rd November 2006 Process Type: Local Authority Air Pollution Control Description: PG3/16 Mobile screening and crushing processes Status: Authorised Positional Accuracy: Located by supplier to within 10m	A23SE (N)	982	4	272770 195870
	Nearest Surface Water Feature	A13SE (S)	8	-	272623 194733

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Surface Water Outfall Location: Wales Gas, LLANDARCY Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 29th August 1995 Incident Reference: 25778 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	237	3	272900 194800
25	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Old Ship Breaking Yard, NEATH Authority: Environment Agency, Welsh Region Pollutant: Chlorinated Water Note: Inadequate Design/Capacity Incident Date: 10th February 1996 Incident Reference: 27419 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	550	3	273200 194895
25	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Surface Water Outfall Location: Old Ship, Breaking Yard, NEATH Authority: Environment Agency, Welsh Region Pollutant: Chlorinated Water Note: Inadequate Design/Capacity Incident Date: 10th February 1996 Incident Reference: 27419 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	552	3	273200 194900
26	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Unknown; River Neath Incident Date: 23rd November 1998 Incident Reference: 37237 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	634	3	273300 194800
27	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Neath Cargo Terminal, Adjacent Giants Grave Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 3rd June 1991 Incident Reference: 829 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	A14SE (SE)	683	3	273300 194500
28	Pollution Incidents to Controlled Waters Property Type: Abandoned mine Location: Bp, Abstraction Point Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Not Supplied Incident Date: 15th December 1994 Incident Reference: 22120 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Effluent Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	795	3	272600 195700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Ty Llansawel, BRITON FERRY Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Vandalism; River Neath Incident Date: 29th October 1998 Incident Reference: 37318 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	827	3	273000 194000
29	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Hunter Street, BRITON FERRY Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Accident; River Neath Incident Date: 29th October 1998 Incident Reference: 37319 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	832	3	273000 193995
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Briton Ferry, Dock Side Near Abbey, NEATH Authority: Environment Agency, Welsh Region Pollutant: Foam/Soap Suds Note: Not Supplied Incident Date: 21st October 1991 Incident Reference: 1621 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	A9NE (SE)	864	3	273400 194300
31	Pollution Incidents to Controlled Waters Property Type: Not Given Location: At Entrance To Giants Grave Site Authority: Environment Agency, Welsh Region Pollutant: Road Run-Off Note: Inadequate Design; Neath Canal Overflow Incident Date: 30th July 1998 Incident Reference: 36892 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	894	3	273550 194900
32	Pollution Incidents to Controlled Waters Property Type: Road (Lost Load) Location: Villiers Street, BRITON FERRY Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Vandalism Incident Date: 26th May 1991 Incident Reference: 772 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	906	3	273500 194400
33	Pollution Incidents to Controlled Waters Property Type: Private Sewage (Non-PLC): Other Location: Canal Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Deliberate Act Incident Date: 27th June 1995 Incident Reference: 24918 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A9SE (SE)	984	3	273400 194100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Port Tennant Canal GQA Grade: River Quality E Reach: Jersey Marine B - Neath Abbey Estimated Distance 5 (km): Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A13NW (W)	84	3	272433 194854
	River Quality Name: Neath Canal GQA Grade: River Quality D Reach: Conf.Neath - Aberdulais Aqueduct Estimated Distance 8 (km): Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A14NW (E)	579	3	273196 195001
34	River Quality Chemistry Sampling Points Name: Neath Canal Reach: Confluence River Neath To Aberdulais Aqueduct Estimated Distance: 8.00 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied	A9NE (SE)	987	3	273491 194213

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 23rd April 2018 Incident Reference: 1802214 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Organic Chemicals/Products: Other Organic Chemical Or Product	A14SE (E)	827	2	273491 194689
36	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 25th May 2001 Incident Reference: 6653 Water Impact: Category 4 - No Impact Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Specific Waste Materials: Metal Wastes	A14SE (E)	888	2	273555 194790
37	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 16th August 2020 Incident Reference: 2005921 Water Impact: Category 3 - Minor Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: General Biodegradable : Natural Organic Material	A15NW (E)	956	2	273620 194838
38	Water Abstractions Operator: Hope Construction Materials Limited Licence Number: 21/58/72/0036 Permit Version: 3 Location: Inland Water The Neath Canal Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) 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: 9th December 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SE (SE)	999	2	273410 194090
38	Water Abstractions Operator: Lafarge Spv Limited Licence Number: 21/58/72/0036 Permit Version: 2 Location: Inland Water The Neath Canal Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) 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: 27th November 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SE (SE)	999	2	273410 194090
38	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 21/58/72/0036 Permit Version: 1 Location: Inland Water The Neath Canal Authority: Environment Agency, Welsh Region Abstraction: Mineral Products: General Use (Medium Loss) 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: 3rd February 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SE (SE)	999	3	273410 194090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Hope Cement Limited Licence Number: Wa/058/0072/0009 Permit Version: Not Supplied Location: Neath Canal - Hope Cement, Wharf Road, Briton Ferry, Neath, Neath Port Talbot, Sa11 2lp Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) 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	A9SE (SE)	1003	2	273419 194094
	Water Abstractions Operator: Tarmac Trading Limited Licence Number: Wa/058/0072/0009 Permit Version: Not Supplied Location: Neath Canal - Neath, Wharf Road, Briton Ferry, Neath, Neath Port Talbot, Sa11 2lp Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from any point within an area 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	A9SE (SE)	1003	2	273419 194094
	Water Abstractions Operator: St Mowden Properties Plc Licence Number: 22/59/5/0005 Permit Version: 102 Location: North Site Reservoir Authority: Natural Resources Wales Abstraction: Petrochemicals: Non-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: 29th July 2010 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21NE (NW)	1918	2	271290 196340
	Water Abstractions Operator: Bp Oil Llandarcy Refinery Ltd Licence Number: 22/59/5/0005 Permit Version: 101 Location: North Site Reservoir Authority: Environment Agency, Welsh Region Abstraction: Petrochemicals: Non-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: 31st March 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21NE (NW)	1918	3	271290 196340

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Bp Oil Llandarcy Refinery Ltd Licence Number: 22/59/5/0005 Permit Version: 100 Location: North Site Reservoir Authority: Environment Agency, Welsh Region Abstraction: Petrochemicals: Non-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: North Site Reservoir Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A21NE (NW)	1918	3	271290 196340
	Water Abstractions Operator: St Mowden Properties Plc Licence Number: 22/59/5/0005 Permit Version: Not Supplied Location: North Site Reservoir At B P Refinery Llandarcy Authority: Natural Resources Wales Abstraction: Petrochemicals: Non-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	A21NE (NW)	1918	2	271290 196340
39	Water Industry Act Referrals Name: Neath Waste Management Co Ltd Location: Giants Grave Waste Dis Site Gian, Giants Grave Road Briton Ferry N, BRITON FERRY NEATH, Neath, NEATH Authority: Natural Resources Wales Permit Reference: BP0236201 Dated: 28th February 1996 Process Type: Permissions or amendments to discharge under the Water Industry Act 1991 Description: Processes which result in the discharge of Special Category effluents under The Trade Effluents (Prescribed Processes and Substances) Regulations Status: Application has been authorised and any conditions apply to the operator Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	637	2	273070 195320
	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: 3-10m Superficial Thickness: High Superficial Recharge:	A13SE (NW)	0	2	272595 194817
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (NW)	0	2	272595 194817
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SE (NW)	0	2	272595 194817
	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 (NW)	0	2	272595 194817
	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	A13NE (E)	219	2	272843 194905

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 (S)	3	2	272620 194736
	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)	219	2	272839 194917
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 222.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A13SE (S)	17	6	272614 194720
41	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 156.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A13SE (SE)	17	6	272634 194726
42	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 19.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A13SE (S)	18	6	272625 194723
43	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 2.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (SE)	19	6	272634 194726
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (S)	20	6	272632 194724
45	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 3.1 Watercourse Level: Underground Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A13SE (E)	114	6	272777 194790
46	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 244.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A13SE (E)	117	6	272779 194791

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 495.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Tennant Canal Catchment Name: Neath Primacy: 1	A13NW (W)	140	6	272378 194844
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 71.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A13SW (SW)	199	6	272416 194651
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A13SW (SW)	199	6	272416 194651
50	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 696.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Tennant Canal Catchment Name: Neath Primacy: 1	A13SW (SW)	217	6	272399 194645
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	234	6	272848 194915
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	240	6	272842 194937
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	249	6	272872 194902
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	250	6	272889 194873
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	252	6	272798 195043

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 111.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	253	6	272822 195001
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 111.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	254	6	272785 195064
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 20.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	254	6	272835 194979
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	256	6	272879 194902
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	263	6	272849 194971
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 55.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	264	6	272863 194948
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 104.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	265	6	272765 195101
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	266	6	272892 194900
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 81.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	272	6	272753 195121

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	280	6	272743 195138
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 466.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SW (SW)	282	6	272320 194653
67	OS Water Network Lines Watercourse Form: Foreshore Watercourse Length: 68.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	283	6	272914 194895
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	289	6	272737 195152
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 483.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NW (NW)	293	6	272391 195132
70	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 128.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Tennant Canal Catchment Name: Neath Primacy: 1	A13NW (NW)	293	6	272391 195132
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	304	6	272892 194979
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	305	6	272819 195103
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 33.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	310	6	272780 195147

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	311	6	272749 195171
75	OS Water Network Lines Watercourse Form: Foreshore Watercourse Length: 37.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	315	6	272904 194981
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	316	6	272743 195179
77	OS Water Network Lines Watercourse Form: Foreshore Watercourse Length: 11.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	324	6	272884 195036
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (N)	325	6	272453 195200
79	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 32.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (N)	325	6	272453 195200
80	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 19.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	327	6	272874 195065
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 118.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	327	6	272700 195212
82	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 28.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	329	6	272882 195053

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	336	6	272811 195155
84	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 45.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	336	6	272780 195179
85	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 60.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	336	6	272893 195044
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	337	6	272755 195197
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 104.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	347	6	272706 195231
88	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 52.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NW (E)	350	6	272954 194965
89	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 27.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A13NE (NE)	350	6	272933 194999
90	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	350	6	272695 195238
91	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 2.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NW (E)	351	6	272972 194931

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	352	6	272826 195162
93	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 220.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NW (NE)	353	6	272949 194977
94	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 36.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NW (E)	353	6	272974 194932
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A18SE (N)	353	6	272699 195240
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	354	6	272703 195240
97	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 13.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NW (E)	357	6	272995 194901
98	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Neath Primacy: 1	A14NW (E)	359	6	272999 194893
99	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 14.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 2	A14NW (E)	361	6	272996 194905
100	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 312.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	361	6	272663 195258

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	366	6	272846 195163
102	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 88.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Red Jacket Pill Catchment Name: Not Supplied Primacy: 1	A14NW (E)	366	6	273006 194896
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	367	6	272841 195169
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	371	6	272803 195206
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 206.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (NW)	373	6	272294 195165
106	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 20.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	381	6	272805 195217
107	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 21.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	381	6	272805 195217
108	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 60.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	387	6	272825 195210
109	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 11.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	390	6	272795 195235

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 39.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	400	6	272795 195247
111	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 116.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Tennant Canal Catchment Name: Neath Primacy: 1	A18SW (NW)	400	6	272404 195260
112	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 100.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	400	6	272697 195289
113	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 6.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	407	6	272884 195182
114	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 122.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	407	6	272884 195182
115	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	409	6	272739 195285
116	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	413	6	272642 195314
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	415	6	272774 195275
118	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (N)	421	6	272778 195280

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (N)	429	6	272785 195285
120	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 33.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	432	6	272771 195295
121	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 14.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	436	6	272798 195286
122	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 224.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A14NW (E)	441	6	273058 194976
123	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 269.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A14NW (E)	441	6	273089 194886
124	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 14.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (NE)	450	6	272801 195301
125	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 17.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	453	6	272727 195336
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 215.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	456	6	272926 195210
127	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	459	6	272756 195332

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	461	6	272824 195301
129	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	462	6	272817 195306
130	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	462	6	272816 195306
131	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 21.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	465	6	272805 195315
132	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	466	6	272743 195344
133	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 16.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	475	6	272742 195354
134	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 318.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (N)	483	6	272447 195367
135	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 1135.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Tennant Canal Catchment Name: Neath Primacy: 1	A18SW (N)	483	6	272447 195367
136	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	485	6	272812 195335

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 18.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (NE)	486	6	272811 195336
138	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (N)	494	6	272780 195360
139	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 18.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (N)	497	6	272803 195353
140	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 42.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A14NW (NE)	499	6	273034 195126
141	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NW (NE)	500	6	273031 195135
142	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 1261.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A14NW (NE)	500	6	273031 195135
143	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 81.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NW (NE)	509	6	273058 195103
144	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 34.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	515	6	272808 195370
145	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 148.5 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19SW (NE)	529	6	273048 195165

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 112.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	540	6	272807 195398
147	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 91.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	541	6	272810 195397
148	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	545	6	272722 195433
149	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	548	6	272717 195437
150	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	550	6	272729 195436
151	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	551	6	272720 195440
152	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	554	6	272721 195442
153	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	561	6	272735 195446
154	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 63.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	561	6	272724 195449

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 3.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NW (NE)	566	6	273123 195102
156	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 215.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NW (NE)	566	6	273123 195102
157	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 29.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NW (NE)	568	6	273124 195105
158	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NW (NE)	569	6	273111 195132
159	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 720.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Neath Canal Catchment Name: Neath Primacy: 1	A14NW (E)	584	6	273232 194909
160	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 81.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	586	6	272660 195487
161	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 186.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SW (E)	586	6	273247 194655
162	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (W)	589	6	271963 195054
163	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 135.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (W)	589	6	271963 195054

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	594	6	273120 195167
165	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	594	6	273120 195167
166	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NW (E)	600	6	273246 194913
167	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NW (E)	602	6	273243 194937
168	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	606	6	273113 195205
169	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 77.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SW (NE)	606	6	273122 195190
170	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	606	6	273122 195190
171	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 609.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A14SE (E)	607	6	273271 194696
172	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 23.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SE (E)	607	6	273271 194696

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
173	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 38.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	612	6	272742 195497
174	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 5.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	613	6	272733 195500
175	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	614	6	273123 195204
176	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	617	6	273106 195239
177	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18NE (N)	618	6	272772 195494
178	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	618	6	272733 195505
179	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SW (NE)	619	6	273123 195216
180	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	622	6	273128 195211
181	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 46.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A18SE (N)	623	6	272809 195487

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 63.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (W)	623	6	271925 195048
183	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A12NE (W)	623	6	271925 195048
184	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 85.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	624	6	272769 195502
185	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	625	6	272812 195487
186	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 138.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19SW (NE)	627	6	273065 195311
187	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	630	6	273135 195215
188	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	636	6	273113 195262
189	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SW (NE)	636	6	273119 195255
190	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 100.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	642	6	273126 195255

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 33.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	649	6	273138 195249
192	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A12NW (W)	650	6	271894 195033
193	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 129.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SE (SE)	652	6	273272 194513
194	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	654	6	272712 195546
195	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A18NE (N)	654	6	272712 195546
196	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 55.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	655	6	272824 195516
197	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 143.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	655	6	272824 195516
198	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	656	6	271873 194961
199	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A18NE (N)	658	6	272701 195552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
200	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 20.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	661	6	271867 194954
201	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	662	6	273184 195191
202	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A18NE (N)	665	6	272703 195560
203	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 41.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	674	6	273191 195204
204	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	680	6	271847 194947
205	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	680	6	271847 194947
206	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 17.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	681	6	273171 195256
207	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	681	6	273171 195256
208	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 192.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A12NW (W)	683	6	271864 195053

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 42.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	683	6	273160 195278
210	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 234.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	684	6	271843 194946
211	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	684	6	271843 194947
212	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 12.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	685	6	273175 195257
213	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 34.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	685	6	273175 195257
214	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	695	6	273178 195269
215	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 123.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	701	6	273269 194398
216	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (NW)	705	6	272266 195532
217	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 67.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	705	6	273205 195242

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
218	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 8.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (NW)	724	6	272261 195551
219	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	729	6	273134 194198
220	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 161.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	731	6	272253 195554
221	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 277.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19SW (NE)	733	6	273078 195449
222	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	733	6	273078 195449
223	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	740	6	272989 195526
224	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 192.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	744	6	273155 195385
225	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 174.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	746	6	271778 194917
226	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	746	6	271778 194917

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
227	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	748	6	273151 195396
228	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 97.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	752	6	272770 195634
229	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 300.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	761	6	272083 195492
230	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 119.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	766	6	272967 195570
231	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	775	6	273190 194185
232	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 427.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	776	6	272282 195618
233	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SE (NE)	776	6	273315 195190
234	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 2.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SE (NE)	776	6	273313 195192
235	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 39.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	776	6	273313 195192

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	777	6	271747 194921
237	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SE (NE)	780	6	273323 195183
238	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SE (NE)	781	6	273325 195181
239	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	783	6	273019 195558
240	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 63.5 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	783	6	273285 195260
241	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19SE (NE)	783	6	273285 195260
242	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 226.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Neath Canal Catchment Name: Neath Primacy: 1	A19SE (NE)	784	6	273333 195172
243	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	785	6	273178 195422
244	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 70.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	787	6	272104 195537

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
245	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 182.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	787	6	272107 195539
246	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	787	6	273185 195417
247	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 42.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	788	6	272049 195500
248	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	789	6	273043 195549
249	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 73.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	791	6	273036 195556
250	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 15.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19SE (NE)	792	6	273304 195242
251	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 187.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	795	6	273314 195229
252	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 63.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	801	6	272718 195695
253	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	803	6	272740 195693

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
254	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	807	6	273277 195323
255	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 50.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	808	6	273249 195372
256	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	809	6	273252 195366
257	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	810	6	273249 195372
258	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A9NW (SE)	811	6	273251 194195
259	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 8.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A9NW (SE)	812	6	273256 194198
260	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 84.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	812	6	273259 195361
261	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	812	6	273259 195361
262	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 94.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	813	6	272960 195627

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
263	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	813	6	272675 195713
264	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	813	6	272661 195715
265	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	813	6	272960 195627
266	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 37.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A9NW (SE)	820	6	273260 194191
267	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 39.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A9NW (SE)	822	6	273258 194187
268	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	823	6	272641 195726
269	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 843.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Jersey Canal Catchment Name: Neath Primacy: 1	A14SE (E)	824	6	273479 194614
270	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	842	6	272989 195644
271	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 59.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	842	6	273005 195636

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
272	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	846	6	273001 195642
273	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 165.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	851	6	272621 195755
274	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 286.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NE (N)	851	6	272621 195755
275	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 50.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A9NE (SE)	856	6	273292 194172
276	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	859	6	273050 195628
277	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 18.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Tennant Canal Catchment Name: Neath Primacy: 1	A7NW (SW)	861	6	271907 194219
278	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 70.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	866	6	272348 195737
279	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 1927.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Tennant Canal Catchment Name: Neath Primacy: 1	A7NW (SW)	878	6	271890 194213
280	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 63.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	883	6	272177 195687

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
281	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (N)	886	6	272962 195707
282	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (N)	886	6	272962 195707
283	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	889	6	273025 195678
284	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	897	6	273034 195683
285	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19NW (NE)	906	6	273059 195678
286	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 84.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A9SE (SE)	907	6	273332 194141
287	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 68.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19NW (NE)	911	6	273059 195684
288	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	917	6	272990 193899
289	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	927	6	271925 195580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
290	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	927	6	271928 195581
291	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 81.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	931	6	273003 193889
292	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	933	6	272310 195796
293	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 6.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Neath Canal Catchment Name: Neath Primacy: 1	A14NE (E)	937	6	273600 194852
294	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	943	6	271903 195580
295	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	945	6	271895 195577
296	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	950	6	273424 195354
297	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	953	6	273004 195762
298	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	954	6	271860 195557

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
299	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 145.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A23SW (N)	955	6	272394 195840
300	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 224.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A9SE (SE)	958	6	273322 194057
301	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 31.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Jersey Canal Catchment Name: Neath Primacy: 1	A9SE (SE)	958	6	273322 194057
302	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	958	6	271846 195549
303	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 291.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	966	6	272292 195825
304	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 211.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	966	6	271807 195519
305	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	969	6	273449 195347
306	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19NW (NE)	970	6	273058 195753
307	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A19SE (NE)	970	6	273451 195345

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
308	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 6.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	972	6	273443 195365
309	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19NW (NE)	972	6	273063 195753
310	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: Neath Primacy: 1	A19NW (NE)	976	6	273054 195761
311	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 2	A19NW (NE)	976	6	273054 195761
312	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 18.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	978	6	273450 195366
313	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 3.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	978	6	273452 195362
314	OS Water Network Lines Watercourse Form: Foreshore Watercourse Length: 16.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Jersey Canal Catchment Name: Neath Primacy: 1	A9SE (SE)	980	6	273353 194058
315	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 241.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19NW (NE)	983	6	273136 195721
316	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 162.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19NW (NE)	984	6	273063 195766

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
317	OS Water Network Lines Watercourse Form: Canal Watercourse Length: 2005.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Neath Canal Catchment Name: Neath Primacy: 1	A19SE (NE)	987	6	273467 195352
318	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 628.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	987	6	273467 195352
319	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 555.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (NE)	987	6	273450 195384
320	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 60.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Jersey Canal Catchment Name: Neath Primacy: 1	A9SE (SE)	990	6	273369 194060
321	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.7 Watercourse Level: Underground Permanent: True Watercourse Name: Jersey Canal Catchment Name: Neath Primacy: 1	A9SE (SE)	998	6	273428 194112

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
322	BGS Recorded Landfill Sites Site Name: Giants Grave Tip Location: Briton Ferry, NEATH, Glam 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	A14NW (NE)	533	-	273088 195097
323	Historical Landfill Sites Licence Holder: Not Supplied Location: Briton Ferry, Neath Name: Briton Ferry Waste Tip Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD34824 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: Not Supplied	A14SW (E)	355	2	273022 194759
324	Historical Landfill Sites Licence Holder: Not Supplied Location: Pen-yr-Heol, Skewen Name: Refuse Tip South East of M4 Junction 43 Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD34822 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: Not Supplied	A18SE (N)	436	2	272668 195333
325	Historical Landfill Sites Licence Holder: Neath Borough Council Location: Briton Ferry, Neath, Glamorgan Name: Giants Grave Tip Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD31231 First Input Date: 30th June 1962 Last Input Date: 31st March 1993 Specified Waste: Deposited Waste included Inert, Industrial, Commercial, Household and Type: Special Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6930/0006 BGS Ref: 2676 Other Ref: SWW-68-L	A14NW (NE)	533	2	273088 195097
326	Historical Landfill Sites Licence Holder: Norbit Wharfage Limited Location: Briton Ferry, Neath Name: Giants Wharf Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD14877 First Input Date: 30th June 1988 Last Input Date: 31st December 1989 Specified Waste: Deposited Waste included Inert, Industrial and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6930/0007 BGS Ref: Not Supplied Other Ref: Not Supplied	A14SE (E)	738	2	273405 194739

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
327	Licensed Waste Management Facilities (Landfill Boundaries) Name: Giants Grave Landfill Licence Number: 34060 Location: The Saltings, Giants Grave Road, Briton Ferry, Neath, N P T, SA11 2LN Licence Holder: Neath Port Talbot Waste Management Co Ltd Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste Max Input Rate: Not Supplied Licence Status: Closure Issued: 1st April 1993 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A14NW (E)	483	2	273113 194943
328	Licensed Waste Management Facilities (Landfill Boundaries) Name: Giants Grave Landfill Site (Ppc) Licence Number: 34272 Location: Giants Grave, Giants Grave Road, Briton Ferry, Neath, N P T, SA11 2LN Licence Holder: Neath Port Talbot Waste Management Co Ltd Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Waste Landfills Max Input Rate: Not Supplied Licence Status: PPC Issued: 24th June 2005 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A19SW (NE)	567	2	273095 195158
329	Licensed Waste Management Facilities (Locations) Licence Number: DP3498FJ Location: Briton Ferry Wharf, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2LP Operator Name: Sims Group U K Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) Licence Status: Surrendered Issued: 18th March 2005 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 19th December 2017 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	529	2	273170 194920
329	Licensed Waste Management Facilities (Locations) Licence Number: 34259 Location: Briton Ferry Wharf, Briton Ferry, Neath, SA11 2LP Operator Name: Sims Group U K Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) Licence Status: Modified Issued: 18th March 2005 Last Modified: 7th December 2012 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	529	2	273170 194920
329	Licensed Waste Management Facilities (Locations) Licence Number: SP3298FT Location: Giants Grave Landfill, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2LN Operator Name: Neath Waste Management Co Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste Licence Status: Effective Issued: 1st April 1993 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	A14NW (E)	545	2	273172 194963

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
329	Licensed Waste Management Facilities (Locations) Licence Number: 34060 Location: The Saltings, Giants Grave Road, Briton Ferry, Neath, SA11 2LN Operator Name: Neath Waste Management Co Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste Licence Status: Modified Issued: 1st April 1993 Last Modified: 17th July 2015 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	545	2	273172 194963
330	Licensed Waste Management Facilities (Locations) Licence Number: 34155 Location: Land At Giants Wharf, Briton Ferry, Neath, N P T, SA11 2LN Operator Name: Neath Port Talbot Waste Management Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Material Recycling Treatment Facilities Licence Status: Surrendered Issued: 29th May 1998 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 31st August 2005 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14SE (E)	935	2	273600 194700
331	Licensed Waste Management Facilities (Locations) Licence Number: YP3498FR Location: Giants Grave Landfill Site (Ppc), Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2LN Operator Name: Neath Port Talbot Waste Management Co Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Waste Landfills Licence Status: Expired Issued: 24th June 2005 Last Modified: Not Supplied Expires: 25th June 2005 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NE (E)	938	2	273598 194872
331	Licensed Waste Management Facilities (Locations) Licence Number: 34272 Location: Giants Grave, Giants Grave Road, Briton Ferry, Neath, N P T, SA11 2LN Operator Name: Neath Port Talbot Waste Management Co Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Waste Landfills Licence Status: To PPC Issued: 24th June 2005 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: HP3535PS Positional Accuracy: Located by supplier to within 10m	A14NE (E)	938	2	273598 194872

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
332	Licensed Waste Management Facilities (Locations) Licence Number: ZP3198FN Location: Briton Ferry Shipping Services Ltd, Briton Ferry Shipping Services Ltd, Giants Wharf, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2LP Operator Name: Briton Ferry Shipping Services Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Special Waste Transfer Stations Licence Status: Effective Issued: 22nd September 2017 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	A15NW (E)	944	2	273609 194823
332	Licensed Waste Management Facilities (Locations) Licence Number: ZP3198FN Location: Briton Ferry Shipping Services Ltd, Briton Ferry Shipping Services Ltd, Giants Wharf, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2LP Operator Name: Briton Ferry Shipping Services Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Effective Issued: 22nd September 2017 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	A15NW (E)	944	2	273609 194823
332	Licensed Waste Management Facilities (Locations) Licence Number: ZP3198FN Location: Briton Ferry Shipping Services Ltd, Briton Ferry Shipping Services Ltd, Giants Wharf, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2LP Operator Name: Briton Ferry Shipping Services Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Effective Issued: 22nd September 2017 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	A15NW (E)	944	2	273609 194823
332	Licensed Waste Management Facilities (Locations) Licence Number: 34183 Location: Briton Ferry Shipping Services Ltd, Giants Wharf, Briton Ferry, Neath, SA11 2LP Operator Name: Briton Ferry Shipping Services Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Special Waste Transfer Stations Licence Status: Issued Issued: 30th January 2001 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	A15NW (E)	944	2	273609 194823

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
333	Licensed Waste Management Facilities (Locations) Licence Number: BB3394CL Location: Morris & Co (Handlers) Ltd, Top Shed, Neath Abbey Wharf, Skewen, Neath Port Talbot, SA10 6BL Operator Name: Morris & Co (Handlers) Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) Licence Status: Effective Issued: 26th 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	A23SE (N)	981	2	272785 195866
333	Licensed Waste Management Facilities (Locations) Licence Number: KB3232RE Location: The Recycling Centre, Neath, N P T, Neath Port Talbot, SA10 6BL Operator Name: Agresol Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Composting Licence Status: Expired Issued: 18th August 2010 Last Modified: Not Supplied Expires: 23rd December 2013 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A23SE (N)	982	2	272770 195870
	Local Authority Landfill Coverage Name: Neath Port Talbot County Borough Council - Has supplied landfill data		0	4	272595 194817
334	Local Authority Recorded Landfill Sites Location: Landfill - Neath Reference: Not Supplied Authority: Neath Port Talbot County Borough Council, Environmental Health Department Last Reported Status: Not Supplied Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate	A19NW (NE)	830	4	273159 195506
335	Local Authority Recorded Landfill Sites Location: Giants Grave Landfill Reference: Not Supplied Authority: Neath Port Talbot County Borough Council, Environmental Health Department Last Reported Status: Not Supplied Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Manually positioned within the geographical locality Boundary Quality: Not Applicable	A19SE (NE)	952	4	273400 195400
336	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A13SW (S)	218	-	272547 194521
337	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A13SW (SW)	290	-	272330 194616
338	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A7NE (SW)	516	-	272230 194371
339	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A8NE (S)	540	-	272669 194197

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
340	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A8NE (SE)	591	-	272923 194225
341	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NW (N)	656	-	272459 195548
342	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NE (N)	822	-	272745 195712
343	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14NE (E)	824	-	273469 194950
344	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14SE (E)	846	-	273500 194605
345	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A17NE (NW)	877	-	271934 195521
346	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A8SE (S)	893	-	272685 193844
347	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A17NW (NW)	918	-	271886 195531
348	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A17SW (NW)	920	-	271768 195396
349	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A17NW (NW)	932	-	271847 195512
350	Potentially Infilled Land (Non-Water) Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A11NE (W)	981	-	271546 194958
351	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NE (N)	0	-	272598 194823
352	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NW (N)	59	-	272560 194957
353	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NW (NW)	89	-	272436 194887
354	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NE (NE)	103	-	272705 194935
355	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A13NE (N)	123	-	272626 195022
356	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NW (N)	171	-	272577 195075
357	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NW (N)	220	-	272552 195122

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
358	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SW (N)	419	-	272511 195317
359	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A17NE (NW)	825	-	272105 195581
360	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A17NE (NW)	839	-	272032 195551
361	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A19SW (NE)	858	-	273261 195435
362	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A19NW (NE)	911	-	273159 195614
363	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A17NE (NW)	968	-	272171 195778
364	Registered Landfill Sites Licence Holder: Norbrit Wharfage Licence Reference: . Site Location: Giants Wharf, Briton Ferry, Neath, West Glamorgan Licence Easting: 273440 Licence Northing: 194750 Operator Location: As Site Address Authority: Environment Agency Wales, South West Area Site Category: Landfill Max Input Rate: Undefined Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1988 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, Stone, Hardcore Demolition Wastes, Fabric Of Buildings Soil, Subsoil	A14SE (E)	773	3	273440 194750
365	Registered Waste Transfer Sites Licence Holder: Briton Ferry (Shipping Services) Ltd Licence Reference: EAWML34183 Site Location: Giants Wharf, Briton Ferry, NEATH, West Glamorgan, SA11 2PL Operator Location: Giants Wharf, Briton Ferry, NEATH, West Glamorgan, SA11 2PL Authority: Environment Agency Wales, South West Area Site Category: Transfer 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: Licence Status: Operational as far as is knownOperational Dated: 30th January 2001 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: Amber List Substances (Annexes II/III 259/93/Eec) And Inert Substances Green List Substances (Annexes II/III 259/93/Eec) Maximum Waste Permitted By Licence Scrap Metal Special Waste (As In Epa 1990:S62 Of 1996 Regs) Prohibited Waste: Clinical Wastes Household/Commercial/Industrial Waste At Teps > 80 C Liquid/Slurry/Sludge Wastes / Thixotropic Substances Material With Any Haz.Code (H1, H2, H3a,H3b) Material With Haz.Code H 9 - Infectious Other Waste / Waste Not Otherwise Specified Readily Degradable Household/Commercial/Industrial Waste	A14SE (E)	683	3	273350 194750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
366	Registered Waste Transfer Sites Licence Holder: South Wales Wharfage Licence Reference: NBWD 2 Site Location: Ironworks Wharf, Briton Ferry, Neath, West Glamorgan Operator Location: As Site Address Authority: Environment Agency Wales, South West Area Site Category: Transfer - River 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 June 1988 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Approximate location provided by supplier Boundary Quality: Not Supplied Authorised Waste: Bulk Industrial Waste	A9NE (SE)	906	3	273500 194400
367	Registered Waste Transfer Sites Licence Holder: Neath Waste Management Company Ltd Licence Reference: NBWD 4 Site Location: Giant's Grave C.A.Site, Briton Ferry, NEATH, West Glamorgan, SA11 2LN Operator Location: Giant's Grave Road, Briton Ferry, NEATH, West Glamorgan, SA11 2LN Authority: Environment Agency Wales, South West Area Site Category: Civic Amenity Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 1st April 1993 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: Household Waste Prohibited Waste: Commercial Waste Hazardous Wastes Industrial Wastes Special Wastes	A14NE (E)	944	3	273600 194900
368	Registered Waste Treatment or Disposal Sites Licence Holder: Neath Port Talbot Waste Management Co Licence Reference: SWW 172L Site Location: Giants Wharf M.R.F., Briton Ferry, NEATH, West Glamorgan, SA11 2LN Operator Location: Giants Grave Road, Briton Ferry, NEATH, West Glamorgan, SA11 2LN Authority: Environment Agency Wales, South West Area Site Category: Recycling / Reclamation 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: 29th May 1998 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: Household Waste (S75 Epa'90) Max.Waste Permitted By Licence Prohibited Waste: Liquid Wastes Sludge Wastes Spec.Waste (Epa'90:S62/1996 Regs) Waste N.O.S. Waste With Haz.Code In H1 To H14 Wastes Containing Liquids	A14SE (E)	873	3	273540 194780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
369	Control of Major Accident Hazards Sites (COMAH) Name: BG PLC TransCo Location: E M Edwards Works, Earlswood Bypass, Jersey Marine, NEATH, West Glamorgan, SA10 6JY Reference: Not Supplied Type: Upper Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Automatically positioned to the address	A13NE (N)	104	7	272613 195005
370	Control of Major Accident Hazards Sites (COMAH) Name: Flogas Britain Limited Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, SA10 6JY Reference: Not Supplied Type: Upper Tier Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (N)	175	7	272538 195072
371	Notification of Installations Handling Hazardous Substances (NIHHS) Name: British Gas PLC Location: Earlswood Bypass, Jersey Marine, NEATH, West Glamorgan, SA10 6LX Status: Not Active Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	751	7	273092 194138
372	Planning Hazardous Substance Consents Name: Flogas Britain Ltd Location: Llandarcy, Sa10 6jy Authority: Neath Port Talbot County Borough Council, Planning Department Application Ref: P2014/0921 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 19th September 2014 Decision: Unknown at time of reportUnknown Positional Accuracy: Manually positioned to the address or location	A13NW (N)	73	8	272570 194976
373	Planning Hazardous Substance Consents Name: British Gas Plc Location: Neath Gas Works, Milland Road, NEATH, West Glamorgan, SA10 Authority: Neath Port Talbot County Borough Council, Planning Department Application Ref: Phs 004 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: Not Supplied Decision: Deemed Consent GrantedGranted Positional Accuracy: Manually positioned to the address or location	A13NW (N)	182	8	272534 195079
374	Planning Hazardous Substance Consents Name: British Gas Plc Location: E M Edwards Works, Llandarcy, NEATH, West Glamorgan, SA10 6JY Authority: Neath Port Talbot County Borough Council, Planning Department Application Ref: PH5/006 Hazardous Substance: Part A, Toxic Substance, Sulphur dioxide, where amount held is greater than or equal to 20 tonnes Maximum Quantity: 0 Application date: Not Supplied Decision: Deemed consent granted between June 1992 and November 1992Granted Positional Accuracy: Manually positioned to the address or location	A18SW (N)	326	8	272537 195227
374	Planning Hazardous Substance Consents Name: British Gas Plc Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, Sa10 6jy Authority: Neath Port Talbot County Borough Council, Planning Department Application Ref: Phs 006 Hazardous Substance: Part C, Flammable Substance (Not in Parts A&B), Liquefied petroleum gas held at >1.4 bar where amount held is greater than or equal to 25 tonnes Maximum Quantity: 0 Application date: Not Supplied Decision: Deemed consent granted between June 1992 and November 1992Granted Positional Accuracy: Manually positioned to the address or location	A18SW (N)	330	8	272532 195230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
374	Planning Hazardous Substance Consents Name: British Gas Plc Location: E M Edwards Works, Llandarcy, NEATH, West Glamorgan, SA10 6JY Authority: Neath Port Talbot County Borough Council, Planning Department Application Ref: PH5/006 Hazardous Substance: Part C, Flammable Substance (Not in Parts A&B), All other liquid or liquids with flashpoint less than 21C, where amount held is >= 10,000 tonnes Maximum Quantity: 0 Application date: Not Supplied Decision: Deemed consent granted between June 1992 and November 1992 Granted Positional Accuracy: Manually positioned to the address or location	A18SW (N)	331	8	272537 195232
374	Planning Hazardous Substance Consents Name: British Gas Plc Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, Sa10 6jy Authority: Neath Port Talbot County Borough Council, Planning Department Application Ref: Phs 005 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: Not Supplied Decision: Deemed Consent Granted Granted Positional Accuracy: Manually positioned to the address or location	A18SW (N)	332	8	272533 195232

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: South Wales Upper Coal Measures Formation	A13SE (NW)	0	1	272595 194817
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (NW)	0	1	272595 194817
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (W)	23	1	272500 194817
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	39	1	272643 194706
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	179	1	272362 194948
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	191	1	272500 194569
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: 1.8 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (S)	233	1	272595 194500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 15 - 25 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8NE (S)	309	1	272644 194427
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A13SW (SW)	344	1	272345 194500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8NE (S)	416	1	272604 194317
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8NE (S)	416	1	272627 194318
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8NE (S)	425	1	272745 194333
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8NE (SE)	436	1	272841 194357

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SW (NW)	452	1	272382 195308
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8NE (S)	459	1	272724 194291
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8NE (S)	501	1	272658 194235
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (N)	506	1	272371 195363
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NW (SW)	508	1	272349 194289
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NW (SE)	508	1	273030 194402

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 45 - 60 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12SE (W)	523	1	272000 194817
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NW (S)	535	1	272478 194211
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8NW (S)	544	1	272432 194210
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8NW (S)	547	1	272457 194204
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NW (SE)	555	1	273112 194426
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NE (S)	557	1	272670 194180

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8NW (SW)	559	1	272347 194234
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12NE (NW)	572	1	272000 195102
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SW (SE)	583	1	273190 194500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NE (W)	597	1	271930 194950
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 3.0 - 6.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18NW (N)	602	1	272500 195500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 3.0 - 6.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18NW (N)	607	1	272471 195500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A9NW (SE)	619	1	273023 194250
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 15 - 25 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8SW (S)	620	1	272595 194113
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: 2.2 - 3.0 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A18NW (N)	622	1	272500 195521
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 15 - 25 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8SW (S)	625	1	272500 194115
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8SE (S)	633	1	272673 194104
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 45 - 60 mg/kg Concentration: Cadmium: 2.2 - 3.0 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A12SE (SW)	641	1	271972 194542

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14NE (E)	649	1	273272 194996
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SE (S)	658	1	272740 194090
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SE (S)	658	1	272740 194090
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8SE (S)	673	1	272844 194106
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SE (S)	673	1	272713 194069
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8SE (SE)	680	1	272930 194130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8SE (S)	681	1	272814 194087
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: 2.2 - 3.0 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A12SE (W)	686	1	271922 194541
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A7NE (SW)	690	1	272148 194209
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 15 - 25 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8SE (S)	704	1	272877 194084
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8SE (SE)	711	1	272924 194094
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 45 - 60 mg/kg Concentration: Cadmium: 2.2 - 3.0 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A12SW (SW)	747	1	271870 194509

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7NE (SW)	783	1	272000 194226
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 45 - 60 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NW (W)	793	1	271741 195000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14SE (E)	858	1	273490 194515
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14SE (E)	862	1	273490 194500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (E)	874	1	273493 194471
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14NE (E)	891	1	273550 194874

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SW (S)	902	1	272546 193832
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8SE (S)	910	1	272670 193826
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SE (E)	914	1	273544 194500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 45 - 60 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7SW (SW)	914	1	271909 194131
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12SW (W)	917	1	271611 194772
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SE (S)	928	1	272769 193821

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NE (SE)	943	1	273517 194349
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A3NW (S)	947	1	272547 193787
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A3NW (S)	947	1	272548 193787
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A3NW (S)	952	1	272460 193791
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (SE)	960	1	273518 194313
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A15NW (E)	963	1	273628 194826

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NE (SE)	963	1	273477 194236
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (SE)	965	1	273478 194234
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 3.0 - 6.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NW (N)	967	1	272309 195831
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 3.0 - 6.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A17NW (NW)	976	1	271782 195506
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 2.2 - 3.0 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A17NW (NW)	980	1	271772 195500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A3NW (S)	986	1	272287 193797

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
375	BGS Recorded Mineral Sites Site Name: Red Jacket Clay Pit Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97991 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Tidal Flat Deposits Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	290	1	272345 194590
376	BGS Recorded Mineral Sites Site Name: Red Jacket Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97977 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	297	1	272420 194495
377	BGS Recorded Mineral Sites Site Name: Red Jacket Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97978 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NW (SW)	403	1	272315 194445
378	BGS Recorded Mineral Sites Site Name: Red Jacket Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97979 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NW (SW)	471	1	272275 194390
379	BGS Recorded Mineral Sites Site Name: Coed-Yr-Iarlŷ Uchaf Clay Pit Location: Llandarcy, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156439 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Tidal Flat Deposits Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	472	1	272166 194539
380	BGS Recorded Mineral Sites Site Name: Sand Wharf Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10869 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 100m	A14NW (E)	552	1	273200 194900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
381	BGS Recorded Mineral Sites Site Name: Earlswood Colliery Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97990 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennant Sandstone Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	612	1	272960 194220
382	BGS Recorded Mineral Sites Site Name: Red Jacket Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97980 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	614	1	272225 194245
383	BGS Recorded Mineral Sites Site Name: Coed-Yr-Iarl Sand Pit Location: Jersey Marine, Swansea, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 4353 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Blown Sand Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A8SW (S)	634	1	272550 194100
384	BGS Recorded Mineral Sites Site Name: Red Jacket Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97981 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	764	1	272045 194205
385	BGS Recorded Mineral Sites Site Name: Giant'S Grave Quarry Location: Briton Ferry, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156436 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NE (E)	770	1	273350 195113
386	BGS Recorded Mineral Sites Site Name: Giants Wharf Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10866 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	A14SE (E)	783	1	273450 194750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
387	BGS Recorded Mineral Sites Site Name: Giant'S Grave Location: Briton Ferry, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156437 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NE (E)	822	1	273467 194948
388	BGS Recorded Mineral Sites Site Name: Crymlyn Burrows Sand Pit Location: Jersey Marine, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97983 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Blown Sand Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	830	1	272165 194025
389	BGS Recorded Mineral Sites Site Name: Henbarc Farm Location: Llandarcy, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156434 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	833	1	271914 195439
390	BGS Recorded Mineral Sites Site Name: Giant'S Arms Location: Briton Ferry, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156438 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	852	1	273505 194603
391	BGS Recorded Mineral Sites Site Name: Gelli-Bwch Plantation Location: Llandarcy, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156444 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	859	1	271968 195526
392	BGS Recorded Mineral Sites Site Name: Briton Ferry Quarry Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 243091 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	861	1	273151 194045

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
393	BGS Recorded Mineral Sites Site Name: Henbarc Farm Location: Llandarcy, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156432 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	913	1	271895 195533
394	BGS Recorded Mineral Sites Site Name: Henbarc Farm Location: Llandarcy, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156433 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	922	1	271764 195395
395	BGS Recorded Mineral Sites Site Name: Tessington'S Old Colliery Location: Llandarcy, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97989 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennant Sandstone Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A8SE (S)	925	1	272715 193815
396	BGS Recorded Mineral Sites Site Name: Cwrt-Y-Bettws Colliery Location: Skewen, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154111 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A23SW (N)	968	1	272447 195862
397	BGS Recorded Mineral Sites Site Name: Briton Ferry Wharf Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10844 Type: Wharf Status: Active Operator: Breedon Southern Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A9SE (SE)	983	1	273375 194075
398	BGS Recorded Mineral Sites Site Name: Crymlyn Burrows Location: Jersey Marine, Neath, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 97982 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	988	1	272050 193910

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: 272750, 194740 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 45.20 mg/kg Concentration: Cadmium Measured 0.50 mg/kg Concentration: Chromium Measured 55.80 mg/kg Concentration: Lead Measured 111.00 mg/kg Concentration: Nickel Measured 29.20 mg/kg Concentration:	A13SE (SE)	85	1	272750 194740
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 272230, 194800 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 36.90 mg/kg Concentration: Cadmium Measured 0.20 mg/kg Concentration: Chromium Measured 71.30 mg/kg Concentration: Lead Measured 125.50 mg/kg Concentration: Nickel Measured 44.20 mg/kg Concentration:	A12SE (W)	302	1	272230 194800
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 272800, 195240 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 28.10 mg/kg Concentration: Cadmium Measured 0.80 mg/kg Concentration: Chromium Measured 100.00 mg/kg Concentration: Lead Measured 138.10 mg/kg Concentration: Nickel Measured 50.00 mg/kg Concentration:	A18SE (NE)	397	1	272800 195240
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 272700, 194250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 26.90 mg/kg Concentration: Cadmium Measured 2.10 mg/kg Concentration: Chromium Measured 27.80 mg/kg Concentration: Lead Measured 115.00 mg/kg Concentration: Nickel Measured 21.20 mg/kg Concentration:	A8NE (S)	493	1	272700 194250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 272310, 194290 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 20.90 mg/kg Concentration: Cadmium Measured 0.60 mg/kg Concentration: Chromium Measured 25.00 mg/kg Concentration: Lead Measured 30.20 mg/kg Concentration: Nickel Measured 8.10 mg/kg Concentration:	A8NW (SW)	528	1	272310 194290

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: 273310, 194850 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 79.30 mg/kg Concentration: Cadmium Measured 3.20 mg/kg Concentration: Chromium Measured 63.50 mg/kg Concentration: Lead Measured 148.90 mg/kg Concentration: Nickel Measured 37.80 mg/kg Concentration:	A14NE (E)	649	1	273310 194850
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273250, 194240 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 58.30 mg/kg Concentration: Cadmium Measured 1.70 mg/kg Concentration: Chromium Measured 87.70 mg/kg Concentration: Lead Measured 380.60 mg/kg Concentration: Nickel Measured 61.00 mg/kg Concentration:	A9NW (SE)	779	1	273250 194240
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273300, 195270 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 31.60 mg/kg Concentration: Cadmium Measured 0.80 mg/kg Concentration: Chromium Measured 113.00 mg/kg Concentration: Lead Measured 183.80 mg/kg Concentration: Nickel Measured 59.60 mg/kg Concentration:	A19SE (NE)	801	1	273300 195270
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 272710, 193760 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 23.00 mg/kg Concentration: Cadmium Measured 0.70 mg/kg Concentration: Chromium Measured 34.50 mg/kg Concentration: Lead Measured 37.00 mg/kg Concentration: Nickel Measured 20.60 mg/kg Concentration:	A3NE (S)	979	1	272710 193760
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 271790, 194180 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 219.30 mg/kg Concentration: Cadmium Measured 4.00 mg/kg Concentration: Chromium Measured 92.90 mg/kg Concentration: Lead Measured 828.00 mg/kg Concentration: Nickel Measured 111.30 mg/kg Concentration:	A7NW (SW)	979	1	271790 194180

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: 273200, 195670 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 40.30 mg/kg Cadmium Measured Concentration: 2.00 mg/kg Chromium Measured Concentration: 113.70 mg/kg Lead Measured Concentration: 387.00 mg/kg Nickel Measured Concentration: 49.20 mg/kg	A19NW (NE)	980	1	273200 195670
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: Swansea Count Id: 368 Arsenic Minimum Concentration: 8.00 mg/kg Arsenic Average Concentration: 79.00 mg/kg Arsenic Maximum Concentration: 2161.00 mg/kg Cadmium Minimum Concentration: 0.10 mg/kg Cadmium Average Concentration: 2.90 mg/kg Cadmium Maximum Concentration: 61.90 mg/kg Chromium Minimum Concentration: 13.00 mg/kg Chromium Average Concentration: 72.00 mg/kg Chromium Maximum Concentration: 562.00 mg/kg Lead Minimum Concentration: 23.00 mg/kg Lead Average Concentration: 413.00 mg/kg Lead Maximum Concentration: 10000.00 mg/kg Nickel Minimum Concentration: 8.00 mg/kg Nickel Average Concentration: 52.00 mg/kg Nickel Maximum Concentration: 384.00 mg/kg	A13SE (NW)	0	1	272595 194817
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SE (NW)	0	9	272595 194817
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SE (NW)	0	-	272595 194817
	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	A13SE (NW)	0	1	272595 194817
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	31	1	272652 194716
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	95	1	272595 195000
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	209	1	272358 195000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	272595 194817

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	27	1	272634 194716
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	92	1	272759 194734
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	95	1	272595 195000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	114	1	272725 194892
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	129	1	272673 195000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	168	1	272389 194972
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	185	1	272390 195000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	212	1	272313 194905
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	272595 194817
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	95	1	272595 195000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	272595 194817
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	23	1	272632 194719
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	95	1	272595 195000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	98	1	272750 194811
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	121	1	272789 194759
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	180	1	272347 194911
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	183	1	272845 194703
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	207	1	272750 194566
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	220	1	272345 195000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	242	1	272900 194822
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	250	1	272832 194570

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	272595 194817
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	27	1	272634 194716
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	31	1	272652 194716
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	46	1	272618 194691
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	95	1	272595 195000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	114	1	272725 194892
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	129	1	272673 195000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	135	1	272385 194826
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	168	1	272389 194972
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	185	1	272390 195000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	207	1	272750 194566
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	208	1	272313 194886
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	209	1	272358 195000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	272595 194817
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	46	1	272618 194691
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	95	1	272595 195000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	207	1	272750 194566
	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	A13SE (NW)	0	1	272595 194817
	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	A13SE (NW)	0	1	272595 194817

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
399	Contemporary Trade Directory Entries Name: C S L Ltd Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, SA10 6JY Classification: Automation Systems & Equipment Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NW (N)	44	-	272594 194948
399	Contemporary Trade Directory Entries Name: Automation Special Purpose Machines Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, SA10 6JY Classification: Engineering Machine Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NW (N)	44	-	272593 194948
399	Contemporary Trade Directory Entries Name: Flo Gas Plc Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, SA10 6JY Classification: Gas Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (N)	73	-	272570 194976
399	Contemporary Trade Directory Entries Name: P & O Transeuropean Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, SA10 6JY Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	102	-	272608 195005
400	Contemporary Trade Directory Entries Name: Ferry Bridge Auto Spares Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, SA10 6JY Classification: Commercial Vehicle Breakdown & Recovery Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13NW (N)	145	-	272548 195044
400	Contemporary Trade Directory Entries Name: Portacover Machinery Movements Ltd Location: Llandarcy, Neath, West Glamorgan, SA10 6JY Classification: Mechanical Handling Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (N)	148	-	272531 195041
400	Contemporary Trade Directory Entries Name: L P Gas Wales Direct Location: E M Edwards Works, Llandarcy, Neath, West Glamorgan, SA10 6JY Classification: Gas Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (N)	174	-	272538 195072
401	Contemporary Trade Directory Entries Name: Sims Metal Management Location: Giants Wharf, Briton Ferry, Neath, West Glamorgan, SA11 2LP Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	645	-	273312 194760
401	Contemporary Trade Directory Entries Name: Briton Ferry Shipping Services Location: Giants Wharf, Briton Ferry, Neath, West Glamorgan, SA11 2LP Classification: Cargo Handling Services Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (E)	645	-	273312 194760
401	Contemporary Trade Directory Entries Name: R M C Aggregates South Wales Ltd Location: Giants Wharf, Briton Ferry, Neath, West Glamorgan, SA11 2LP Classification: Sand, Gravel & Other Aggregates Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (E)	645	-	273312 194760
401	Contemporary Trade Directory Entries Name: Western Precast Location: Unit B, Giants Wharf, Briton Ferry, Neath, West Glamorgan, SA11 2LP Classification: Concrete Products Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	645	-	273312 194760
402	Contemporary Trade Directory Entries Name: Ferry Bridge Auto Spares Location: Jersey Marine, Neath, West Glamorgan, SA10 6NG Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	763	-	273152 194168

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
403	Contemporary Trade Directory Entries Name: N X Infrastructure (Wheels) Ltd Location: Wern Works, Briton Ferry, Neath, West Glamorgan, SA11 2JX Classification: Steel Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	852	-	273426 194370
404	Contemporary Trade Directory Entries Name: Discount & Commercial Spares Location: Jersey Marine, Neath, West Glamorgan, SA10 6NG Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	878	-	273208 194066
404	Contemporary Trade Directory Entries Name: O J Auto Services Location: Earlswood, Jersey Marine, Neath, West Glamorgan, SA10 6NG Classification: Commercial Vehicle Breakdown & Recovery Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	893	-	273197 194039
405	Contemporary Trade Directory Entries Name: Stelax Industries Uk Ltd Location: Wern Works, Briton Ferry, Neath, West Glamorgan, SA11 2JX Classification: Steel Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	908	-	273466 194325
405	Contemporary Trade Directory Entries Name: Timaran Location: Wern Works, Briton Ferry, Neath, West Glamorgan, SA11 2JX Classification: Steel Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	909	-	273466 194324
406	Contemporary Trade Directory Entries Name: Neath Port Talbot Waste Management Co Ltd Location: Giants Grave Road, Neath, West Glamorgan, SA11 2LN Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	914	-	273573 194877
407	Contemporary Trade Directory Entries Name: Stillman & Sons Location: 82, Giants Grave Road, Neath, West Glamorgan, SA11 2LN Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (E)	987	-	273649 194863
408	Points of Interest - Commercial Services Name: Briton Ferry Shipping Services Location: Giants Wharf, Briton Ferry, Neath, SA11 2LP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	816	10	273480 194686
409	Points of Interest - Commercial Services Name: Bulk Energy Trading Ltd Location: Bulk Energy Trading Ltd Giants Wharf, Wharf Road, Briton Ferry, SA11 2LP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	877	10	273544 194778
410	Points of Interest - Commercial Services Name: Stillman & Sons Location: 82 Giants Grave Road, Neath, SA11 2LN Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A15NW (E)	987	10	273649 194863
410	Points of Interest - Commercial Services Name: Stillman & Sons Location: 82 Giants Grave Road, Neath, SA11 2LN Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A15NW (E)	987	10	273649 194863
411	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	A13NW (NW)	0	10	272576 194860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
411	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	0	10	272618 194828
411	Points of Interest - Manufacturing and Production Name: Works Location: SA10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	0	10	272590 194860
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	40	10	272536 194762
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	48	10	272528 194760
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	58	10	272520 194754
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	66	10	272513 194751
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	75	10	272505 194747
412	Points of Interest - Manufacturing and Production Name: Tanks Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	78	10	272508 194735
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	83	10	272498 194743
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	92	10	272490 194739
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	101	10	272482 194735
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	109	10	272474 194733

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
412	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SW (SW)	118	10	272467 194727
413	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (N)	88	10	272541 194980
413	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	96	10	272523 194979
413	Points of Interest - Manufacturing and Production Name: Tanks Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	104	10	272528 194991
414	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	165	10	272439 195013
414	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	196	10	272414 195033
415	Points of Interest - Manufacturing and Production Name: Works Location: SA10 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	177	10	272570 195081
415	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	A13NW (N)	178	10	272580 195083
416	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	230	10	272467 195101
417	Points of Interest - Manufacturing and Production Name: Ronald G Williams Location: Llandarcy, Neath, SA10 6JU Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A12NW (W)	609	10	271918 194940
417	Points of Interest - Manufacturing and Production Name: Ronald G Williams Location: Gelli Bwch Farm, Llandarcy, Neath, SA10 6JU Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A12NW (W)	609	10	271918 194940
417	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	690	10	271835 194920

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
418	Points of Interest - Manufacturing and Production Name: Quarry (disused) Location: SA10 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A7NE (SW)	613	10	272249 194229
418	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: SA10 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	621	10	272214 194245
419	Points of Interest - Manufacturing and Production Name: Tank Location: SA10 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	664	10	273024 194197
420	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A14NE (E)	764	10	273340 195119
420	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	774	10	273353 195115
421	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	A14SE (E)	832	10	273460 194505
422	Points of Interest - Manufacturing and Production Name: Air Shaft Location: SA10 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	849	10	272675 193887
423	Points of Interest - Manufacturing and Production Name: Briton / Neath - Landfill Gas (DECC) Location: Neath Landfill, Giant Grave Road, SA10 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	868	10	273300 195400
424	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	873	10	273438 194348
424	Points of Interest - Manufacturing and Production Name: Works Location: SA11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	888	10	273473 194383
424	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	A9NE (SE)	888	10	273473 194383
424	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	A9NE (SE)	940	10	273508 194337

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
424	Points of Interest - Manufacturing and Production Name: Works Location: SA11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	940	10	273508 194337
425	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	956	10	273494 194277
426	Points of Interest - Public Infrastructure Name: L P Gas Wales Location: E M Edwards Works, Llandarcy, Neath, SA10 6JY Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (N)	73	10	272570 194976
427	Points of Interest - Public Infrastructure Name: Weir Location: SA10 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	195	10	272408 194674
427	Points of Interest - Public Infrastructure Name: Weir Location: SA10 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	206	10	272407 194652
427	Points of Interest - Public Infrastructure Name: Sluice Location: SA10 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	240	10	272394 194606
427	Points of Interest - Public Infrastructure Name: Sluice Location: SA10 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	248	10	272385 194606
428	Points of Interest - Public Infrastructure Name: Refuse Tip Location: SA11 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	524	10	272667 195423
429	Points of Interest - Public Infrastructure Name: Sluice Location: SA10 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	585	10	272515 195485
430	Points of Interest - Public Infrastructure Name: Sewage Pumping Station Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	923	10	273589 194800
431	Points of Interest - Public Infrastructure Name: Refuse Tip Location: SA10 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	957	10	273373 195450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
432	Ancient Woodland Name: Not Supplied Reference: 18273 Area(m²): 52539.92 Type: Ancient and Semi-Natural Woodland	A13NW (NW)	328	2	272328 195135
433	Ancient Woodland Name: Not Supplied Reference: 41929 Area(m²): 11184.43 Type: Plantation on Ancient Woodland	A14SW (E)	489	2	273131 194601
434	Ancient Woodland Name: Not Supplied Reference: 23142 Area(m²): 41356.7 Type: Restored Ancient Woodland Site	A14SE (E)	837	2	273485 194580
435	Ancient Woodland Name: Not Supplied Reference: 12260 Area(m²): 33552.87 Type: Ancient and Semi-Natural Woodland	A18NW (N)	947	2	272392 195831
436	Local Nature Reserves Name: Pant-Y-Sais Multiple Area: N Area (m2): 189244.13 Source: Neath Port Talbot County Borough Council Designation Date: 31st December 1984	A12SE (SW)	600	11	272013 194553
437	National Nature Reserves Name: Crymlyn Bog And Pant Y Sais Multiple Areas: Y Total Area (m2): 1308383.06 Source: Natural Resources Wales Reference: 45 Designation Date: 27th September 1991	A12SE (SW)	610	2	272008 194542
438	Ramsar Sites Name: Crymlyn Bog Multiple Areas: Y Total Area (m2): 2675566.42 Source: Natural Resources Wales Reference: UK14006 Designation Date: 8th June 1993	A12SE (SW)	600	2	272013 194553
439	Sites of Special Scientific Interest Name: Earlswood Road Cutting And Ferryboat Inn Quarries Multiple Areas: Y Total Area (m2): 69559.07 Source: Natural Resources Wales Reference: 80333wxn Designation Details: Geological Designation Date: 1st January 1965 Date Type: Notified	A13SE (SE)	184	2	272789 194620
440	Sites of Special Scientific Interest Name: Pant-Y-Sais Multiple Areas: N Total Area (m2): 190260.33 Source: Natural Resources Wales Reference: 83733wxq Designation Details: Biological Designation Date: 1st January 1979 Date Type: Notified	A12SE (SW)	600	2	272013 194553
441	Special Areas of Conservation Name: Crymlyn Bog / Cors Crymlyn Multiple Areas: Y Total Area (m2): 2997434.94 Source: Natural Resources Wales Reference: UK0012885 Status: Designated	A12SE (SW)	600	2	272013 194553

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices City and County of Swansea - Environmental Health Department Natural Resources Wales Neath Port Talbot County Borough Council - Environmental Health Department	January 2015 June 2020 March 2015	Annual Rolling Update Annually Annual Rolling Update
Discharge Consents Environment Agency - Welsh Region Natural Resources Wales	August 2014 November 2020	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Welsh Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - Welsh Region	October 2008	Variable
Integrated Pollution Prevention And Control Natural Resources Wales Environment Agency - Welsh Region	November 2020 October 2020	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Swansea Bay Port Health Authority Neath Port Talbot County Borough Council - Environmental Health Department City and County of Swansea - Environmental Health Department	April 2014 August 2012 June 2014	Variable Variable Variable
Local Authority Pollution Prevention and Controls Swansea Bay Port Health Authority City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	April 2014 June 2014 March 2014	Annually Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Swansea Bay Port Health Authority City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	April 2014 June 2014 March 2014	Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	October 2020	
Pollution Incidents to Controlled Waters Environment Agency - Welsh Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	Annual Rolling Update Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	Annual Rolling Update Annual Rolling Update
Registered Radioactive Substances Natural Resources Wales Environment Agency - Welsh Region	January 2015 June 2016	Annually
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Natural Resources Wales Environment Agency Wales - South West Area	November 2020 October 2020	Quarterly Quarterly
Water Abstractions Natural Resources Wales Environment Agency - Welsh Region	November 2020 October 2020	Quarterly Quarterly
Water Industry Act Referrals Natural Resources Wales Environment Agency - Welsh Region	November 2020 October 2017	Quarterly Quarterly

Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Map Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations Natural Resources Wales	January 2018	Annually
Superficial Aquifer Designations Natural Resources Wales	January 2018	Annually
Source Protection Zones Natural Resources Wales	November 2016	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	August 2018	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	September 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water Suitability Natural Resources Wales	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Natural Resources Wales	July 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - South West Area Natural Resources Wales	October 2020 October 2020	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Natural Resources Wales Environment Agency Wales - South West Area	November 2020 October 2020	Quarterly Quarterly
Local Authority Landfill Coverage City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	May 2000 May 2000	Not Applicable Not Applicable
Local Authority Recorded Landfill Sites City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	May 2000 September 2003	Not Applicable Not Applicable
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements City and County of Swansea - Planning Department Neath Port Talbot County Borough Council - Planning Department	January 2016 October 2015	Variable Variable
Planning Hazardous Substance Consents City and County of Swansea - Planning Department Neath Port Talbot County Borough Council - Planning Department	January 2016 October 2015	Variable Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	October 2015	Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	October 2020	Quarterly
Fuel Station Entries Catalist Ltd - Experian	September 2020	Quarterly
Gas Pipelines National Grid	September 2020	
Points of Interest - Commercial Services PointX	December 2020	Quarterly
Points of Interest - Education and Health PointX	December 2020	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2020	Quarterly
Points of Interest - Public Infrastructure PointX	December 2020	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2020	Quarterly
Underground Electrical Cables National Grid	August 2020	

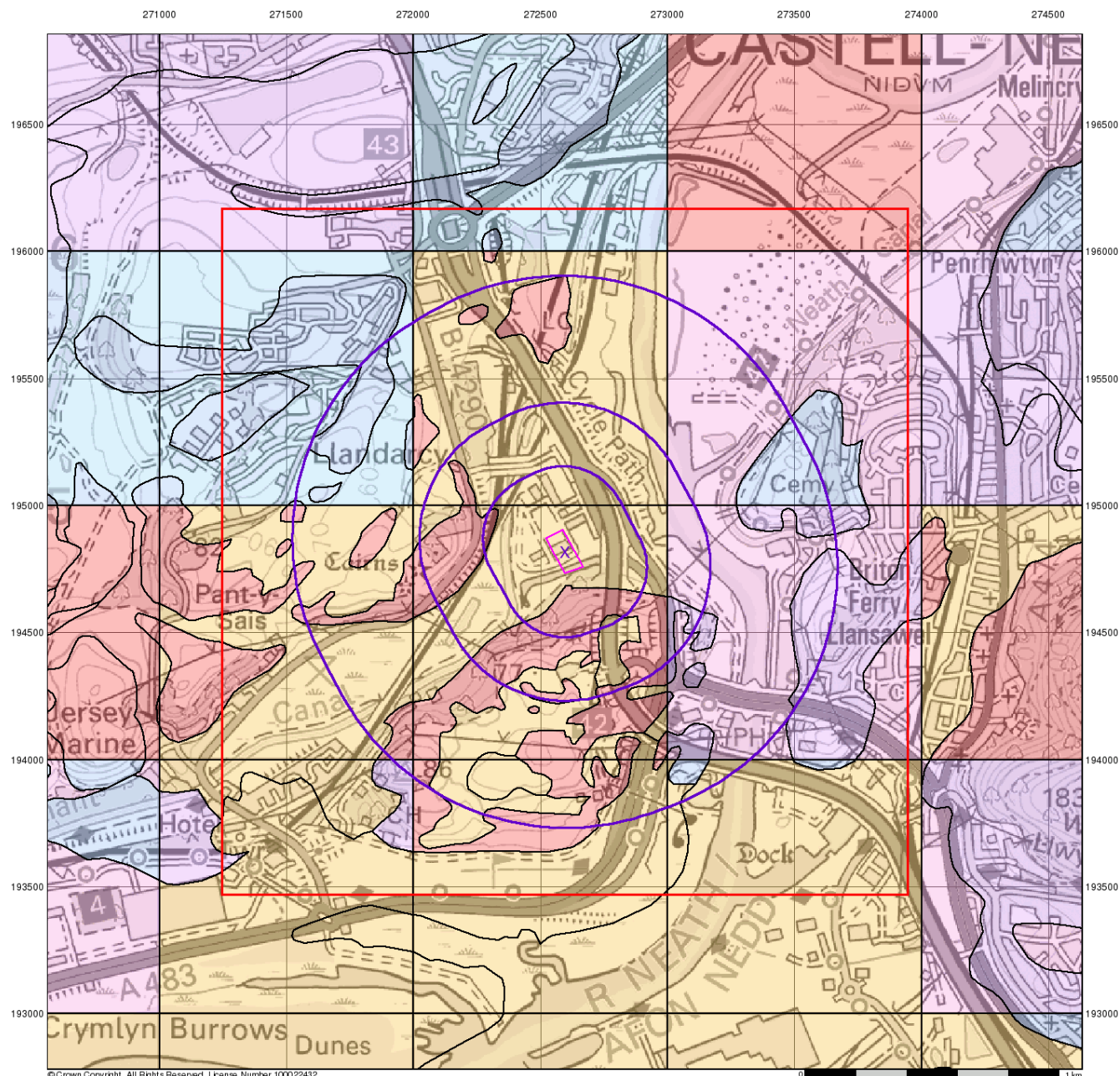
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural Resources Wales	August 2018	Bi-Annually
Areas of Adopted Green Belt City and County of Swansea Neath Port Talbot County Borough Council - Planning Services	June 2020 June 2020	As notified As notified
Areas of Unadopted Green Belt City and County of Swansea Neath Port Talbot County Borough Council - Planning Services	June 2020 June 2020	As notified As notified
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 City and County of Swansea Neath Port Talbot County Borough Council	August 2018 August 2018	Bi-Annually Bi-Annually
Marine Nature Reserves Natural Resources Wales	August 2018	Bi-Annually
National Nature Reserves Natural Resources Wales	June 2019	Bi-Annually
National Parks Natural Resources Wales	August 2018	Annually
Nitrate Vulnerable Zones Natural Resources Wales The National Assembly for Wales - GI Services (Department of Planning & Countryside)	July 2019 October 2005	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	Neath Port Talbot County Borough Council - Environmental Health Department Room 322, Neath Civic Centre, Neath, West Glamorgan, SA11 3QZ	Telephone: 01639 763333 Fax: 01693 763444 Website: www.neath-porttalbot.gov.uk
5	Swansea Bay Port Health Authority Kings Dock Lock, Swansea, SA1 8RU	Telephone: 01792 653523 Fax: 01792 641718 Email: swansea-bay@cieh.org.uk
6	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
7	Health and Safety Executive 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
8	Neath Port Talbot County Borough Council - Planning Department Port Talbot Civic Centre, Port Talbot, SA13 1PJ	Telephone: 01639 763333 Fax: 01639 763444 Website: www.neath-porttalbot.gov.uk
9	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
10	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
11	Neath Port Talbot County Borough Council Civic Centre, Port Talbot, West Glamorgan, SA13 1PJ	Telephone: 01639 763333 Fax: 01693 763444 Website: www.neath-porttalbot.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



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Groundwater Vulnerability

General

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

Agency and Hydrological

Bedrock Aquifers

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

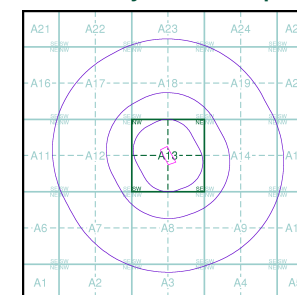
Superficial Aquifers

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

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 270552102_1_1
 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY

Landmark
 INFORMATION GROUP

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 Web: www.envirocheck.co.uk



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Bedrock Aquifer Designation

General

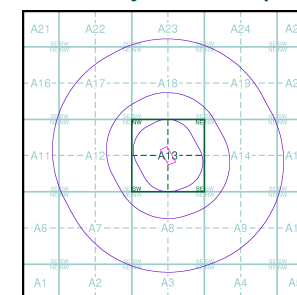
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

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

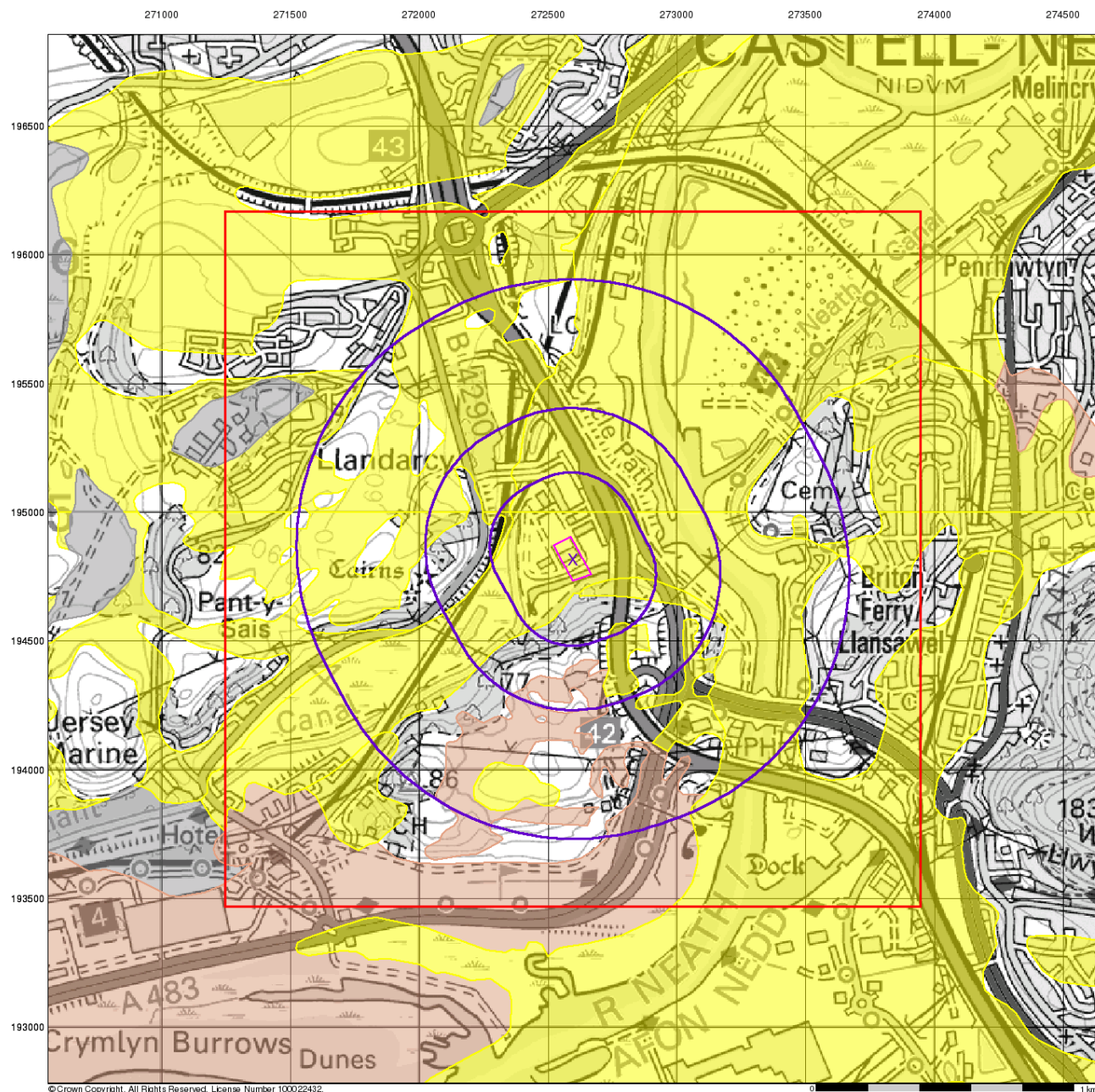
Order Number: 270552102_1_1
 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details

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Superficial Aquifer Designation

General

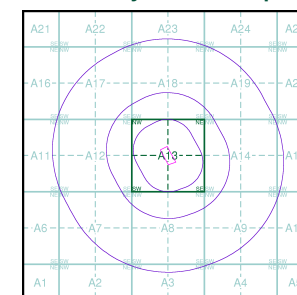
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

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

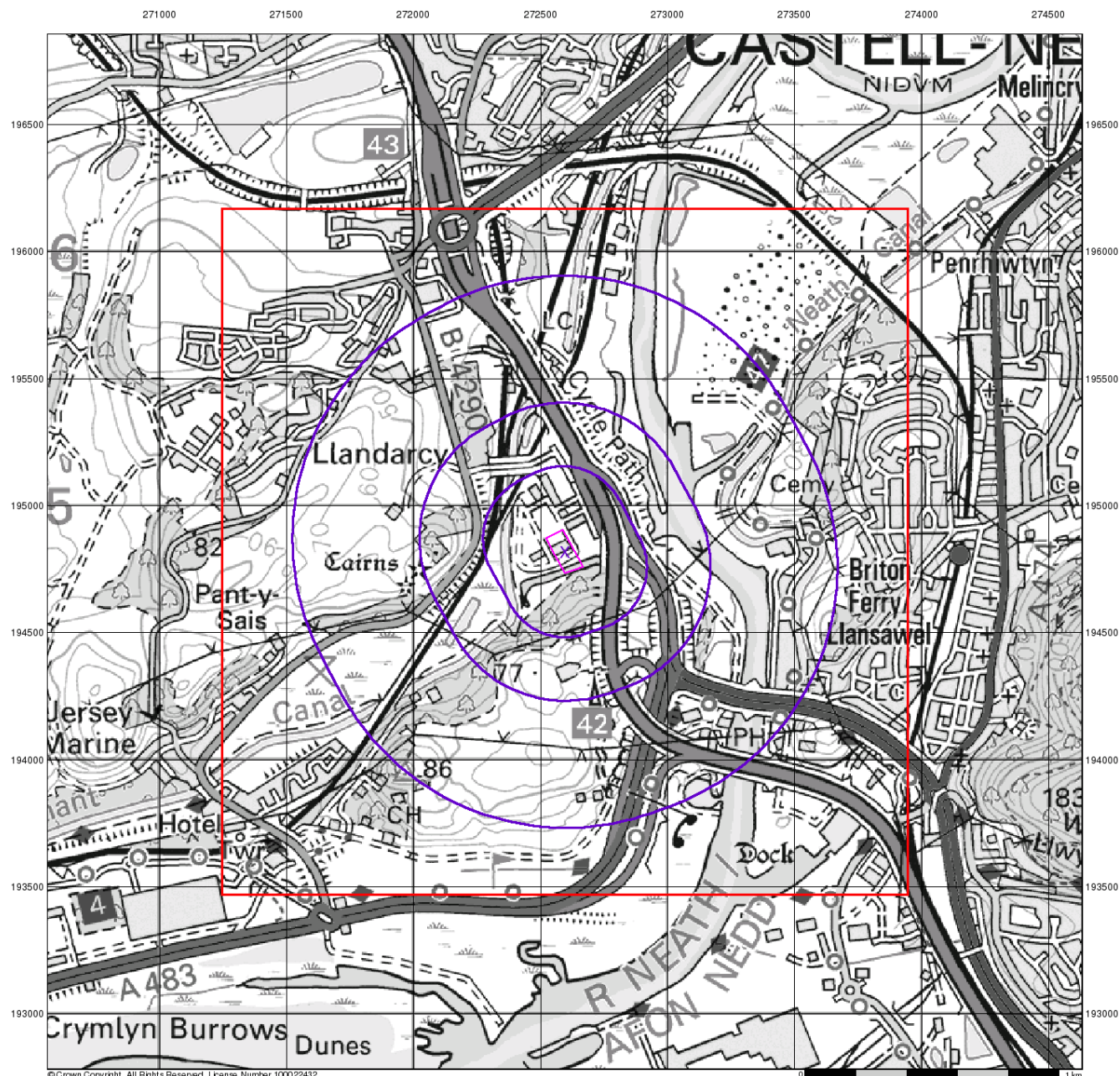
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 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details

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Source Protection Zones

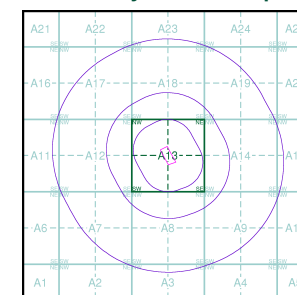
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

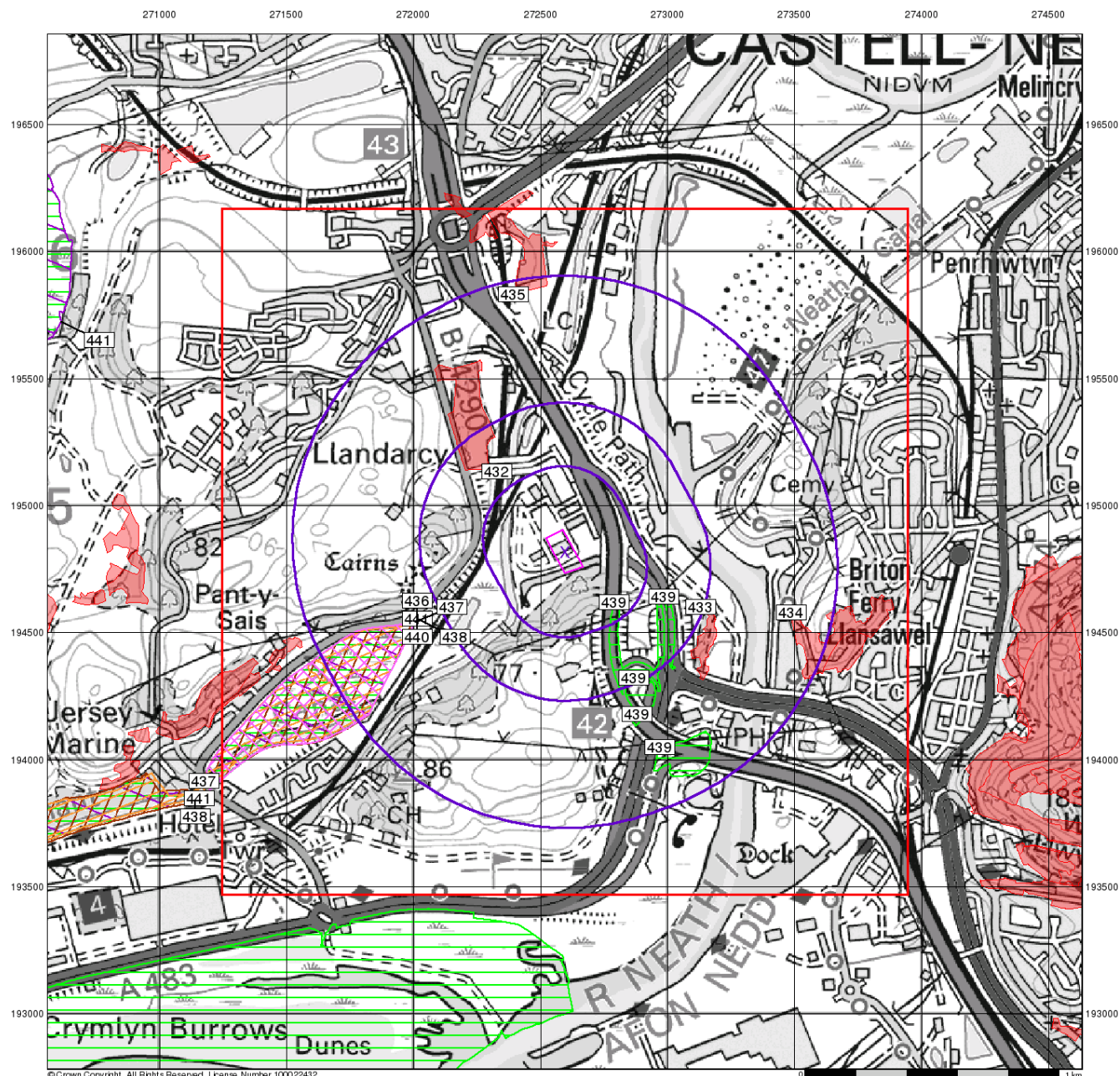
Order Number: 270552102_1_1
 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details

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Sensitive Land Uses

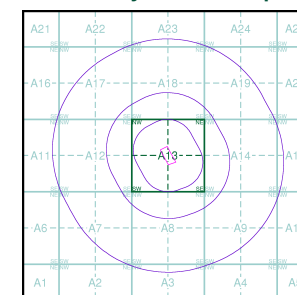
General

- ◇ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B 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
- NP 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

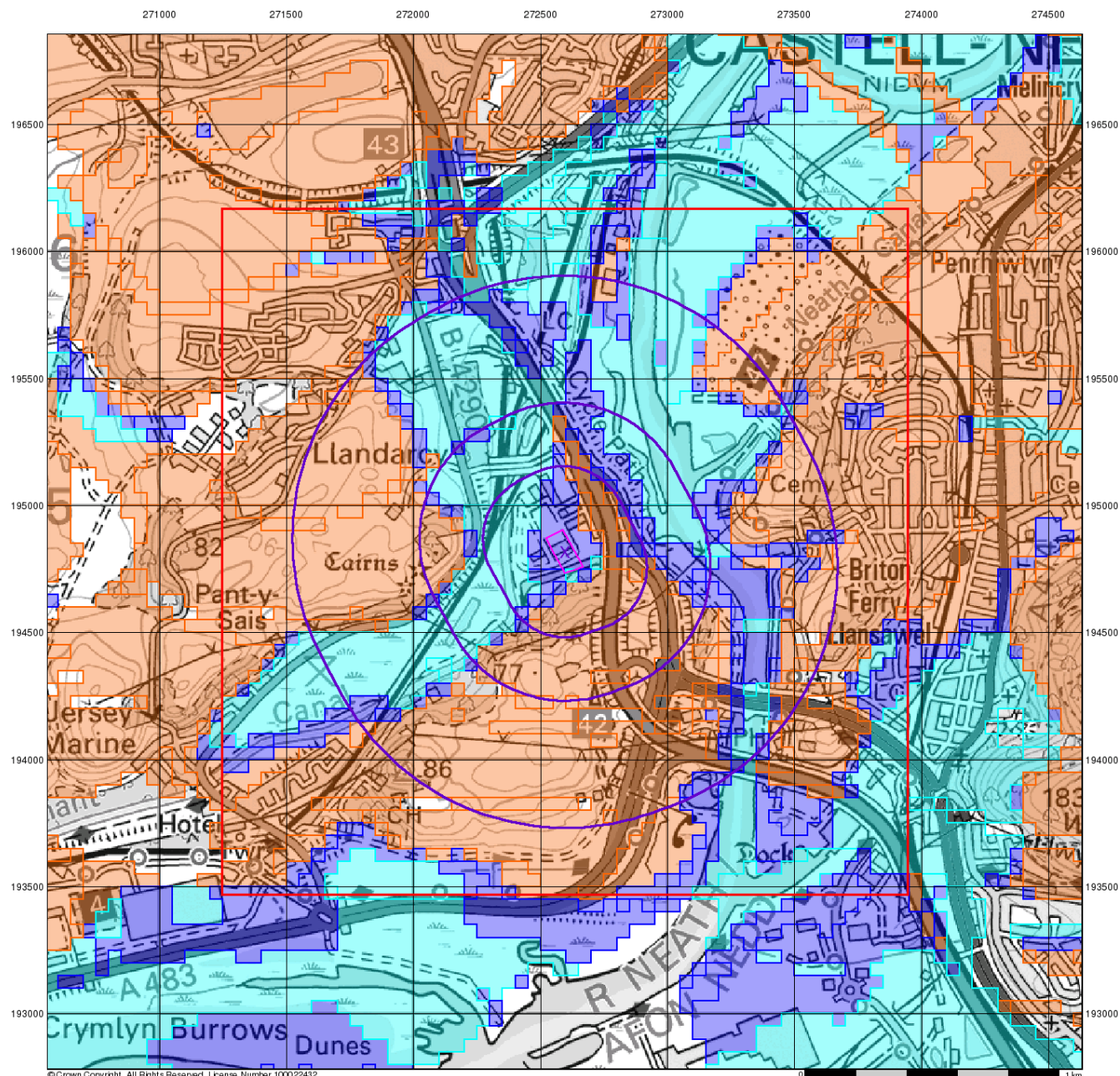
Order Number: 270552102_1_1
 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details

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BGS Flood GFS Data

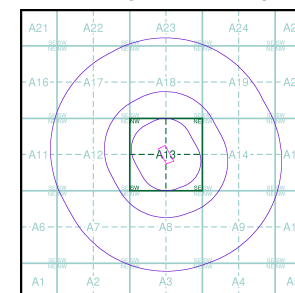
General

- 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: 270552102_1_1
 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY



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General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention 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
- 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

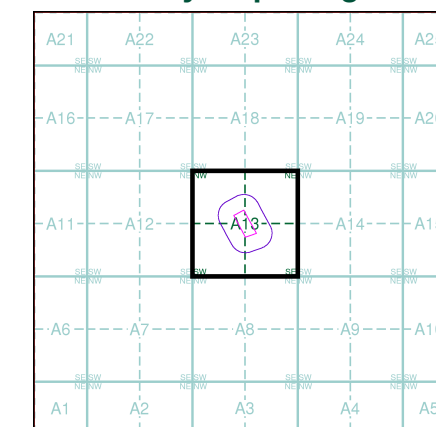
Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13

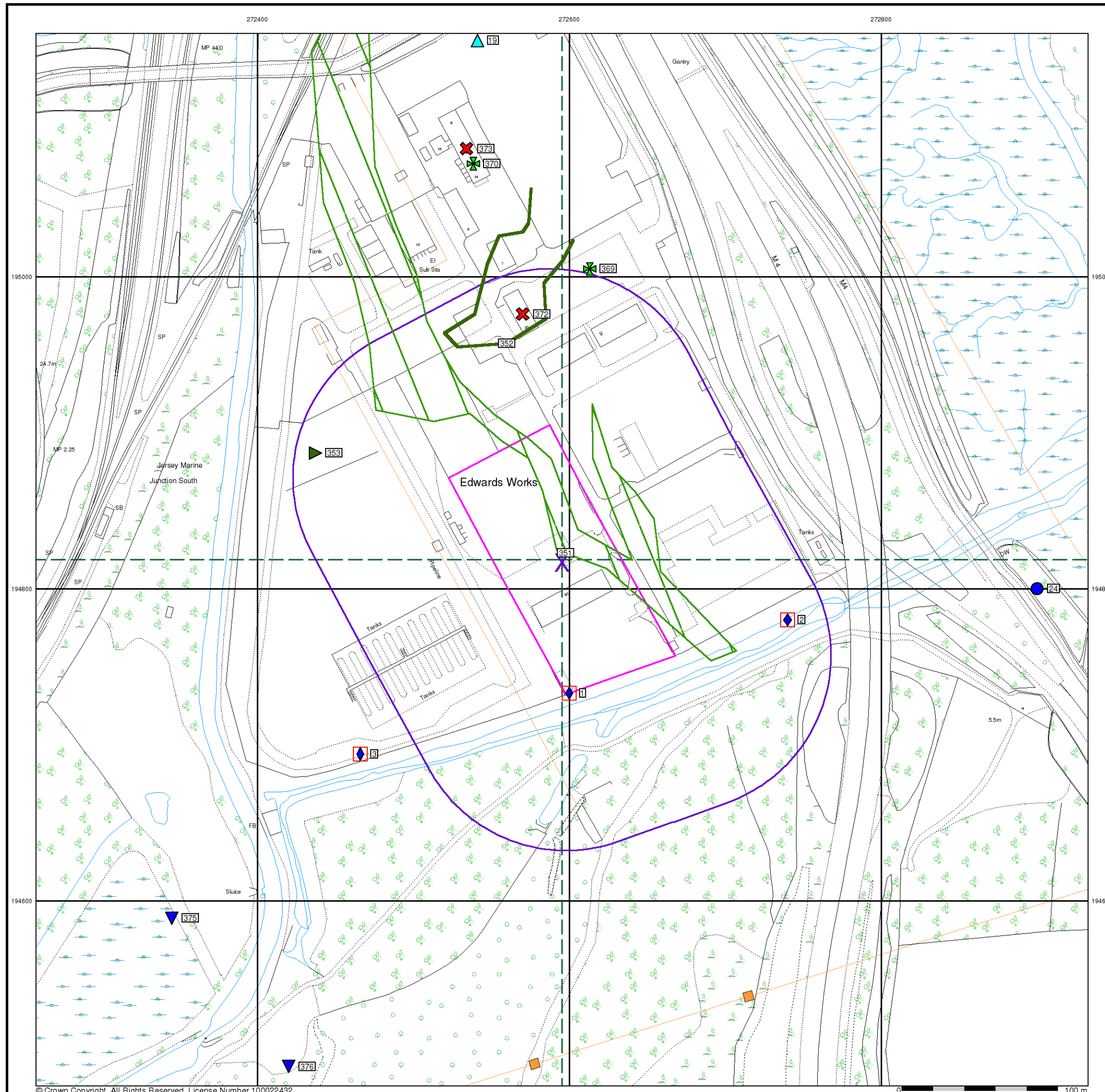


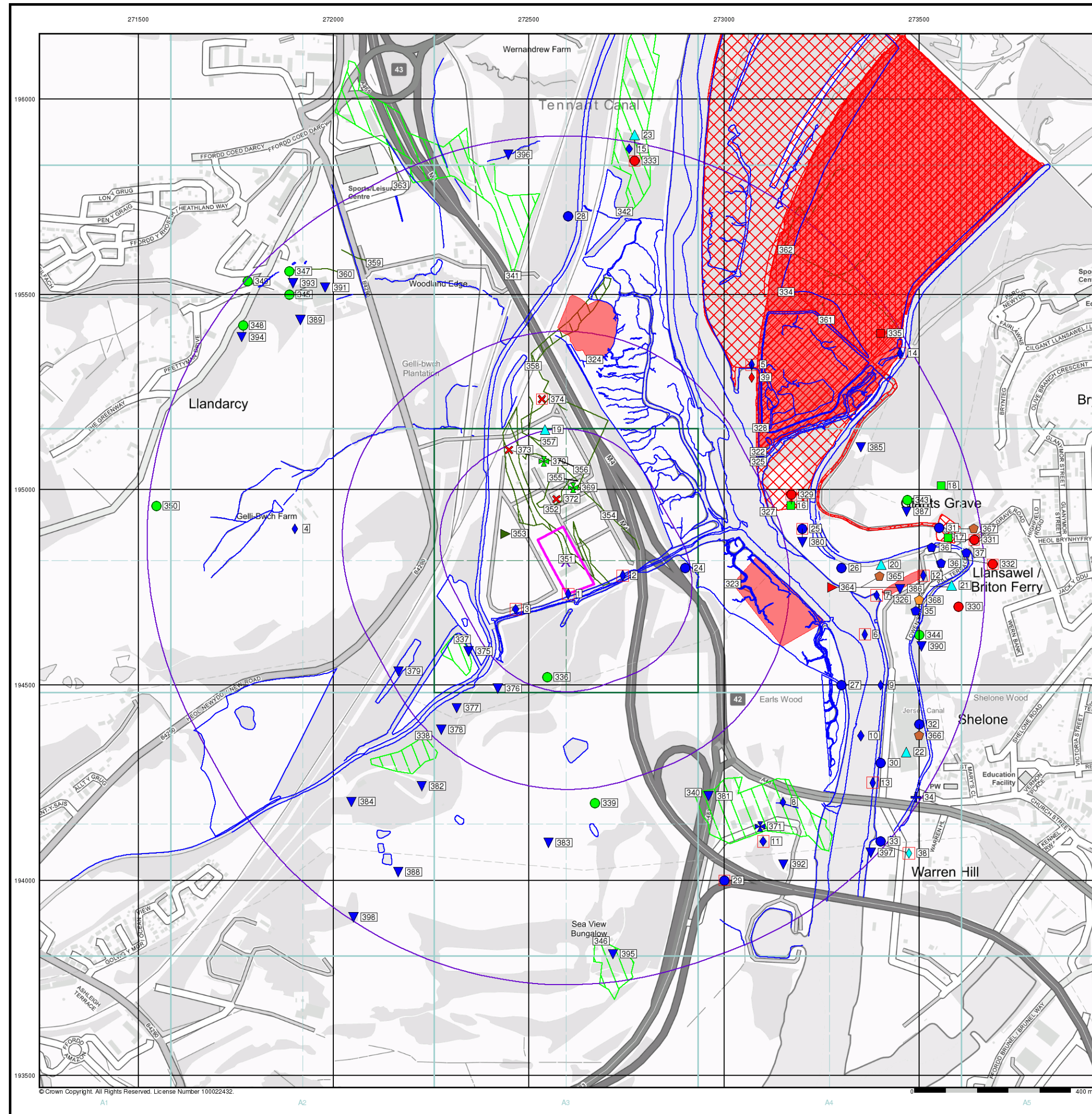
Order Details

Order Number: 270552102_1_1
 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Plot Buffer (m): 100

Site Details

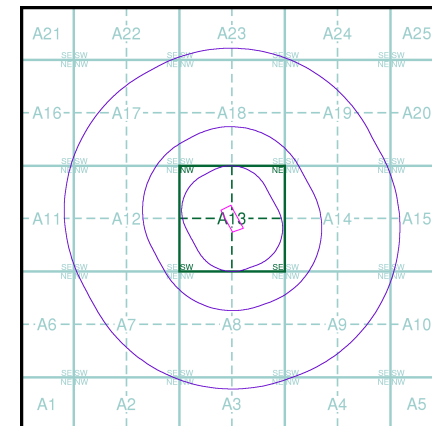
Land at Edwards Works, Llandarcy, Neath, SA10 6JY





- 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
- 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)
 - 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
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - BGS Recorded Mineral Site
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A

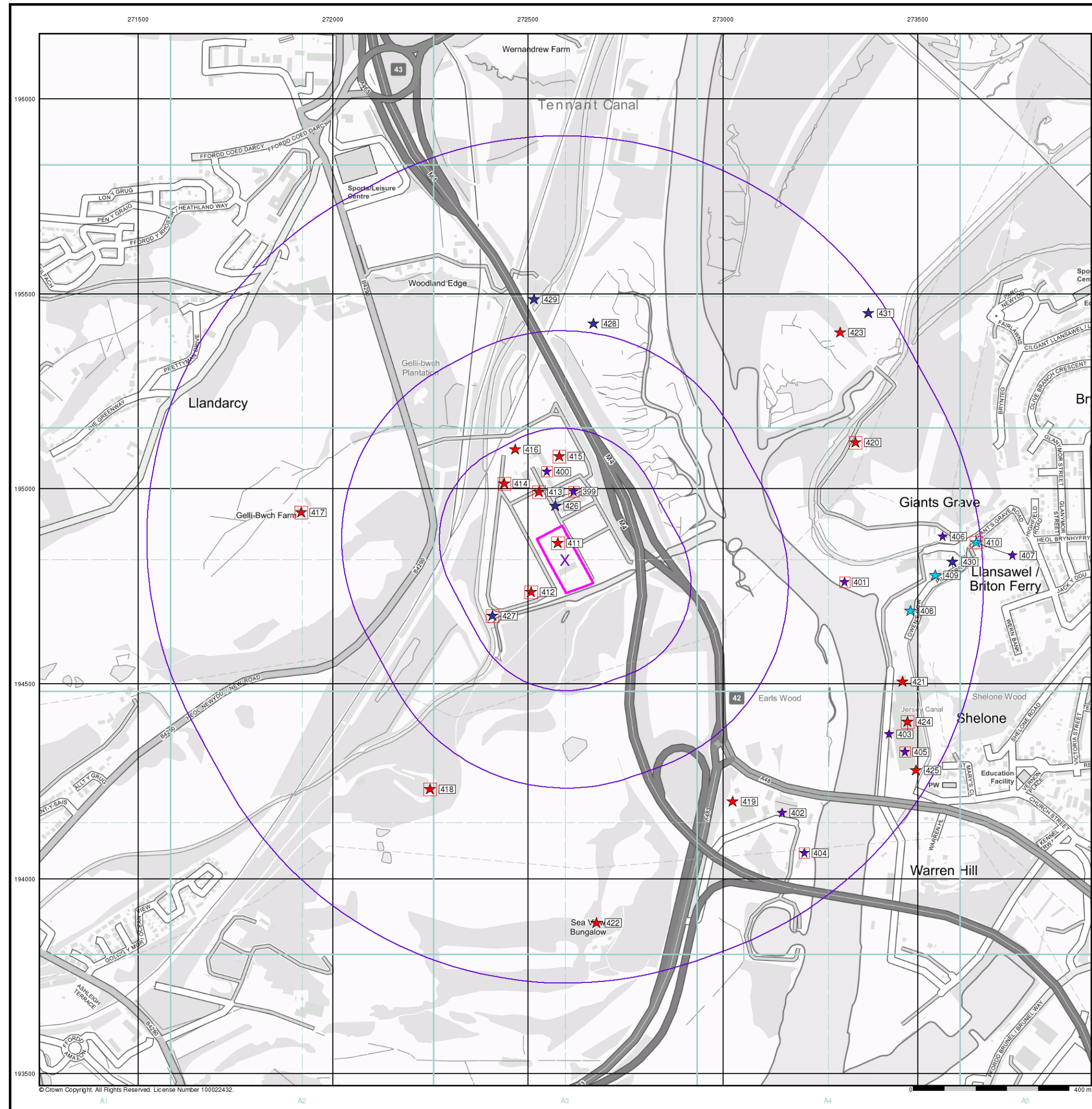


Order Details

Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY



Geotechnical & Geoenvironmental Specialists
Industrial Land Use Map

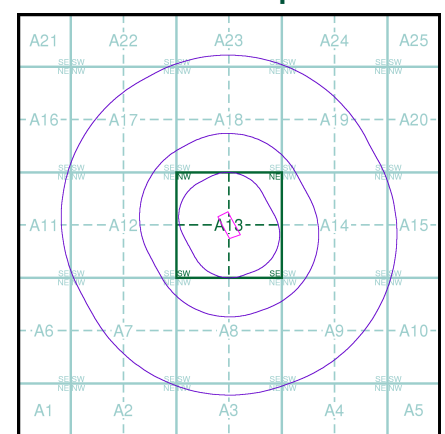
General

- 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

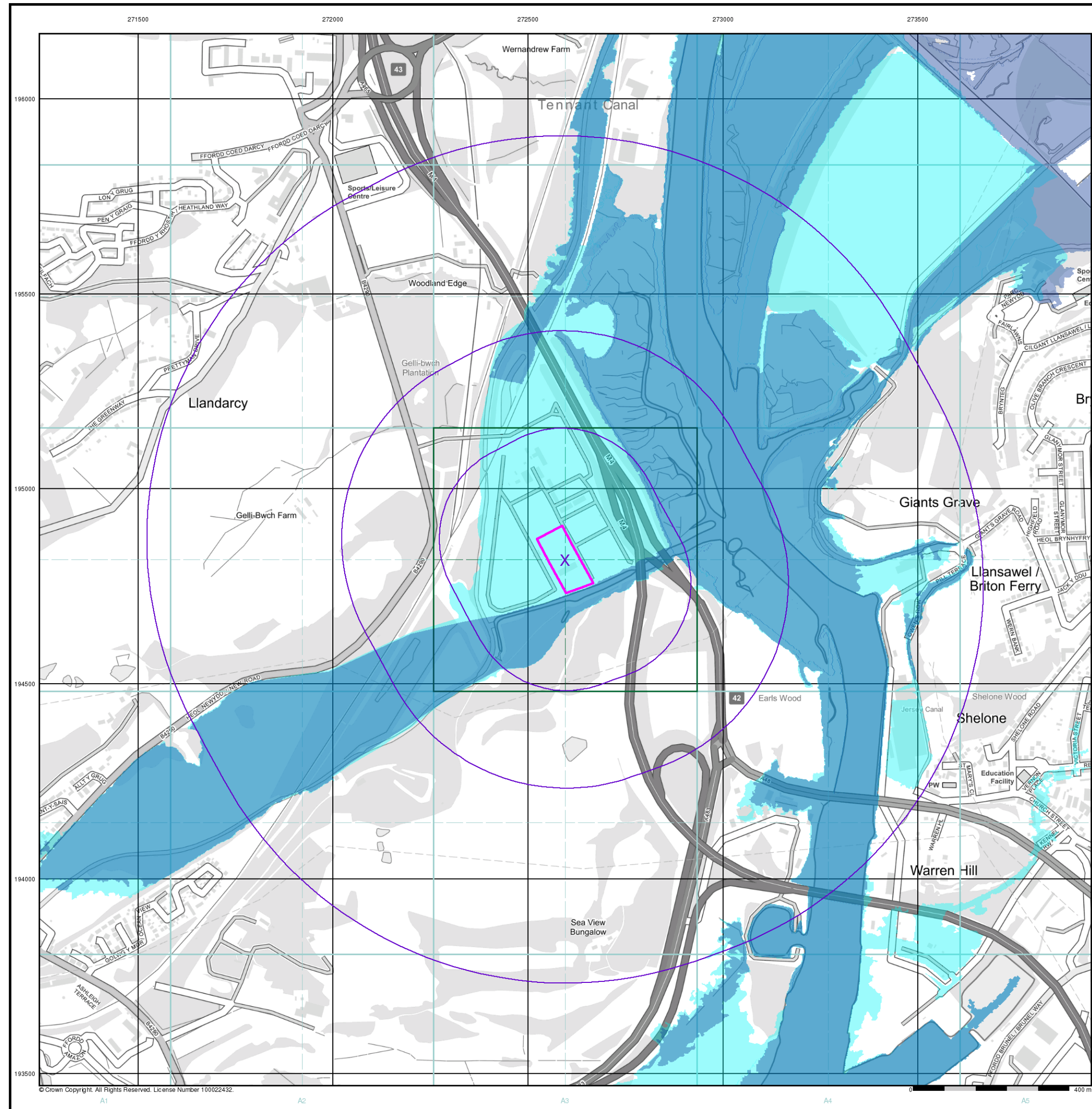
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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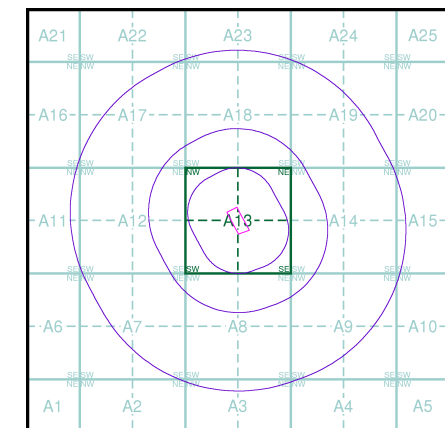
General

- 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

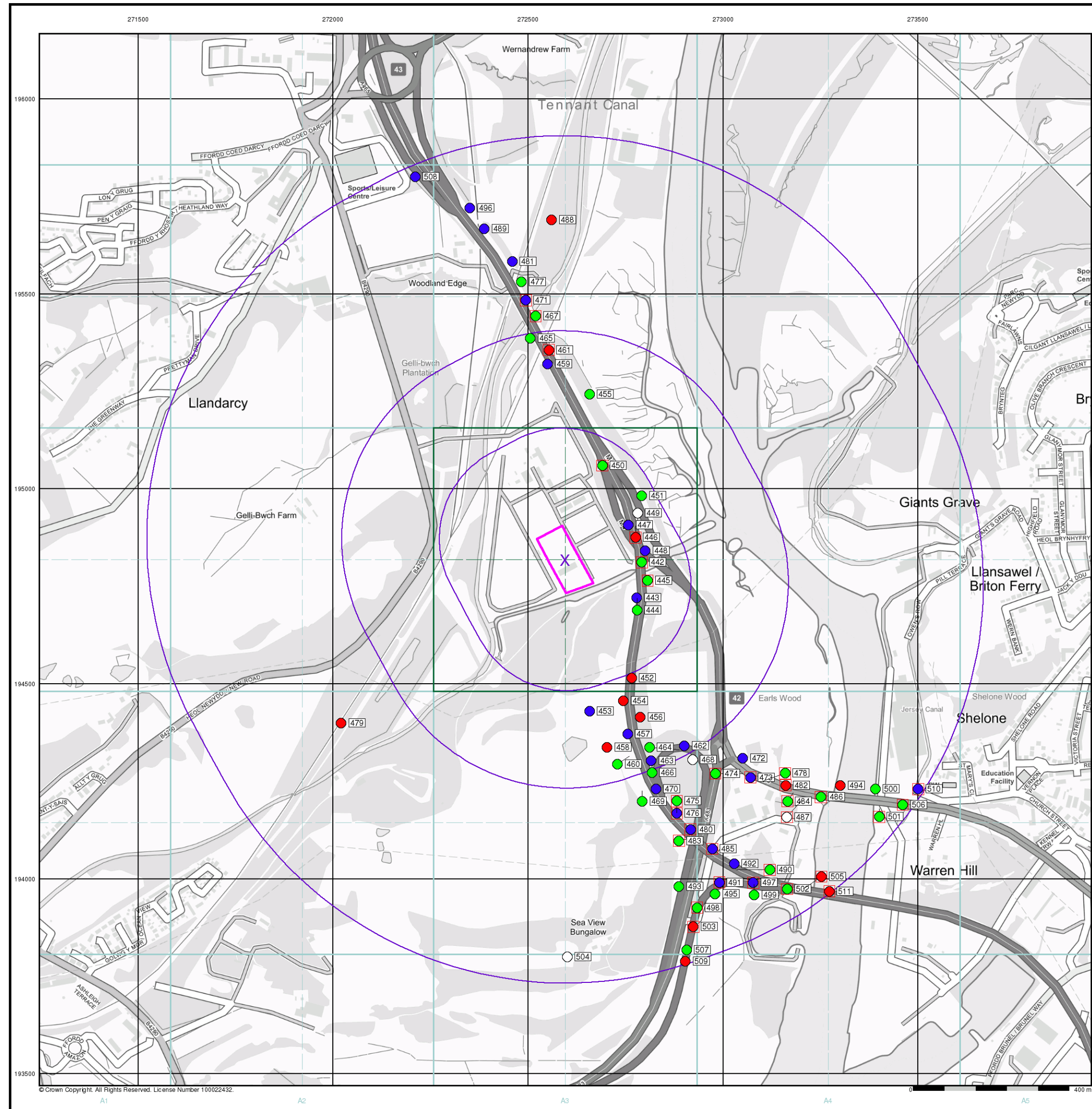
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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General

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

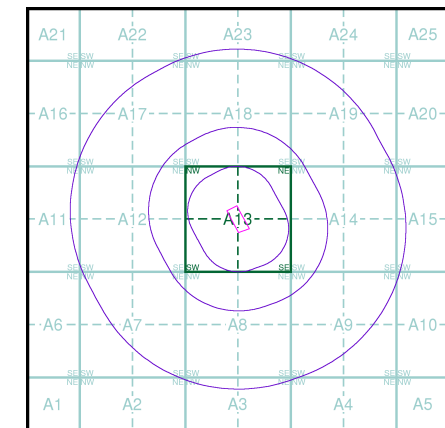
Agency and Hydrological (Boreholes)

- 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: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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Fax: 0844 844 9951
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General

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

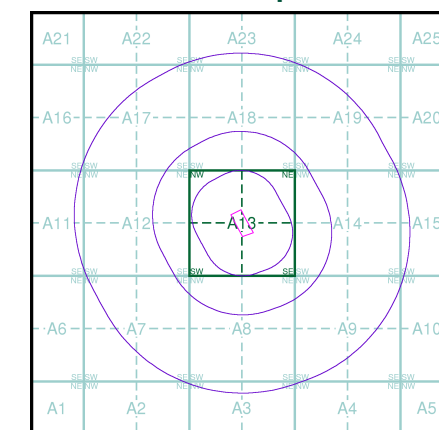
OS Water Network Data

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

Contours (height in meters)

- Standard Contour   Mean Low Water
- Master Contour   Mean High Water
- Spot Height  167.3

OS Water Network Map - Slice A

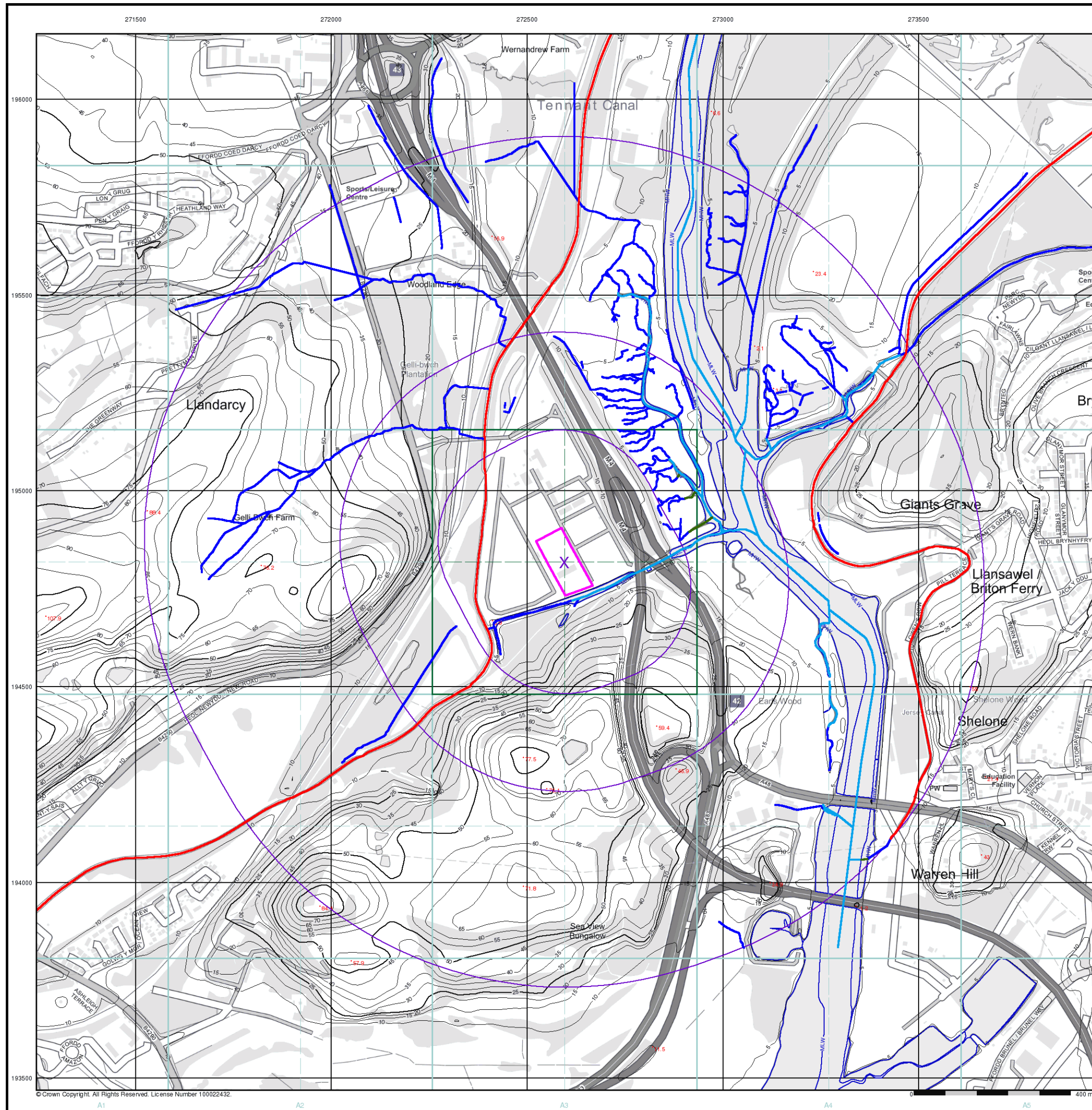


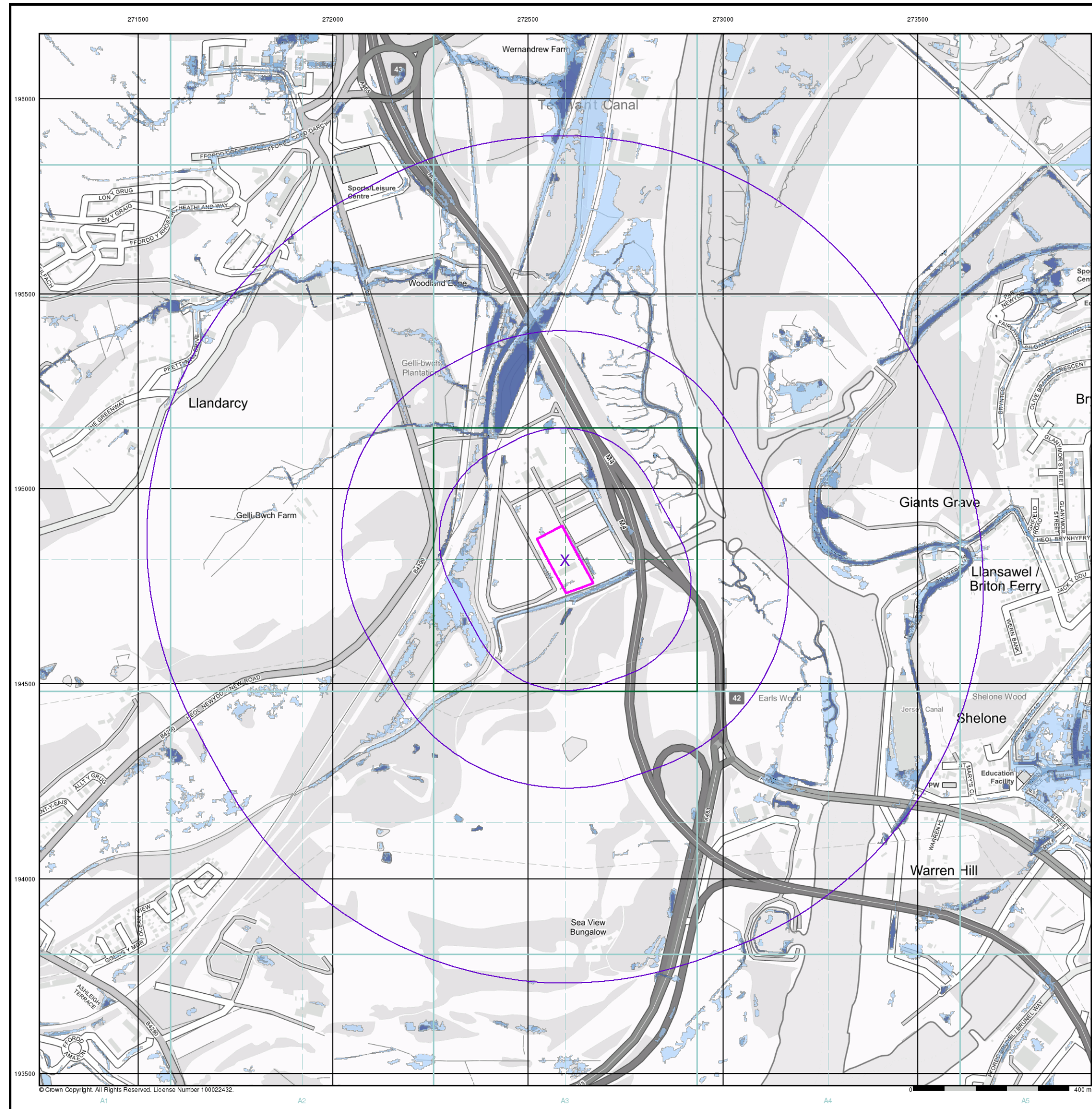
Order Details

Order Number: 270552102_1_1
 Customer Ref: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details

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General

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

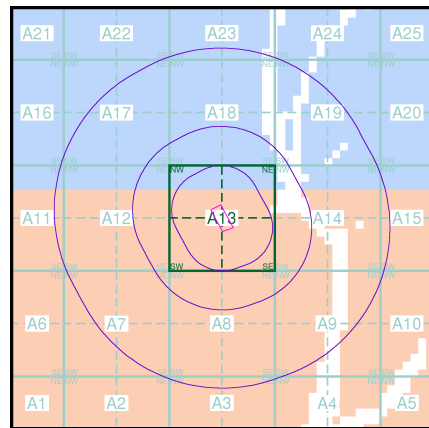
Risk of Flooding from Surface Water

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

Suitability

- See the suitability map below
-  National to county
 -  County to town
 -  Town to street
 -  Street to parcels of land
 -  Property

E/NRW Suitability Map - Slice A

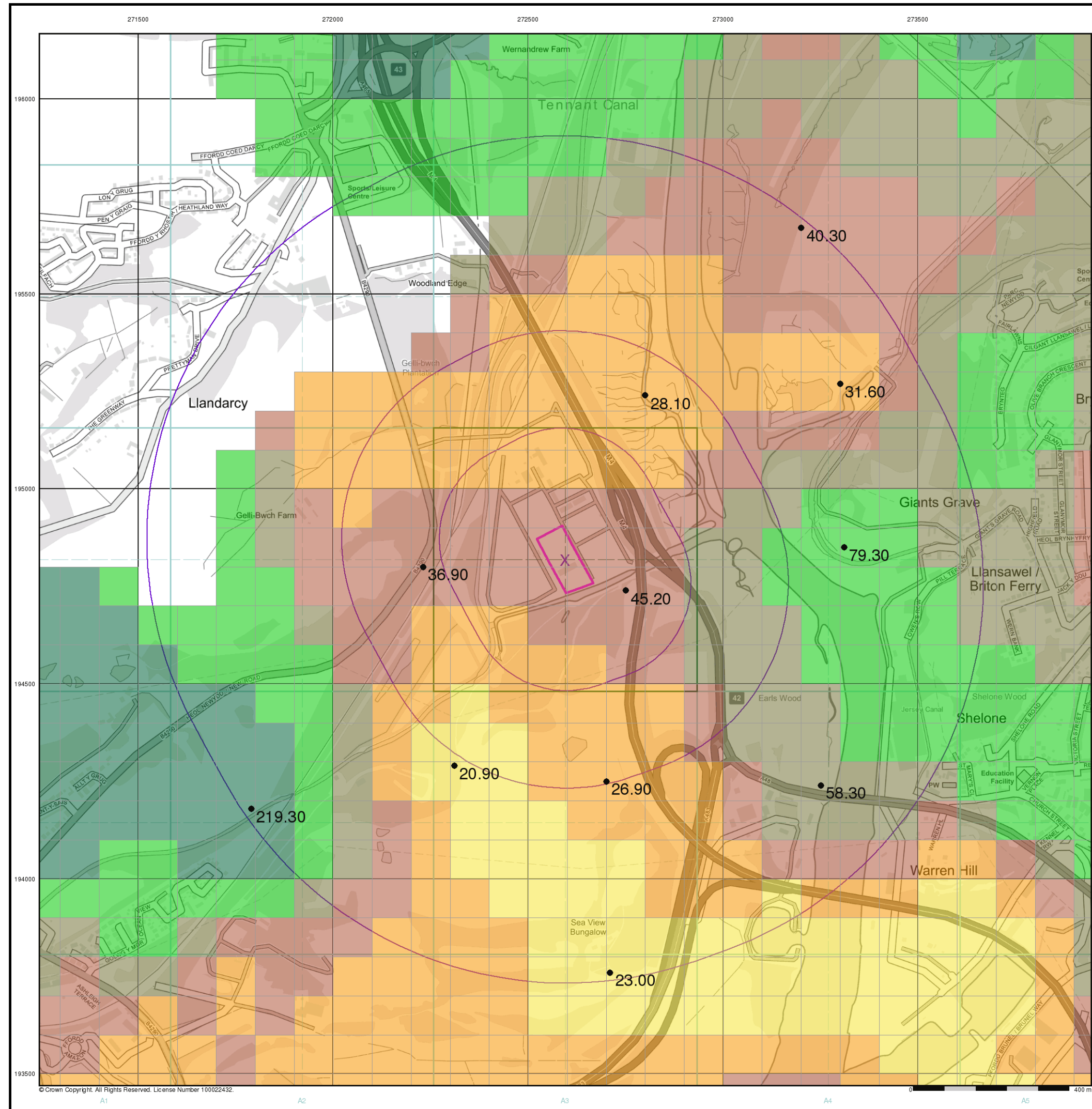


Order Details

Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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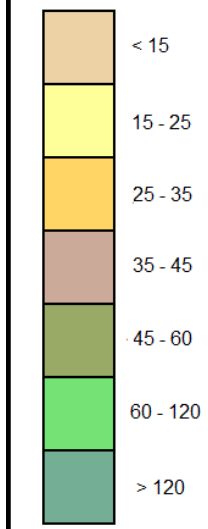
General

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

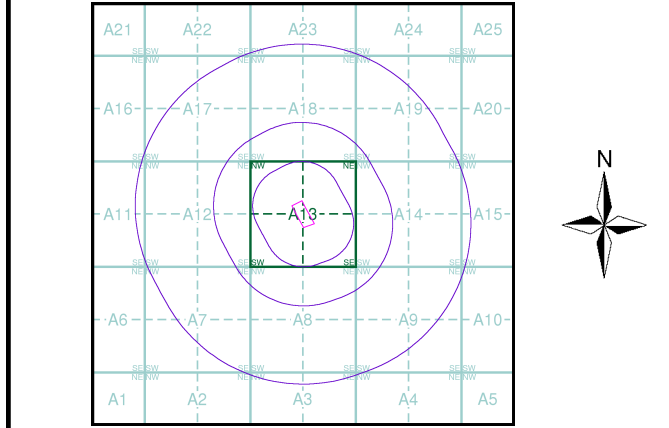
Urban Soil Chemistry Arsenic

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

Arsenic Concentrations mg/kg



Urban Soil Chemistry Arsenic - Slice A



Order Details

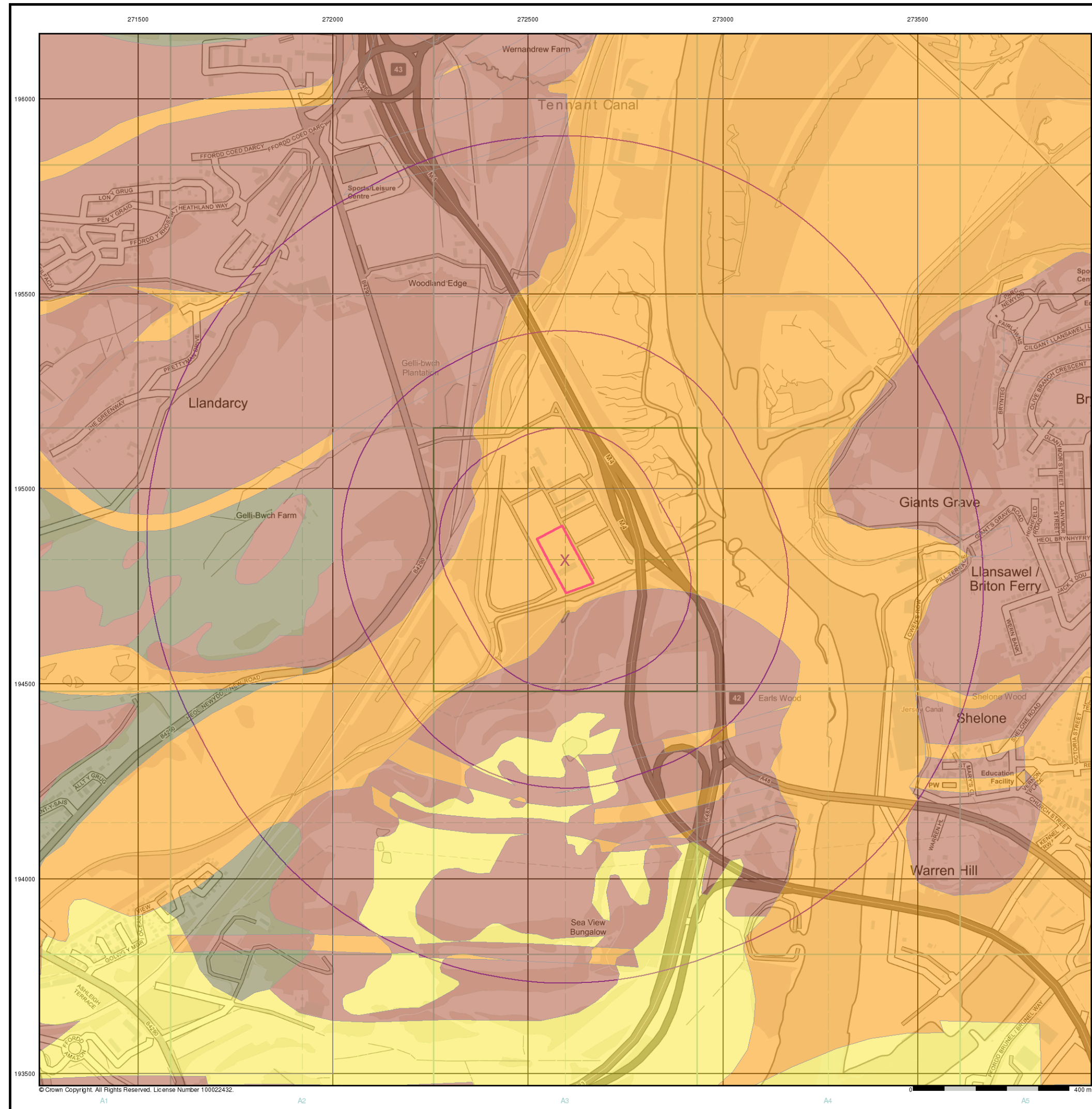
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Site Area (Ha): 1.2
Search buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY

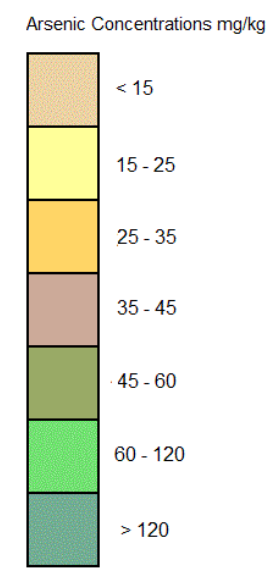


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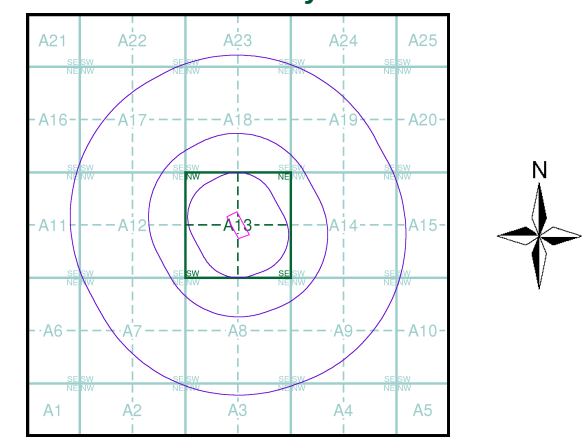


- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point

Estimated Soil Chemistry Arsenic



Estimated Soil Chemistry Arsenic - Slice A

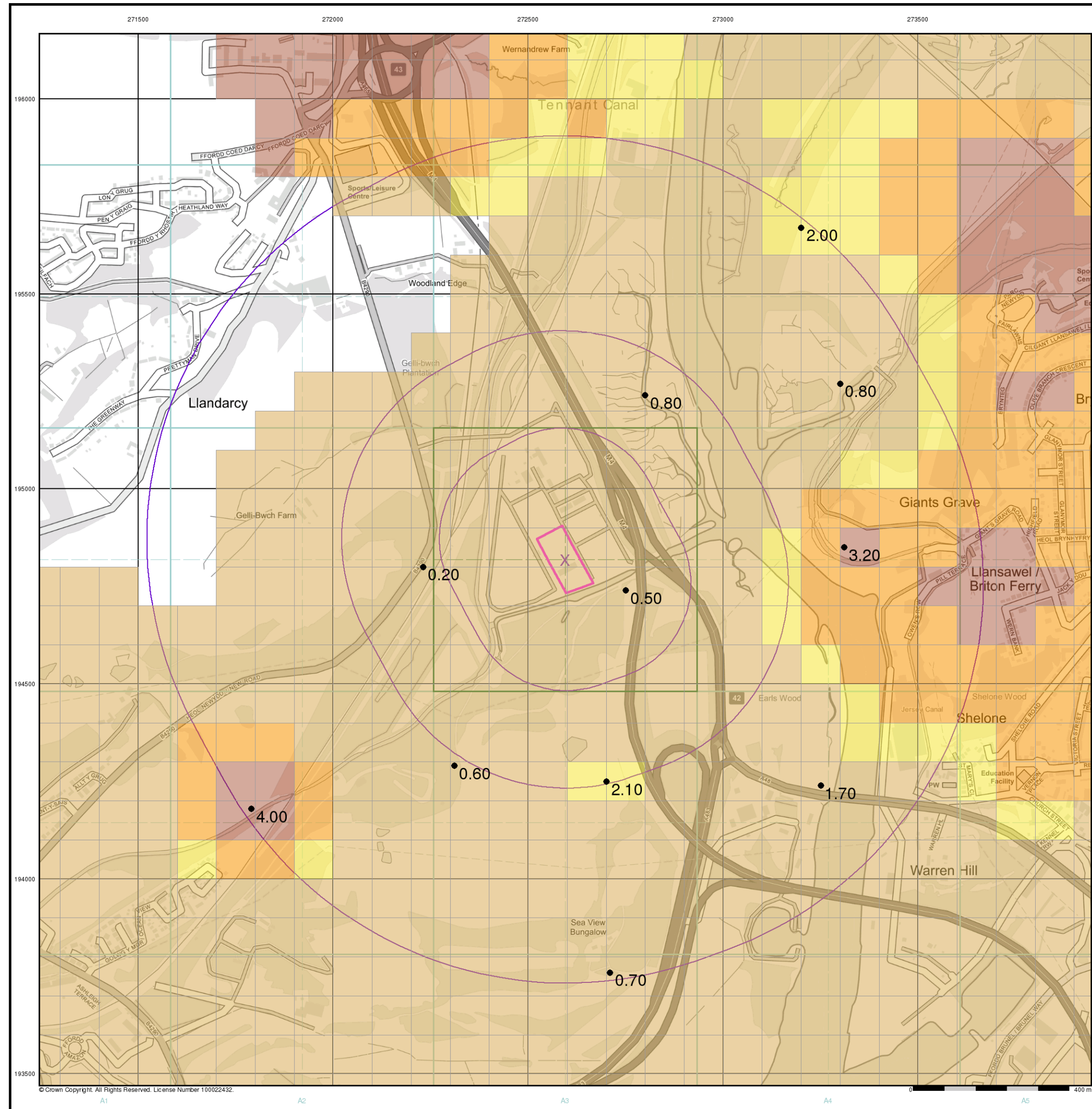


Order Details

Order Details: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search buffer (m): 1000

Site Details

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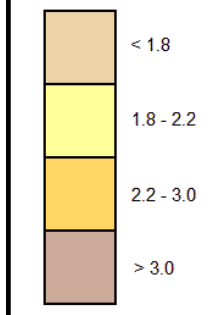
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- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

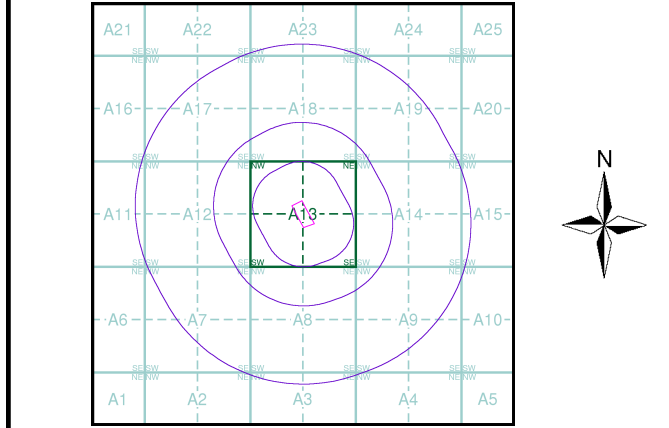
Urban Soil Chemistry Cadmium

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

Cadmium Concentrations mg/kg



Urban Soil Chemistry Cadmium - Slice A



Order Details

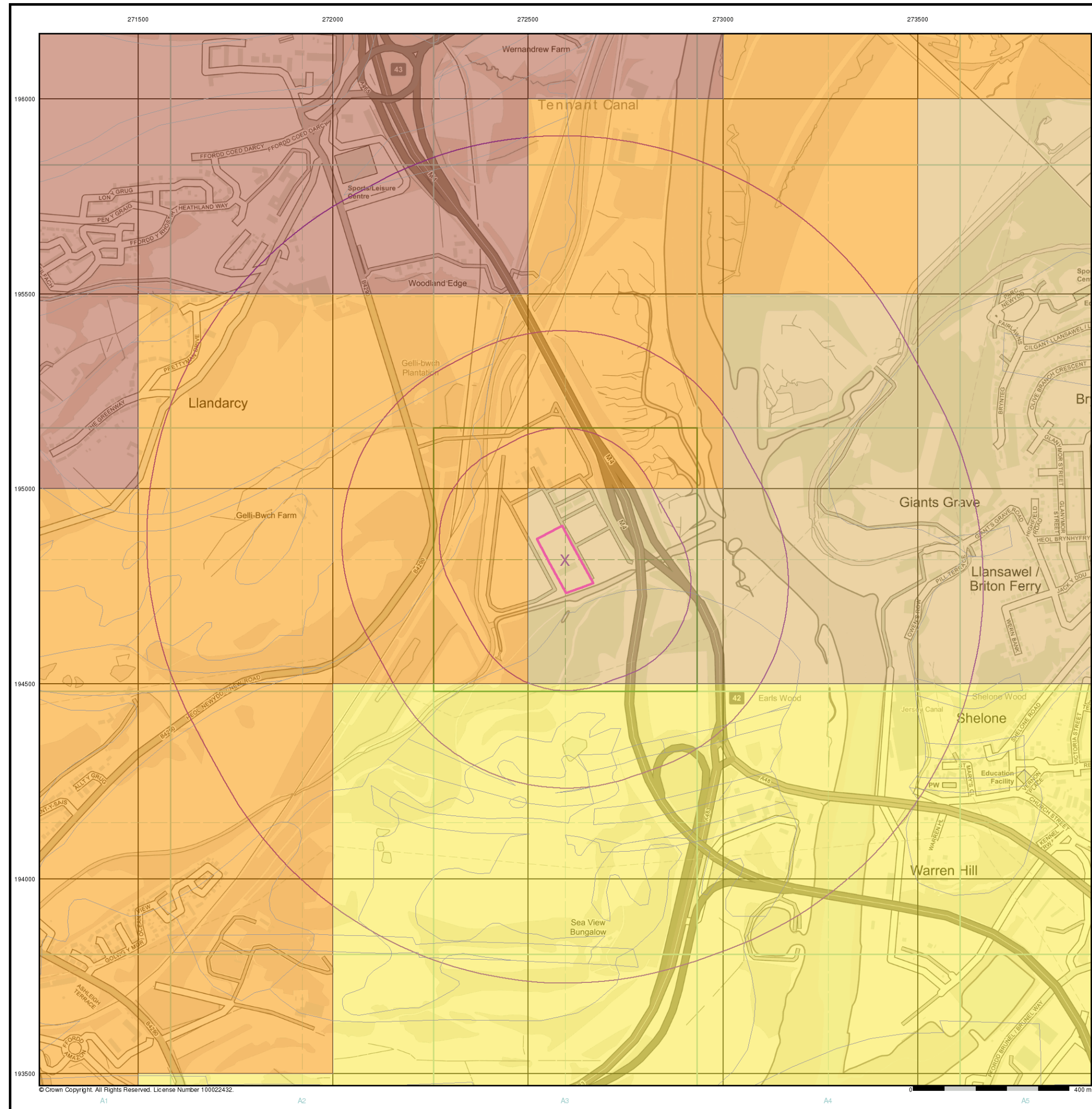
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National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search buffer (m): 1000

Site Details

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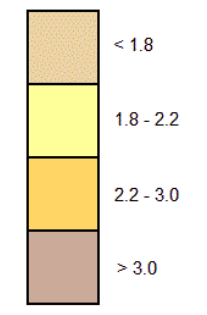


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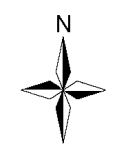
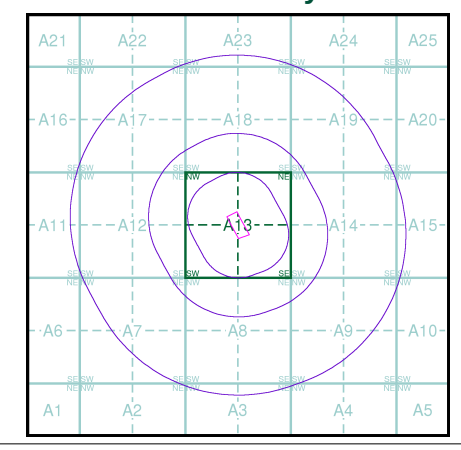
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

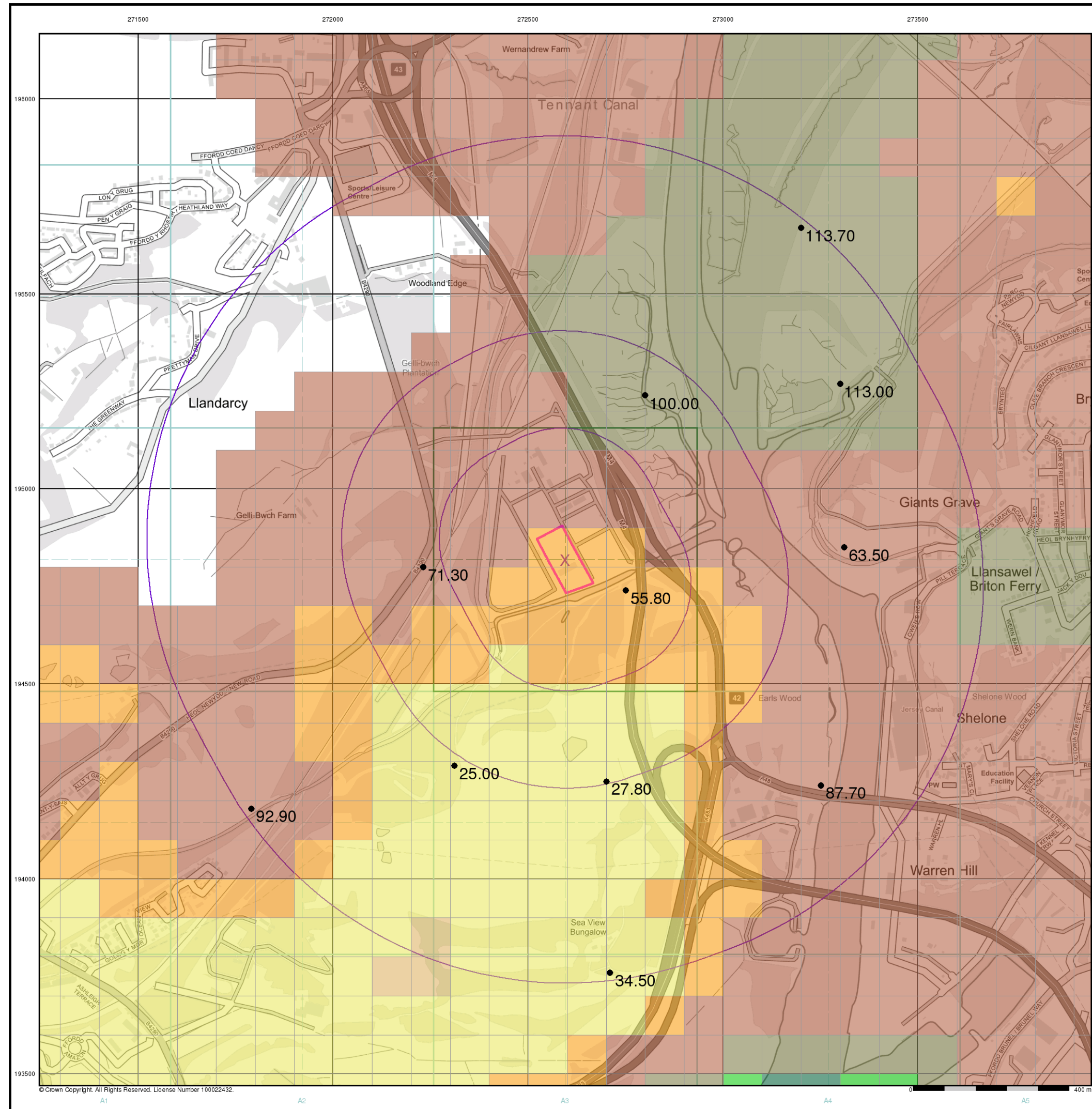
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Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search buffer (m): 1000

Site Details

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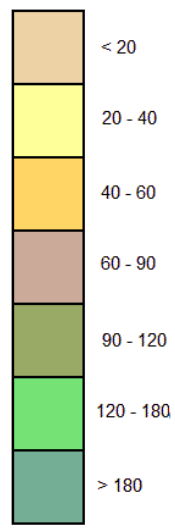
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-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

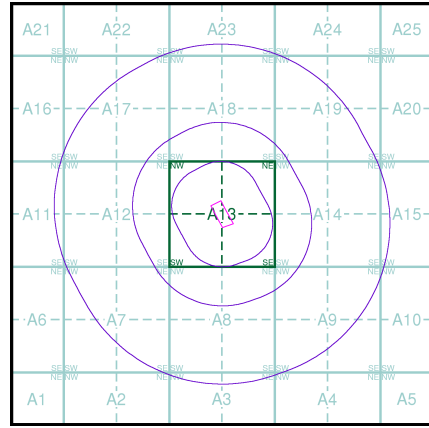
Urban Soil Chemistry Chromium

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

Chromium Concentrations mg/kg



Urban Soil Chemistry Chromium - Slice A

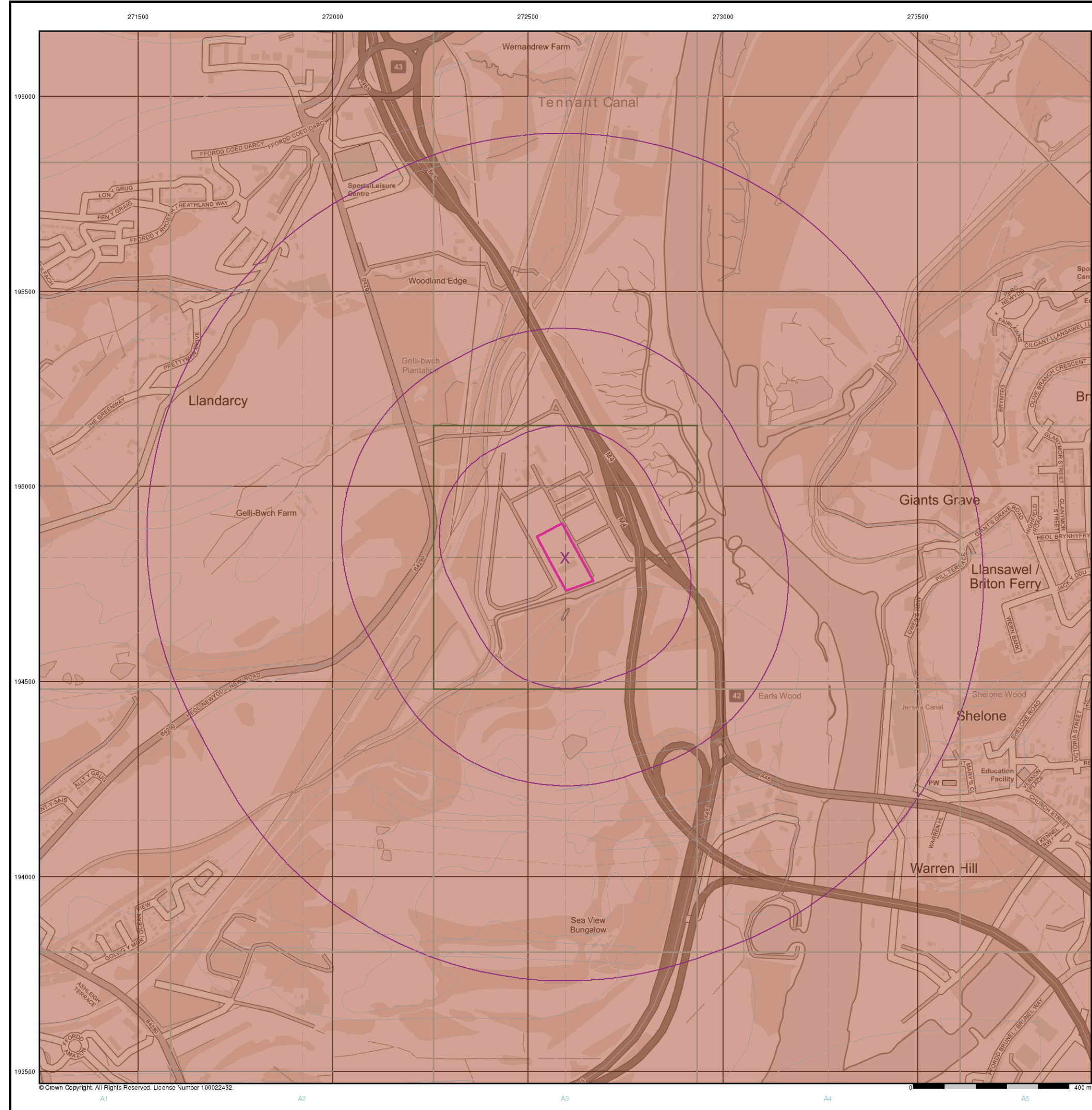


Order Details

Order Details: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY

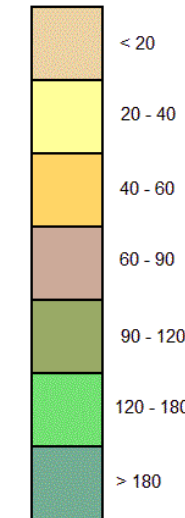


General

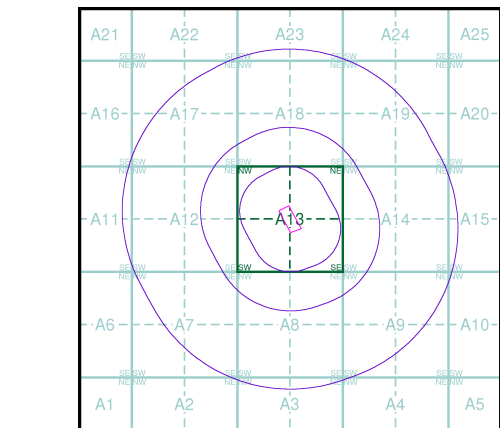
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A

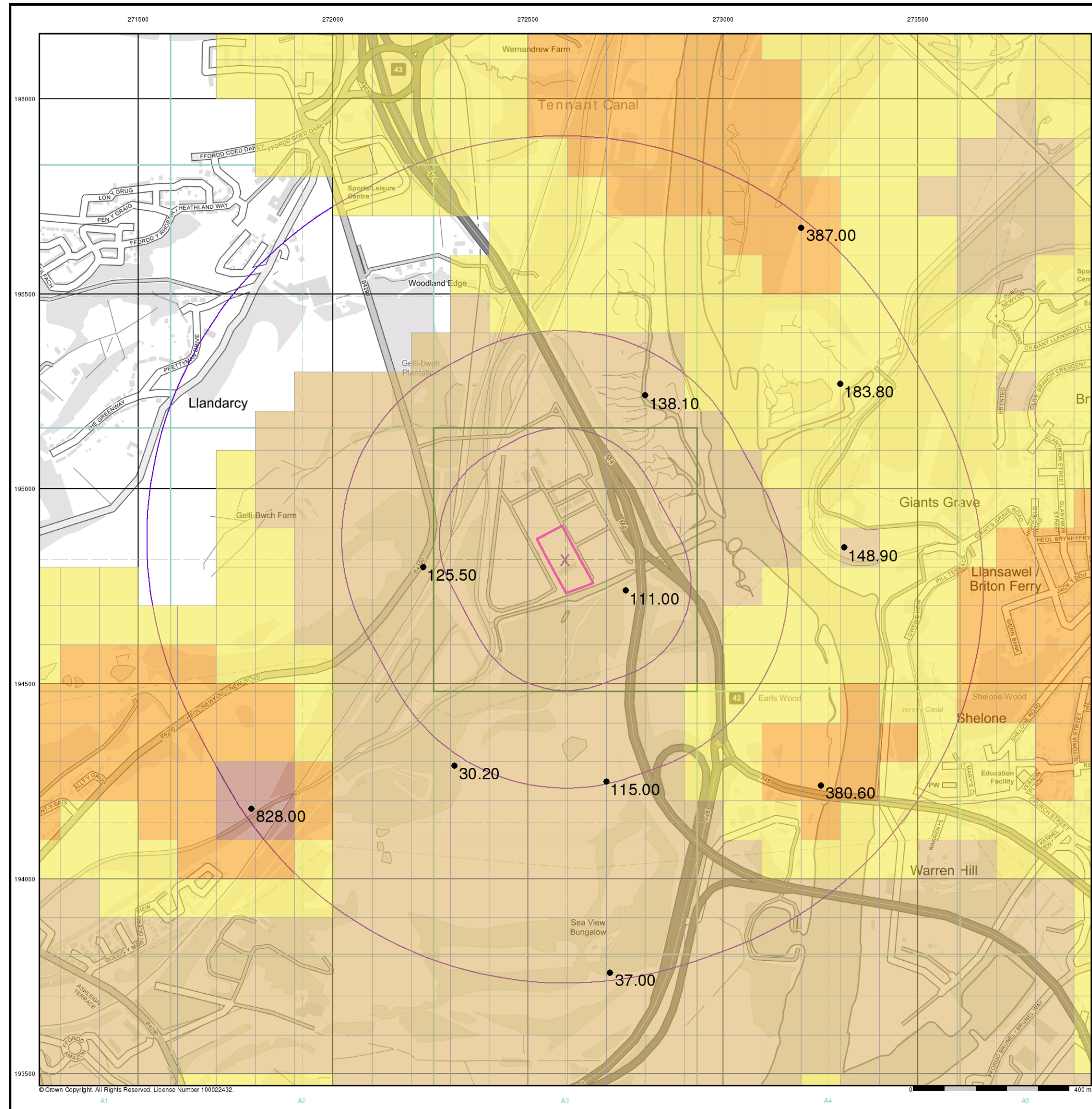


Order Details

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Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search buffer (m): 1000

Site Details

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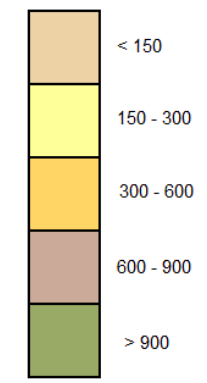
General

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

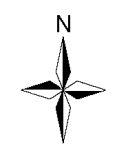
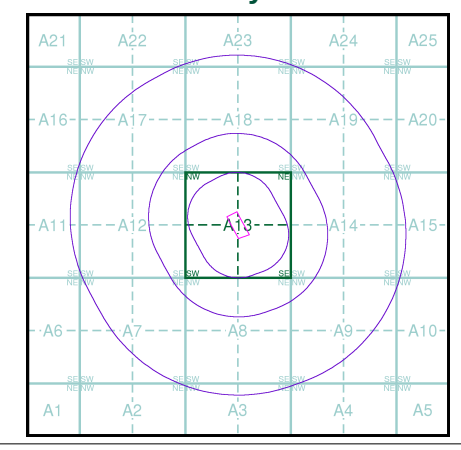
Urban Soil Chemistry Lead

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

Lead Concentrations mg/kg



Urban Soil Chemistry Lead - Slice A



Order Details

Order Details: 270552102_1_1

Customer Ref: 16461-MW

National Grid Reference: 272600, 194820

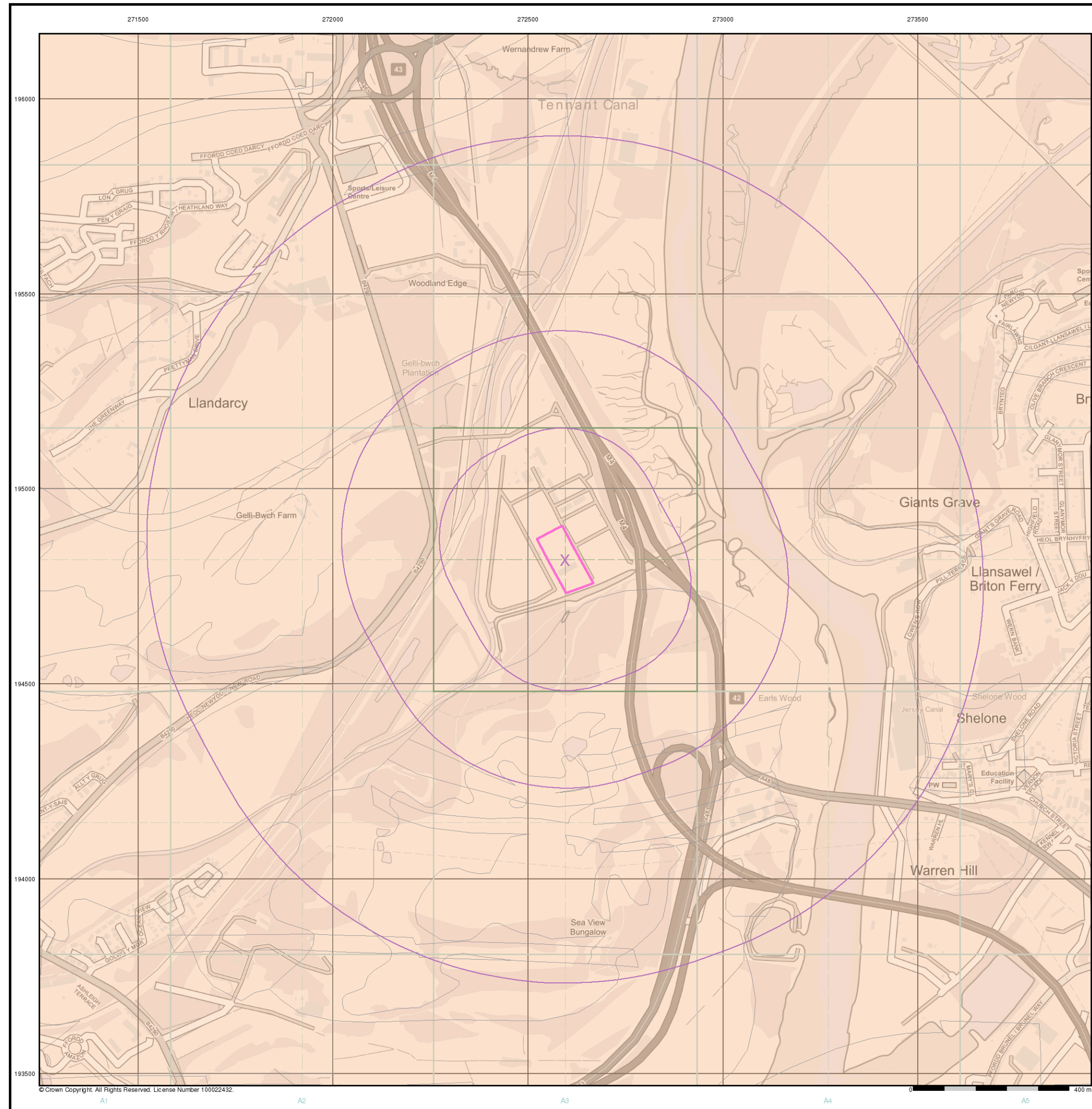
Slice: A

Site Area (Ha): 1.2

Search buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY

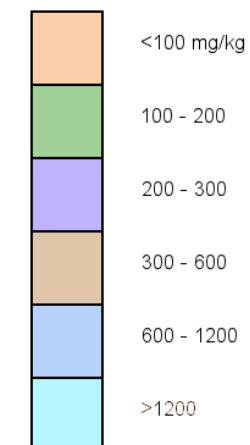


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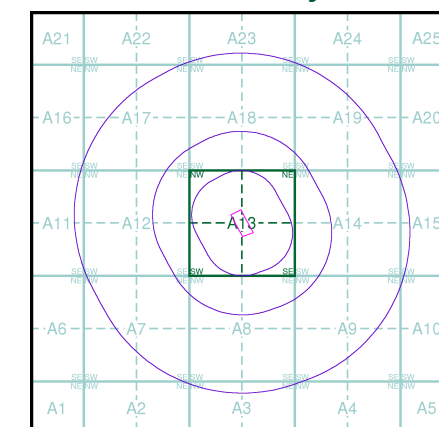
 Specified Site  Specified Buffer(s)  Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A

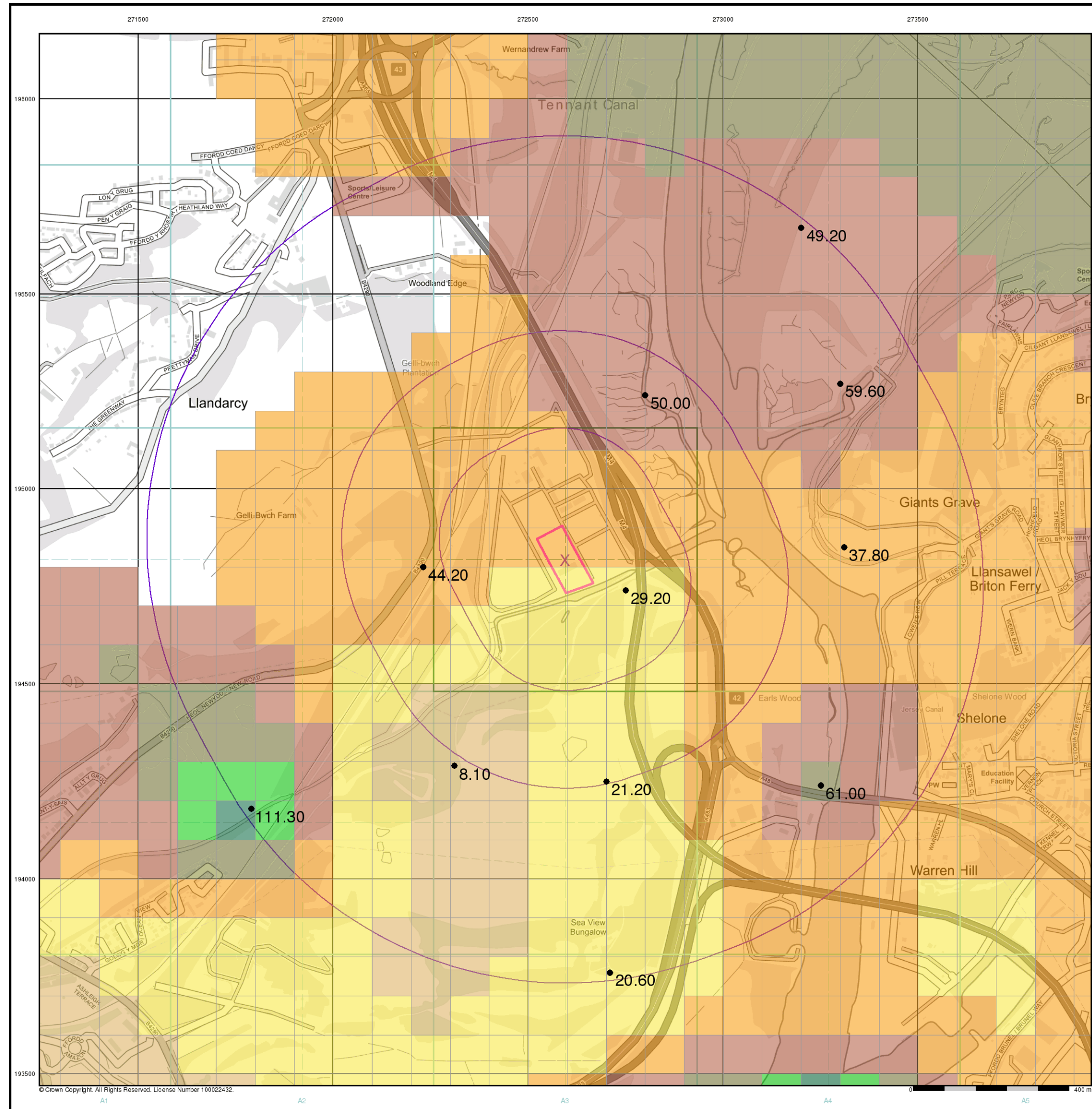


Order Details

Order Details: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
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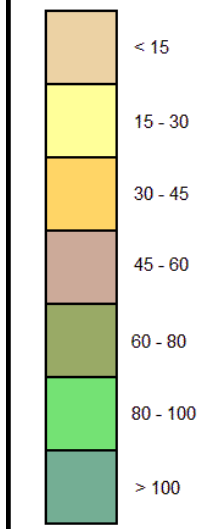
General

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

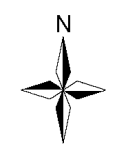
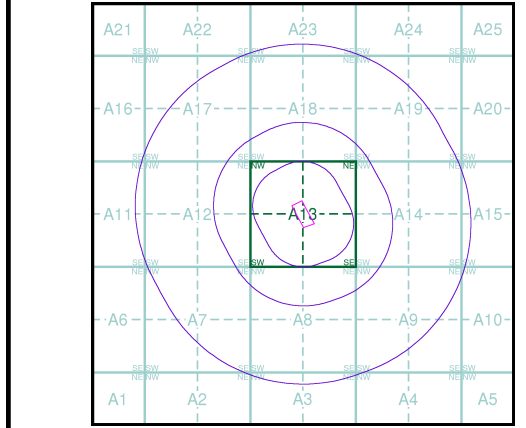
Urban Soil Chemistry Nickel

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

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A



Order Details

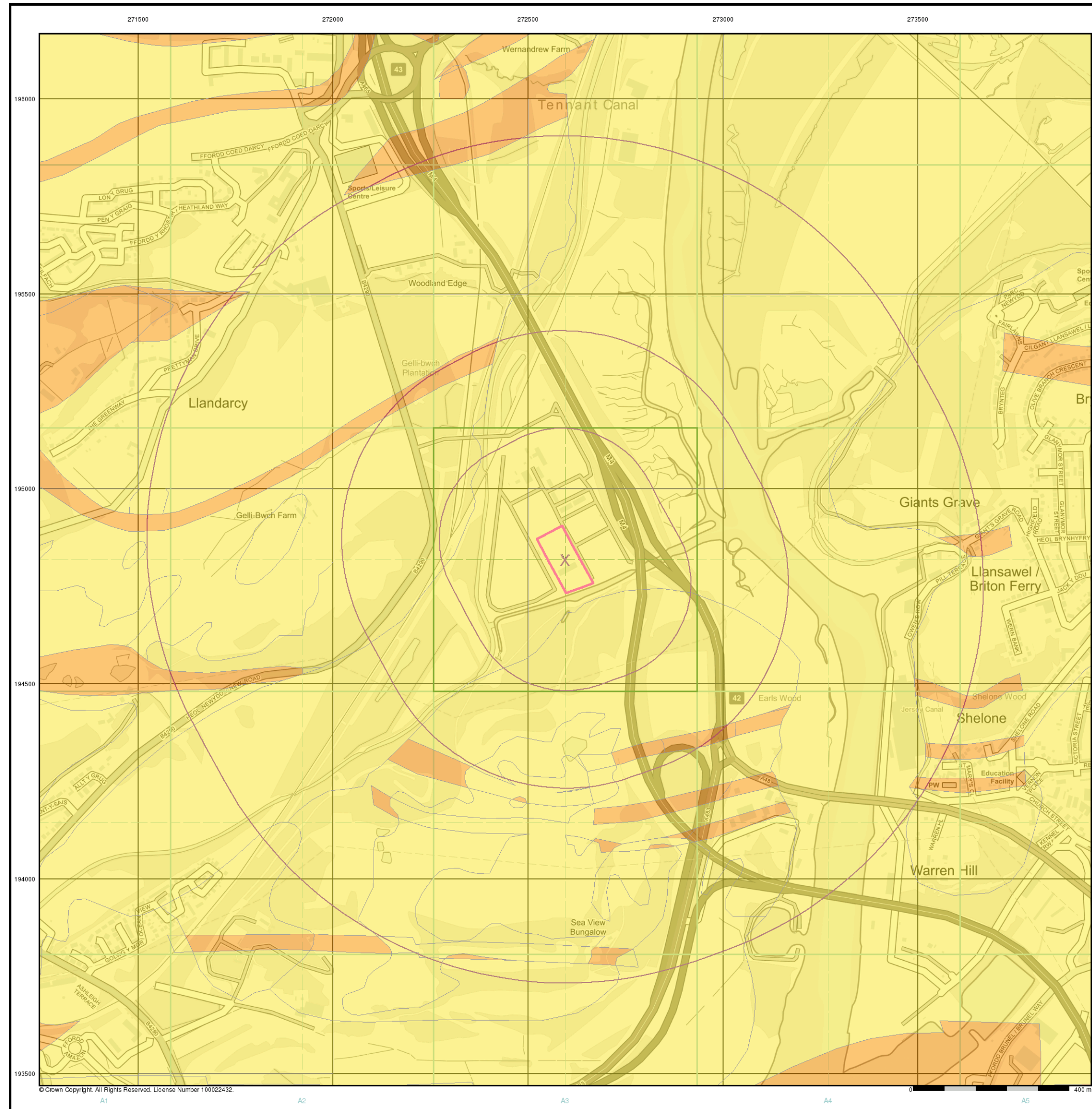
Order Details: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search buffer (m): 1000

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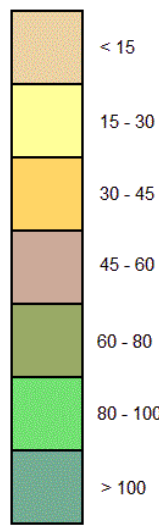


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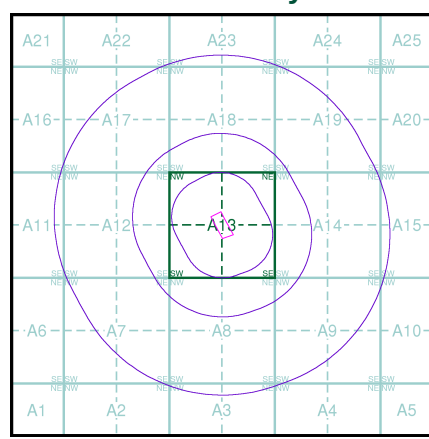
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

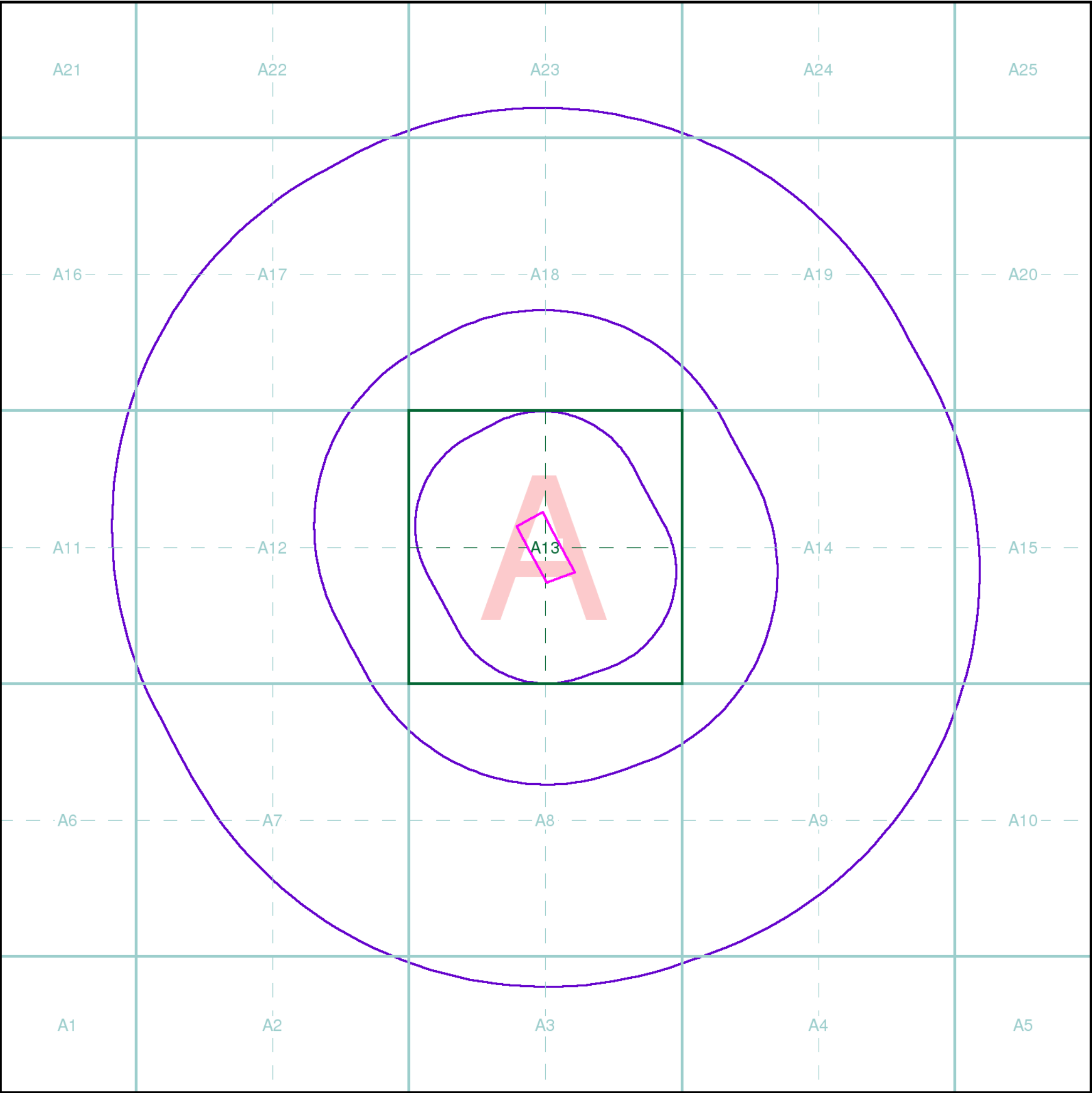
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Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
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Index Map

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 M Watkins, Terra Firma (Wales) Ltd, 5 Deryn Court, Wharfdale Road, Pentwyn, Cardiff, CF23 7HB

Order Details

Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272590, 194820
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LSGR	Landscaped Ground (Undivided)	Artificially Modified Ground	Not Supplied - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	TFD	Tidal Flat Deposits	Clay, Silt and Sand	Not Supplied - Holocene
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	RSBD	Raised Storm Beach Deposits	Sand and Gravel	Not Supplied - Quaternary
	BSA	Blown Sand	Sand	Not Supplied - Quaternary
	PEAT	Peat	Peat	Not Supplied - Quaternary
	MBD	Marine Beach Deposits	Sand	Not Supplied - Quaternary

Bedrock and Faults

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

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SW	Swansea Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	LLFB	Llynfi Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	LLFB	Llynfi Member	Sandstone	Not Supplied - Westphalian
	SWUCM	South Wales Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	SWMCM	South Wales Middle Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	SWMCM	South Wales Middle Coal Measures Formation	Sandstone	Not Supplied - Westphalian
		Faults		
		Rock Segments		



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Geology 1:50,000 Maps

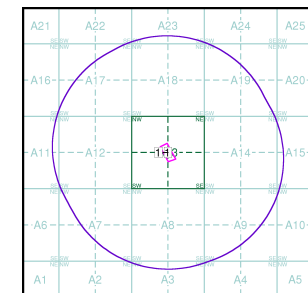
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published 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: 247
 Map Name: Swansea
 Map Date: 2011
 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:

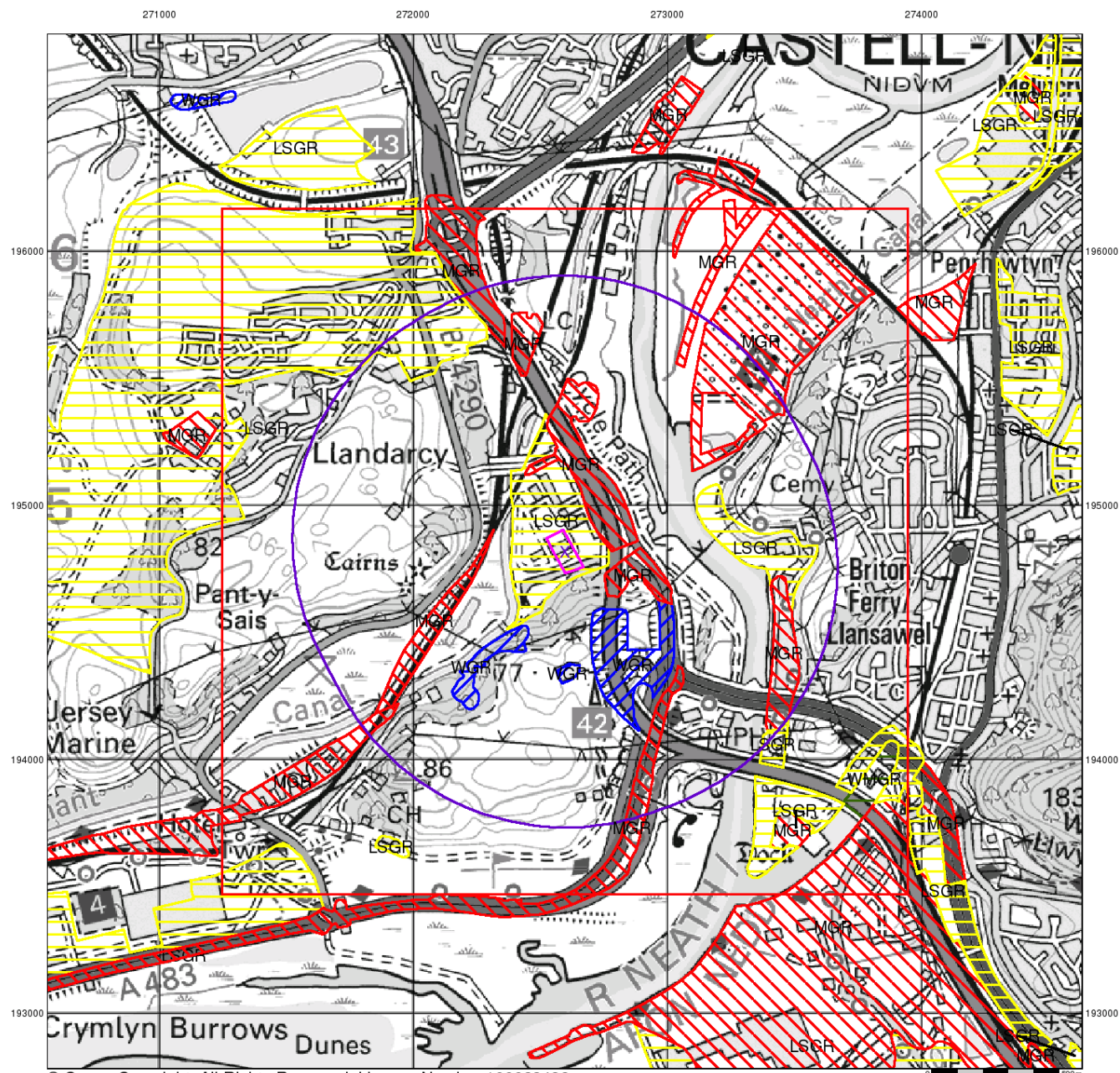
Order Number: 270552102_1_1
 Customer Reference: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

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Artificial Ground and Landslip

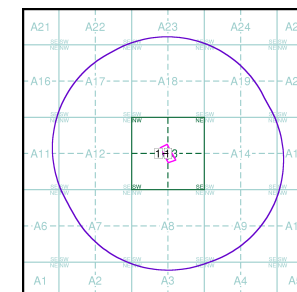
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 270552102_1_1
 Customer Reference: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details:

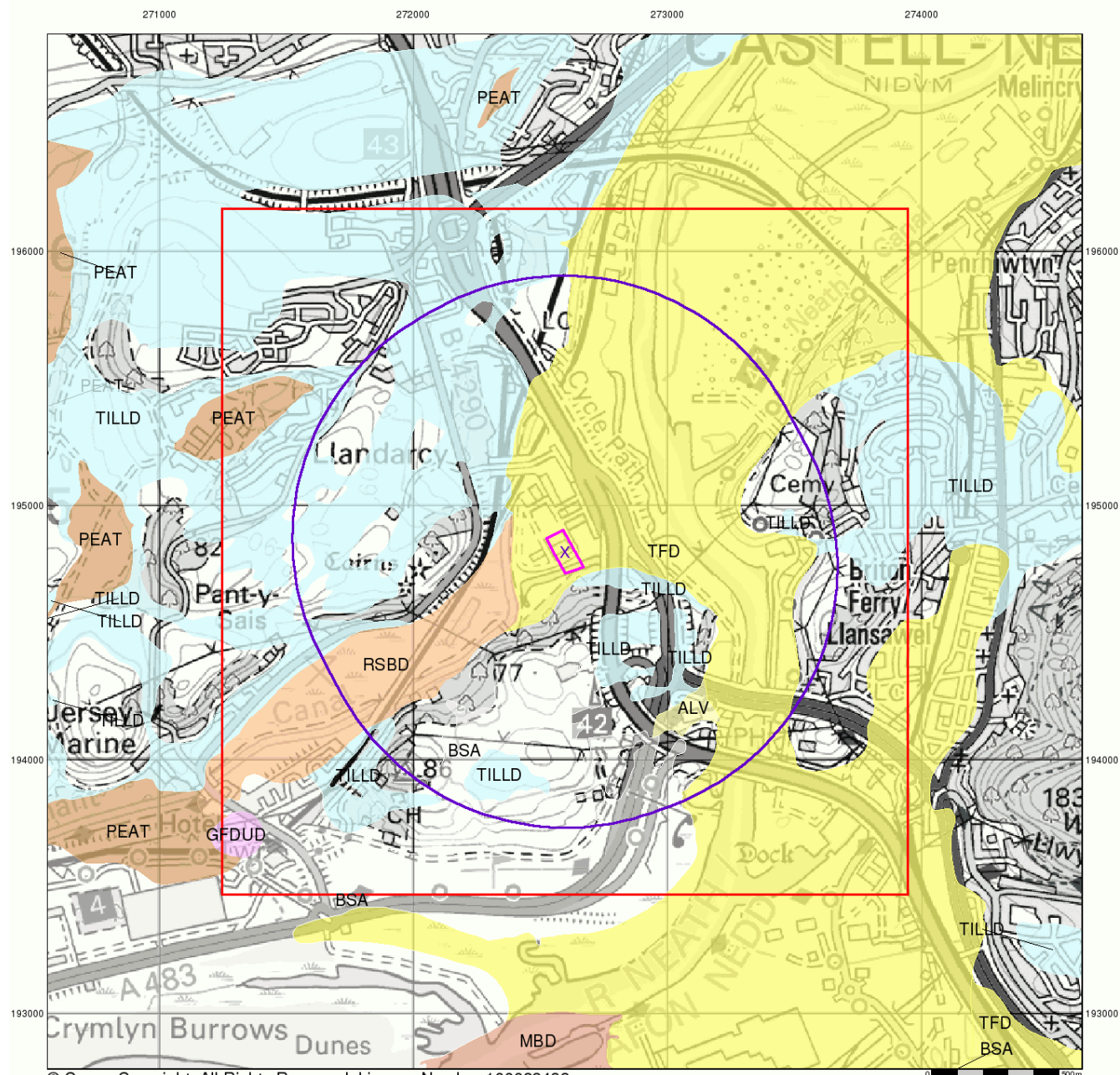
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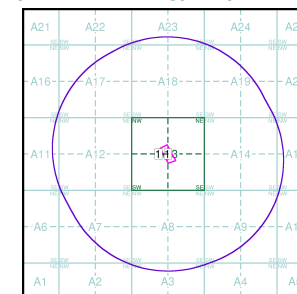
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



Order Details:

Order Number: 270552102_1_1
Customer Reference: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details:

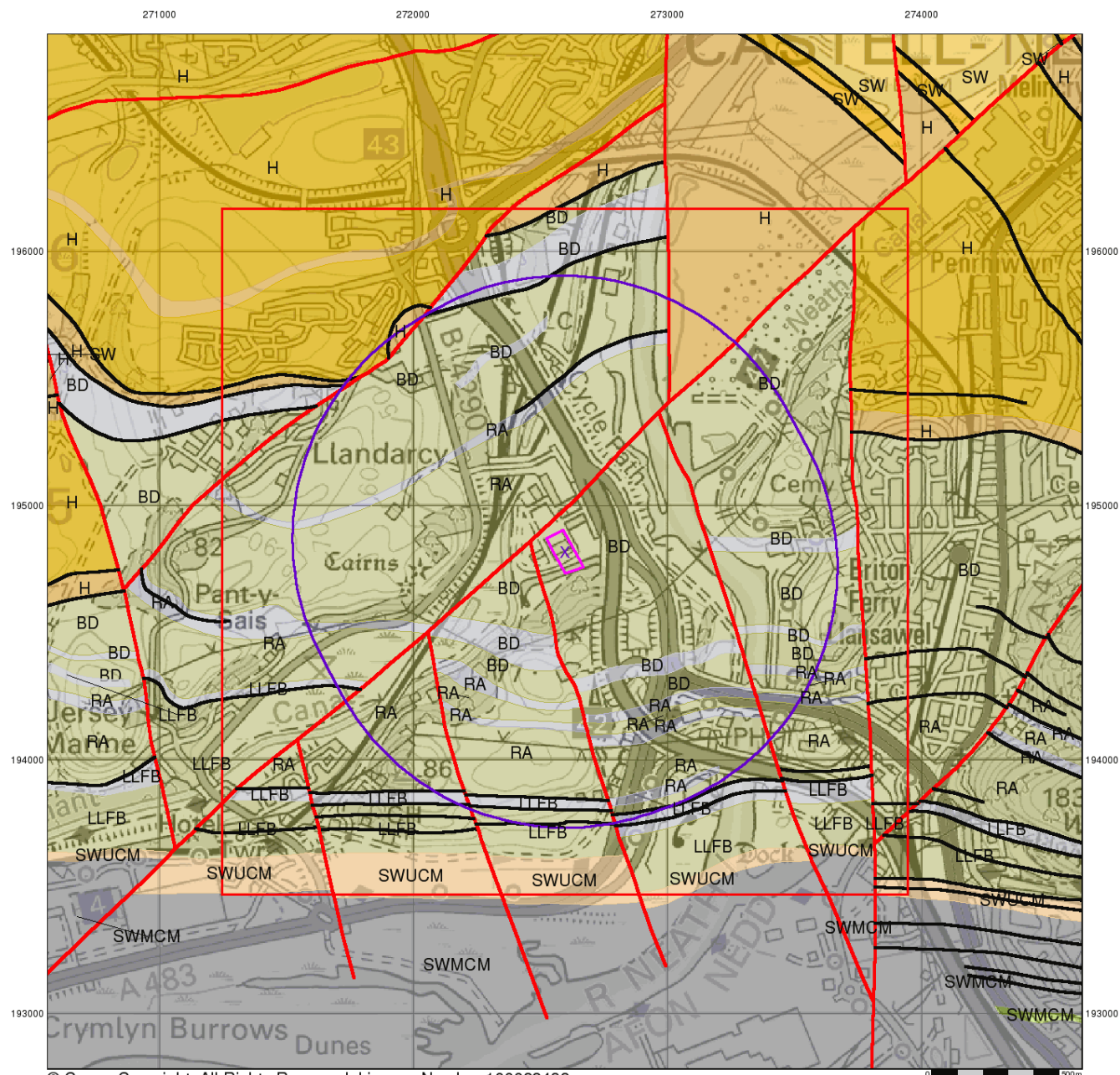
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Bedrock and Faults

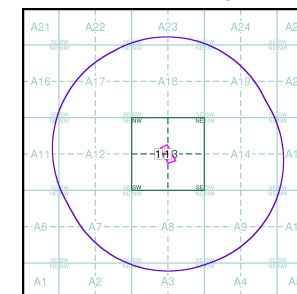
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



Order Details:

Order Number: 270552102_1_1
 Customer Reference: 16461-MW
 National Grid Reference: 272600, 194820
 Slice: A
 Site Area (Ha): 1.2
 Search Buffer (m): 1000

Site Details:

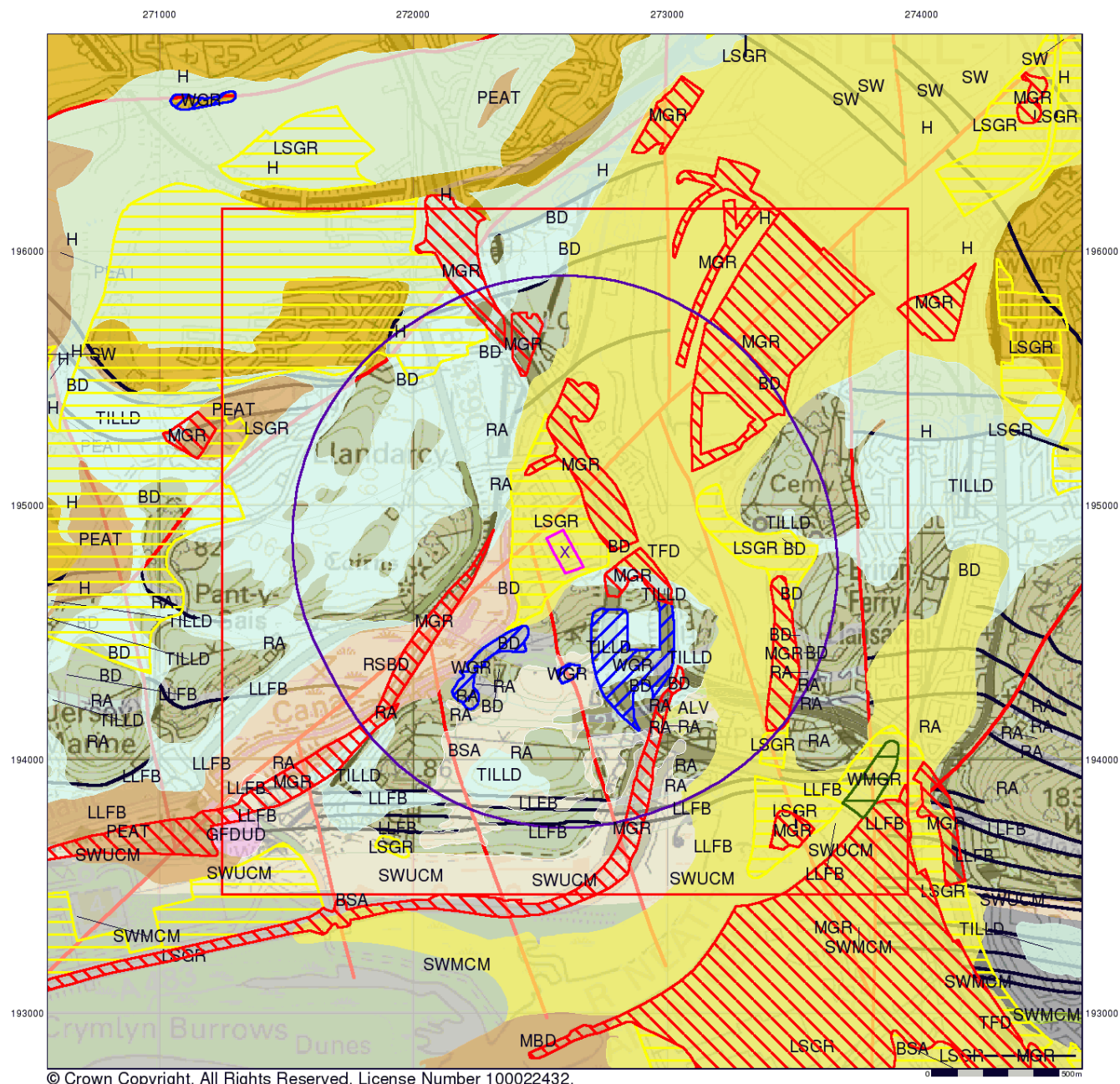
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Combined Surface Geology

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

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

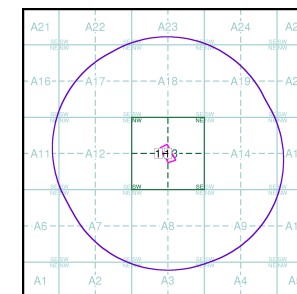
Additional Information

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

Contact

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

Combined Geology Map - Slice A



Order Details:

Order Number: 270552102_1_1
Customer Reference: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
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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 Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

1:10,000 Raster Mapping

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

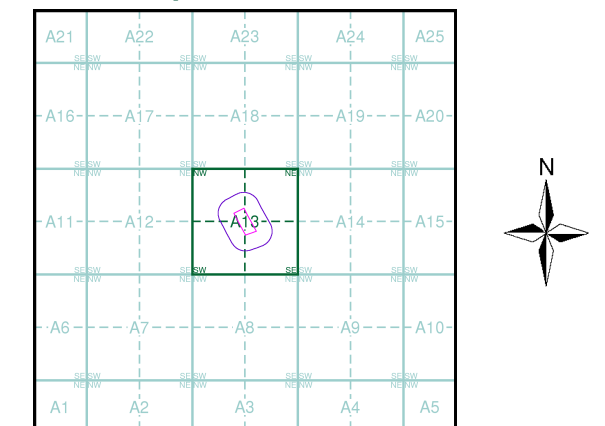


Geotechnical & Geoenvironmental Specialists

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1921	6
Glamorganshire	1:10,560	1938 - 1940	7
Historical Aerial Photography	1:10,560	1945 - 1949	8
Glamorganshire	1:10,560	1951 - 1952	9
Ordnance Survey Plan	1:10,000	1964 - 1965	10
Ordnance Survey Plan	1:10,000	1970	11
Swansea	1:10,000	1976	12
Ordnance Survey Plan	1:10,000	1980	13
Ordnance Survey Plan	1:10,000	1992	14
10K Raster Mapping	1:10,000	1999	15
10K Raster Mapping	1:10,000	2006	16
VectorMap Local	1:10,000	2020	17

Historical Map - Slice A



Order Details

Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY

Landmark
INFORMATION GROUP

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

Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Fireproof Building Prominent Fireproof Building

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

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

Power Station, drawn to scale Hydroelectric Power Station

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

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

Pit Oil Deposit or Well Oil Seepage

Tailings Pile Fuel Storage Tanks Natural Gas Tank

Bench Mark Drill Hole Burial Mound Triangulation Point on Burial Mound

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

Coniferous Forest Deciduous Forest Mixed Forest

Lawns Citrus Orchard Wet Ground Scattered Vegetation

243.8 Values for prominent elevations

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

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

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

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

А а (A) З з (Z) П п (P) Ч ч (CH)

Б б (B) И и (I) Р р (R) Ш ш (SH)

В в (V) Й й (Y) С с (S) Щ щ (SHCH)

Г г (G) К к (K) Т т (T) Ъ ъ (-)

Д д (D) Л л (L) У у (U) Ы ы (Y)

Е е (E) М м (M) Ф ф (F) Ь ь (')

Ё ё (YO) Н н (N) Х х (KH) Э э (E)

Ж ж (ZH) О о (O) Ц ц (TS) Ю ю (YU or IU)

Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Partly Demolished Buildings Demolished Buildings

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

Individual Fireproof Building Prominent Industrial Building

Individual Dwelling, Fireproof Ruins of an Individual Dwelling

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

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

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

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

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

Bench Mark Bench Mark (monumented) Telegraph Office Telephone Station

Radio Station Radio Tower Airfield or Seaplane Base Landing Strip

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

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

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

Well Water Reservoir or Rain Water Pit Spring Isobath with value

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

Coniferous Deciduous Mixed Scrub

Key to Numbers on Mapping

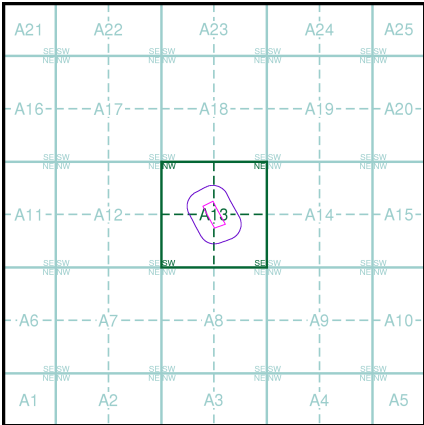


Geotechnical & Geoenvironmental Specialists

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
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Ordnance Survey Plan	1:10,000	1970	11
Swansea	1:10,000	1976	12
Ordnance Survey Plan	1:10,000	1980	13
Ordnance Survey Plan	1:10,000	1992	14
10K Raster Mapping	1:10,000	1999	15
10K Raster Mapping	1:10,000	2006	16
VectorMap Local	1:10,000	2020	17

Russian Map - Slice A



Order Details

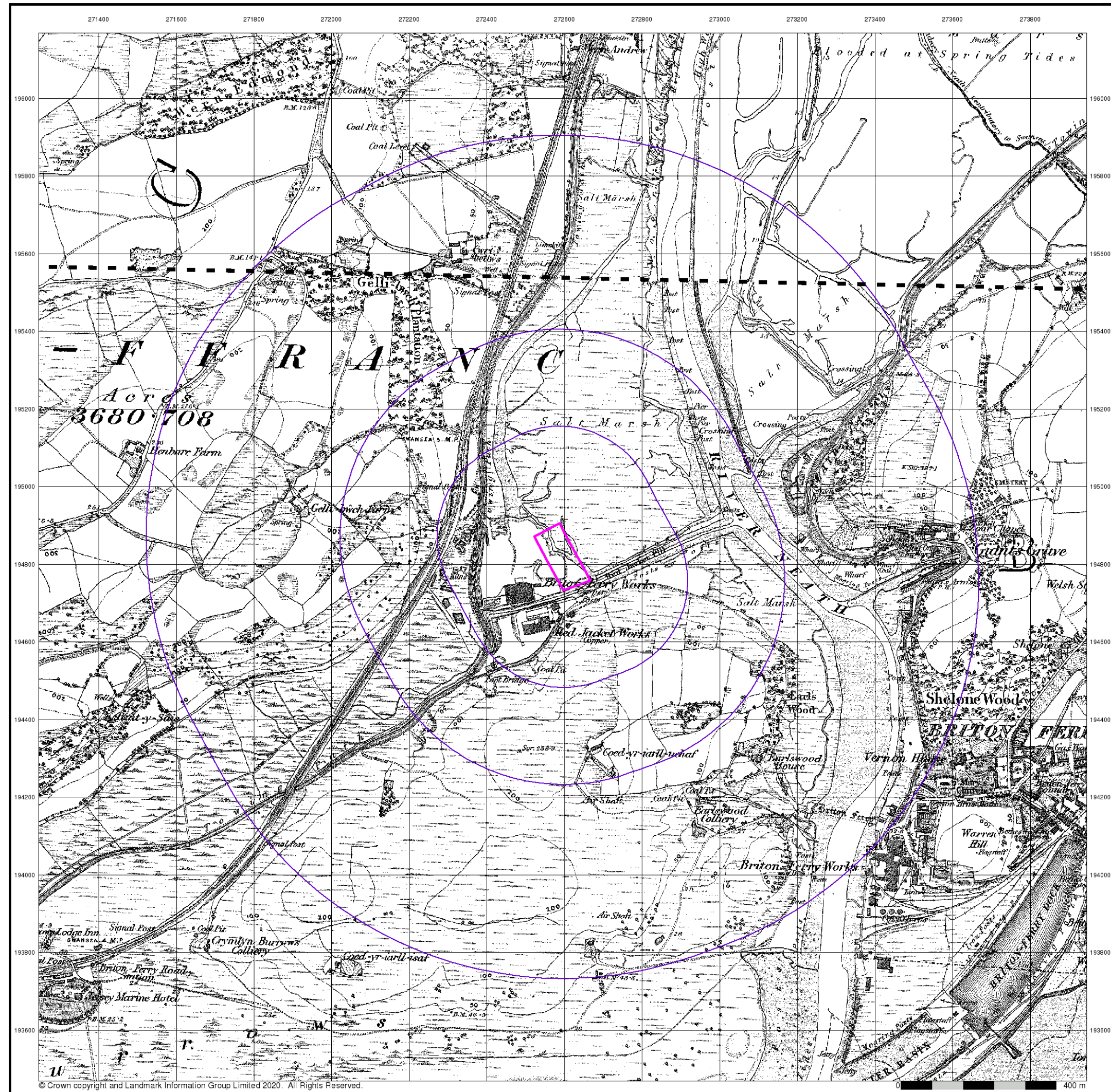
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY



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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1884

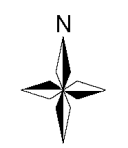
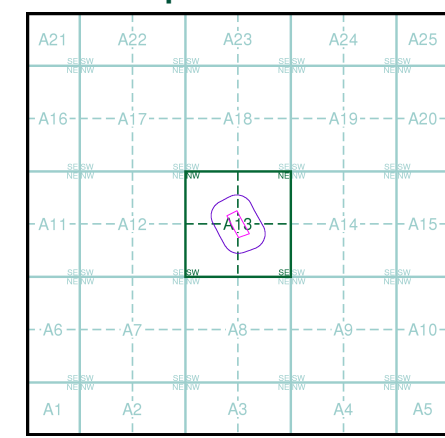
Source map scale - 1:10,560

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)

01500	1884	1:10,560
02400	1884	1:10,560

Historical Map - Slice A



Order Details

Order Number:	270552102_1_1
Customer Ref:	16461-MW
National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	1000

Site Details

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Fax: 0844 844 9951
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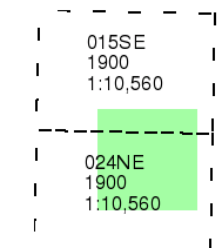
Glamorganshire

Published 1900

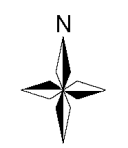
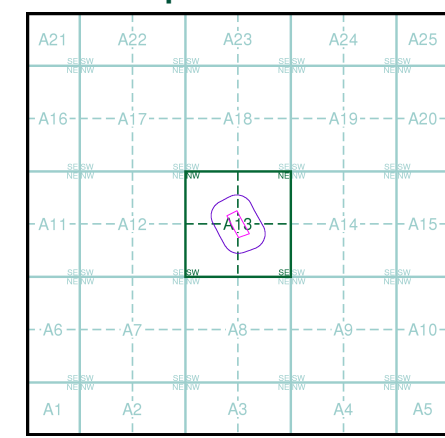
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1921

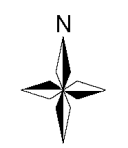
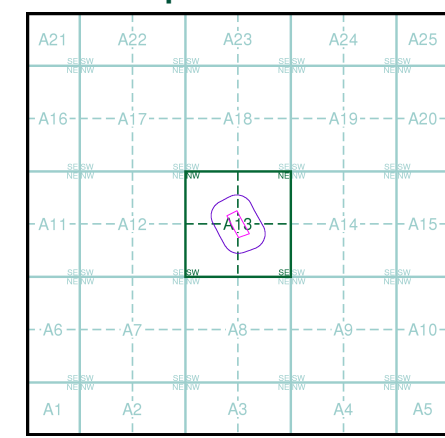
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

015SE
1921
1:10,560
024NE
1921
1:10,560

Historical Map - Slice A



Order Details

Order Number:	270552102_1_1
Customer Ref:	16461-MW
National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	1000

Site Details

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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1921

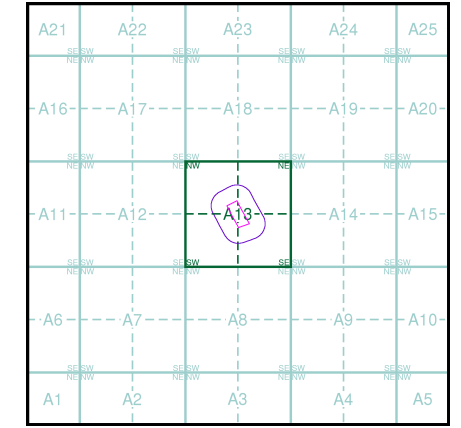
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. 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)

015SE
1921
1:10,560
024NE
1921
1:10,560

Historical Map - Slice A



Order Details

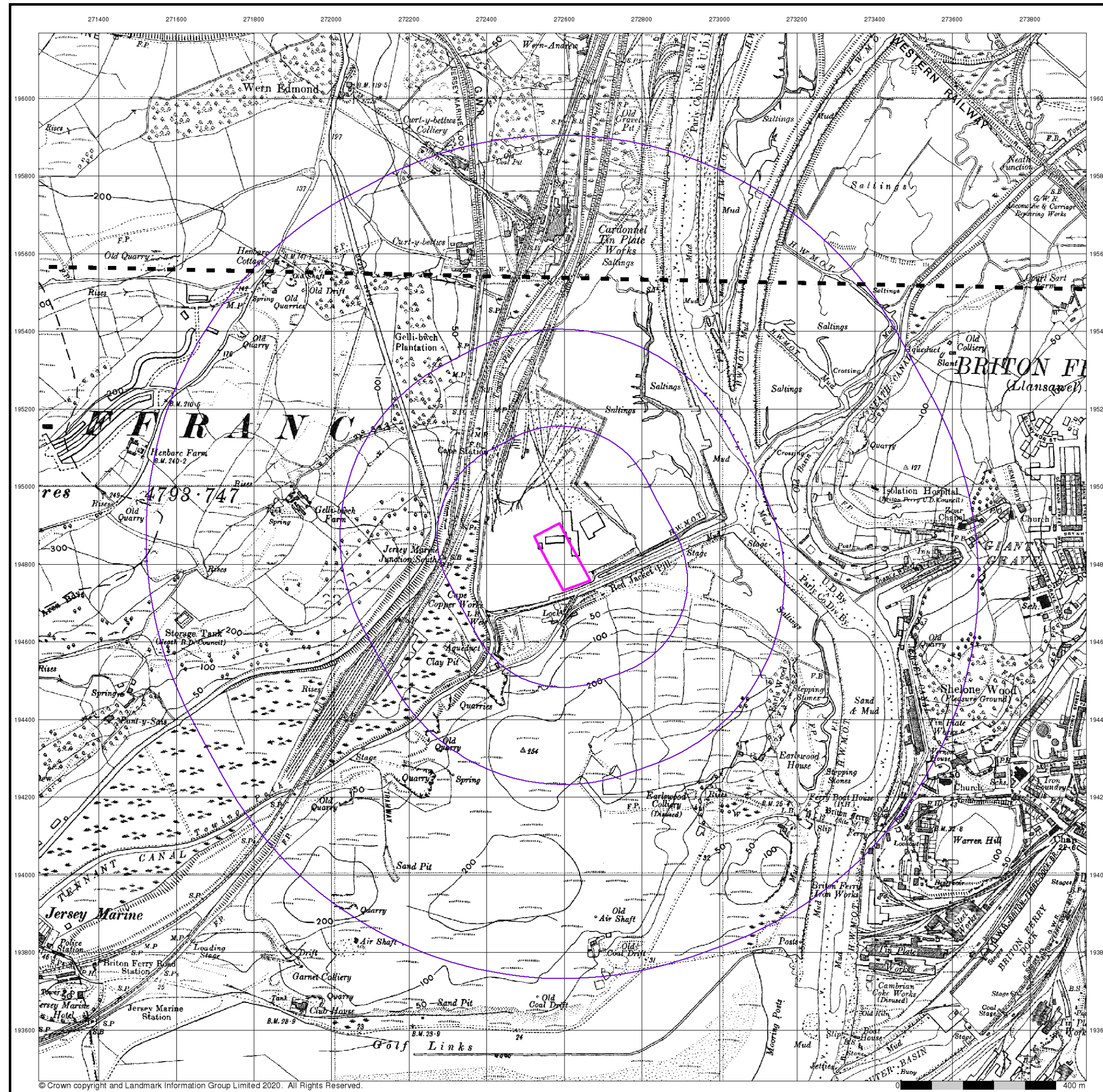
Order Number:	270552102_1_1
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National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	1000

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Fax: 0844 844 9951
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Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1938 - 1940

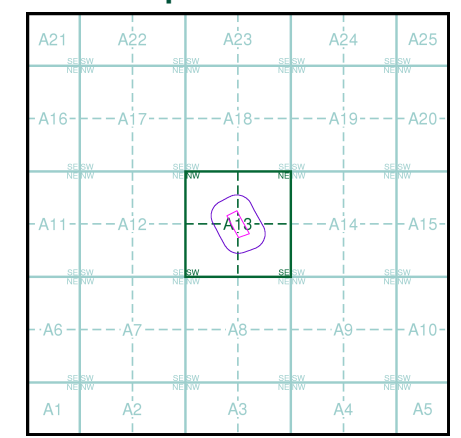
Source map scale - 1:10,560

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)

015SE
1940
1:10,560
024NE
1938
1:10,560

Historical Map - Slice A



Order Details

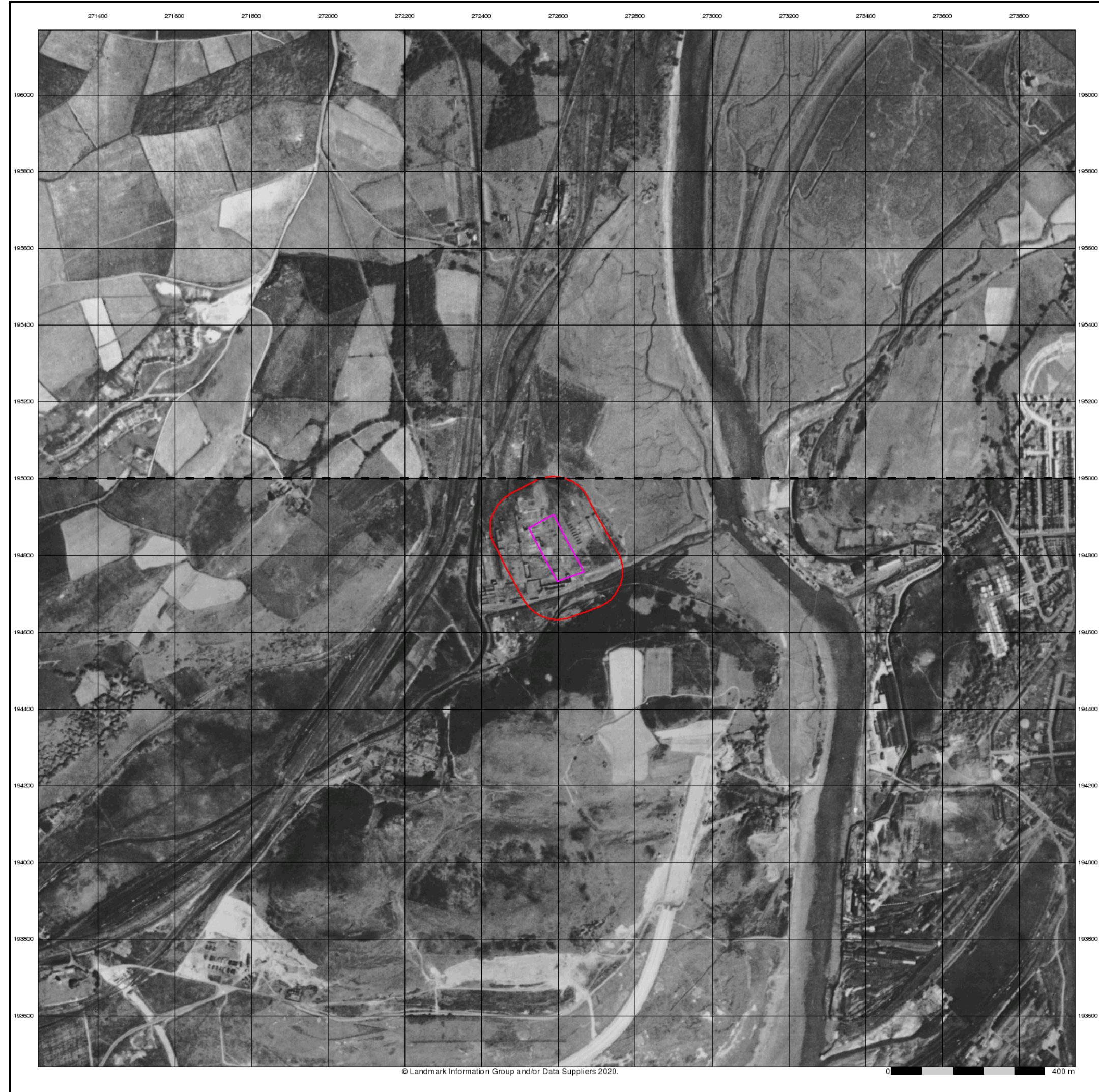
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Site Area (Ha):	1.2
Search Buffer (m):	1000

Site Details

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Tel: 0844 844 9952
Fax: 0844 844 9951
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Historical Aerial Photography

Published 1945 - 1949

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.

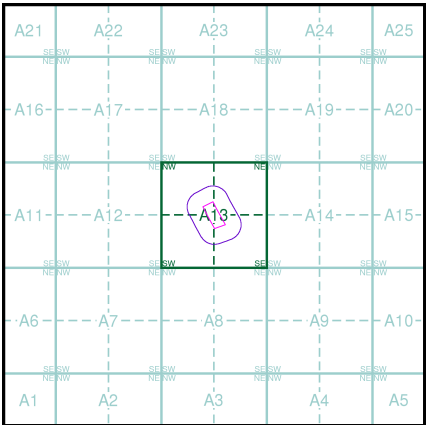
© Landmark Information Group and/or Data Suppliers 2010.

Map Name(s) and Date(s)

SS79NW
1945
1:10,560

SS79SW
1949
1:10,560

Historical Aerial Photography - Slice A



LIBRARY
HSILIRB

Order Details

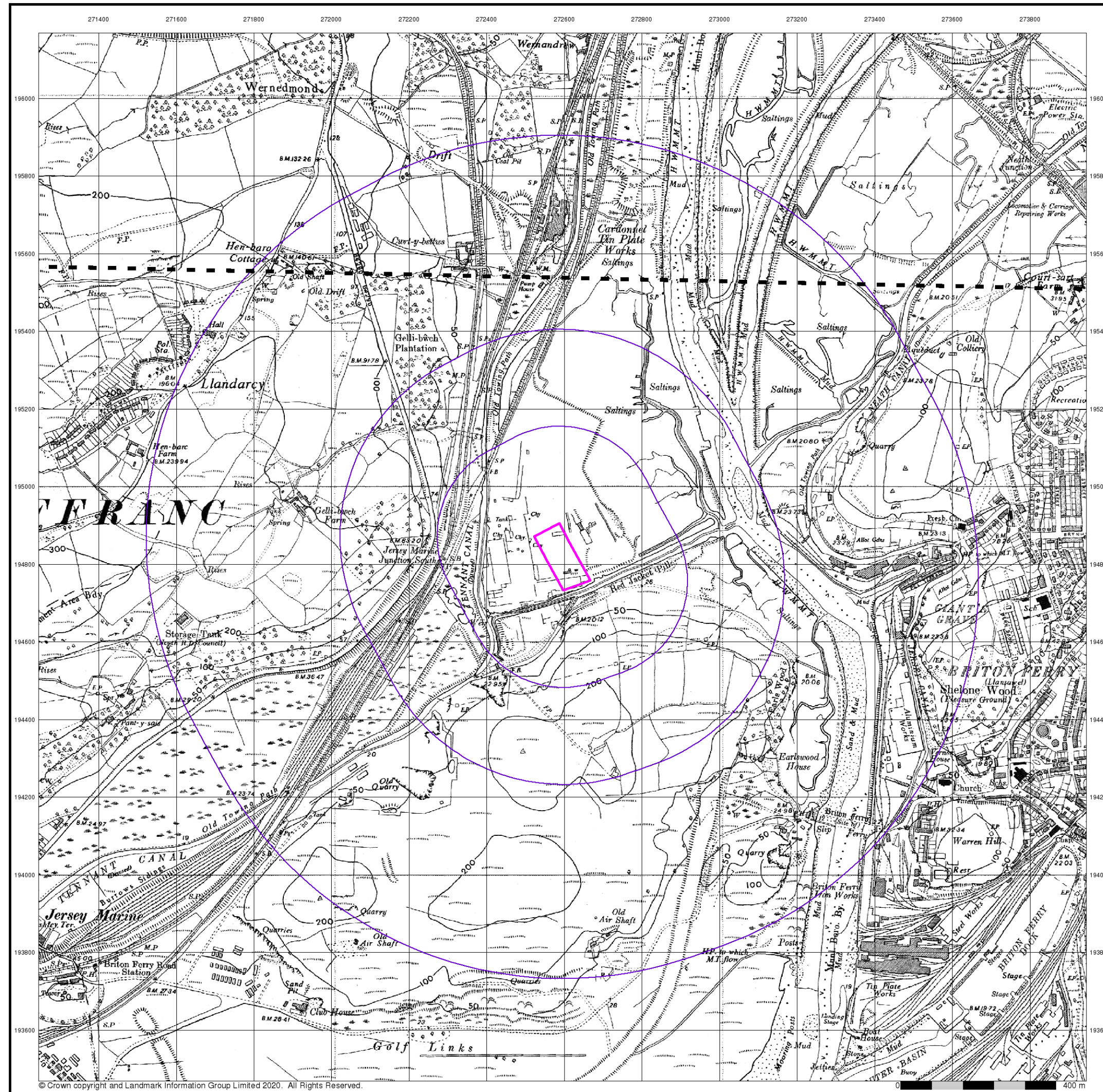
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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INFORMATION GROUP

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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1951 - 1952

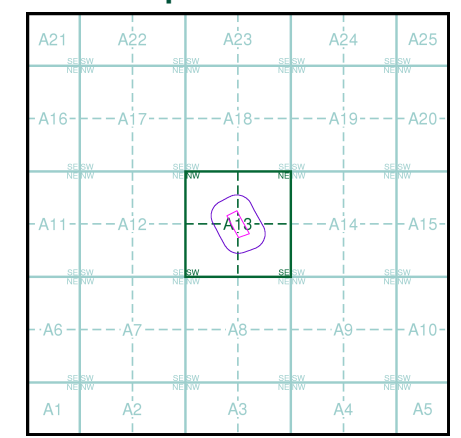
Source map scale - 1:10,560

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)

015SE
1952
1:10,560
024NE
1951
1:10,560

Historical Map - Slice A



Order Details

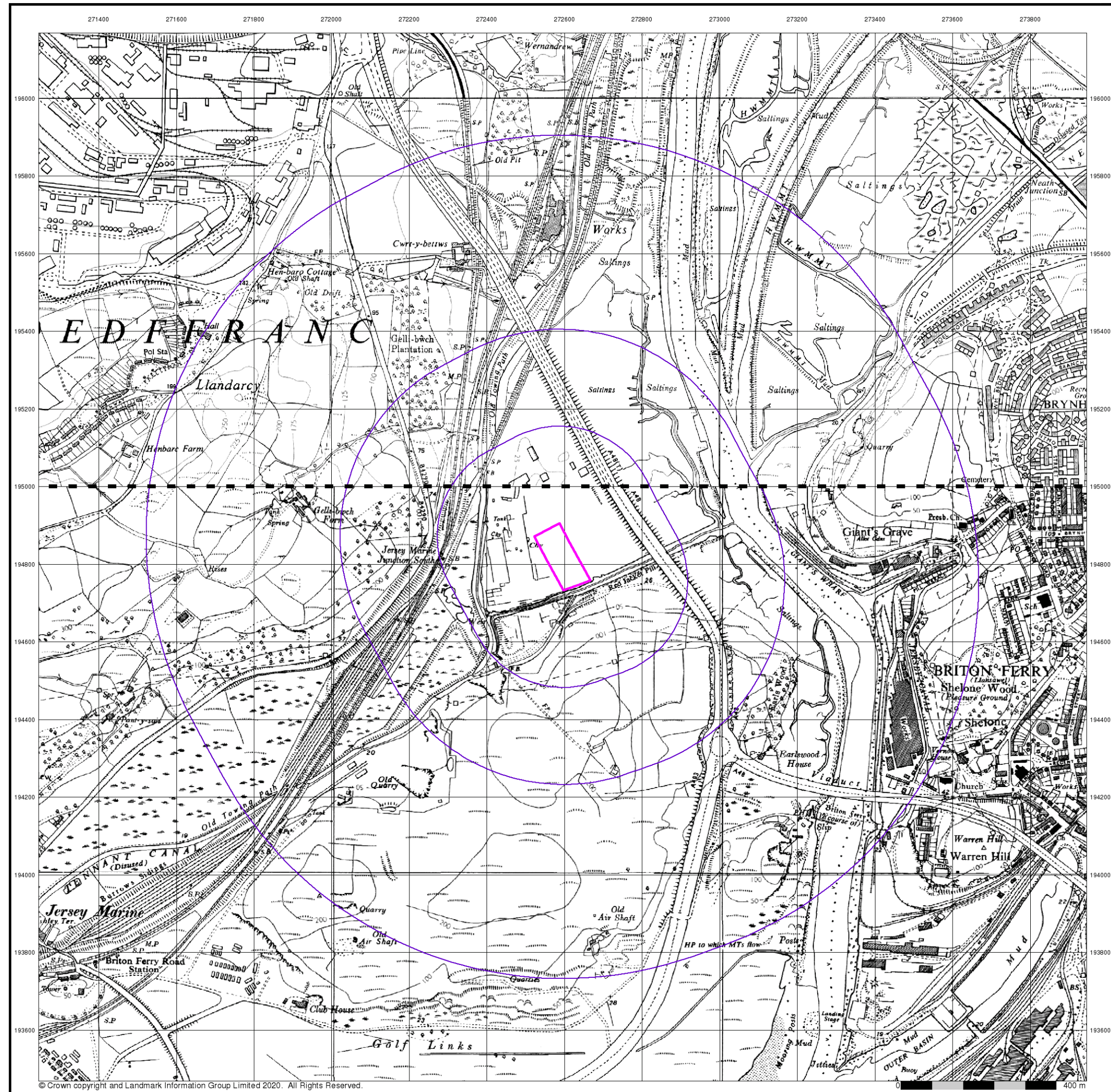
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Customer Ref:	16461-MW
National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	1000

Site Details

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Geotechnical & Geoenvironmental Specialists

Ordnance Survey Plan

Published 1964 - 1965

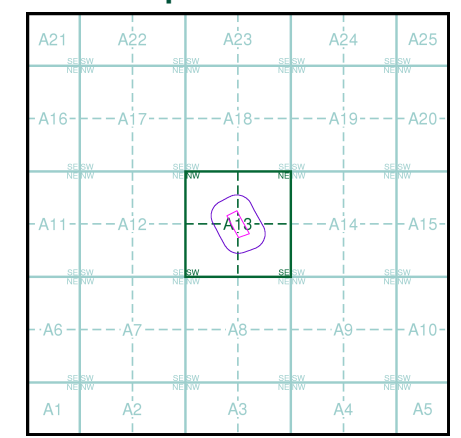
Source map scale - 1:10,000

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Map Name(s) and Date(s)

SS79NW	1965
1:10,560	
SS79SW	1964
1:10,560	

Historical Map - Slice A



Order Details

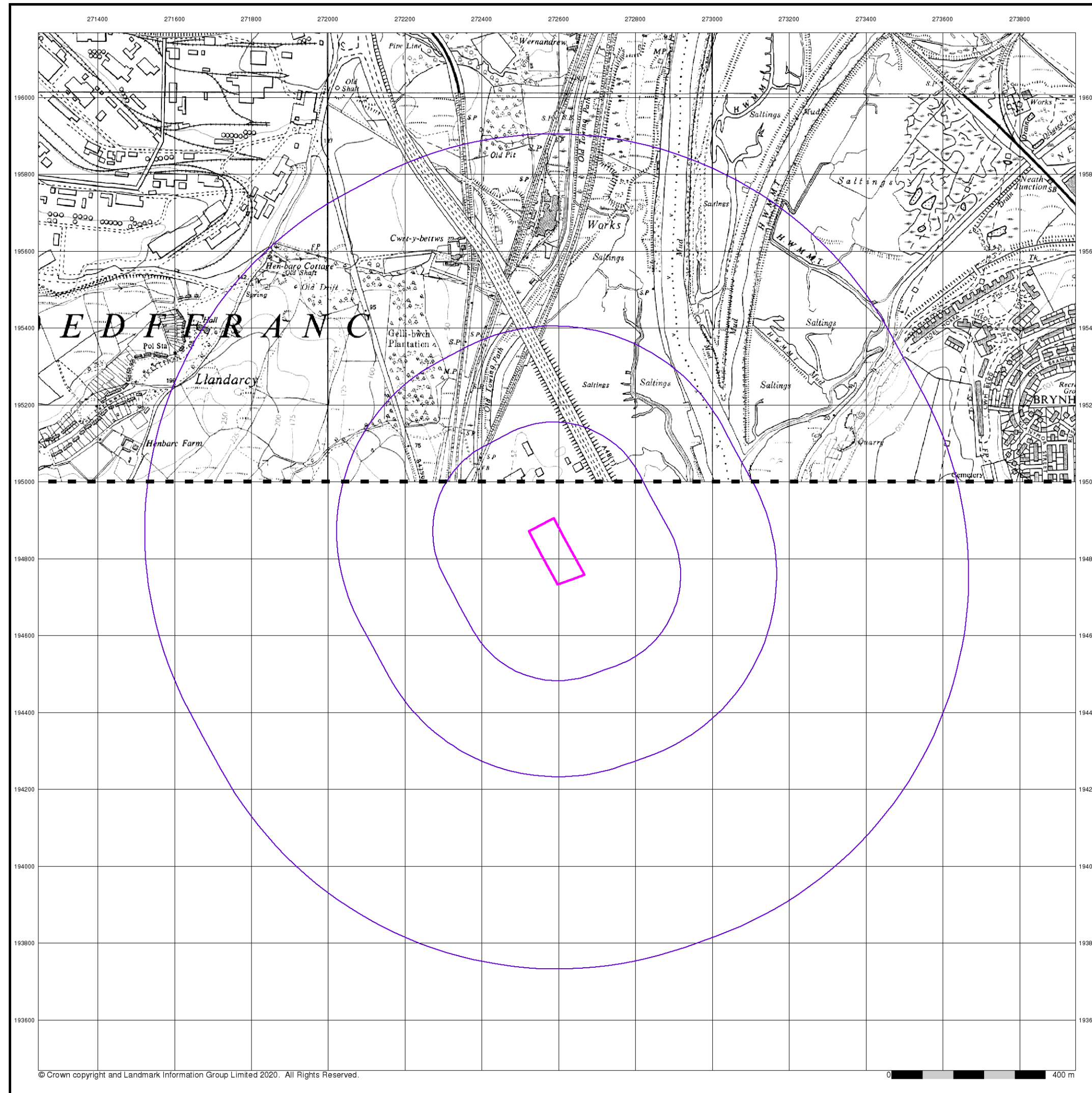
Order Number:	270552102_1_1
Customer Ref:	16461-MW
National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	1000

Site Details

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Geotechnical & Geoenvironmental Specialists

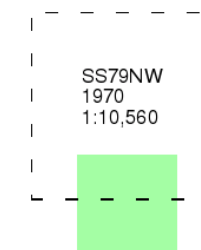
Ordnance Survey Plan

Published 1970

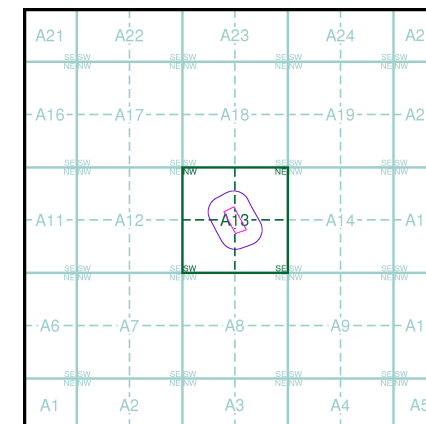
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

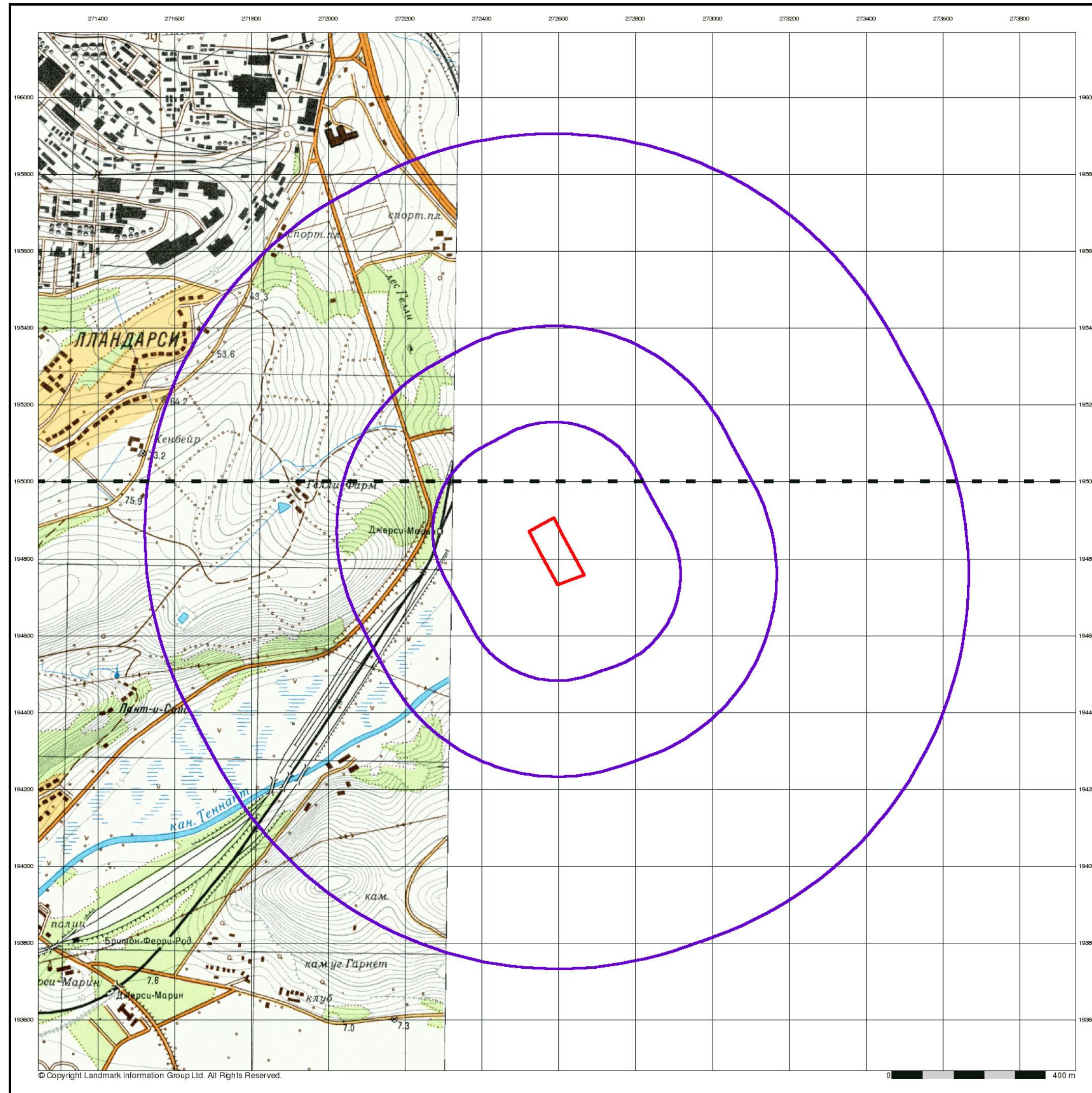
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National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY



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Geotechnical & Geoenvironmental Specialists

Swansea

Published 1976

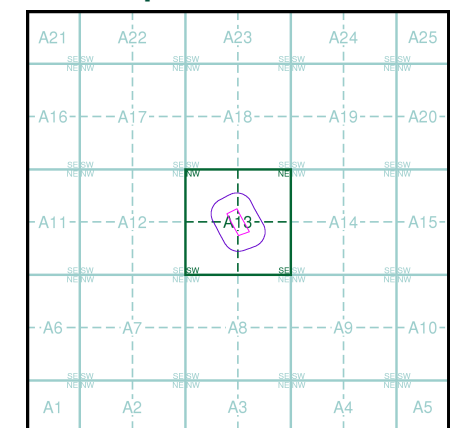
Source map scale - 1:10,000

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)

SS79NW
1976
1:10,000
SS79SW
1976
1:10,000

Russian Map - Slice A



Order Details

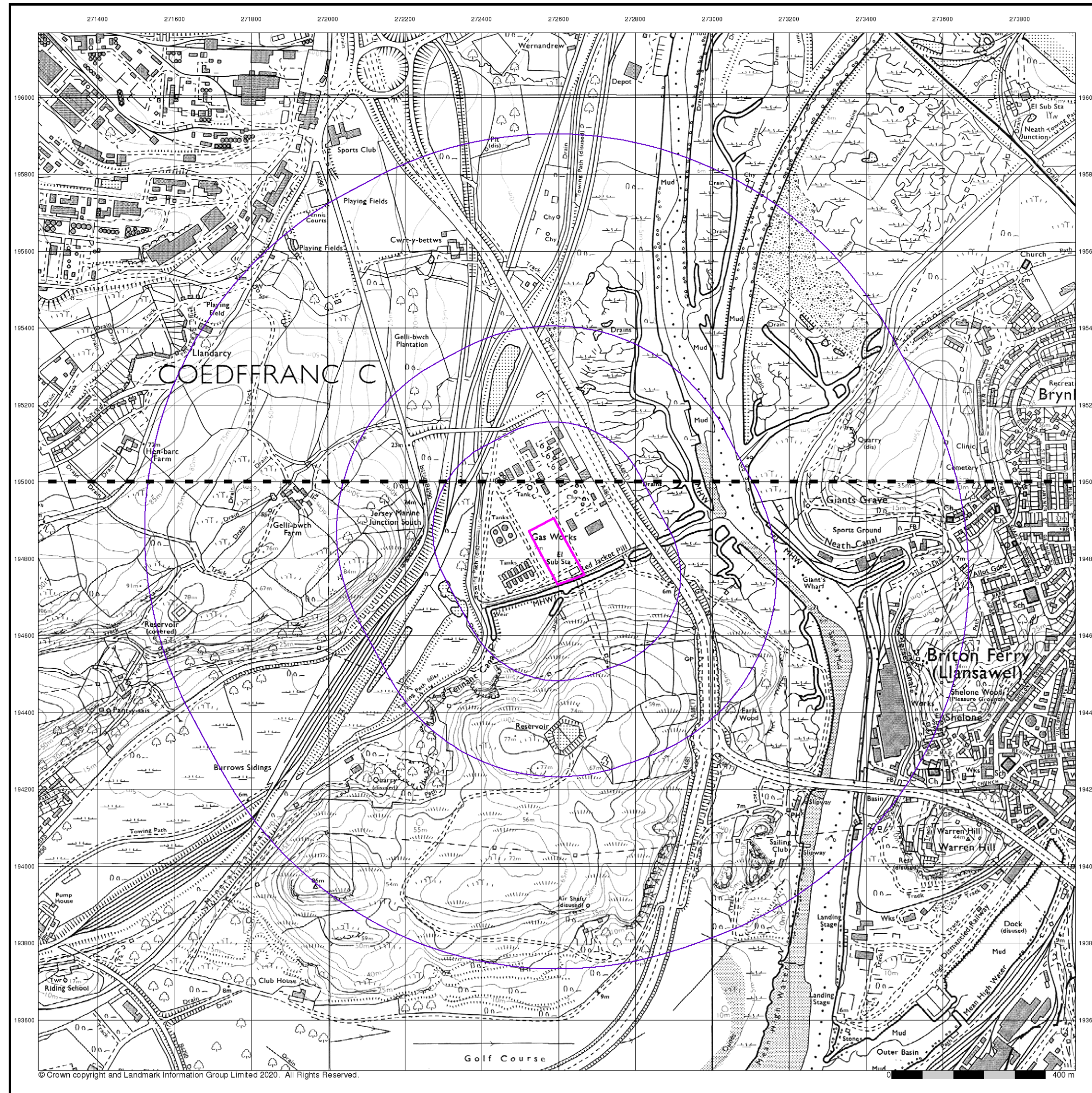
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY



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Ordnance Survey Plan

Published 1980

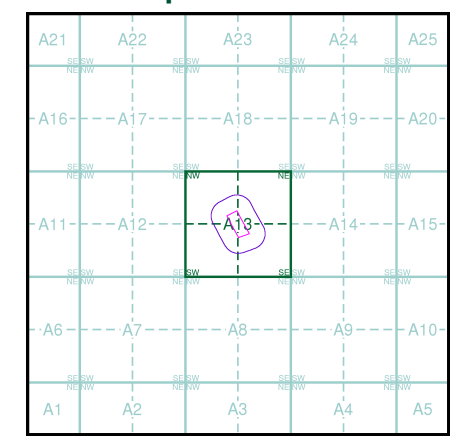
Source map scale - 1:10,000

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)

SS79NW	1980
1:10,000	
SS79SW	1980
1:10,000	

Historical Map - Slice A



Order Details

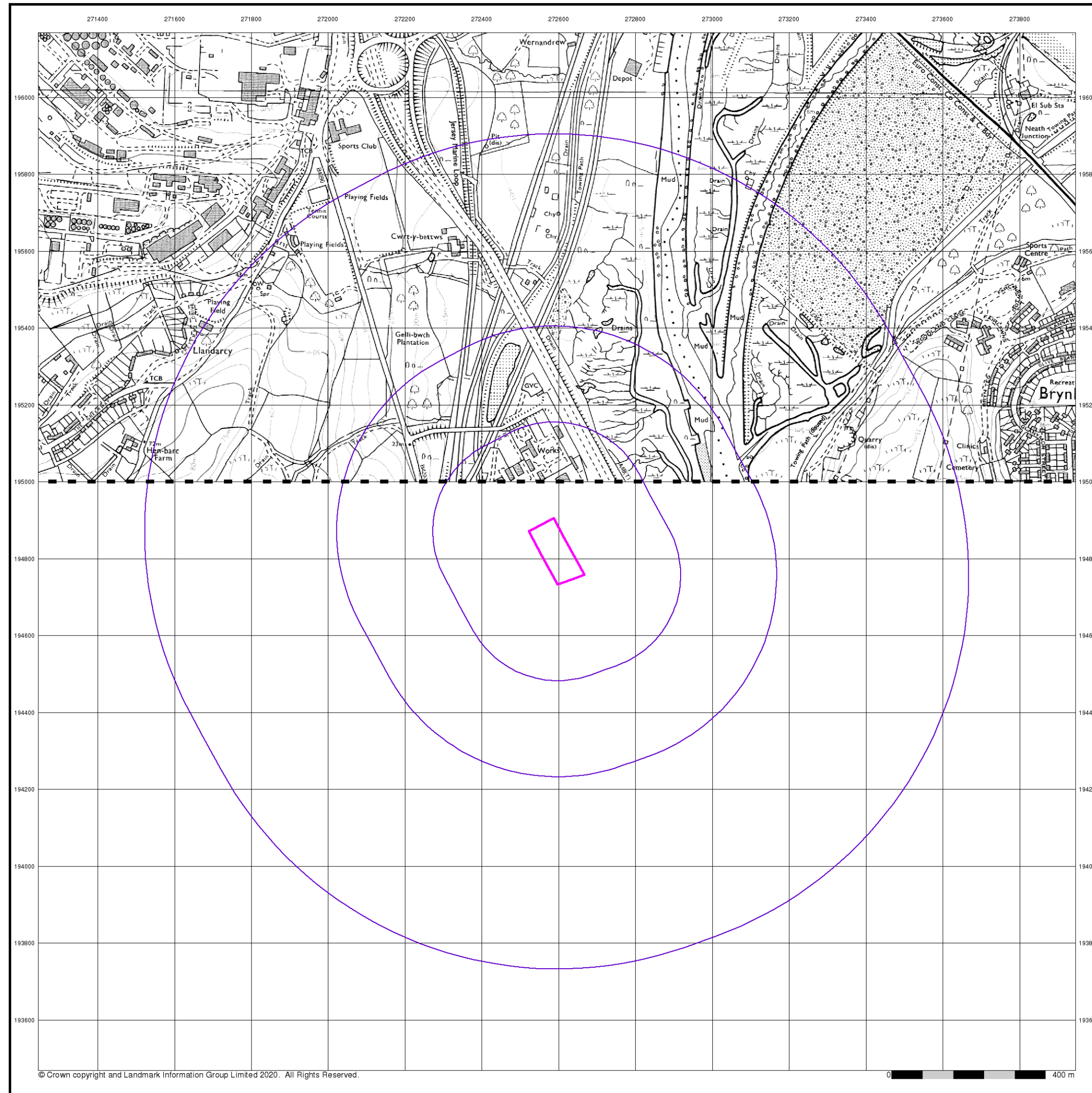
Order Number:	270552102_1_1
Customer Ref:	16461-MW
National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	1000

Site Details

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Geotechnical & Geoenvironmental Specialists

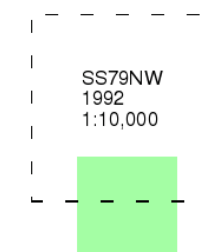
Ordnance Survey Plan

Published 1992

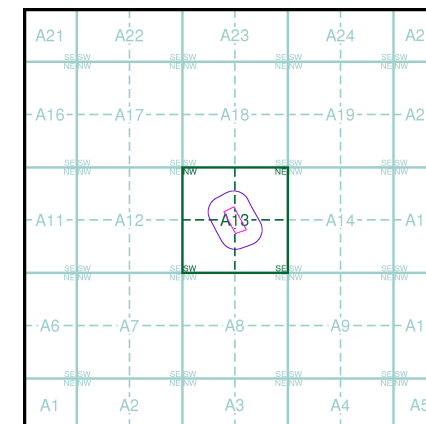
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

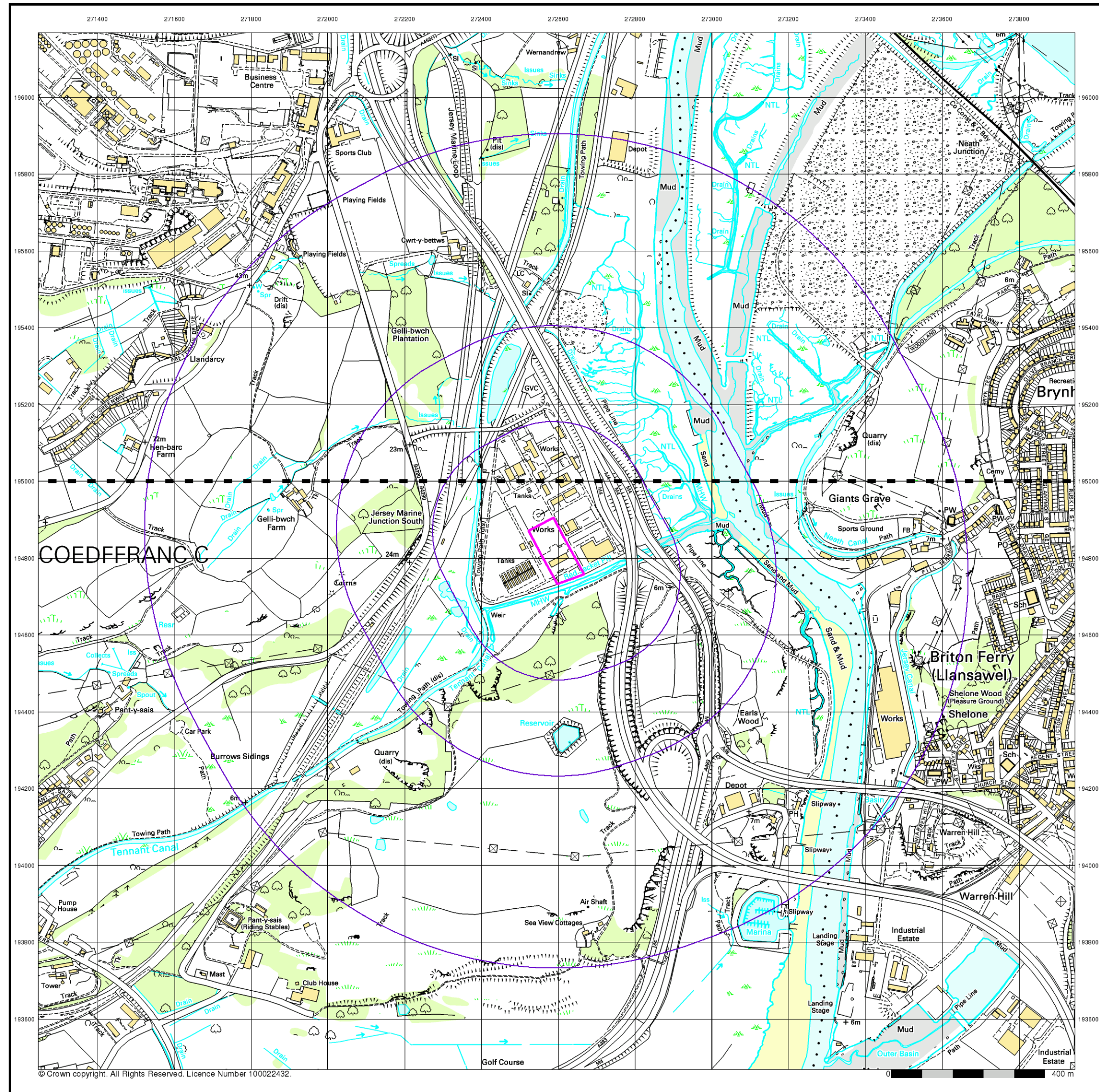
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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Geotechnical & Geoenvironmental Specialists

10k Raster Mapping

Published 1999

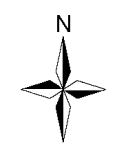
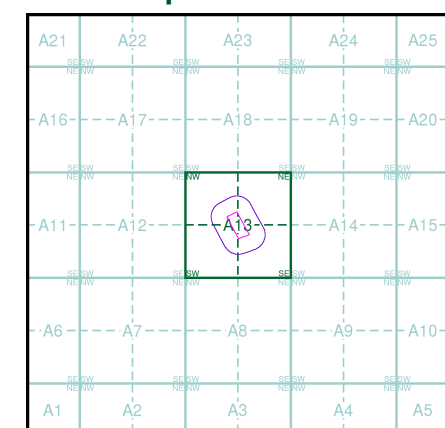
Source map scale - 1:10,000

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)

SS79NW	1999	1:10,000
SS79SW	1999	1:10,000

Historical Map - Slice A



Order Details

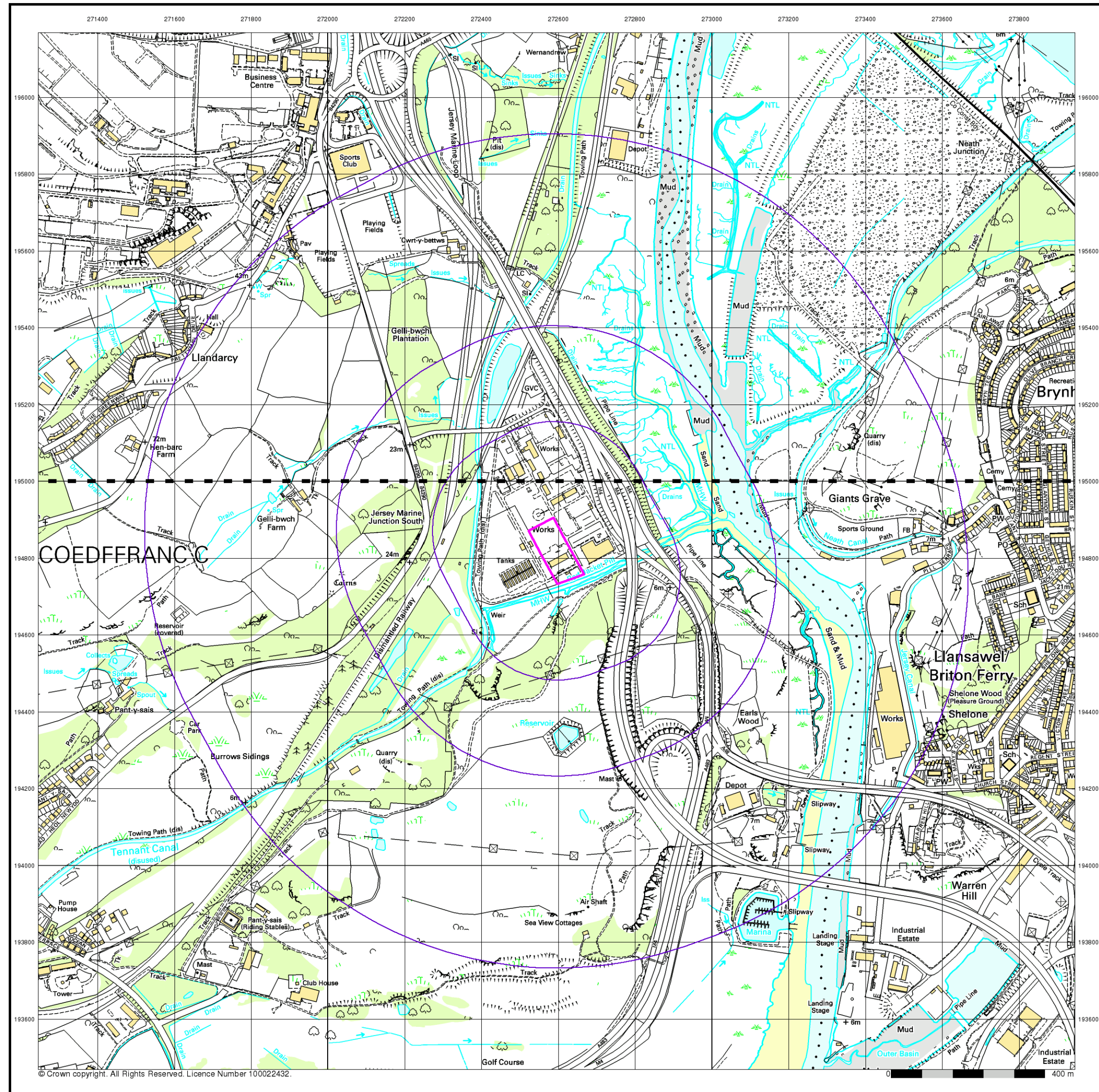
Order Number:	270552102_1_1
Customer Ref:	16461-MW
National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	1000

Site Details

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Geotechnical & Geoenvironmental Specialists

10k Raster Mapping

Published 2006

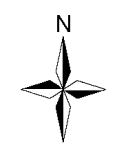
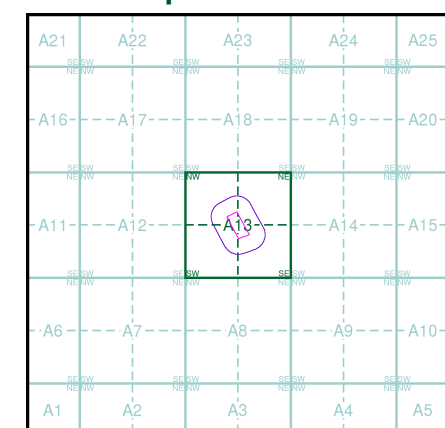
Source map scale - 1:10,000

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)

SS79NW
2006
1:10,000
SS79SW
2006
1:10,000

Historical Map - Slice A



Order Details

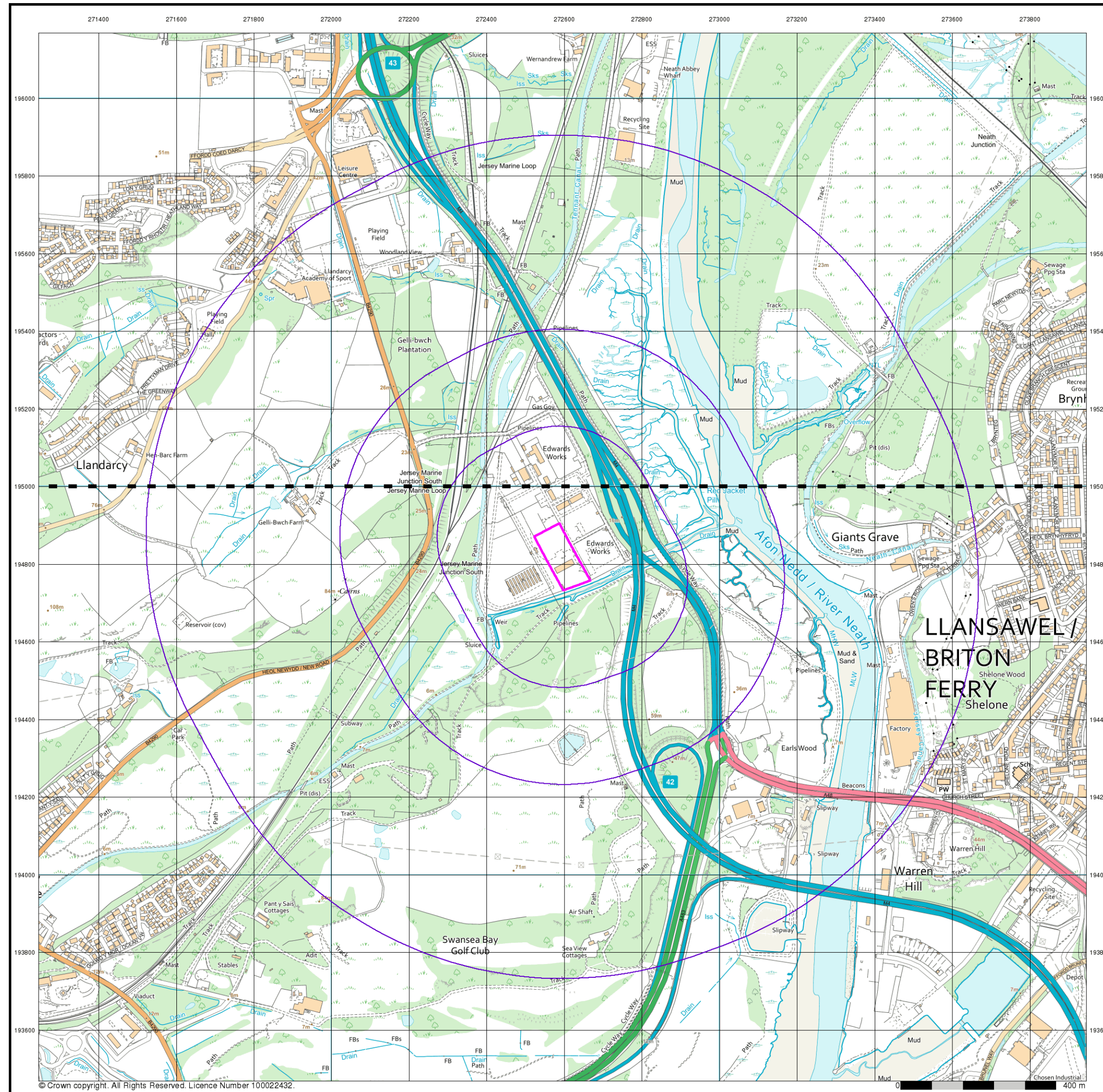
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 1000

Site Details

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VectorMap Local

Published 2020

Source map scale - 1:10,000

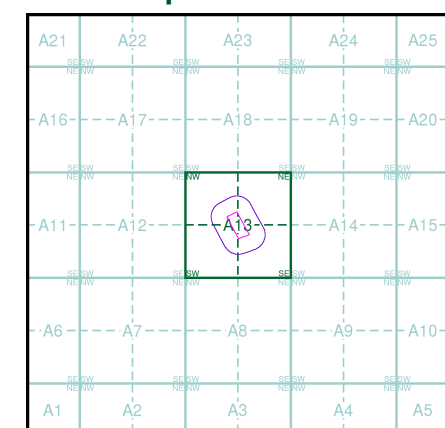
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap 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)

SS79NW
2020
Variable

SS79SW
2020
Variable

Historical Map - Slice A



Order Details

Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
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

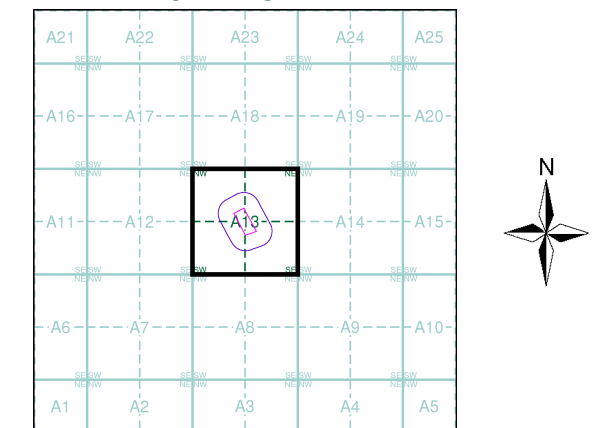


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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1882	2
Glamorganshire	1:2,500	1899	3
Glamorganshire	1:2,500	1918	4
Glamorganshire	1:2,500	1941	5
Ordnance Survey Plan	1:2,500	1971	6
Additional SIMs	1:2,500	1978	7
Large-Scale National Grid Data	1:2,500	1993	8
Large-Scale National Grid Data	1:2,500	1993	9
Large-Scale National Grid Data	1:2,500	1995	10
Historical Aerial Photography	1:2,500	2000	11

Historical Map - Segment A13



Order Details

Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

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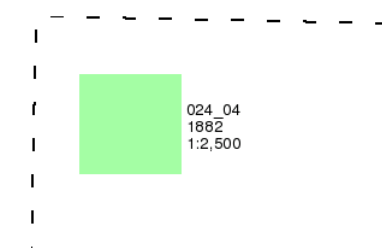
Glamorganshire

Published 1882

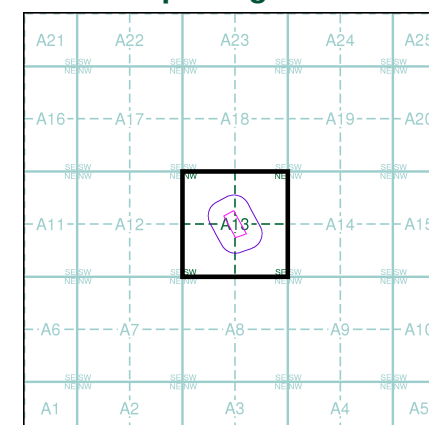
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

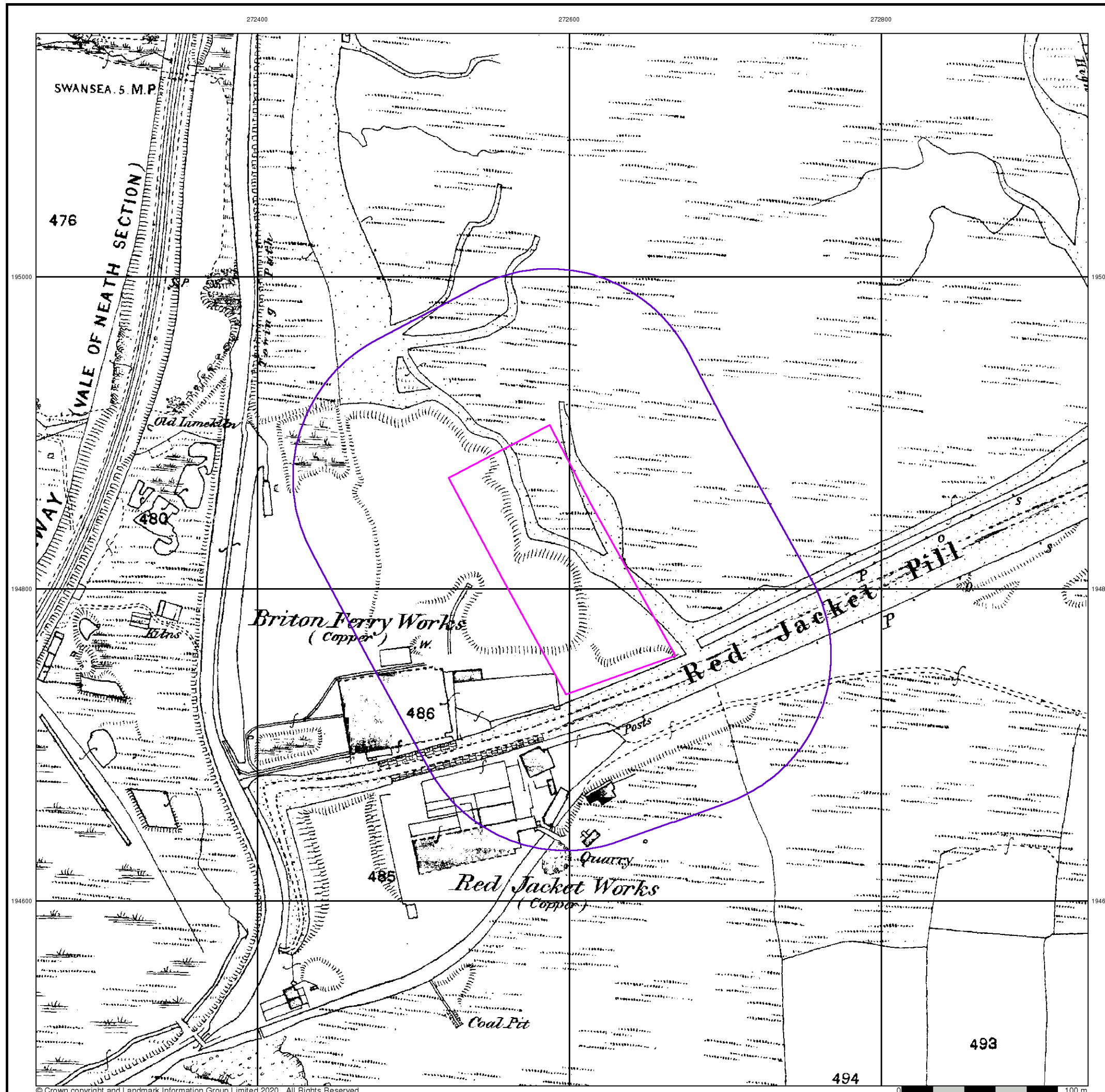
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

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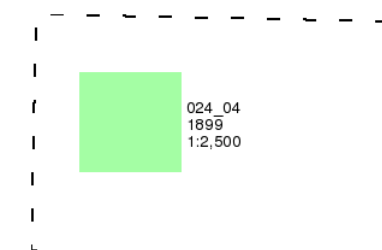
Glamorganshire

Published 1899

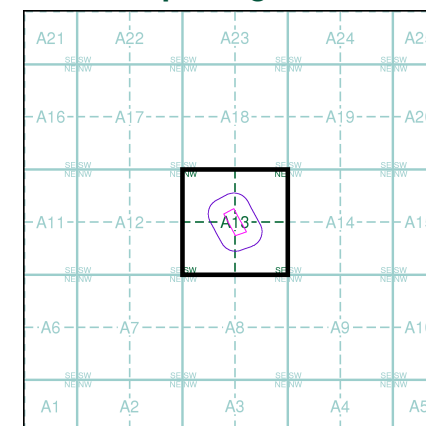
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

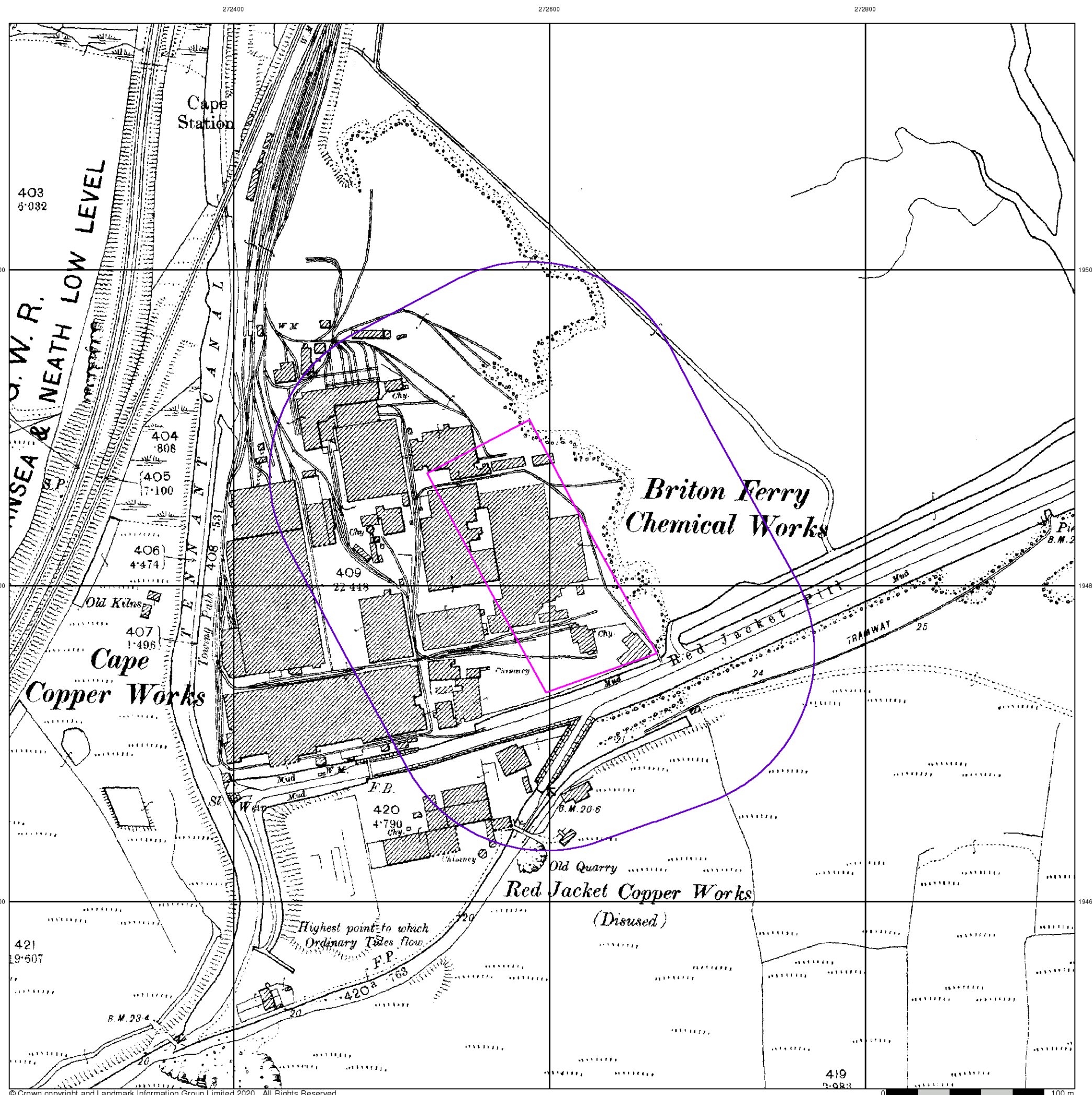
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

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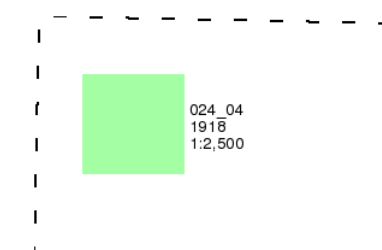
Glamorganshire

Published 1918

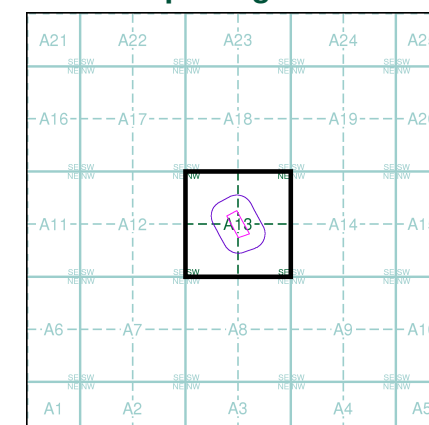
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

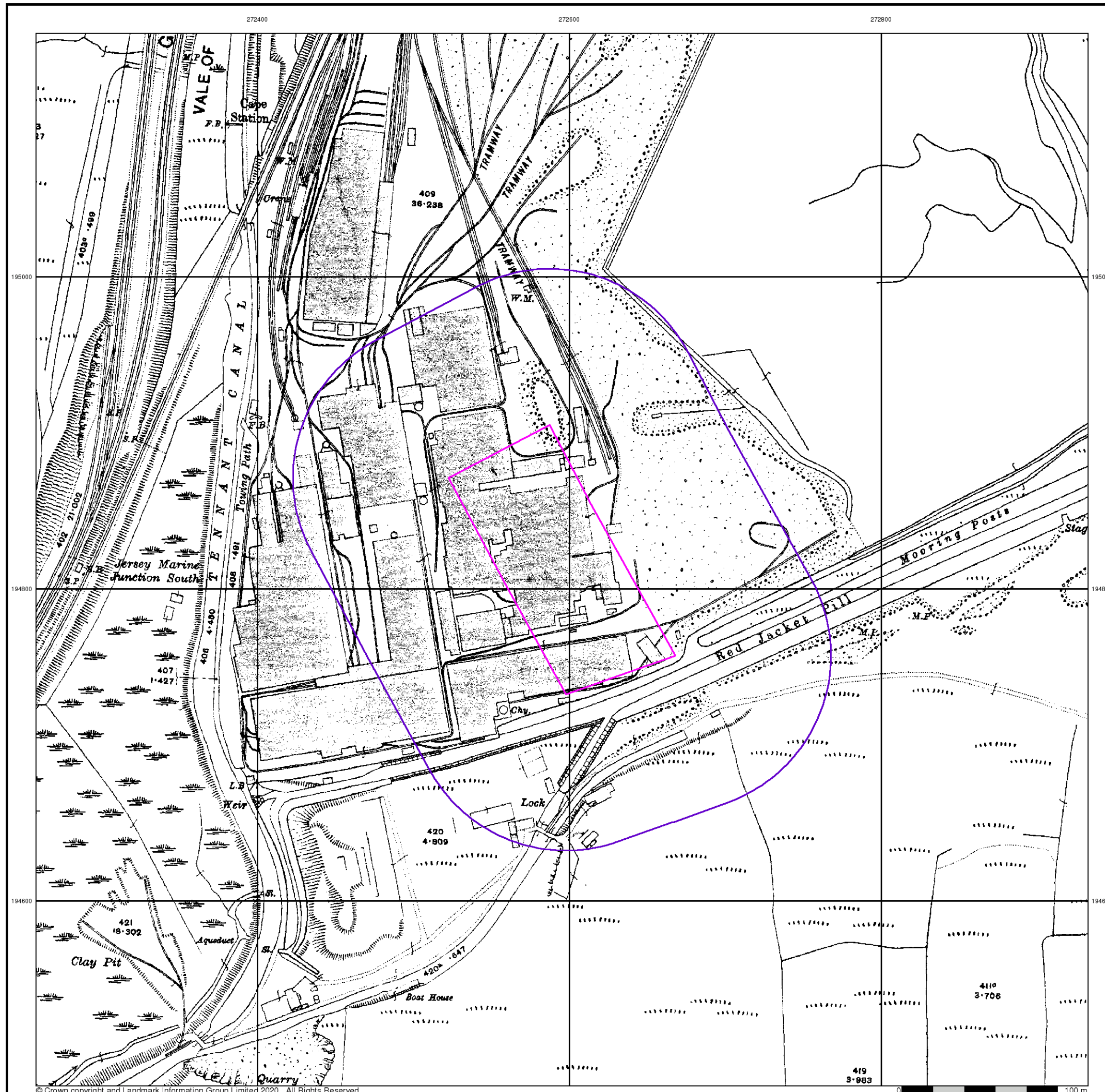
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

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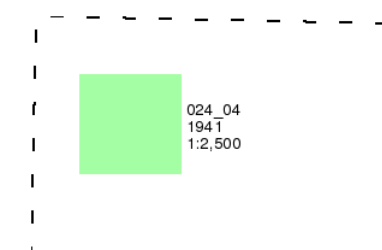
Glamorganshire

Published 1941

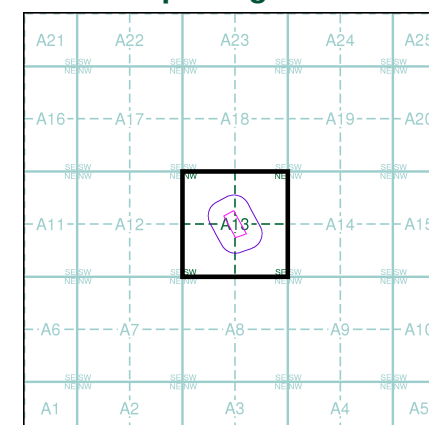
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

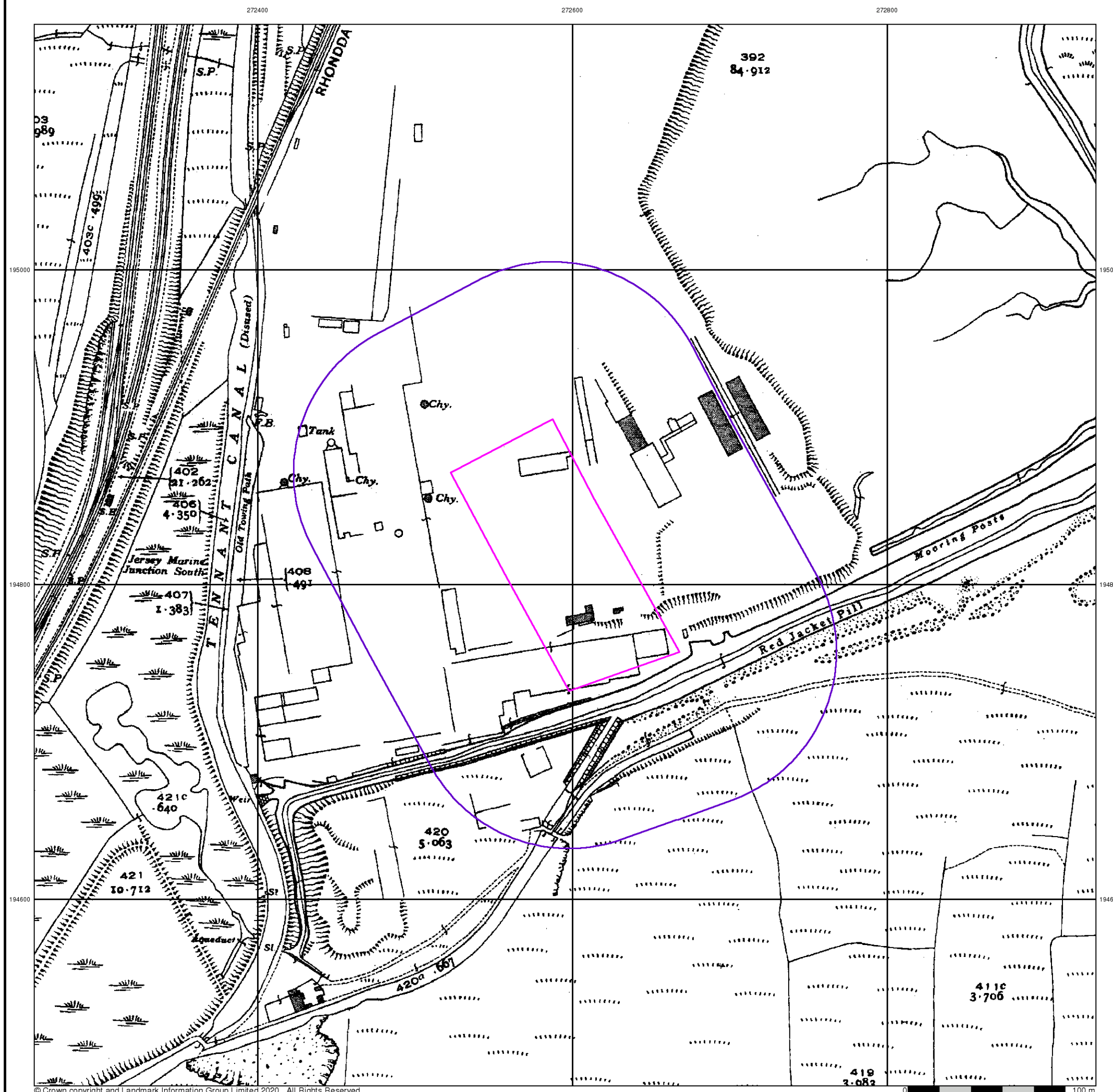
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

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Geotechnical & Geoenvironmental Specialists

Ordnance Survey Plan

Published 1971

Source map scale - 1:2,500

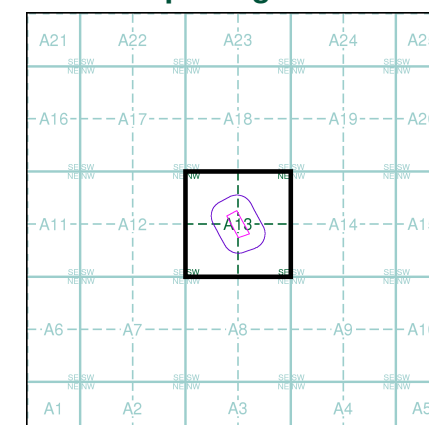
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain.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

SS7295
1971
1:2,500

SS7294
1971
1:2,500

Historical Map - Segment A13



Order Details

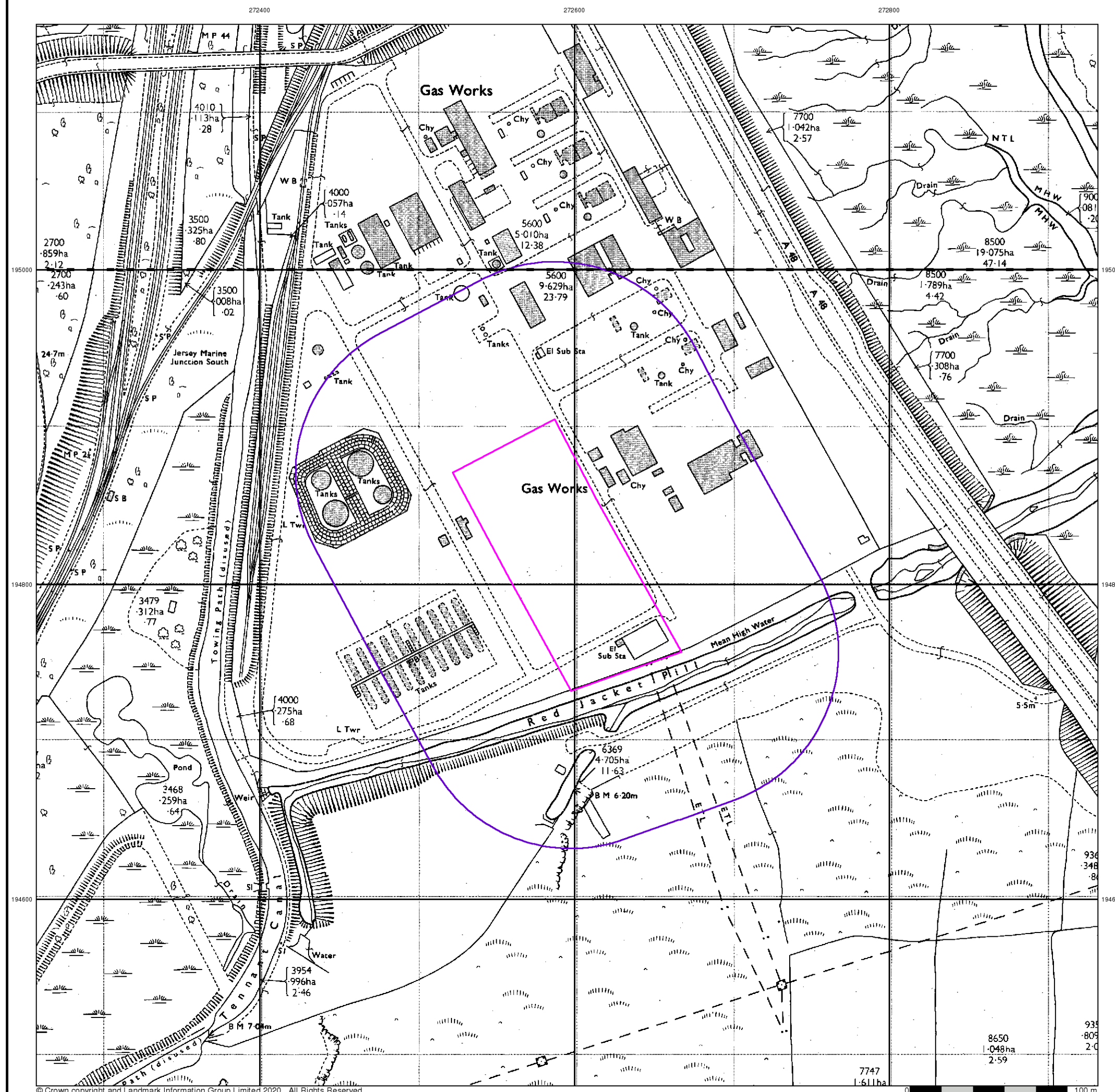
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

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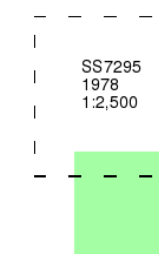
Additional SIMs

Published 1978

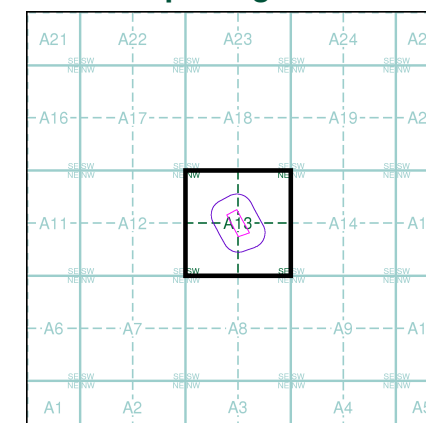
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

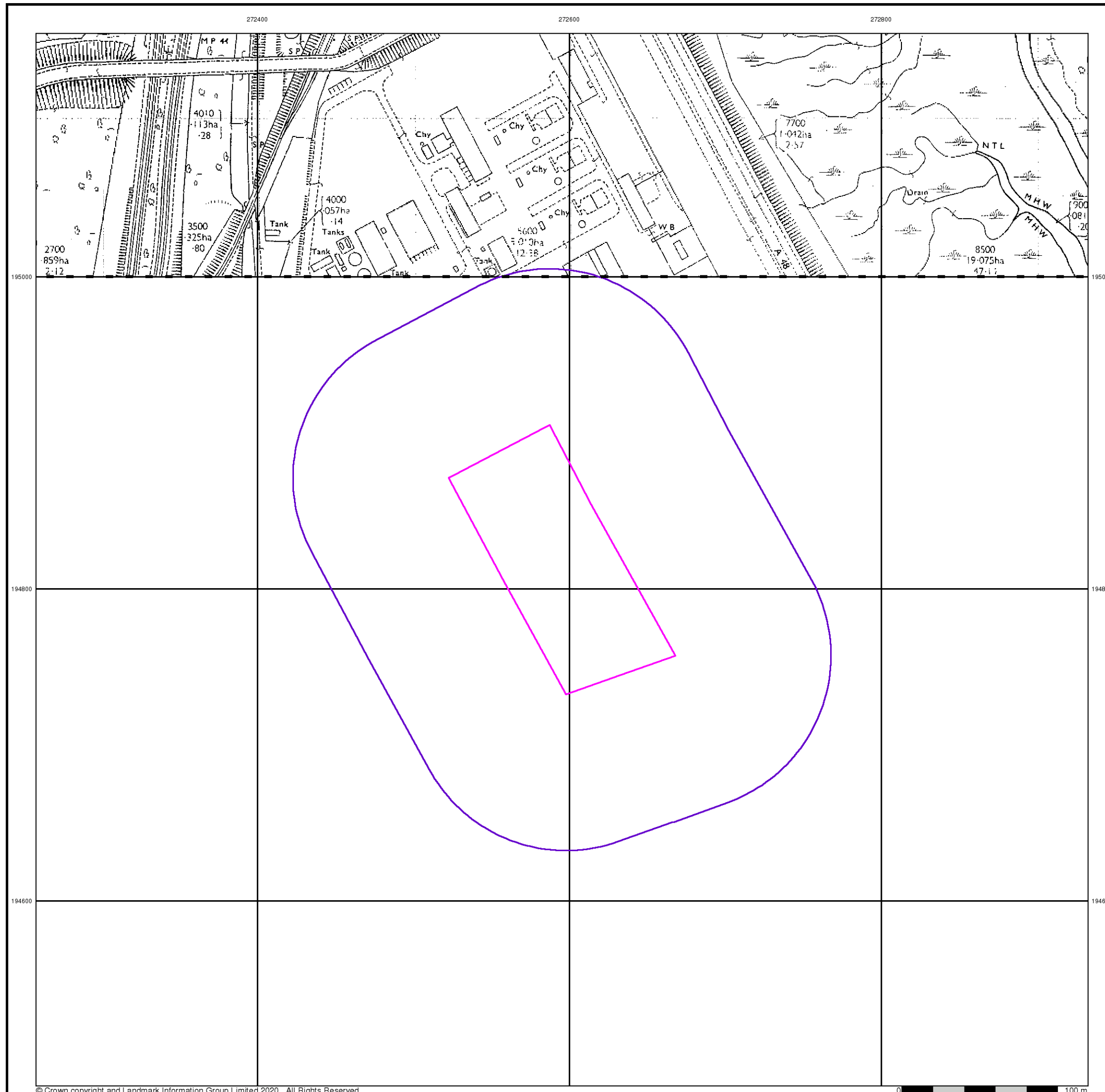
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

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Published 1993

'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.

SS7295
1993
1:2,500

SS7294
1993
1:2,500

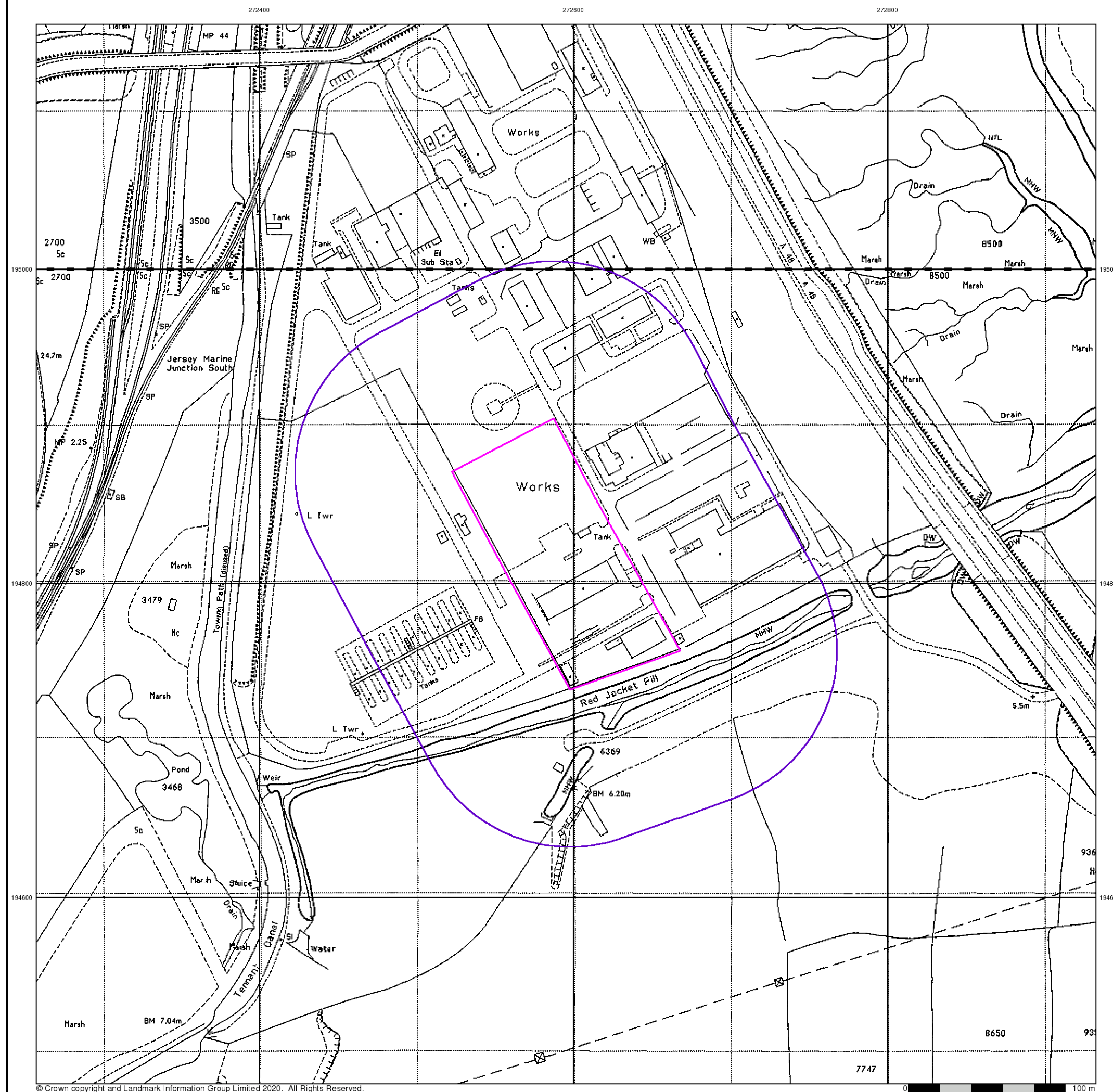


Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

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Published 1993

'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.

SS7295
1993
1:2,500

SS7294
1993
1:2,500

The figure shows a 5x5 grid map. The columns are labeled A1, A2, A3, A4, and A5 at the bottom. The rows are labeled A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, and A20 on the left side. A black square highlights the area around A13, and a purple oval highlights the specific study area within that square.



Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Land at Edwards Works, Llandarcy, Neath, SA10 6JY

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Published 1995

'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.

SS7295
1995
1:2,500

SS7294
1995
1:2,500



Order Number:	270552102_1_1
Customer Ref:	16461-MW
National Grid Reference:	272600, 194820
Slice:	A
Site Area (Ha):	1.2
Search Buffer (m):	100

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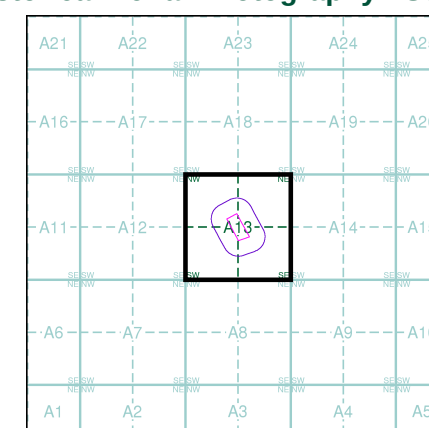
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Historical Aerial Photography

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

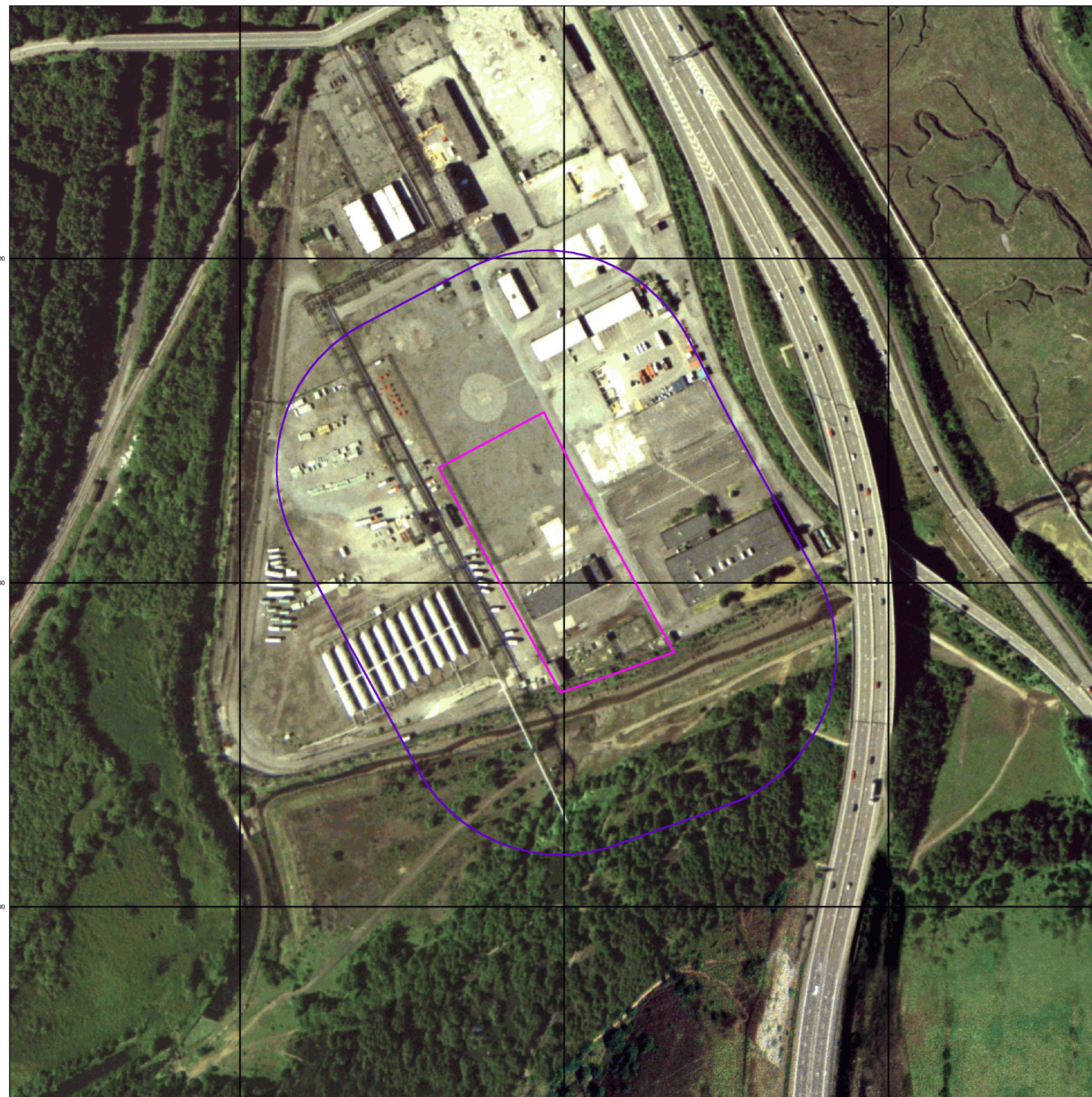
Order Number: 270552102_1_1
Customer Ref: 16461-MW
National Grid Reference: 272600, 194820
Slice: A
Site Area (Ha): 1.2
Search Buffer (m): 100

Site Details

Land at Edwards Works, Llandarcy, Neath, SA10 6JY

Landmark
INFORMATION GROUP

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



ANNEX B
Coal Authority Mining Report



The Coal
Authority

CON29M

coal mining report

LAND AT EDWARDS WORKS, LLANDARCY, NEATH, NEATH PORT TALBOT
SA10 6JY



Known or potential coal mining risks

Future underground coal mining

Page 3



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

Your reference: **270552102_2**
Our reference: **51002343931001**
Date: **15 December 2020**

Client name:
NLIS Hub

If you require any further assistance please
contact our experts on:
0345 762 6848
groundstability@coal.gov.uk



The Law
Society

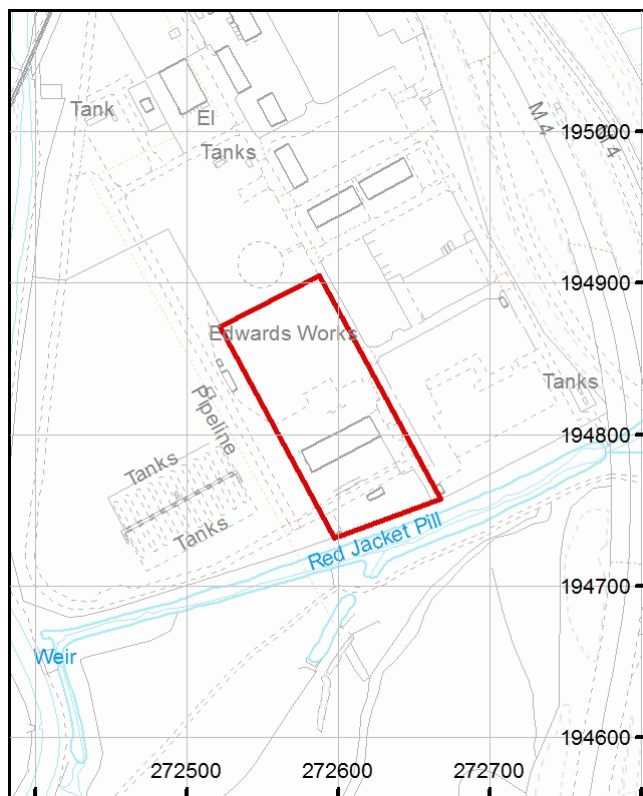
Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is
on the coalfield



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

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1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

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

7 Present opencast coal mining

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

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

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

9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

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

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

ANNEX C
Risk Assessment Definitions

The contaminated land regime is set out in Part 2A of the Environmental Protection Act (EPA) 1990 and was introduced on the 1st April 2000 in England and 1st July 2001 in Wales. A similar regime was introduced in Scotland on 14th July 2000.

Part 2A was introduced to achieve three overarching objectives:

- (a) To identify and remove unacceptable risks to human health and the environment.
- (b) To seek to ensure that contaminated land is made suitable for its current use.
- (c) To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.

Under Part 2A the statutory definition of 'contaminated land' is:

"any land which appears to the local authority in whose area it is situated, to be in such a condition, by reason of substances in, on, or under the land, that:

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

Under Part 2A, for land to be classified as 'Contaminated Land' there must be one or more contaminant, pathway, receptor linkages, known as the '**Pollutant Linkage**'. A pollutant linkage requires three essential elements:

- (a) A **CONTAMINANT** (SOURCE) – a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters.
- (b) A **RECEPTOR** – something which could be adversely affected by a contaminant.
- (c) A **PATHWAY** – a route by which a receptor is or might be exposed to or affected by a contaminant.

The term 'Risk' is widely used in different contexts and situations, but a prescriptive definition is given by the Guidelines for Environmental Risk Assessment and Management (DEFRA *et al*, 2000):

'Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence'.

Model Procedures for the Management of Land Contamination – Contamination Land Report 11 (2004) defines a 'Hazard' as

'a property or situation that in particular circumstances could lead to harm'.

A framework for qualitative risk assessment is provided in CIRIA publication C552 Contaminated Land Risk Assessment – A Guide to Good Practice (2001). The method requires an assessment of the magnitude of the probability of the risk occurring and the magnitude of the potential consequence. Classifications of consequences and probability, levels and descriptions of risk have been devised from the above publication and are defined in the following sections.

Classification of Consequence

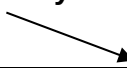
Table A Classification of Consequence	
Classification	Definition
Severe	• Short term (acute) risk to human health likely to result in significant harm • Short term risk to controlled waters • Catastrophic damage to buildings/structures • Short term risk to an ecosystem or organism within the particular ecosystem
Medium	• Chronic damage to human health (long term risk) • Pollution of a sensitive water resource • A significant change in an ecosystem or organism within the ecosystem
Mild	• Pollution of non-sensitive water resources • Significant damage to buildings/structures • Damage to sensitive buildings/structure/services or the environment
Negligible	• Harm (not necessarily significant) which may result in financial loss • Non-permanent health effects to humans (easily prevented by PPE for example) • Easily repairable effects of structural (building) damage

Classification of Probability

Table B Classification of Probability	
Classification	Definition
High Likelihood	• There is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term. • Evidence of harm to the receptor
Likely	• There is a complete pollution linkage which means that it is probable that an event will occur • The event is not inevitable but possible in short term and likely in the long term
Low Likelihood	• There is a complete pollution linkage and circumstances are possible under which an event could occur • It is not certain that an event will occur in the long term, and it is less likely to occur in the short term
Unlikely	• There is a complete pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term

Risk Assessment Matrix

By comparing the consequences of a risk and the probability of the risk of a pollution linkage, the likely risk category can be determined as shown in **Table C** below.

Table C Risk Assessment Matrix					
Increasing acceptability 		Consequence			
		Severe	Medium	Mild	Negligible
Probability	High Likelihood	High risk	High risk	Medium risk	Low risk
	Likely	High risk	Medium risk	Low risk	Near zero risk
	Low Likelihood	Medium risk	Low risk	Low risk	Near zero risk
	Unlikely	Low risk	Near zero risk	Near zero risk	Near zero risk

Description of Risks and Likely Actions

High Risk

There is a high probability that severe harm could arise to a receptor, or there is evidence that a receptor is currently being severely harmed. The risk if realised is likely to result in liability, and urgent investigation or remediation will be required.

Medium Risk

It is probable that harm will arise to a receptor. However, it is relatively unlikely that such harm would be severe, or if harm does occur the harm is likely to be relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

Low Risk

It is possible that harm may arise to a receptor, but it is likely that the harm would be mild.

Near Zero Risk

There is a very low risk of harm to the receptor. In the event of harm being realised the harm is not likely to be severe.

**ANNEX D
Trial Pit Logs**



Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Trial Pit No:

TP01

Sheet 1 of 1

Project Name: Edwards Works

Project No:
16461

Co-ords: -
Level:

Date:
21/12/2020

Location: Llandarcy, Neath

Dimensions:
2.00
Depth 1.30
2.20

Scale:
1:25

Logged:
MW

Client: Gerald D Harries and Sons Limited

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30			MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone.	
	1.00 1.00	B ES					MADE GROUND. [Dense] grey mottled light brown sandy GRAVEL with high cobble and low boulder content. Gravel , cobbles and boulders are angular slag.	1
				2.20			End of Pit at 2.200m	2
								3
								4
								5

Stability: Unstable.

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated to perform infiltration test. 4] Trial pit backfilled with arisings on completion of test.



Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Trial Pit No:
TP02
Sheet 1 of 1

Project Name: Edwards Works				Project No: 16461		Co-ords: - Level:		Date: 21/12/2020	
Location: Llandarcy, Neath						Dimensions: 2.00 Depth 2.00		Scale: 1:25	
Client: Gerald D Harries and Sons Limited								Logged: MW	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.60	ES		0.50			MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone.		
				2.00			MADE GROUND. [Dense] grey mottled light brown sandy GRAVEL with high cobble and low boulder content. Gravel, cobbles and boulders are angular slag.		
							End of Pit at 2.000m		
							1		
							2		
							3		
							4		
							5		

Stability: Unstable

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to instability of sides. 4] Trial pit backfilled with arisings.



Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

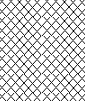
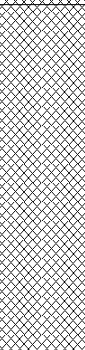
Trial Pit No:

TP03

Sheet 1 of 1

Project Name: Edwards Works	Project No: 16461	Co-ords: - Level:	Date: 21/12/2020
-----------------------------	-------------------	----------------------	------------------

Location: Llandarcy, Neath	Dimensions: 2.10 Depth 1.50	Scale: 1:25 Logged: MW
----------------------------	--------------------------------	---------------------------

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.35			MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone.
	1.00	B		1.50			MADE GROUND. [Dense] grey mottled light brown sandy GRAVEL with high cobble and low boulder content. Gravel, cobbles and boulders are angular slag.
							End of Pit at 1.500m

Stability: Unstable
Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated to perform infiltration test. 4] Trial pit backfilled with arisings on completion of test.



Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Trial Pit No:

TP04

Sheet 1 of 1

Project Name: Edwards Works

Project No:
16461

Co-ords: -
Level:

Date:
21/12/2020

Location: Llandarcy, Neath

Dimensions:
2.00
Depth
2.50
1.20

Scale:
1:25

Logged:
MW

Client: Gerald D Harries and Sons Limited

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.60	ES		0.30			MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone.	
							MADE GROUND. [Dense] grey mottled light brown sandy GRAVEL with high cobble and low boulder content. Gravel , cobbles and boulders are angular slag.	1
								2
				2.50			End of Pit at 2.500m	3
								4
								5

Stability: Unstable

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Excavation paused at 1.60m to perform infiltration test. 4] Trial re-commenced after test and terminated 2.50m due to unstable sides. 5] pit backfilled with arisings on completion of test.



Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Trial Pit No:

TP05

Sheet 1 of 1

Project Name: Edwards Works

Project No:
16461

Co-ords: -
Level:

Date:
21/12/2020

Location: Llandarcy, Neath

Dimensions:

2.00

Depth
1.70

1.30

Scale:
1:25

Logged:
MW

Client: Gerald D Harries and Sons Limited

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.60	ES		0.20			MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone.	
							MADE GROUND. [Dense] grey mottled light brown sandy GRAVEL with high cobble and low boulder content. Gravel, cobbles and boulders are angular slag.	
				1.70			End of Pit at 1.700m	

Stability: Unstable

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to instability of sides. 4] Trial pit backfilled with arisings.



Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Trial Pit No:

TP06

Sheet 1 of 1

Project Name: Edwards Works

Project No:
16461

Co-ords: -
Level:

Date:
21/12/2020

Location: Llandarcy, Neath

Dimensions:
Depth 3.00
2.00
1.20

Scale:
1:25

Logged:
MW

Client: Gerald D Harries and Sons Limited

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30			MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone.	
	1.00 1.00	B ES					MADE GROUND. [Dense] grey mottled light brown sandy GRAVEL with high cobble and low boulder content. Gravel , cobbles and boulders are angular slag.	1
								2
				3.00			End of Pit at 3.000m	3
								4
								5

Stability: Unstable

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to instability of sides. 4] Trial pit backfilled with arisings.

Trial Pit Log

Trial Pit No:
TP101
 Sheet 1 of 1

Project Name: **Edwards Works**

Project No:
16461

Co-ords: 272597.00 - 194748.00
 Level: 7.28

Date:
 11/12/2023

Location: Llandarcy, Neath

Dimensions: 2.00

Depth

2.10

0.50

Scale:
 1:25

Logged:
 ACASE

Client: SigmaRoc PLC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.50	6.78		MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone
	1.70	ES		2.00	5.28		MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material.
				2.10	5.18		MADE GROUND: Grey CONCRETE.
							End of Pit at 2.100m

Stability: Spalling

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to a buried concrete structure. 4] Trial pit backfilled with arisings. 5] No groundwater encountered.

 Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk				Trial Pit Log			Trial Pit No: TP102 Sheet 1 of 1		
Project Name: Edwards Works				Project No: 16461		Co-ords: 272623.00 - 194762.00 Level: 7.13		Date: 11/12/2023	
Location: Llandarcy, Neath						Dimensions: 2.00 Depth 0.50		Scale: 1:25	
Client: SigmaRoc PLC						Depth 2.20		Logged: ACASE	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.60	ES		0.70	6.43		MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone		
							MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material.		
	2.00	ES		2.10 2.20	5.03 4.93		MADE GROUND: Grey CONCRETE.		
								End of Pit at 2.200m	
1 2 3 4 5									
Stability: Spalling									
Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to a buried concrete structure. 4] Trial pit backfilled with arisings. 5] No groundwater encountered.									

Trial Pit Log

Trial Pit No:
TP103
Sheet 1 of 1

Project Name: Edwards Works

Project No:
16461

Co-ords: 272641.00 - 194767.00
Level: 7.12

Date:
11/12/2023

Location: Llandarcy, Neath

Dimensions: 2.00
Depth 2.10

Scale:
1:25
Logged:
ACASE

Client: SigmaRoc PLC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.30	ES		0.50	6.62		MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material, sandstone	
	1.00	ES					MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material.	1
				2.00	5.12		MADE GROUND: Grey CONCRETE.	2
				2.10	5.02		End of Pit at 2.100m	
								3
								4
								5

Stability: Spalling

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to a buried concrete structure. 4] Trial pit backfilled with arisings. 5] No groundwater encountered.

Trial Pit Log

Trial Pit No:
TP104
Sheet 1 of 1

Project Name: Edwards Works

Project No:
16461

Co-ords: 272571.00 - 194785.00
Level: 5.10

Date:
11/12/2023

Location: Llandarcy, Neath

Dimensions: 2.00
Depth 1.50

Scale:
1:25
Logged:
ACASE

Client: SigmaRoc PLC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES		0.40	4.70		MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone
	1.00	ES					MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material.
				1.50	3.60		End of Pit at 1.500m

Stability: Spalling

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to hard strata and very slow progress. 4] Trial pit backfilled with arisings. 5] No groundwater encountered.

Trial Pit Log

Trial Pit No:
TP105
Sheet 1 of 1

Project Name: Edwards Works

Project No:
16461

Co-ords: 272631.00 - 194811.00
Level: 5.10

Date:
11/12/2023

Location: Llandarcy, Neath

Dimensions: 2.00
Depth 2.00

Scale:
1:25
Logged:
ACASE

Client: SigmaRoc PLC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50	ES		0.60	4.50		MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material, sandstone	
	1.20	ES					MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material.	1
				2.00	3.10		End of Pit at 2.000m	2
								3
								4
								5

Stability: Spalling

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to hard strata and very slow progress. 4] Trial pit backfilled with arisings. 5] No groundwater encountered.

Trial Pit Log

Trial Pit No:
TP106
 Sheet 1 of 1

Project Name: **Edwards Works**

Project No:
16461

Co-ords: 272586.00 - 194896.00
 Level: 5.10

Date:
 11/12/2023

Location: Llandarcy, Neath

Dimensions: 2.00

Depth

3.50

0.50

Scale:
 1:25

Logged:
 ACASE

Client: SigmaRoc PLC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.40	ES		0.80	4.30		MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone	
	1.40	ES					MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material.	1
								2
								3
				3.50	1.60		End of Pit at 3.500m	4
								5

Stability: Spalling

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to hard strata and very slow progress. 4] Trial pit backfilled with arisings. 5] No groundwater encountered.

 Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk Geotechnical & Geoenvironmental Specialists				Trial Pit Log			Trial Pit No: TP107 Sheet 1 of 1		
Project Name: Edwards Works				Project No: 16461		Co-ords: 272593.00 - 194835.00 Level: 5.12		Date: 26/01/2024	
Location: Llandarcy, Neath						Dimensions: 2.00		Scale: 1:25	
Client: SigmaRoc PLC						Depth 1.50		Logged: ACASE	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.20	4.92		MADE GROUND. (Medium dense) grey sandy angular to sub angular fine to coarse GRAVEL of asphalt, slag-like material, and sandstone. Sand is fine to coarse. MADE GROUND. (Dense) grey mottled light brown sandy angular fine to coarse GRAVEL of slag material with high cobble and low boulder content. Cobbles and boulders are angular to sub angular slag.		
				1.50	3.62		End of Pit at 1.500m		
							1		
							2		
							3		
							4		
							5		
Stability: Spalling									
Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated due to hard strata and very slow progress. 4] Trial pit backfilled with arisings. 5] No groundwater encountered.									

ANNEX E
Windowless Sampler Borehole Logs



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

WS01

Sheet 1 of 1

Project Name:	Edwards Works	Project No:	16461	Co-ords:		Hole Type	WLS
Location:	Llandarcy, Neath	Level:		Scale	1:50	Logged By	MW
Client:	Gerald D Harries and Sons Limited	Dates:	21/12/2020 -				

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
				0.30				MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone. End of Borehole at 0.300m	
									1
									2
									3
									4
									5
									6
									7
									8
									9
									10

Remarks:



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

WS02

Sheet 1 of 1

Project Name:	Edwards Works	Project No:	16461	Co-ords:		Hole Type	WLS
Location:	Llandarcy, Neath	Level:		Scale	1:50	Logged By	MW
Client:	Gerald D Harries and Sons Limited	Dates:	21/12/2020 -				

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
				0.25				MADE GROUND. [Medium dense] grey sandy GRAVEL of angular asphalt and sandstone. End of Borehole at 0.250m	1
									2
									3
									4
									5
									6
									7
									8
									9
									10

Remarks:

**ANNEX F
Rotary Boreholes**

Project Name: Edwards Works

Project No.
16461

Co-ords: 272577.00 - 194889.00

Hole Type
RC

Location: Llandarcy, Neath

Level: 5.10

Scale
1:50

Client: Gerald D Harries and Sons Limited

Dates: 05/12/2023 - 06/12/2023

Logged By
ACASE

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						0.50	4.60			MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone (Trial Pit Log - Sacrificial Casing Installation)	1
						1.50	3.60			MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material. (Trial Pit Log - Sacrificial Casing Installation)	2
	1.50 - 3.00		100	0	0					MADE GROUND: Grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of copper-stained slag material.	3
	3.00 - 3.70		100	0	0	3.40	1.70				
	3.70 - 4.50		38	0	0					Light brown mottled yellowish brown slightly gravelly very clayey fine to coarse SAND. Gravel is sub angular to sub rounded fine to coarse sandstone.	4
	4.50 - 6.00		83	0	0						
						5.70	-0.60			Dark grey mottled light grey and light brown slightly clayey fine to coarse SAND.	6
	6.00 - 7.50		93	0	0	6.50	-1.40			Dark grey mottled light grey fine to coarse SAND.	7
	7.50 - 9.00		67	0	0						
						9.00	-3.90			End of Borehole at 9.000m	9
											10

Remarks: 1] On completion a 50mm standpipe (50mm) was installed to 7.0m depth. Slotted pipe with granular response zone from 4.0m-7.0m, solid standpipe with bentonite seal GL-4.0m, and a raised cover. Installed shallower than drill depth due to blown sand conditions. 2] Medium groundwater inflow encountered at 4.10m.

Project Name:	Edwards Works	Project No.	16461	Co-ords:	272542.00 - 194853.00	Hole Type	RC
Location:	Llandarcy, Neath	Level:	5.10	Scale	1:50	Logged By	ACASE
Client:	Gerald D Harries and Sons Limited	Dates:	06/12/2023				

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						0.45	4.65			MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone (Trial Pit Log - Sacrificial Casing Installation)	1
						1.50	3.60			MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material. (Trial Pit Log - Sacrificial Casing Installation)	2
	1.50 - 3.00		33	0	0	2.00	3.10			MADE GROUND: Grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of copper-stained slag material. AZCL (Assessed Zone of Core Loss)	3
						3.00	2.10			MADE GROUND: Sandy GRAVEL of slag material (Drillers Description - Open Hole)	4
						4.50	0.60			Dark grey mottled light grey and light brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is sub angular to sub rounded fine to coarse sandstone. AZCL (Assessed Zone of Core Loss)	5
	4.50 - 6.00		33	0	0	5.00	0.10			Dark grey and light brown SAND (Drillers Description - Open Hole)	6
						6.00	-0.90			Dark grey mottled light grey fine to coarse SAND. AZCL (Assessed Zone of Core Loss)	7
						7.50	-2.40			Dark grey mottled light grey fine to coarse SAND. AZCL (Assessed Zone of Core Loss)	8
	7.50 - 9.00		20	0	0	7.80	-2.70			End of Borehole at 9.000m	9
						9.00	-3.90				10

Remarks: 1] On completion a 50mm standpipe (50mm) was installed to 7.5m depth. Slotted pipe with granular response zone from 3.5m-7.5m, solid standpipe with bentonite seal GL-3.5m, and a raised cover. Installed shallower than drill depth due to blown sand conditions. 2] Medium groundwater inflow encountered at 3.80m.

Project Name:	Edwards Works	Project No.	16461	Co-ords:	272575.00 - 194780.00	Hole Type	RC
Location:	Llandarcy, Neath	Level:	5.10	Scale	1:50	Logged By	ACASE
Client:	Gerald D Harries and Sons Limited	Dates:	06/12/2023 - 07/12/2023				

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						0.50	4.60			MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone (Trial Pit Log - Sacrificial Casing Installation)	1
						1.50	3.60			MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material. (Trial Pit Log - Sacrificial Casing Installation)	2
										MADE GROUND: Sandy GRAVEL of slag material (Drillers Description - Open Hole)	3
						4.20	0.90				4
						4.50	0.60			Dark grey and light brown clayey SAND (Drillers Description - Open Hole)	5
	4.50 - 6.00		80	0	0					Dark grey mottled orangish brown and light grey fine to coarse SAND.	6
	6.00 - 7.50		87	0	0						7
						7.50	-2.40			End of Borehole at 7.500m	8
											9
											10

Remarks: 1] On completion a 50mm standpipe (50mm) was installed to 7.5m depth. Slotted pipe with granular response zone from 3.5m-7.5m, solid standpipe with bentonite seal GL-3.5m, and a raised cover. Installed shallower than drill depth due to blown sand conditions. 2] Medium groundwater inflow encountered at 3.80m.

Project Name: Edwards Works

Project No.
16461

Co-ords: 272627.00 - 194820.00

Hole Type
RC

Location: Llandarcy, Neath

Level: 5.10

Scale
1:50

Client: Gerald D Harries and Sons Limited

Dates: 07/12/2023

Logged By
ACASE

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						0.30	4.80			MADE GROUND: (Medium dense) grey mottled black and light brown sandy angular fine to coarse GRAVEL of brick and asphalt fragments, copper-stained slag material, sandstone (Trial Pit Log - Sacrificial Casing Installation)	
						1.50	3.60			MADE GROUND: (Dense) grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of brick fragments and copper-stained slag material with high cobble content. Cobbles are angular slag material. (Trial Pit Log - Sacrificial Casing Installation)	1
										MADE GROUND: Sandy GRAVEL of slag material (Drillers Description - Open Hole)	2
											3
						3.50	1.60			MADE GROUND: Grey mottled orangish brown and black sandy angular fine to coarse GRAVEL of copper-stained slag material.	4
	3.50 - 4.50		100	0	0						
						4.80	0.30			Dark grey mottled light grey and light brown slightly clayey gravelly fine to coarse SAND. Gravel is sub angular to sub rounded fine to coarse sandstone.	5
	4.50 - 6.00		87	0	0						
						5.50	-0.40			Dark grey mottled orangish brown and light grey fine to coarse SAND.	6
	6.00 - 7.50		87	0	0						7
						7.50	-2.40			End of Borehole at 7.500m	8
											9
											10

Remarks: 1] On completion a 50mm standpipe (50mm) was installed to 7.5m depth. Slotted pipe with granular response zone from 3.5m-7.5m, solid standpipe with bentonite seal GL-3.5m, and a raised cover. Installed shallower than drill depth due to blown sand conditions. 2] Medium groundwater inflow encountered at 3.80m.

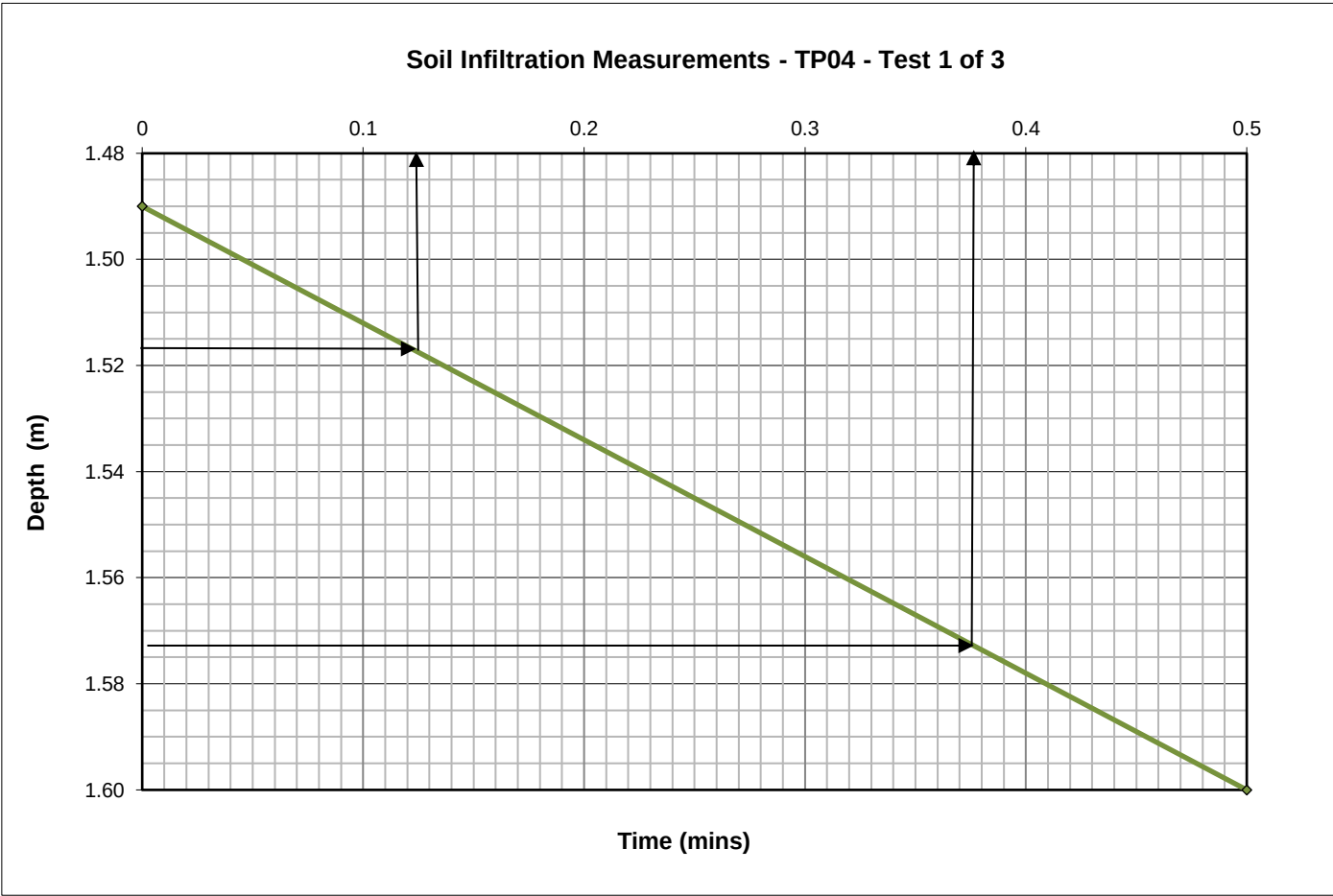
**ANNEX G
Soakaway Results**

SOAKAWAY CALCULATION SHEET

Job Name: Edwards Works, Llandarcy
Job Number: 16461
Date of Test: 21.12.2020
Test No.: TP04 - Test 2 of 3

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	1.49	0
(effective depth - 0%)	1.60	0.5

Length of Trial Pit (m)	2.00
Width of Trial Pit (m)	1.20
Depth of Trial Pit (m)	1.60
Effective Storage Depth (m)	0.11
Vp25	1.5175
Vp75	1.5725
Vp75-25	0.132
Outflow (%)	100
50% effective depth (m)	0.055
Mean Surface area ap50 (m2)	2.752
Time for 25% Outflow (tp25)	0.125
Time for 75% Outflow (tp75)	0.375
tp75 - 25	0.25
Soil Infiltration Rate (m/s)	0.003197674



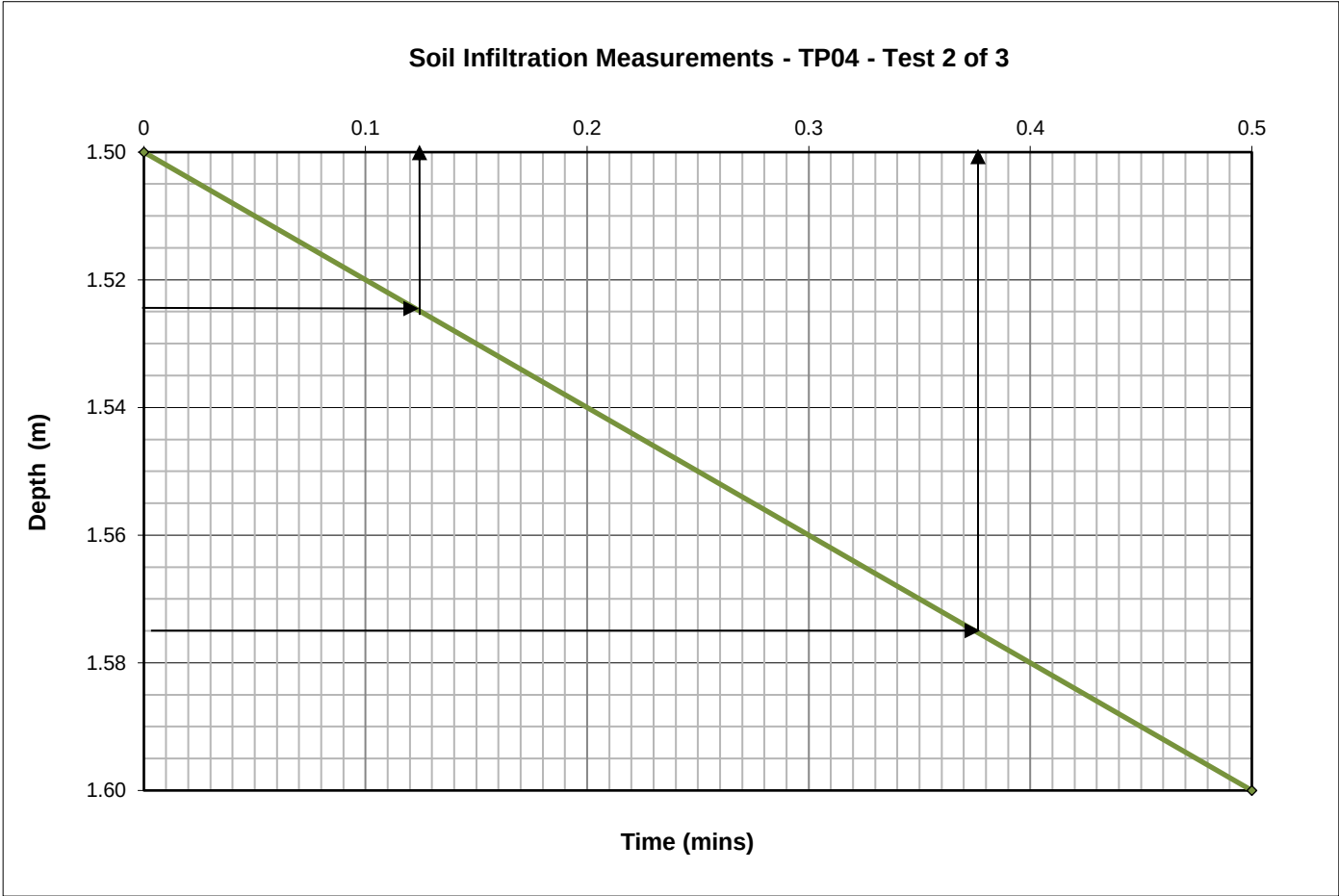
Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365'. Worksheet options are identified by a green background.

SOAKAWAY CALCULATION SHEET

Job Name: Edwards Works, Llandarcy
Job Number: 16461
Date of Test: 21.12.2020
Test No.: TP04 - Test 2 of 3

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	1.50	0
(effective depth - 0%)	1.60	0.5

Length of Trial Pit (m)	2.00
Width of Trial Pit (m)	1.20
Depth of Trial Pit (m)	1.60
Effective Storage Depth (m)	0.10
Vp25	1.5250
Vp75	1.5750
Vp75-25	0.120
Outflow (%)	100
50% effective depth (m)	0.050
Mean Surface area ap50 (m2)	2.720
Time for 25% Outflow (tp25)	0.125
Time for 75% Outflow (tp75)	0.375
tp75 - 25	0.25
Soil Infiltration Rate (m/s)	0.002941176



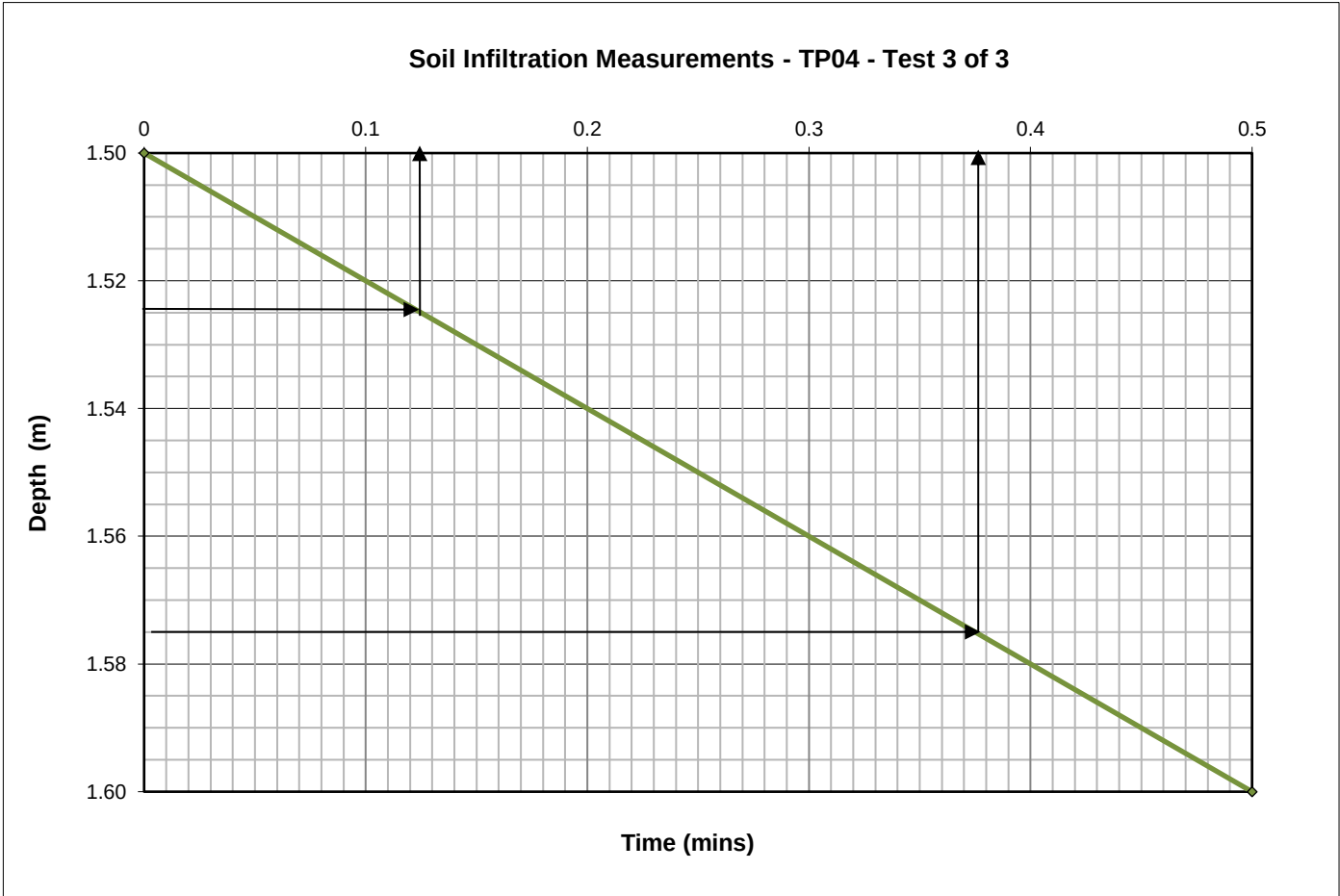
Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365'. Worksheet options are identified by a green background.

SOAKAWAY CALCULATION SHEET

Job Name: Edwards Works, Llandarcy
Job Number: 16461
Date of Test: 21.12.2020
Test No.: TP04 - Test 3 of 3

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	1.50	0
(effective depth - 0%)	1.60	0.5

Length of Trial Pit (m)	2.00
Width of Trial Pit (m)	1.20
Depth of Trial Pit (m)	1.60
Effective Storage Depth (m)	0.10
Vp25	1.5250
Vp75	1.5750
Vp75-25	0.120
Outflow (%)	100
50% effective depth (m)	0.050
Mean Surface area ap50 (m2)	2.720
Time for 25% Outflow (tp25)	0.125
Time for 75% Outflow (tp75)	0.375
tp75 - 25	0.25
Soil Infiltration Rate (m/s)	0.002941176



Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365'. Worksheet options are identified by a green background.

**ANNEX H
CBR Correlations**

Dynamic Cone Penetrometer Testing



Client: Gerald D Harries and Sons Limited

Site Name: Edwards Works, Llandarcy

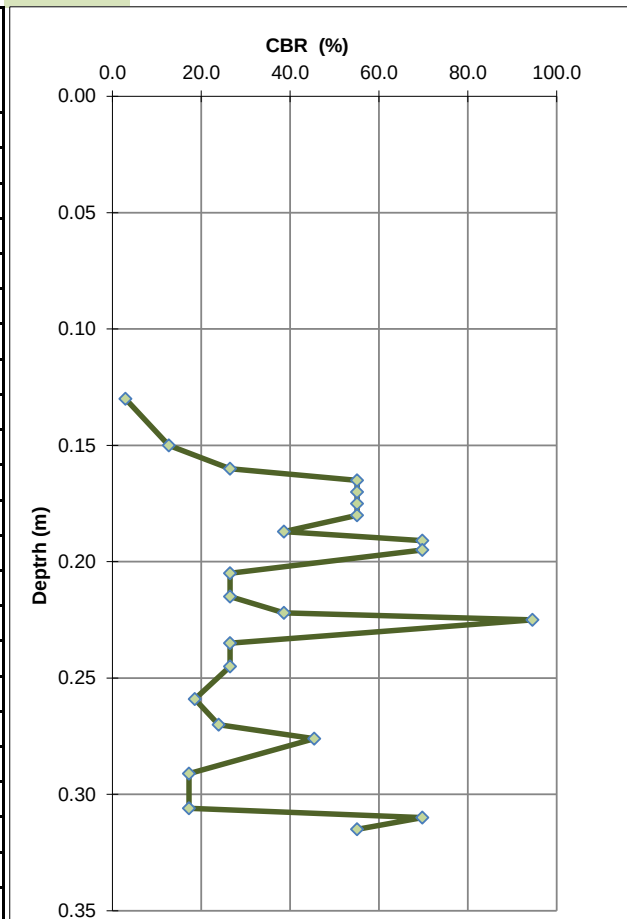
Project Number: 16461

Date: 21/12/2020

CBR01

Initial Scale Reading (mm) **50** Datum bgl (mm) **0**

no. of blows	scale reading (mm)	penetration increment (mm)	depth bgl (m)	DCP (mm/blow)	CBR (%)
1	130	80	0.13	80	2.9
1	150	20	0.15	20	12.7
1	160	10	0.16	10	26.5
1	165	5	0.17	5	55.1
1	170	5	0.17	5	55.1
1	175	5	0.18	5	55.1
1	180	5	0.18	5	55.1
1	187	7	0.19	7	38.6
1	191	4	0.19	4	69.8
1	195	4	0.20	4	69.8
1	205	10	0.21	10	26.5
1	215	10	0.22	10	26.5
1	222	7	0.22	7	38.6
1	225	3	0.23	3	94.6
1	235	10	0.24	10	26.5
1	245	10	0.25	10	26.5
1	259	14	0.26	14	18.6
1	270	11	0.27	11	23.9
1	276	6	0.28	6	45.4
1	291	15	0.29	15	17.3
1	306	15	0.31	15	17.3
1	310	4	0.31	4	69.8
1	315	5	0.32	5	55.1



REMARKS:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.

CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The

Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

Dynamic Cone Penetrometer Testing



Client: Gerald D Harries and Sons Limited

Site Name: Edwards Works, Llandarcy

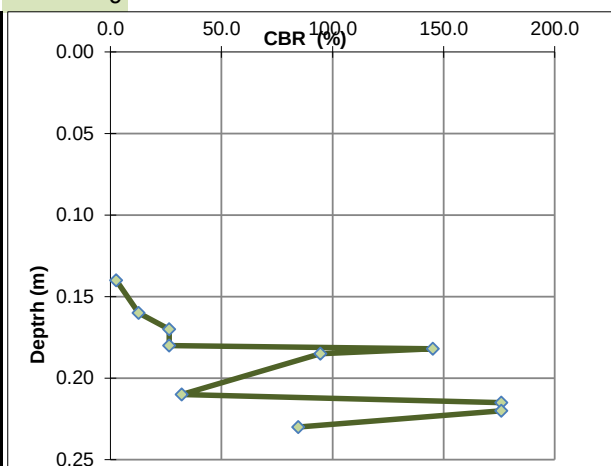
Project Number: 16461

Date: 21/12/2020

CBR02

Initial Scale Reading (mm) **50** Datum bgl (mm) **0**

no. of blows	scale reading (mm)	penetration increment (mm)	depth bgl (m)	DCP (mm/blow)	CBR (%)
1	140	90	0.14	90	2.6
1	160	20	0.16	20	12.7
1	170	10	0.17	10	26.5
1	180	10	0.18	10	26.5
1	182	2	0.18	2	145.1
1	185	3	0.19	3	94.6
3	210	25	0.21	8	32.1
3	215	5	0.22	2	176.0
3	220	5	0.22	2	176.0
3	230	10	0.23	3	84.6



REMARKS:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.

CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The

Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

Dynamic Cone Penetrometer Testing



Client: Gerald D Harries and Sons Limited

Site Name: Edwards Works, Llandarcy

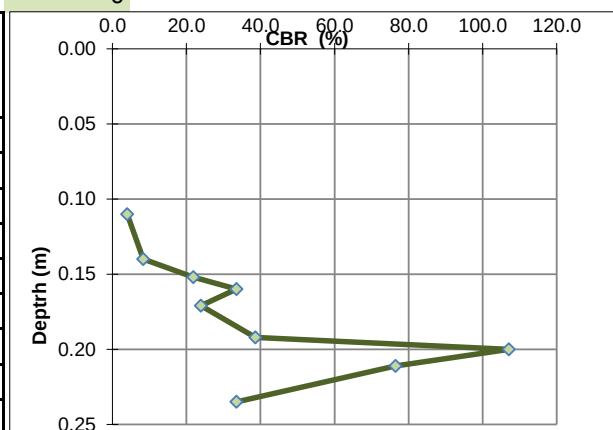
Project Number: 16461

Date: 21/12/2020

CBR03

Initial Scale Reading (mm) **50** Datum bgl (mm) **0**

no. of blows	scale reading (mm)	penetration increment (mm)	depth bgl (m)	DCP (mm/blow)	CBR (%)
1	110	60	0.11	60	4.0
1	140	30	0.14	30	8.3
1	152	12	0.15	12	21.8
1	160	8	0.16	8	33.5
1	171	11	0.17	11	23.9
3	192	21	0.19	7	38.6
3	200	8	0.20	3	107.1
3	211	11	0.21	4	76.5
3	235	24	0.24	8	33.5



REMARKS:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.

CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The

Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

Dynamic Cone Penetrometer Testing



Client: Gerald D Harries and Sons Limited

Site Name: Edwards Works, Llandarcy

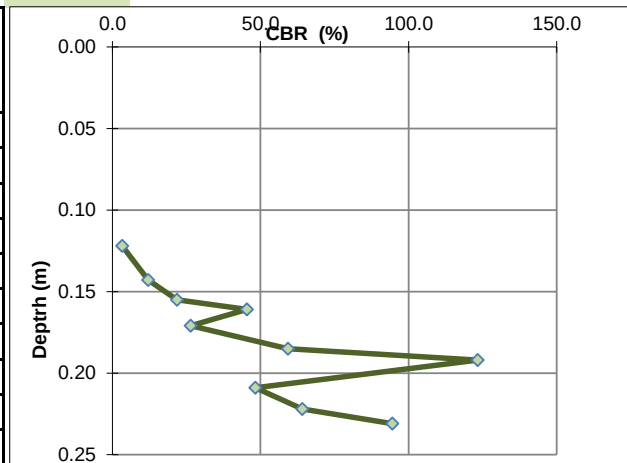
Project Number: 16461

Date: 21/12/2020

CBR04

Initial Scale Reading (mm) **50** Datum bgl (mm) **0**

no. of blows	scale reading (mm)	penetration increment (mm)	depth bgl (m)	DCP (mm/blow)	CBR (%)
1	122	72	0.12	72	3.3
1	143	21	0.14	21	12.1
1	155	12	0.16	12	21.8
1	161	6	0.16	6	45.4
1	171	10	0.17	10	26.5
3	185	14	0.19	5	59.3
3	192	7	0.19	2	123.3
3	209	17	0.21	6	48.3
3	222	13	0.22	4	64.1
3	231	9	0.23	3	94.6



REMARKS:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.

CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The

Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

ANNEX I
Laboratory Soil and Leachate Chemical Test Results – Phase 1 & 2



Amended Report

Report No.:	20-35443-3		
Initial Date of Issue:	04-Jan-2021	Date of Re-Issue:	15-Jan-2021
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	michael@terrafirmawales.co.uk		
Project	Llandarcy		
Quotation No.:	Q20-21666	Date Received:	23-Dec-2020
Order No.:	16461-MW	Date Instructed:	23-Dec-2020
No. of Samples:	6		
Turnaround (Wkdays):	19	Results Due:	21-Jan-2021
Date Approved:	15-Jan-2021		
Approved By:			

Details: Glynn Harvey, Technical Manager

Results - Leachate

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:					20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:					1119076	1119081
	Client Sample ID.:					TP01	TP06
	Sample Type:					SOIL	SOIL
	Top Depth (m):					1.0	1.0
	Date Sampled:					22-Dec-2020	22-Dec-2020
	Time Sampled:					12:00	12:00
Determinand	Accred.	SOP	Type	Units	LOD		
pH	U	1010	10:1		N/A	9.6	10.0
Sulphate	U	1220	10:1	mg/l	1.0	15	28
Cyanide (Total)	U	1300	10:1	mg/l	0.050	< 0.050	< 0.050
Cyanide (Free)	U	1300	10:1	mg/l	0.050	< 0.050	< 0.050
Cyanide (Complex)	U	1300	10:1	mg/l	0.050	< 0.050	< 0.050
Arsenic (Dissolved)	U	1450	10:1	µg/l	1.0	15	42
Boron (Dissolved)	U	1450	10:1	µg/l	20	< 20	58
Beryllium (Dissolved)	U	1450	10:1	µg/l	1.0	< 1.0	< 1.0
Cadmium (Dissolved)	U	1450	10:1	µg/l	0.080	< 0.080	< 0.080
Chromium (Dissolved)	U	1450	10:1	µg/l	1.0	< 1.0	2.6
Copper (Dissolved)	U	1450	10:1	µg/l	1.0	3.0	2.7
Manganese (Dissolved)	U	1450	10:1	µg/l	1.0	6.2	< 1.0
Molybdenum (Dissolved)	U	1450	10:1	µg/l	1.0	2.2	2.2
Nickel (Dissolved)	U	1450	10:1	µg/l	1.0	< 1.0	< 1.0
Lead (Dissolved)	U	1450	10:1	µg/l	1.0	27	4.3
Selenium (Dissolved)	U	1450	10:1	µg/l	1.0	16	37
Zinc (Dissolved)	U	1450	10:1	µg/l	1.0	1.6	< 1.0
Mercury Low Level	U	1460	10:1	µg/l	0.010	0.87	0.16
Chromium (Trivalent)	N	1490	10:1	µg/l	20	< 20	< 20
Chromium (Hexavalent)	U	1490	10:1	µg/l	20	< 20	< 20
Total Organic Carbon	U	1610	10:1	mg/l	2.0	4.7	3.9
Aliphatic TPH >C5-C6	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	10:1	µg/l	5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	10:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1680	10:1	µg/l	50.00	< 50	< 50
Total Aromatic Hydrocarbons	N	1675	10:1	µg/l	5.0	< 5.0	< 5.0

Results - Leachate

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:					20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:					1119076	1119081
	Client Sample ID.:					TP01	TP06
	Sample Type:					SOIL	SOIL
	Top Depth (m):					1.0	1.0
	Date Sampled:					22-Dec-2020	22-Dec-2020
	Time Sampled:					12:00	12:00
Determinand	Accred.	SOP	Type	Units	LOD		
Total Petroleum Hydrocarbons	N	1675	10:1	µg/l	10	< 10	< 10
Dichlorodifluoromethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Chloromethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Vinyl Chloride	N	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Bromomethane	U	1760	10:1	µg/l	5.0	< 5.0	< 5.0
Chloroethane	U	1760	10:1	µg/l	2.0	< 2.0	< 2.0
Trichlorofluoromethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Bromochloromethane	U	1760	10:1	µg/l	5.0	< 5.0	< 5.0
Trichloromethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Tetrachloromethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Benzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloroethane	U	1760	10:1	µg/l	2.0	< 2.0	< 2.0
Trichloroethene	N	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloropropane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Dibromomethane	U	1760	10:1	µg/l	10	< 10	< 10
Bromodichloromethane	U	1760	10:1	µg/l	5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	N	1760	10:1	µg/l	10	< 10	< 10
Toluene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	10:1	µg/l	10	< 10	< 10
1,1,2-Trichloroethane	U	1760	10:1	µg/l	10	< 10	< 10
Tetrachloroethene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	1760	10:1	µg/l	2.0	< 2.0	< 2.0
Dibromochloromethane	U	1760	10:1	µg/l	10	< 10	< 10
1,2-Dibromoethane	U	1760	10:1	µg/l	5.0	< 5.0	< 5.0
Chlorobenzene	N	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	10:1	µg/l	2.0	< 2.0	< 2.0
Ethylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
m & p-Xylene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
o-Xylene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Styrene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Tribromomethane	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Isopropylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Bromobenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0

Results - Leachate

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:					20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:					1119076	1119081
	Client Sample ID.:					TP01	TP06
	Sample Type:					SOIL	SOIL
	Top Depth (m):					1.0	1.0
	Date Sampled:					22-Dec-2020	22-Dec-2020
	Time Sampled:					12:00	12:00
Determinand	Accred.	SOP	Type	Units	LOD		
1,2,3-Trichloropropane	N	1760	10:1	µg/l	50	< 50	< 50
N-Propylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
2-Chlorotoluene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
4-Chlorotoluene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	N	1760	10:1	µg/l	1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
N-Butylbenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	10:1	µg/l	50	< 50	< 50
1,2,4-Trichlorobenzene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	1760	10:1	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	10:1	µg/l	2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	10:1	µg/l	1.0	< 1.0	< 1.0
Naphthalene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Acenaphthylene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Acenaphthene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Fluorene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Phenanthrene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Anthracene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Fluoranthene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Pyrene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Chrysene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1800	10:1	µg/l	0.20	< 0.20	< 0.20
PCB 28	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010
PCB 52	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010
PCB 90+101	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010
PCB 118	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010

Results - Leachate

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:					20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:					1119076	1119081
	Client Sample ID.:					TP01	TP06
	Sample Type:					SOIL	SOIL
	Top Depth (m):					1.0	1.0
	Date Sampled:					22-Dec-2020	22-Dec-2020
	Time Sampled:					12:00	12:00
Determinand	Accred.	SOP	Type	Units	LOD		
PCB 153	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010
PCB 138	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010
PCB 180	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	10:1	µg/l	0.010	< 0.010	< 0.010
Total Phenols	N	1900	10:1	µg/l	5.00	< 5.0	< 5.0

Results - Soil

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				20-35443	20-35443	20-35443	20-35443	20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:				1119076	1119077	1119078	1119079	1119080	1119081
	Client Sample ID.:				TP01	TP02	TP03	TP04	TP05	TP06
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.0	0.6	0.3	0.6	0.6	1.0
	Date Sampled:				22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020
	Time Sampled:				12:00	12:00	12:00	12:00	12:00	12:00
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
ACM Type	U	2192		N/A	-	-	Fibres/Clumps	Fibres/Clumps	Fibres/Clumps	Fibres/Clumps
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	Chrysotile	Chrysotile	Chrysotile	Chrysotile
ACM Detection Stage	U	2192		N/A	-	-	Stereo Microscopy	Stereo Microscopy	Stereo Microscopy	Stereo Microscopy
Asbestos by Gravimetry	U	2192	%	0.001			0.002	0.002	0.001	0.002
Total Asbestos	U	2192	%	0.001			0.002	0.002	0.001	0.002
Moisture	N	2030	%	0.020	9.6	9.4	9.4	12	7.4	9.1
pH	M	2010		4.0	9.7	9.1	8.8	8.7	8.8	10.7
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.52	0.44	0.45	0.48	0.58	1.1
Magnesium (Water Soluble)	M	2120	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.13	0.035	0.034	0.068	0.047	0.63
Total Sulphur	M	2175	%	0.010	1.1	0.89	0.66	0.61	0.74	0.72
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.60	< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.60	< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.010	1.1	1.0	0.84	0.74	0.49	0.77
Arsenic	M	2450	mg/kg	1.0	200	300	180	230	130	250
Beryllium	U	2450	mg/kg	1.0	2.5	1.3	1.4	< 1.0	1.6	2.2
Cadmium	M	2450	mg/kg	0.10	0.84	4.2	4.9	4.6	1.6	2.9
Chromium	M	2450	mg/kg	1.0	43	32	35	45	49	47
Mercury Low Level	M	2450	mg/kg	0.05	12	27	12	49	7.1	23
Manganese	M	2450	mg/kg	5.0	2000	940	990	660	1100	1500
Molybdenum	M	2450	mg/kg	2.0	4.2	5.3	6.2	8.3	5.5	4.0
Antimony	N	2450	mg/kg	2.0	24	27	30	160	15	19
Copper	M	2450	mg/kg	0.50	260	840	590	2500	2000	670
Nickel	M	2450	mg/kg	0.50	31	51	54	160	69	46
Lead	M	2450	mg/kg	0.50	1800	3800	1900	4700	480	2300
Selenium	M	2450	mg/kg	0.20	17	40	20	43	12	56
Zinc	M	2450	mg/kg	0.50	210	1100	1600	1100	690	800
Chromium (Trivalent)	N	2490	mg/kg	1.0	43	32	35	45	49	47
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	4.5	< 1.0	< 1.0	< 1.0	9.3

Results - Soil

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				20-35443	20-35443	20-35443	20-35443	20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:				1119076	1119077	1119078	1119079	1119080	1119081
	Client Sample ID.:				TP01	TP02	TP03	TP04	TP05	TP06
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.0	0.6	0.3	0.6	0.6	1.0
	Date Sampled:				22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020
	Time Sampled:				12:00	12:00	12:00	12:00	12:00	12:00
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	110	37	< 1.0	< 1.0	< 1.0	79
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	110	42	< 5.0	< 5.0	< 5.0	88
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	31	20	< 1.0	4.1	< 1.0	40
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	690	190	< 1.0	44	< 1.0	490
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	720	210	< 5.0	48	< 5.0	530
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	830	250	< 10	48	< 10	620
Dichlorodifluoromethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	M	2760	µg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Chloroethane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	M	2760	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	M	2760	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane	U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10

Results - Soil

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:		20-35443	20-35443	20-35443	20-35443	20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:		1119076	1119077	1119078	1119079	1119080	1119081
	Client Sample ID.:		TP01	TP02	TP03	TP04	TP05	TP06
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		1.0	0.6	0.3	0.6	0.6	1.0
	Date Sampled:		22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020
	Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00
	Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD				
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	U	2760	µg/kg	10	< 10	< 10	< 10	< 10
1,2-Dibromoethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50	< 50	< 50	< 50
N-Propylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	N	2800	mg/kg	0.010	< 0.010	0.28	0.26	< 0.010
Acenaphthylene	N	2800	mg/kg	0.010	< 0.010	0.91	0.21	< 0.010
Acenaphthene	N	2800	mg/kg	0.010	< 0.010	0.16	0.053	< 0.010
Fluorene	N	2800	mg/kg	0.010	< 0.010	0.81	0.15	< 0.010
Phenanthrene	N	2800	mg/kg	0.010	0.57	4.1	1.2	0.55
Anthracene	N	2800	mg/kg	0.010	0.17	1.6	0.43	0.072
Fluoranthene	N	2800	mg/kg	0.010	0.70	4.4	2.3	0.77

Results - Soil

Project: Llandarcy

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				20-35443	20-35443	20-35443	20-35443	20-35443	20-35443
Quotation No.: Q20-21666	Chemtest Sample ID.:				1119076	1119077	1119078	1119079	1119080	1119081
	Client Sample ID.:				TP01	TP02	TP03	TP04	TP05	TP06
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.0	0.6	0.3	0.6	0.6	1.0
	Date Sampled:				22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020	22-Dec-2020
	Time Sampled:				12:00	12:00	12:00	12:00	12:00	12:00
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
Pyrene	N	2800	mg/kg	0.010	0.55	3.1	2.1	1.2	0.38	0.84
Benzo[a]anthracene	N	2800	mg/kg	0.010	0.42	2.6	1.5	0.97	< 0.010	0.69
Chrysene	N	2800	mg/kg	0.010	0.49	2.1	1.4	1.1	< 0.010	0.73
Benzo[b]fluoranthene	N	2800	mg/kg	0.010	0.73	2.4	2.3	1.5	< 0.010	1.1
Benzo[k]fluoranthene	N	2800	mg/kg	0.010	0.16	0.93	0.74	0.36	< 0.010	0.29
Benzo[a]pyrene	N	2800	mg/kg	0.010	0.45	1.5	1.7	0.86	< 0.010	0.75
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010	0.29	1.0	1.1	0.83	< 0.010	0.73
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010	< 0.010	0.35	0.38	0.30	< 0.010	0.35
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010	0.37	0.82	1.0	0.64	< 0.010	0.82
Total Of 16 PAH's	N	2800	mg/kg	0.20	4.9	27	17	11	1.4	7.9
PCB 28	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Organic Matter BS1377	N	2930	%	0.10	1.6	3.9	3.5	3.4	2.7	3.6

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1680	Extractable Petroleum Hydrocarbons	Aliphatics: >C5–C6, >C6–C8, >C8– C10*, >C10–C12*, >C12–C16*, >C16–C21*, >C21–C35*, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10*, >C10–C12*, >C12–C16*, >C16–C21*, >C21– C35*, >C35– C44	Dichloromethane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1900	Phenols in Waters by GC-MS	Approximately 24 substituted Phenols, including Chlorophenols	Solvent extraction / GCMS detection
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry

Test Methods

SOP	Title	Parameters included	Method summary
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
2930	Organic Matter	Organic Matter	Acid Dichromate digestion/Titration
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 23-41042-1

Initial Date of Issue: 20-Dec-2023

Re-Issue Details:

Client Terra Firma

Client Address: 5 Deryn Court
Wharfedale Road
Pentwyn
Cardiff
CF23 7HA

Contact(s): aaron@terrafirmawales.co.uk

Project Llandarcy - Extra Works

Quotation No.: Q20-21666

Date Received: 12-Dec-2023

Order No.: 16461-AC

Date Instructed: 12-Dec-2023

No. of Samples: 12

Turnaround (Wkdays): 6

Results Due: 19-Dec-2023

Date Approved: 20-Dec-2023

Approved By:

Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.: 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042											
Quotation No.: Q20-21666		Chemtest Sample ID.: 1744165 1744166 1744167 1744168 1744169 1744170 1744171 1744172											
Order No.: 16461-AC		Client Sample Ref.: TP102 TP102 TP104 TP104 TP101 TP101 TP105 TP105											
		Client Sample ID.: TP102 TP102 TP104 TP104 TP101 TP101 TP105 TP105											
		Sample Type: SOIL SOIL SOIL SOIL SOIL SOIL SOIL SOIL											
		Top Depth (m): 2.00 0.60 0.50 1.00 0.20 1.70 1.20 0.50											
		Date Sampled: 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023											
		Time Sampled: 12:00 12:00 12:00 12:00 12:00 12:00 12:00 12:00											
		Asbestos Lab: COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY											
Determinand	HWOL Code	Accred.	SOP	Units	LOD								
ACM Type		U	2192		N/A	-	-	-	-	Fibres/Clumps	Fibres/Clumps	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	Chrysotile	Chrysotile	No Asbestos Detected	No Asbestos Detected
Asbestos by Gravimetry		U	2192	%	0.001					0.005	0.034		
Total Asbestos		U	2192	%	0.001					0.005	0.034		
Moisture		N	2030	%	0.020	4.8	14	15	19	3.3	4.0	1.6	1.3
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones and Roots	Stones	Stones
Soil Texture		N	2040		N/A	Loam	Clay	Loam	Loam	Loam	Loam	Loam	Loam
pH at 20C		M	2010		4.0	9.2	8.3	8.2	9.1	8.7	8.1	8.6	9.1
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	< 0.40	0.53	0.51	0.61	0.59	0.56	0.44	< 0.40
Cyanide (Complex)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.80	1.0	< 0.50	< 0.50
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.80	1.0	< 0.50	< 0.50
Sulphate (Acid Soluble)		U	2430	%	0.010	0.73	3.6	0.22	0.94	1.3	1.7	0.075	0.37
Arsenic		M	2455	mg/kg	0.5	310	250	1300	52	480	340	230	12
Beryllium		U	2455	mg/kg	0.5	0.9	1.0	0.6	1.1	1.4	0.5	< 0.5	2.2
Cadmium		M	2455	mg/kg	0.10	11	0.93	0.23	< 0.10	4.0	1.2	6.9	2.4
Chromium		M	2455	mg/kg	0.5	33	38	7.6	5.8	55	18	26	18
Mercury Low Level		M	2450	mg/kg	0.05	33	3.0	1.9	1.8	24	1.7	6.6	0.29
Manganese		M	2455	mg/kg	1.0	270	320	34	130	470	230	320	620
Molybdenum		M	2455	mg/kg	0.5	4.2	14	18	1.5	18	11	3.4	3.1
Antimony		N	2455	mg/kg	2.0	24	16	29	7.7	190	45	13	8.7
Copper		M	2455	mg/kg	0.50	450	1800	410	59	5700	2000	470	140
Nickel		M	2455	mg/kg	0.50	18	50	11	13	130	44	21	100
Lead		M	2455	mg/kg	0.50	2000	710	360	73	5000	1600	800	70
Selenium		M	2455	mg/kg	0.25	8.9	9.2	32	5.0	34	7.7	4.5	1.9
Zinc		M	2455	mg/kg	0.50	1500	580	59	17	2000	1100	1000	200
Chromium (Trivalent)		N	2490	mg/kg	1.0	33	38	7.6	5.8	55	18	26	18
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.: 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042										
Quotation No.: Q20-21666		Chemtest Sample ID.: 1744165 1744166 1744167 1744168 1744169 1744170 1744171 1744172										
Order No.: 16461-AC		Client Sample Ref.: TP102 TP102 TP104 TP104 TP101 TP101 TP105 TP105										
		Client Sample ID.: TP102 TP102 TP104 TP104 TP101 TP101 TP105 TP105										
		Sample Type: SOIL SOIL SOIL SOIL SOIL SOIL SOIL SOIL										
		Top Depth (m): 2.00 0.60 0.50 1.00 0.20 1.70 1.20 0.50										
		Date Sampled: 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023										
		Time Sampled: 12:00 12:00 12:00 12:00 12:00 12:00 12:00 12:00										
		Asbestos Lab: COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY										
Determinand	HWOL Code	Accred.	SOP	Units	LOD							
Aliphatic EPH >C10-C12	EH_2D_AL_#1	M	2690	mg/kg	2.00	3.3	2.6	3.4	2.7	2.3	< 2.0	2.2
Aliphatic EPH >C12-C16	EH_2D_AL_#1	M	2690	mg/kg	1.00	1.2	1.1	29	1.4	1.6	1.1	1.2
Aliphatic EPH >C16-C21	EH_2D_AL_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	51	< 2.0	2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35	EH_2D_AL_#1	M	2690	mg/kg	3.00	< 3.0	< 3.0	12	< 3.0	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40	EH_2D_AL_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35	EH_2D_AL_#1	M	2690	mg/kg	5.00	< 5.0	< 5.0	95	< 5.0	7.2	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40	EH_2D_AL_#1	N	2690	mg/kg	10.00	< 10	< 10	95	< 10	< 10	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	EH_2D_AR_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16	EH_2D_AR_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	7.3	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21	EH_2D_AR_#1	U	2690	mg/kg	2.00	6.0	3.3	17	3.1	14	3.4	< 2.0
Aromatic EPH >C21-C35	EH_2D_AR_#1	U	2690	mg/kg	2.00	15	< 2.0	4.9	8.1	130	28	7.7
Aromatic EPH >C35-C40	EH_2D_AR_#1	N	2690	mg/kg	1.00	23	< 1.0	5.4	< 1.0	45	4.0	3.0
Total Aromatic EPH >C10-C35	EH_2D_AR_#1	U	2690	mg/kg	5.00	21	< 5.0	29	11	150	31	8.5
Total Aromatic EPH >C10-C40	EH_2D_AR_#1	N	2690	mg/kg	10.00	44	< 10	34	11	190	35	12
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	EH_2D_Total_#1	U	2690	mg/kg	10.00	26	< 10	120	15	160	35	12
Total EPH >C10-C40	EH_2D_Total_#1	N	2690	mg/kg	10.00	48	< 10	130	15	200	39	15
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.6	1.8	0.39
Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.57	0.33	0.21
Fluoranthene		M	2700	mg/kg	0.10	< 0.10	0.52	< 0.10	< 0.10	2.8	1.9	0.67
Pyrene		M	2700	mg/kg	0.10	< 0.10	0.46	< 0.10	< 0.10	2.3	1.5	0.78
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10	1.0	< 0.10	< 0.10	1.8	1.4	0.73
Chrysene		M	2700	mg/kg	0.10	< 0.10	0.78	< 0.10	< 0.10	1.7	1.4	0.68
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.9	1.2	0.50
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.80	0.39	0.47
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.1	0.63	0.61
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.95

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:											
Quotation No.: Q20-21666		Chemtest Sample ID.:											
Order No.: 16461-AC		Client Sample Ref.:											
		Client Sample ID.:											
		Sample Type:											
		Top Depth (m):											
		Date Sampled:											
		Time Sampled:											
		Asbestos Lab:											
Determinand	HWOL Code	Accred.	SOP	Units	LOD								
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.25	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.5	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0	2.8	< 2.0	< 2.0	16	11	7.7	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	6.5	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.2	5.4	< 1.0	< 1.0

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:				23-41042	23-41042	23-41042	23-41042	23-41042	23-41042	23-41042	23-41042
Quotation No.: Q20-21666		Chemtest Sample ID.:				1744165	1744166	1744167	1744168	1744169	1744170	1744171	1744172
Order No.: 16461-AC		Client Sample Ref.:				TP102	TP102	TP104	TP104	TP101	TP101	TP105	TP105
		Client Sample ID.:				TP102	TP102	TP104	TP104	TP101	TP101	TP105	TP105
		Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				2.00	0.60	0.50	1.00	0.20	1.70	1.20	0.50
		Date Sampled:				11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023
		Time Sampled:				12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
		Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	HWOL Code	Accred.	SOP	Units	LOD								
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	2.5	< 1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Nitrosodimethylamine		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.: 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042 23-41042										
Quotation No.: Q20-21666		Chemtest Sample ID.: 1744165 1744166 1744167 1744168 1744169 1744170 1744171 1744172										
Order No.: 16461-AC		Client Sample Ref.: TP102 TP102 TP104 TP104 TP101 TP101 TP105 TP105										
		Client Sample ID.: TP102 TP102 TP104 TP104 TP101 TP101 TP105 TP105										
		Sample Type: SOIL SOIL SOIL SOIL SOIL SOIL SOIL SOIL										
		Top Depth (m): 2.00 0.60 0.50 1.00 0.20 1.70 1.20 0.50										
		Date Sampled: 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023										
		Time Sampled: 12:00 12:00 12:00 12:00 12:00 12:00 12:00 12:00										
		Asbestos Lab: COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY COVENTRY										
Determinand	HWOL Code	Accred.	SOP	Units	LOD							
2-Nitrophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	2.0	1.6	1.4	< 0.50
Anthracene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	3.3	2.3	2.2	< 0.50
Pyrene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	2.5	1.6	1.5	< 0.50
Butylbenzyl Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:				23-41042	23-41042	23-41042	23-41042	23-41042	23-41042	23-41042	23-41042
Quotation No.: Q20-21666		Chemtest Sample ID.:				1744165	1744166	1744167	1744168	1744169	1744170	1744171	1744172
Order No.: 16461-AC		Client Sample Ref.:				TP102	TP102	TP104	TP104	TP101	TP101	TP105	TP105
		Client Sample ID.:				TP102	TP102	TP104	TP104	TP101	TP101	TP105	TP105
		Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				2.00	0.60	0.50	1.00	0.20	1.70	1.20	0.50
		Date Sampled:				11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023
		Time Sampled:				12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
		Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	HWOL Code	Accred.	SOP	Units	LOD								
Benzo[a]anthracene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	1.5	0.87	0.82	< 0.50	< 0.50
Chrysene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	1.8	1.2	1.1	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	2.3	1.4	1.3	< 0.50	< 0.50
Benzo[k]fluoranthene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	0.79	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	1.3	0.63	0.56	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	0.90	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	0.90	< 0.50	< 0.50	< 0.50	< 0.50
PCB 81		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 77		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 105		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 114		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 118		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 123		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 126		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 156		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 157		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 167		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 169		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
PCB 189		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total PCBs (12 Congeners)		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Organic Matter BS1377		N	2930	%	0.10	3.2	3.4	2.4	0.50	3.3	3.4	3.8	4.5

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:				23-41042	23-41042	23-41042	23-41042
Quotation No.: Q20-21666		Chemtest Sample ID.:				1744173	1744174	1744175	1744176
Order No.: 16461-AC		Client Sample Ref.:				TP103	TP103	TP106	TP106
		Client Sample ID.:				TP103	TP103	TP106	TP106
		Sample Type:				SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				0.30	1.00	1.40	0.40
		Date Sampled:				11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023
		Time Sampled:				12:00	12:00	12:00	12:00
		Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
ACM Type		U	2192		N/A	-	-	-	Fibres/Clumps
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	Chrysotile
Asbestos by Gravimetry		U	2192	%	0.001				0.002
Total Asbestos		U	2192	%	0.001				0.002
Moisture		N	2030	%	0.020	3.3	2.2	3.4	1.3
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones	Stones	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Loam	Loam	Loam
pH at 20C		M	2010		4.0	8.8	9.1	8.9	8.9
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.46	0.43	< 0.40	0.43
Cyanide (Complex)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)		U	2430	%	0.010	1.8	1.2	0.57	2.1
Arsenic		M	2455	mg/kg	0.5	67	210	220	340
Beryllium		U	2455	mg/kg	0.5	0.8	1.3	1.0	< 0.5
Cadmium		M	2455	mg/kg	0.10	3.0	7.8	2.8	11
Chromium		M	2455	mg/kg	0.5	22	28	68	26
Mercury Low Level		M	2450	mg/kg	0.05	8.2	24	7.8	29
Manganese		M	2455	mg/kg	1.0	530	600	600	280
Molybdenum		M	2455	mg/kg	0.5	2.8	4.0	12	4.4
Antimony		N	2455	mg/kg	2.0	8.0	17	23	14
Copper		M	2455	mg/kg	0.50	160	400	3200	390
Nickel		M	2455	mg/kg	0.50	27	28	120	21
Lead		M	2455	mg/kg	0.50	750	1600	1400	2000
Selenium		M	2455	mg/kg	0.25	6.1	8.7	15	9.2
Zinc		M	2455	mg/kg	0.50	460	1200	3000	1200
Chromium (Trivalent)		N	2490	mg/kg	1.0	22	28	68	26
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:				23-41042	23-41042	23-41042	23-41042
Quotation No.: Q20-21666		Chemtest Sample ID.:				1744173	1744174	1744175	1744176
Order No.: 16461-AC		Client Sample Ref.:				TP103	TP103	TP106	TP106
		Client Sample ID.:				TP103	TP103	TP106	TP106
		Sample Type:				SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				0.30	1.00	1.40	0.40
		Date Sampled:				11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023
		Time Sampled:				12:00	12:00	12:00	12:00
		Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Aliphatic EPH >C10-C12	EH_2D_AL_#1	M	2690	mg/kg	2.00	2.4	< 2.0	2.6	< 2.0
Aliphatic EPH >C12-C16	EH_2D_AL_#1	M	2690	mg/kg	1.00	2.6	1.1	1.2	1.2
Aliphatic EPH >C16-C21	EH_2D_AL_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35	EH_2D_AL_#1	M	2690	mg/kg	3.00	< 3.0	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40	EH_2D_AL_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35	EH_2D_AL_#1	M	2690	mg/kg	5.00	6.0	< 5.0	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40	EH_2D_AL_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	EH_2D_AR_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16	EH_2D_AR_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21	EH_2D_AR_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aromatic EPH >C21-C35	EH_2D_AR_#1	U	2690	mg/kg	2.00	60	37	< 2.0	30
Aromatic EPH >C35-C40	EH_2D_AR_#1	N	2690	mg/kg	1.00	77	46	< 1.0	49
Total Aromatic EPH >C10-C35	EH_2D_AR_#1	U	2690	mg/kg	5.00	60	37	< 5.0	32
Total Aromatic EPH >C10-C40	EH_2D_AR_#1	N	2690	mg/kg	10.00	140	82	< 10	81
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	EH_2D_Total_#1	U	2690	mg/kg	10.00	66	40	< 10	35
Total EPH >C10-C40	EH_2D_Total_#1	N	2690	mg/kg	10.00	140	85	< 10	84
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	0.34	0.27	< 0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	0.11	0.12	< 0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	0.51	0.46	< 0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	0.31	0.47	< 0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	0.79	0.69	< 0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	0.78	0.63	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	0.97	0.85	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	0.57	0.20	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	0.53	0.42	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:				23-41042	23-41042	23-41042	23-41042
Quotation No.: Q20-21666		Chemtest Sample ID.:				1744173	1744174	1744175	1744176
Order No.: 16461-AC		Client Sample Ref.:				TP103	TP103	TP106	TP106
		Client Sample ID.:				TP103	TP103	TP106	TP106
		Sample Type:				SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				0.30	1.00	1.40	0.40
		Date Sampled:				11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023
		Time Sampled:				12:00	12:00	12:00	12:00
		Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	4.9	4.1	< 2.0	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20	< 20	< 20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10	< 10	< 10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10	< 10	< 10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.: 23-41042 23-41042 23-41042 23-41042							
Quotation No.: Q20-21666		Chemtest Sample ID.: 1744173 1744174 1744175 1744176							
Order No.: 16461-AC		Client Sample Ref.: TP103 TP103 TP106 TP106							
		Client Sample ID.: TP103 TP103 TP106 TP106							
		Sample Type: SOIL SOIL SOIL SOIL							
		Top Depth (m): 0.30 1.00 1.40 0.40							
		Date Sampled: 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023							
		Time Sampled: 12:00 12:00 12:00 12:00							
		Asbestos Lab: COVENTRY COVENTRY COVENTRY COVENTRY							
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Nitrosodimethylamine		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene		N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone		M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:		23-41042	23-41042	23-41042	23-41042
Quotation No.: Q20-21666		Chemtest Sample ID.:		1744173	1744174	1744175	1744176
Order No.: 16461-AC		Client Sample Ref.:		TP103	TP103	TP106	TP106
		Client Sample ID.:		TP103	TP103	TP106	TP106
		Sample Type:		SOIL	SOIL	SOIL	SOIL
		Top Depth (m):		0.30	1.00	1.40	0.40
		Date Sampled:		11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023
		Time Sampled:		12:00	12:00	12:00	12:00
		Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
2-Nitrophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50
2,4-Dimethylphenol		M	2790	mg/kg	0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane		M	2790	mg/kg	0.50	< 0.50	< 0.50
2,4-Dichlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Naphthalene		M	2790	mg/kg	0.50	< 0.50	< 0.50
4-Chloroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50
Hexachlorobutadiene		M	2790	mg/kg	0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol		N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Methylnaphthalene		M	2790	mg/kg	0.50	< 0.50	< 0.50
4-Nitrophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene		N	2790	mg/kg	0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol		N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Chloronaphthalene		M	2790	mg/kg	0.50	< 0.50	< 0.50
2-Nitroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50
Acenaphthylene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Dimethylphthalate		M	2790	mg/kg	0.50	< 0.50	< 0.50
2,6-Dinitrotoluene		N	2790	mg/kg	0.50	< 0.50	< 0.50
Acenaphthene		M	2790	mg/kg	0.50	< 0.50	< 0.50
3-Nitroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50
Dibenzofuran		M	2790	mg/kg	0.50	< 0.50	< 0.50
4-Chlorophenylphenylether		M	2790	mg/kg	0.50	< 0.50	< 0.50
2,4-Dinitrotoluene		N	2790	mg/kg	0.50	< 0.50	< 0.50
Fluorene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Diethyl Phthalate		M	2790	mg/kg	0.50	< 0.50	< 0.50
4-Nitroaniline		N	2790	mg/kg	0.50	< 0.50	< 0.50
Azobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether		M	2790	mg/kg	0.50	< 0.50	< 0.50
Hexachlorobenzene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Phenanthrene		M	2790	mg/kg	0.50	< 0.50	1.3
Anthracene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Carbazole		M	2790	mg/kg	0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50
Fluoranthene		M	2790	mg/kg	0.50	< 0.50	1.4
Pyrene		M	2790	mg/kg	0.50	< 0.50	1.3
Butylbenzyl Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50

Results - Soil

Project: Llandarcy - Extra Works

Client: Terra Firma		Chemtest Job No.:		23-41042	23-41042	23-41042	23-41042
Quotation No.: Q20-21666		Chemtest Sample ID.:		1744173	1744174	1744175	1744176
Order No.: 16461-AC		Client Sample Ref.:		TP103	TP103	TP106	TP106
		Client Sample ID.:		TP103	TP103	TP106	TP106
		Sample Type:		SOIL	SOIL	SOIL	SOIL
		Top Depth (m):		0.30	1.00	1.40	0.40
		Date Sampled:		11-Dec-2023	11-Dec-2023	11-Dec-2023	11-Dec-2023
		Time Sampled:		12:00	12:00	12:00	12:00
		Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Benzo[a]anthracene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Chrysene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate		N	2790	mg/kg	0.50	< 0.50	< 0.50
Benzo[b]fluoranthene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Benzo[k]fluoranthene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Benzo[a]pyrene		M	2790	mg/kg	0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene		N	2790	mg/kg	0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene		N	2790	mg/kg	0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene		M	2790	mg/kg	0.50	< 0.50	< 0.50
PCB 81		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 77		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 105		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 114		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 118		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 123		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 126		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 156		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 157		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 167		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 169		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
PCB 189		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
Total PCBs (12 Congeners)		N	2815	mg/kg	0.0010	< 0.0010	< 0.0010
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10
Organic Matter BS1377		N	2930	%	0.10	4.9	< 0.10
							0.80
							2.7

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
2930	Organic Matter	Organic Matter	Acid Dichromate digestion/Titration

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.com

ANNEX J
Laboratory Groundwater and Surface Water Test Results



2183

Final Report

Report No.: 24-00369-1

Initial Date of Issue: 12-Jan-2024

Re-Issue Details:

Client Terra Firma

Client Address: 5 Deryn Court
Wharfedale Road
Pentwyn
Cardiff
CF23 7HA

Contact(s): Aaron Case

Project WB-C2442-1075-N Liandarcy

Quotation No.: Q20-21666

Date Received: 08-Jan-2024

Order No.: 16461-AC

Date Instructed: 08-Jan-2024

No. of Samples: 4

Turnaround (Wkdays): 5

Results Due: 12-Jan-2024

Date Approved: 12-Jan-2024

Approved By:



Details: Stuart Henderson, Technical
Manager

Results - Water

Project: WB-C2442-1075-N Liandarcy

Client: Terra Firma		Chemtest Job No.:				24-00369	24-00369	24-00369	24-00369
Quotation No.: Q20-21666		Chemtest Sample ID.:				1751425	1751426	1751427	1751428
Order No.: 16461-AC		Client Sample Ref.:				BH01	BH02	BH03	BH04
		Client Sample ID.:				BH01	BH02	BH03	BH04
		Sample Location:				BH01	BH02	BH03	BH04
		Sample Type:				WATER	WATER	WATER	WATER
		Top Depth (m):				3.5	3.1	3.2	3.0
		Date Sampled:				05-Jan-2024	05-Jan-2024	05-Jan-2024	05-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
pH at 20C		U	1010		4.0	7.9	7.9	7.9	8.0
Electrical Conductivity at 25C		U	1020	µS/cm	1.0	1500	1700	2200	3100
Biochemical Oxygen Demand		N	1090	mg O2/l	4.0	< 4.0	6.0	< 4.0	< 4.0
Chemical Oxygen Demand		U	1100	mg O2/l	10	< 10	24	13	< 10
Sulphate		U	1220	mg/l	1.0	530	140	540	550
Cyanide (Total) Low-Level		N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Sulphide		U	1325	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hardness		N	1415	mg/l	1.0	650	230	650	660
Arsenic (Dissolved)		U	1455	µg/l	0.20	800	13	840	850
Cadmium (Dissolved)		U	1455	µg/l	0.11	< 0.11	0.17	< 0.11	< 0.11
Chromium (Dissolved)		U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Copper (Dissolved)		U	1455	µg/l	0.50	12	3.3	11	8.9
Nickel (Dissolved)		U	1455	µg/l	0.50	18	1.9	22	22
Lead (Dissolved)		U	1455	µg/l	0.50	< 0.50	< 0.50	1.3	< 0.50
Selenium (Dissolved)		U	1455	µg/l	0.50	2.0	24	1.8	1.5
Zinc (Dissolved)		U	1455	µg/l	2.5	31	30	36	35
Mercury Low Level		U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chromium (Trivalent)		N	1490	µg/l	20	< 20	< 20	< 20	< 20
Chromium (Hexavalent)		U	1490	µg/l	20	< 20	< 20	< 20	< 20
Total TPH >C6-C40		U	1670	µg/l	10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5
Chloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5
Trichloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Water

Project: WB-C2442-1075-N Liandarcy

Client: Terra Firma		Chemtest Job No.:		24-00369	24-00369	24-00369	24-00369
Quotation No.: Q20-21666		Chemtest Sample ID.:		1751425	1751426	1751427	1751428
Order No.: 16461-AC		Client Sample Ref.:		BH01	BH02	BH03	BH04
		Client Sample ID.:		BH01	BH02	BH03	BH04
		Sample Location:		BH01	BH02	BH03	BH04
		Sample Type:		WATER	WATER	WATER	WATER
		Top Depth (m):		3.5	3.1	3.2	3.0
		Date Sampled:		05-Jan-2024	05-Jan-2024	05-Jan-2024	05-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
1,2-Dichloropropane		U	1760	µg/l	1.0	< 1.0	< 1.0
Dibromomethane		U	1760	µg/l	10	< 10	< 10
Bromodichloromethane		U	1760	µg/l	5	< 5	< 5
cis-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10
Toluene		U	1760	µg/l	1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10
1,1,2-Trichloroethane		U	1760	µg/l	10	< 10	< 10
Tetrachloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	1760	µg/l	2.0	< 2.0	< 2.0
Dibromochloromethane		U	1760	µg/l	10	< 10	< 10
1,2-Dibromoethane		U	1760	µg/l	5	< 5	< 5
Chlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0
Ethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
m & p-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0
o-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0
Styrene		U	1760	µg/l	1.0	< 1.0	< 1.0
Tribromomethane		U	1760	µg/l	1.0	< 1.0	< 1.0
Isopropylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
Bromobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	1760	µg/l	50	< 50	< 50
N-Propylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
2-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
4-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0
4-Isopropyltoluene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
N-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	1760	µg/l	50	< 50	< 50
1,2,4-Trichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
Hexachlorobutadiene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	1760	µg/l	2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		N	1760	µg/l	1.0	< 1.0	< 1.0

Results - Water

Project: WB-C2442-1075-N Liandarcy

Client: Terra Firma		Chemtest Job No.:				24-00369	24-00369	24-00369	24-00369
Quotation No.: Q20-21666		Chemtest Sample ID.:				1751425	1751426	1751427	1751428
Order No.: 16461-AC		Client Sample Ref.:				BH01	BH02	BH03	BH04
		Client Sample ID.:				BH01	BH02	BH03	BH04
		Sample Location:				BH01	BH02	BH03	BH04
		Sample Type:				WATER	WATER	WATER	WATER
		Top Depth (m):				3.5	3.1	3.2	3.0
		Date Sampled:				05-Jan-2024	05-Jan-2024	05-Jan-2024	05-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
N-Nitrosodimethylamine		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Water

Project: WB-C2442-1075-N Liandarcy

Client: Terra Firma		Chemtest Job No.:		24-00369	24-00369	24-00369	24-00369
Quotation No.: Q20-21666		Chemtest Sample ID.:		1751425	1751426	1751427	1751428
Order No.: 16461-AC		Client Sample Ref.:		BH01	BH02	BH03	BH04
		Client Sample ID.:		BH01	BH02	BH03	BH04
		Sample Location:		BH01	BH02	BH03	BH04
		Sample Type:		WATER	WATER	WATER	WATER
		Top Depth (m):		3.5	3.1	3.2	3.0
		Date Sampled:		05-Jan-2024	05-Jan-2024	05-Jan-2024	05-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Diethyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50
4-Nitroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol		N	1790	µg/l	0.50	< 0.50	< 0.50
Azobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether		N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50
Phenanthrene		N	1790	µg/l	0.50	< 0.50	< 0.50
Anthracene		N	1790	µg/l	0.50	< 0.50	< 0.50
Carbazole		N	1790	µg/l	0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50
Fluoranthene		N	1790	µg/l	0.50	< 0.50	< 0.50
Pyrene		N	1790	µg/l	0.50	< 0.50	< 0.50
Butylbenzyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[a]anthracene		N	1790	µg/l	0.50	< 0.50	< 0.50
Chrysene		N	1790	µg/l	0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[b]fluoranthene		N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[k]fluoranthene		N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[a]pyrene		N	1790	µg/l	0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene		N	1790	µg/l	0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene		N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene		N	1790	µg/l	0.50	< 0.50	< 0.50
4-Nitrophenol		N	1790	µg/l	0.50	< 0.50	< 0.50
Naphthalene		U	1800	µg/l	0.10	<0.10	<0.10
Acenaphthylene		U	1800	µg/l	0.10	<0.10	<0.10
Acenaphthene		U	1800	µg/l	0.10	<0.10	<0.10
Fluorene		U	1800	µg/l	0.10	<0.10	<0.10
Phenanthrene		U	1800	µg/l	0.10	<0.10	<0.10
Anthracene		U	1800	µg/l	0.10	<0.10	<0.10
Fluoranthene		U	1800	µg/l	0.10	<0.10	<0.10
Pyrene		U	1800	µg/l	0.10	<0.10	<0.10
Benzo[a]anthracene		U	1800	µg/l	0.10	<0.10	<0.10
Chrysene		U	1800	µg/l	0.10	<0.10	<0.10
Benzo[b]fluoranthene		U	1800	µg/l	0.10	<0.10	<0.10
Benzo[k]fluoranthene		U	1800	µg/l	0.10	<0.10	<0.10
Benzo[a]pyrene		U	1800	µg/l	0.10	<0.10	<0.10
Indeno(1,2,3-c,d)Pyrene		U	1800	µg/l	0.10	<0.10	<0.10

Results - Water

Project: WB-C2442-1075-N Liandarcy

Client: Terra Firma		Chemtest Job No.:				24-00369	24-00369	24-00369	24-00369
Quotation No.: Q20-21666		Chemtest Sample ID.:				1751425	1751426	1751427	1751428
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		Client Sample ID.:				BH01	BH02	BH03	BH04
		Sample Location:				BH01	BH02	BH03	BH04
		Sample Type:				WATER	WATER	WATER	WATER
		Top Depth (m):				3.5	3.1	3.2	3.0
		Date Sampled:				05-Jan-2024	05-Jan-2024	05-Jan-2024	05-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Dibenz(a,h)Anthracene		U	1800	µg/l	0.10	<0.10	<0.10	<0.10	<0.10
Benzo[g,h,i]perylene		U	1800	µg/l	0.10	<0.10	<0.10	<0.10	<0.10
Total Of 16 PAH's		U	1800	µg/l	2.0	<2.0	<2.0	<2.0	<2.0
PCB 28		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 101		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Resorcinol		U	1920	mg/l	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Phenol		U	1920	mg/l	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cresols		U	1920	mg/l	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Xylenols		U	1920	mg/l	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1-Naphthol		N	1920	mg/l	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Trimethylphenols		U	1920	mg/l	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Phenols		U	1920	mg/l	0.030	<0.030	<0.030	<0.030	<0.030

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH at 20°C	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity at 25°C and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-pphenylenediamine.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.com



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Final Report

Report No.: 24-00859-1

Initial Date of Issue: 18-Jan-2024

Re-Issue Details:

Client Terra Firma

Client Address: 5 Deryn Court
Wharfedale Road
Pentwyn
Cardiff
CF23 7HA

Contact(s): Aaron Case

Project WB-2442-1077-N Llandarcy -
Groundwater Testing

Quotation No.: Q20-21666

Date Received: 12-Jan-2024

Order No.: 16461-AC

Date Instructed: 12-Jan-2024

No. of Samples: 4

Turnaround (Wkdays): 5

Results Due: 18-Jan-2024

Date Approved: 18-Jan-2024

Approved By:



Details: Stuart Henderson, Technical
Manager

Results - Water

Project: WB-2442-1077-N Llandarcy - Groundwater Testing

Client: Terra Firma		Chemtest Job No.:				24-00859	24-00859	24-00859	24-00859
Quotation No.: Q20-21666		Chemtest Sample ID.:				1753319	1753320	1753321	1753322
Order No.: 16461-AC		Client Sample Ref.:				BH01	BH02	BH03	BH04
		Client Sample ID.:				BH01	BH02	BH03	BH04
		Sample Location:				BH01	BH02	BH03	BH04
		Sample Type:				WATER	WATER	WATER	WATER
		Top Depth (m):				3.00	3.50	4.00	3.50
		Date Sampled:				11-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
pH at 20C		U	1010		4.0	6.8	7.1	7.3	7.1
Electrical Conductivity at 25C		U	1020	µS/cm	1.0	450	1300	450	470
Biochemical Oxygen Demand		N	1090	mg O2/l	4.0	5.0	11	18	13
Chemical Oxygen Demand		U	1100	mg O2/l	10	20	21	18	23
Sulphate		U	1220	mg/l	1.0	110	210	110	110
Cyanide (Total) Low-Level		N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Sulphide		U	1325	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hardness		N	1415	mg/l	1.0	190	340	190	200
Arsenic (Dissolved)		U	1455	µg/l	0.20	4.9	250	4.3	4.1
Cadmium (Dissolved)		U	1455	µg/l	0.11	0.43	0.80	0.77	1.2
Chromium (Dissolved)		U	1455	µg/l	0.50	5.9	4.8	1.0	1.3
Copper (Dissolved)		U	1455	µg/l	0.50	22	10	12	9.6
Nickel (Dissolved)		U	1455	µg/l	0.50	15	11	9.8	4.3
Lead (Dissolved)		U	1455	µg/l	0.50	0.55	< 0.50	< 0.50	< 0.50
Selenium (Dissolved)		U	1455	µg/l	0.50	50	21	43	32
Zinc (Dissolved)		U	1455	µg/l	2.5	100	41	86	70
Mercury Low Level		U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chromium (Trivalent)		N	1490	µg/l	20	< 20	< 20	< 20	< 20
Chromium (Hexavalent)		U	1490	µg/l	20	< 20	< 20	< 20	< 20
Total TPH >C6-C40		U	1670	µg/l	10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5
Chloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5
Trichloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Water

Project: WB-2442-1077-N Llandarcy - Groundwater Testing

Client: Terra Firma		Chemtest Job No.:		24-00859	24-00859	24-00859	24-00859
Quotation No.: Q20-21666		Chemtest Sample ID.:		1753319	1753320	1753321	1753322
Order No.: 16461-AC		Client Sample Ref.:		BH01	BH02	BH03	BH04
		Client Sample ID.:		BH01	BH02	BH03	BH04
		Sample Location:		BH01	BH02	BH03	BH04
		Sample Type:		WATER	WATER	WATER	WATER
		Top Depth (m):		3.00	3.50	4.00	3.50
		Date Sampled:		11-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
1,2-Dichloropropane		U	1760	µg/l	1.0	< 1.0	< 1.0
Dibromomethane		U	1760	µg/l	10	< 10	< 10
Bromodichloromethane		U	1760	µg/l	5	< 5	< 5
cis-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10
Toluene		U	1760	µg/l	1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10
1,1,2-Trichloroethane		U	1760	µg/l	10	< 10	< 10
Tetrachloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	1760	µg/l	2.0	< 2.0	< 2.0
Dibromochloromethane		U	1760	µg/l	10	< 10	< 10
1,2-Dibromoethane		U	1760	µg/l	5	< 5	< 5
Chlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0
Ethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
m & p-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0
o-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0
Styrene		U	1760	µg/l	1.0	< 1.0	< 1.0
Tribromomethane		U	1760	µg/l	1.0	< 1.0	< 1.0
Isopropylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
Bromobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	1760	µg/l	50	< 50	< 50
N-Propylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
2-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
4-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0
4-Isopropyltoluene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
N-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	1760	µg/l	50	< 50	< 50
1,2,4-Trichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0
Hexachlorobutadiene		U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	1760	µg/l	2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		N	1760	µg/l	1.0	< 1.0	< 1.0

Results - Water

Project: WB-2442-1077-N Llandarcy - Groundwater Testing

Client: Terra Firma		Chemtest Job No.:				24-00859	24-00859	24-00859	24-00859
Quotation No.: Q20-21666		Chemtest Sample ID.:				1753319	1753320	1753321	1753322
Order No.: 16461-AC		Client Sample Ref.:				BH01	BH02	BH03	BH04
		Client Sample ID.:				BH01	BH02	BH03	BH04
		Sample Location:				BH01	BH02	BH03	BH04
		Sample Type:				WATER	WATER	WATER	WATER
		Top Depth (m):				3.00	3.50	4.00	3.50
		Date Sampled:				11-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
N-Nitrosodimethylamine		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Water

Project: WB-2442-1077-N Llandarcy - Groundwater Testing

Client: Terra Firma		Chemtest Job No.:				24-00859	24-00859	24-00859	24-00859
Quotation No.: Q20-21666		Chemtest Sample ID.:				1753319	1753320	1753321	1753322
Order No.: 16461-AC		Client Sample Ref.:				BH01	BH02	BH03	BH04
		Client Sample ID.:				BH01	BH02	BH03	BH04
		Sample Location:				BH01	BH02	BH03	BH04
		Sample Type:				WATER	WATER	WATER	WATER
		Top Depth (m):				3.00	3.50	4.00	3.50
		Date Sampled:				11-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Diethyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Anthracene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pyrene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chrysene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol		N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Water

Project: WB-2442-1077-N Llandarcy - Groundwater Testing

Client: Terra Firma		Chemtest Job No.:				24-00859	24-00859	24-00859	24-00859
Quotation No.: Q20-21666		Chemtest Sample ID.:				1753319	1753320	1753321	1753322
Order No.: 16461-AC		Client Sample Ref.:				BH01	BH02	BH03	BH04
		Client Sample ID.:				BH01	BH02	BH03	BH04
		Sample Location:				BH01	BH02	BH03	BH04
		Sample Type:				WATER	WATER	WATER	WATER
		Top Depth (m):				3.00	3.50	4.00	3.50
		Date Sampled:				11-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Dibenz(a,h)Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		U	1800	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0
PCB 28		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 101		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)		N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Resorcinol		U	1920	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Phenol		U	1920	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Cresols		U	1920	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Xylenols		U	1920	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
1-Naphthol		N	1920	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Trimethylphenols		U	1920	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total Phenols		U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH at 20°C	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity at 25°C and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-pphenylenediamine.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.com



2183

Amended Report

Report No.:	24-03680-2		
Initial Date of Issue:	19-Feb-2024	Date of Re-Issue:	20-Feb-2024
Re-Issue Details:	This report has been revised and directly supersedes 24-03680-1 in its entirety		
Client	Terra Firma		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	michael@terrafirmawales.co.uk		
Project	Llandarcy		
Quotation No.:	Q20-21666	Date Received:	08-Feb-2024
Order No.:	16461-	Date Instructed:	08-Feb-2024
No. of Samples:	2		
Turnaround (Wkdays):	5	Results Due:	23-Feb-2024
Date Approved:	19-Feb-2024		
Approved By:			

Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Water

Project: Llandarcy

Client: Terra Firma		Chemtest Job No.:				24-03680	24-03680
Quotation No.: Q20-21666		Chemtest Sample ID.:				1763727	1763728
		Client Sample ID.:				UPSTREAM	DOWNSTREAM
		Sample Location:				Red Jacket Pill	Red Jacket Pill
		Sample Type:				WATER	WATER
		Sample Sub Type:					
		Date Sampled:				06-Feb-2024	06-Feb-2024
		Time Sampled:				12:00	12:00
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Sulphate		N	1220	mg/l	1.0	49	48
Sulphate		U	1220	mg/l	1.0	49	48
Arsenic (Dissolved)		U	1455	µg/l	0.20	3.2	5.6
Cadmium (Dissolved)		U	1455	µg/l	0.11	< 0.11	< 0.11
Chromium (Dissolved)		U	1455	µg/l	0.50	< 0.50	< 0.50
Copper (Dissolved)		U	1455	µg/l	0.50	2.6	2.1
Nickel (Dissolved)		U	1455	µg/l	0.50	1.0	1.1
Lead (Dissolved)		U	1455	µg/l	0.50	< 0.50	< 0.50
Selenium (Dissolved)		U	1455	µg/l	0.50	< 0.50	1.3
Zinc (Dissolved)		U	1455	µg/l	2.5	20	21
Chromium (Trivalent)		N	1490	µg/l	20	< 20	< 20
Chromium (Hexavalent)		U	1490	µg/l	20	< 20	< 20

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.	RE PW PL LE DW GW
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).	RE PW PL SW DW GW
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.	PL GW

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M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
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I/S	Insufficient Sample
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>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

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Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

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

Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable
- PL - Prepared Leachate
- PW - Processed Water

Report Information

RE - Recreational Water

SA - Saline Water

SW - Surface Water

TE - Treated Effluent

TS - Treated Sewage

UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up

MC - Mathematical Clean Up

FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

ANNEX K
Assessment of Volumetric Stability of Iron and Steel Industry Slag

TRS REPORT

Report Ref: GP0A/AFL/TFW/TRS/02/20/RP1

Date Issued: 19 January 2021

TRS Sample Refs: GP1A01-03

Order No: E-mail (Michael Watkins)

**PETROLOGICAL EXAMINATION OF THREE SAMPLES
FROM LLANDARCY, NEATH
FOR TERRA FIRMA (WALES) LTD**



Thomas Research Services Ltd.

Tel: +44 (0) 1469 532 929

www.slagtest.co.uk

Unit 7, Tattershall Castle Court, Morgan Way, New Holland,
North Lincolnshire, DN19 7PZ, United Kingdom

A Limited Company registered in England. Company Registration No: 2518421

PETROLOGICAL EXAMINATION OF THREE SAMPLES FROM LLANDARCY, NEATH FOR TERRA FIRMA (WALES) LTD

1. BACKGROUND

Three samples were received from the above site on 6th - 7th January 2021. The samples were weighed and allocated unique TRS identification numbers as follows:-

TRS Ref	Site Ref	Depth/m	Mass/kg
GP1A01	TP01	1.0	8.5
GP1A02	TP06	1.0	7.9
GP1A03	TP03	1.0	8.3

The purpose of the exercise was to identify any products from iron and steel making operations, and to assess whether there was any risk of potential for volumetric instability from these materials.

2. SAMPLE PREPARATION & PROGRAMME OF ANALYSIS

The three samples were primary crushed to reduce particle size down to <50mm, portions then being selected and dried at low temperature to constant weight. The dried material was subjected to a regime of stage crushing and quartering to further reduce particle size down to <5mm. Portions of this <5mm material were made up into resin bound blocks, one face of which was ground flat and polished using diamond pastes.

Further portions of the <5mm material were milled to a fine powder. Portions were extracted throughout the preparation procedure to provide the necessary test specimens for any tests and analyses that may subsequently need to be carried out.

A petrological examination was made of the polished blocks using reflected light microscopy, the complete findings of which are recorded in appendix A.

3. DISCUSSION OF RESULTS

The samples were similar in composition. They consisted of materials from iron and steel making, mainly slagged refractories etc. from acid steel furnaces and/or foundries.

No basic steel slag or basic refractory material was seen in any of the samples. Only minor amounts of blast furnace slag were seen in samples 01 & 03, consisting predominantly of melilite.

The bulk of the material present consisted of dark silicic glassy material, high temperature silica, quartz, corundum, pyroxenes, metal and iron oxides. The material was little altered.

Other materials present included quartz, alumino-silicate brick, iron & manganese ore, limestone, metal, fume, shale, coke and clay.

4. CONCLUSIONS

The following conclusions can be drawn:-

- The samples were similar, consisting predominantly of materials from acid steel furnaces and/or foundries.
- The main materials present included dark silicic glassy material, high temperature silica, quartz, corundum, pyroxenes, metal and iron oxides.
- Other materials present in the samples included quartz, alumino-silicate brick, iron & manganese ore, limestone, metal, fume, shale, coke and clay.
- Minor amounts of blast furnace slag were seen in samples 01 & 03.
- No basic steel slag or basic refractory material was seen in any of the samples.
- As little conventional slag was seen in the samples, no expansion testing is recommended on this set of samples.

Note

These conclusions apply only to the samples tested and may not represent the bulk of the material in the site from which they were taken.

Ian D. Thomas

Ian D Thomas BSc(Hons)

19 January 2020

APPENDIX A

PETROLOGICAL REPORT ON SAMPLES GP1A 01-03

A petrological examination has been carried out of three samples, GP1A 01-03.

Polished blocks were prepared using particulate material crushed to a nominal size of -5 mm. Representative material was made up into resin-bonded blocks. One face of each of these was ground flat and polished using diamond pastes. In addition, the surfaces were selectively etched with water and 0.1%N HCl in order to help with the phase identification.

The detailed results are given in the accompanying Table.

The samples consist mainly of iron and steel making materials; slagged-refractories, etc. probably from silicic ('acid') steel furnaces/cupolas and/or foundries.

The three samples are similar to one another.

Only a little typical blast furnace type slag is present and no basic steel slag or basic refractory (magnesia-rich) material was seen.

The blast furnace type slag occurs in small and very small amounts in samples 01 and 03. It consists mainly of melilite (CaMgAl silicate with minor larnite (dicalcium silicate) and metal prills.

Most of the material consists of dark glass and devitrified glass with pockets of crystalline material including mainly high temperature silica, quartz, corundum, pyroxenes and fayalite type phases (R_2SiO_3 and R_2SiO_4 where R is mainly Fe and Mn), metal (iron and copper) and iron oxides. It is little altered.

Other constituents include quartz, alumino-silicate brick, iron and manganese ore, metal, fume, shale, limestone, coal, coke and clayey material.

TRS SAMPLES GP1A 1 to 3

	1	2	3
BLAST FURNACE SLAG			
Amount	s	-	vs
BASIC STEEL SLAG			
Amount	-	-	-
BASIC REFRACTORIES			
Amount	-	-	-
OTHER CONSTITUENTS			
Silicic/aluminous glass & slag	l	l	l
Quartz, sandstone, etc.	l	l	l
Acid steel slag	s	s	s
Cindery slag	s	s	s
Ferrous slag	s	s	s
Intermediate slag	-	-	-
Metal, rust, iron & copper, fume etc.	vs	vs	vs
Limestone & dolomite	vs	-	-
Iron ore & sinter	-	s	-
Granite, basalt, etc.	-	-	-
Shale, clay & ash	-	-	-
Coke	s	m	m
Coal & char	s	s	s
Clayey material	m	m	m
Used Portland cement	-	-	-

L = very large, l = large, m = medium, s = small and vs = very small amounts

GENERAL EXPLANATION

L = very large, l = large, m = medium, s = small and vs = very small amounts.

Blast furnace slag. When present this consists mainly of melilite (Ca,Mg,Al silicate ranging in composition between $\text{Ca}_2\text{Al}_2\text{SiO}_7$ and $\text{Ca}_2\text{MgSi}_2\text{O}_7$). Other common phases are merwinite ($\text{Ca}_3\text{MgSi}_2\text{O}_8$), larnite ($\beta\text{-Ca}_2\text{SiO}_4$) and bredigite (Ca_2SiO_4 with some Mg in solid solution). The matrix often consists of some of the above phases, especially melilite, but may also contain other phases such as wollastonite (CaSiO_3), anorthite ($\text{CaAl}_2\text{Si}_2\text{O}_8$) and pyroxene ($(\text{CaMg})\text{SiO}_3$). Spinel (MgAl_2O_4) may be present. Sulphides and metal usually occur and are mostly finely dispersed, but the metal sometimes occurs as prills and may contain some graphite and Ti carbo-nitride (TiCN). Material reported as ceramic in appearance is very finely crystalline. The alteration products often include calcite and gypsum but are mostly silicate and/or sulpho-aluminate hydrates that are difficult to identify specifically under the microscope.

Basic steel slag. When present this consists mainly of dicalcium silicate, mostly the β -form (larnite) but sometimes the alpha form. Phosphoric slags may contain nagelschmidtite (Ca_2SiO_4 with $\text{Ca}_3\text{P}_2\text{O}_8$ in solid solution). Other silicate often present in small amounts, unetched by dilute HCl, is probably melilite. RO, R_3O_4 and RF phases are typically present and are mainly FeO and Fe_3O_4 with some Mg, Mn, Ca, etc. in solid solution and complex Ca aluminoferrites. There may also be some Fe_2O_3 and spinel ($(\text{Mg,Fe})\text{Al}_2\text{O}_4$). The slag typically carries minor amounts of periclase (MgO with some Fe in solid solution) and lime phase (CaO with some Fe, Mn & Mg in solid solution). Other possible minor constituents include fluorite (CaF_2) and apatite (Ca fluoro-phosphate), the last present in phosphoric slags. The alteration products are, again, difficult to identify specifically but are probably, mainly, hydrated silicates. Portlandite ($\text{Ca}(\text{OH})_2$) may be present.

Basic refractory material. When present, this is mainly magnesian and consists of granular periclase (MgO) with interstitial silicates. Sometimes samples contain chrome-magnesia material with chromite present in addition to the other phases. Hot face material (from close to the furnace) may also occur. The periclase and interstitial silicates show secondary alteration similar to that of the basic steel slag. Brucite ($\text{Mg}(\text{OH})_2$) is likely.

Acid steel slag. When present this consists mainly of fayalite ($(\text{Fe,Mn})_2\text{SiO}_4$), Fe,Mn oxides and cristobalite (high temperature SiO_2).

Other slags. The 'intermediate slag' (probably primary flush slags from steel furnaces) has a variable phase assemblage, being mainly formed of silicates, particularly dicalcium silicate, melilite, merwinite and a complex olivine phase together with spinel and wustite (FeO). Sometimes it contains significant amounts of periclase, well embedded in the slag. The 'ferrous slag' (probably from foundry operations) has similar silicates but much more substantial content of iron oxides, usually wustite. It is often associated with scale (iron oxides formed on the surface of steel during reheating/cooling). When present, the 'cindery slag' consists of various silicates and silicate glass with Fe oxides, hercynite (FeAl_2O_4) and, sometimes, corundum (Al_2O_3). It is usually derived from heating furnaces and is often associated with burnt shale. When present, the 'siliceous clinker' is similar but devoid of iron oxides.

Other constituents The aluminosilicate brick includes a range of refractory firebrick, common brick and alumina-rich refractories. The 'quartz, sandstone, etc.' may include used silica refractory material consisting of quartz and its high temperature forms. Sometimes there is a distinct granular texture and it is derived from silcrete, a kind of chert. Cementitious material may bond the finer particles together. It is similar to the other alteration products consisting mostly of complex hydrates difficult to identify under the microscope. Sometimes some is used Portland cement recognised by the relict textures of the clinker and the embedded quartz sand.

APPENDIX B

MECHANISMS OF VOLUMETRIC INSTABILITY IN IRON AND STEEL INDUSTRY SLAGS

Volumetric change with time can occur in some types of iron and steel industry slags. These mechanisms are briefly described in this section.

Blast Furnace Slags

Fresh-make air-cooled, i.e. crystalline, blast furnace slags are almost always volumetrically stable after cooling. The two mechanisms for volumetric instability listed in BS1047:1983 – “Air Cooled Blast furnace Slag for use in Construction” are:-

- a) Beta to gamma inversion of dicalcium silicate.**
- b) Iron unsoundness.**

a) Research by G H Thomas on this phase transformation has shown the transformation to be athermal rather than isothermal. In practical terms this means that inversion, and the expansion associated with it, can only occur during the cooling cycle. In fully cooled material there would appear to be no further risk of instability from this mechanism.

b) Iron unsoundness is a very rare form of instability frequently associated with operating problems in the blast furnace. TRS know of only one instance in over 40 years. The mechanism, which is a hydrolysis reaction, is immediately triggered off by the presence of water. Once water has initiated the reaction, the mechanism proceeds to completion. It is impossible to arrest the process once started; at least by methods operating in normal ambient conditions.

It follows that the risk of late expansion from either of these mechanisms in blast furnace slag is remote.

c) Sulphoaluminate Type Activity

Some years ago, G. H. Thomas discovered a third mechanism that may give rise to volumetric instability. The process is possible only in some old blast furnace slag altered by weathering. When the sulphide sulphur in the blast furnace slags is oxidised during weathering to sulphate, under some circumstances reactions can take place within the slag to produce an 'ettringite' type product. The process is somewhat analogous to sulphatic attack on concrete and has a similar result - expansion of the mass and associated disruption.

For the mechanism to have any significance, the slag needs to have residual potential for this reaction. Evidence of past activity does not necessarily indicate further reaction is possible.

The TRS accelerated expansion test is, we believe, uniquely capable of identifying such slags, as well as instability attributable to free CaO and free MgO in steel slag & etc.

Basic Steel Slags

Basic steel slags commonly contain significant quantities of free CaO and free MgO. These free oxides are well known for the massive expansion associated with their hydration. In practical terms, it is impossible to forecast when hydration will take place, but it can be up to decades after the material was cooled – or placed. The reasons are complex, but include the varying density of the oxides, due to the variation in temperatures at which the products have been held in the furnace. Other factors influencing rate of hydration include:-

- the protection of slags by a reaction product at the oxide interface with the slag.

- the presence of the oxides as lime or magnesia rich solid solutions instead of the pure oxide.

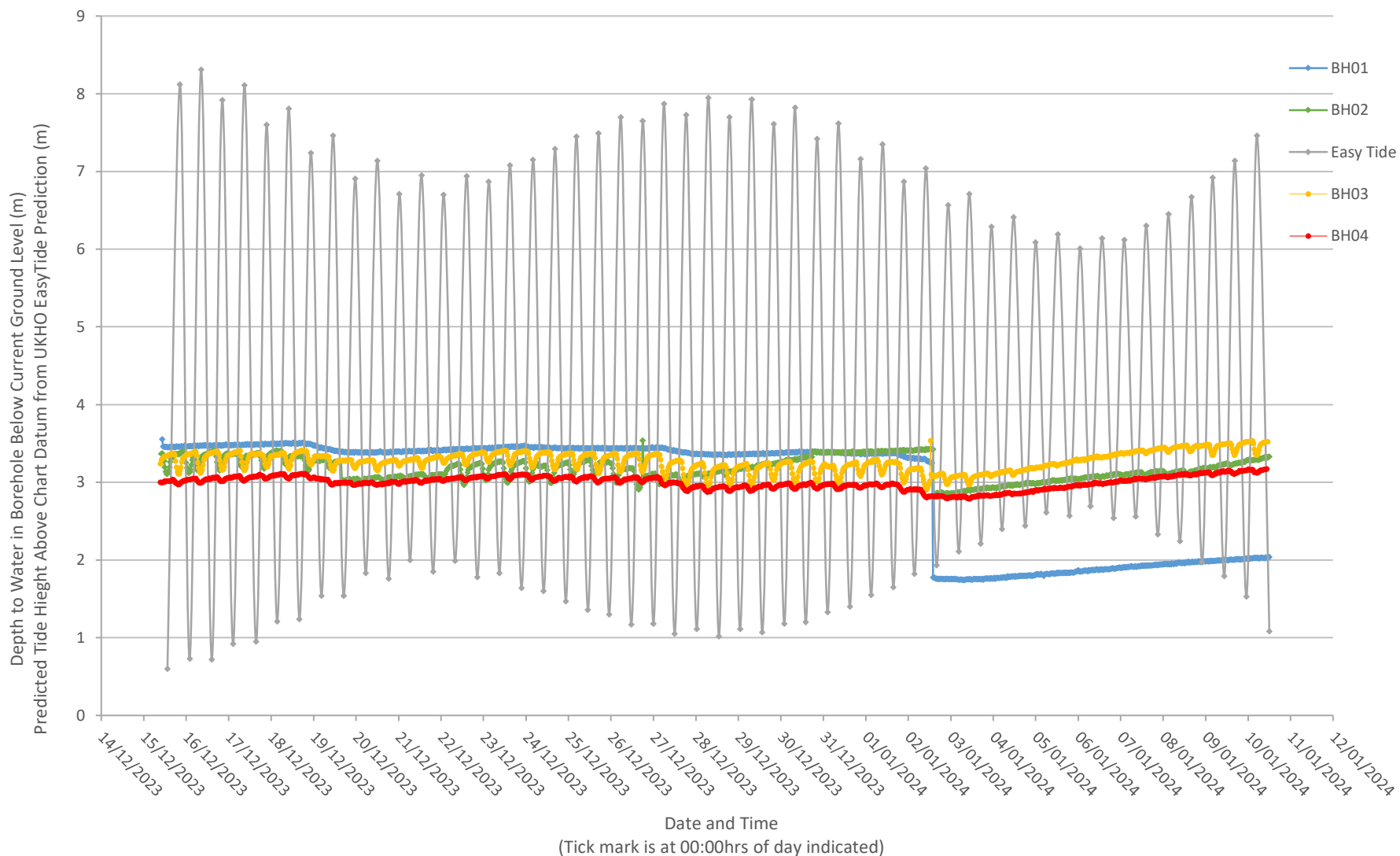
The result is potential future volumetric instability but at an unforeseeable date. Periclase, i.e. free MgO, is relatively much slower than free CaO to hydrate.

Scrap High Magnesia Refractories

These are particularly undesirable components in fill as they commonly result in high concentrations of free MgO. The problems associated with these concentrations are similar to those where periclase is found in basic steel slag.

ANNEX L
Water Level Logging - Data

Groundwater Fluctuations in BH01 to BH04 and the UKHO EasyTide Predicted Tide





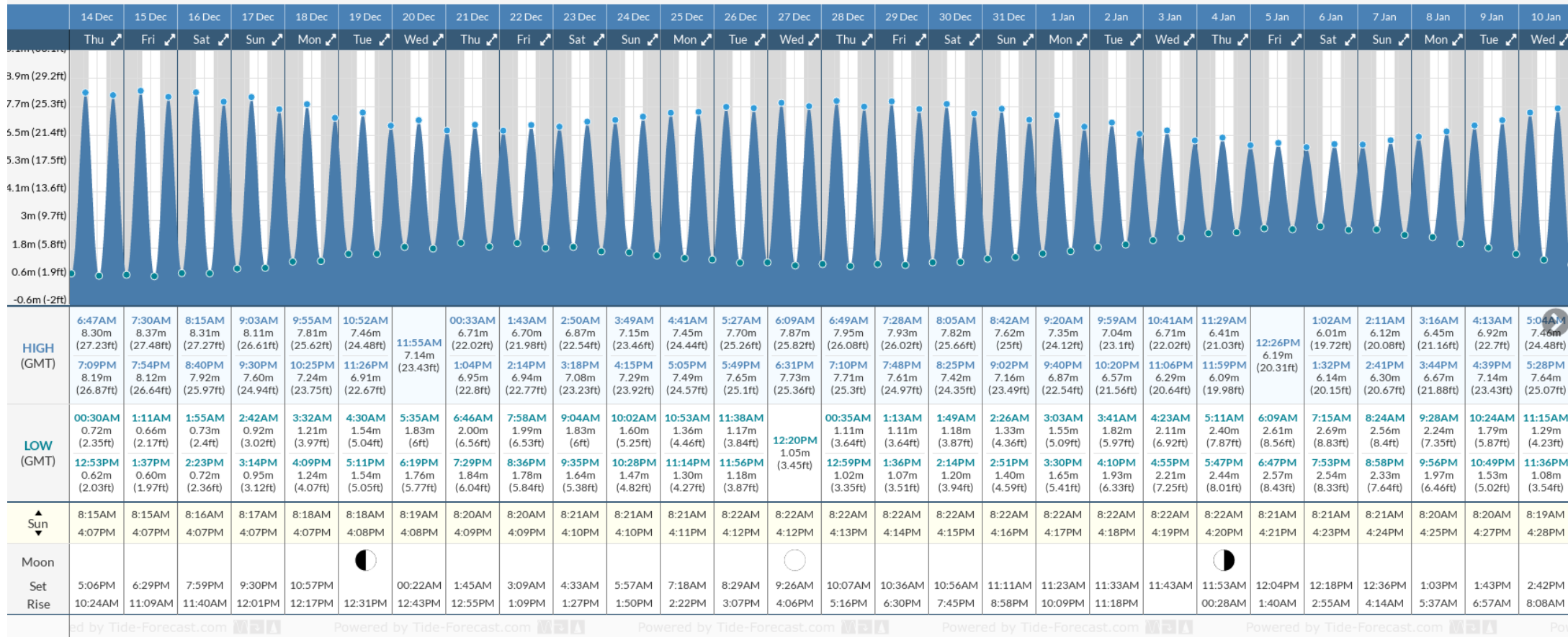
Lat Long: 51.68° N 4.16° W



Latest Tide Table

Llanelli, Tide Times. Times are GMT (UTC+00:00)

Powered by Tide-Forecast.com



Llanelli tide chart key: The tide chart above shows the height and times of high tide and low tide for Llanelli. The grey shading corresponds to nighttime hours between sunset and sunrise at Llanelli.

Tide Times are GMT (UTC +0hrs). Last Spring High Tide at Llanelli was on Tue 28 Nov (height: 8.40m 27.6ft). Next high Spring Tide at Llanelli will be on Fri 15 Dec (height: 8.37m 27.5ft).

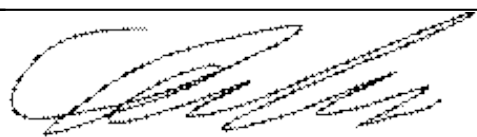
NOTE: We do not accept responsibility for any amendments or changes to the data whilst it is displayed / printed from our website.

**ANNEX M
PID Data**

Location	Depth of Sample (Placed in Bulk Bag)	PID Reading (ppm)
BH01	1.5	0.1
BH01	3	0
BH02	1.5	0.3
BH02	4.5	0.3
BH04	3.5	0

ANNEX N
Asbestos Air Fibre Testing

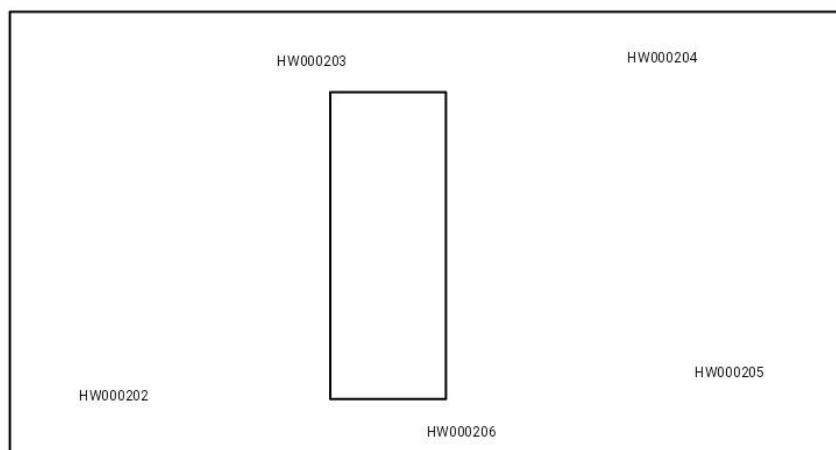
AIRBORNE RESPIRABLE FIBRE CONCENTRATION RECORDS

Page 1 of 4		File / Project number: J043316 AMENDED Issue 1		Date of sampling: 28 Nov 2023		Date of analysis: 28 Nov 2023									
				Date issued: 30 Nov 2023		Certificate number: HW01									
Client Name & Address: G D Harries and Sons Rowlands View Templeton Narberth Pembrokeshire SA67 8RG				Site Address/Location: Brownfield Site Llandarcy SA10 6JY											
				Location Slides Counted: Mobile Lab											
Location	Sample No	Sample Type	Head No	Pump No	Time Started	Time Stopped	Sample Duration (min)	Initial Flow Rate (L/min)	Final Flow Rate (L/min)	Corrected Flow Rate (L/min)	Volume Sampled (litres)	No. Fibres	No. Fields	L.O.Q.	Respirable Conc. Fibres/ml Reported/ Calculated
Adjacent to gate 2	HW000202	Background	773	H55	09:48	10:57	69	10.0	9.9	10.0	687	1.5	140	0.01	<0.010 0.001
Field Blank	HW000207	FB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Adjacent to building and test hole	HW000203	Background	857	H51	09:59	10:55	56	10.0	10.0	10.0	560	2	175	0.01	<0.010 0.001
Adjacent to drilling works at the back of site	HW000204	Background	781	H14	10:31	11:27	56	10.0	9.9	10.0	557	1	175	0.01	<0.010 0.001
Adjacent to drilling works	HW000205	Background	777	H15	10:57	11:57	60	10.0	9.9	10.0	597	1.5	161	0.01	<0.010 0.001
Adjacent to centre hole being digged	HW000206	Background	781	H55	11:30	12:25	55	10.0	10.0	10.0	550	2.5	175	0.01	<0.010 0.001
All testing is in accordance with HSE guidance document HSG248: Asbestos - The Analysts' Guide & Enquin Procedures Manual Section 2 The number of fields to be counted to obtain a level of accuracy of <0.01 fibres/ml - cm³ of air is 96000/(sample volume in litres) All fibre concentrations reported are for airborne respirable fibres Samples taken during the activity will be retained for a minimum period of 12 months The report will be retained for a minimum period of 6 years after date of issue															
Number of measurements undertaken: 6								Report Type: Final AMENDED							
Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation															
Location of work area: Various locations inside the the yard															
Comments: Pumps placed adjacent to digging hole to ensure air is below control limit. All air tests satisfactory															
Signed Authorised Analyst Print Name: George Charlton 															

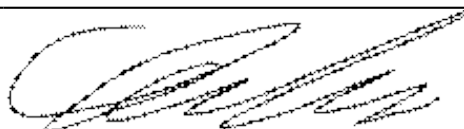
AIRBORNE RESPIRABLE FIBRE CONCENTRATION RECORDS

Page 2 of 4	File / Project number: J043316 AMENDED Issue 1	Date of sampling: 28 Nov 2023 Date issued: 30 Nov 2023	Date of analysis: 28 Nov 2023 Certificate number: HW01
NPL Test Slide Number	839	5 sets of lines visible	Yes
Flowmeter Number	974	Flowmeter Calibration Factor	1.0
Stage Micrometer Number	962	Stage Micrometer Calibration Factor	1.00
Microscope Number	674	Measured Graticule Diameter / μ m	100
Timepiece Number	Atomic Clock	Corrected Graticule Diameter / μ m	100
L.O.Q is the abbreviation for Limit of Quantification.			

Diagram (Clearance / Reference only)



Signed Authorised Analyst
Print Name: George Charlton



AIRBORNE RESPIRABLE FIBRE CONCENTRATION RECORDS

Page 3 of 4	File / Project number: J043316 AMENDED Issue 1	Date of sampling: 28 Nov 2023	Date of analysis: 28 Nov 2023
		Date issued: 30 Nov 2023	Certificate number: HW01

Photographs



H55 adjacent to digging hole



H51 adjacent to digging hole



H14 adjacent to digging hole



H15 Adjacent to digging hole

AIRBORNE RESPIRABLE FIBRE CONCENTRATION RECORDS

Page 4 of 4	File / Project number:	Date of sampling: 28 Nov 2023	Date of analysis: 28 Nov 2023
	J043316 AMENDED Issue 1	Date issued: 30 Nov 2023	Certificate number: HW01

Photographs



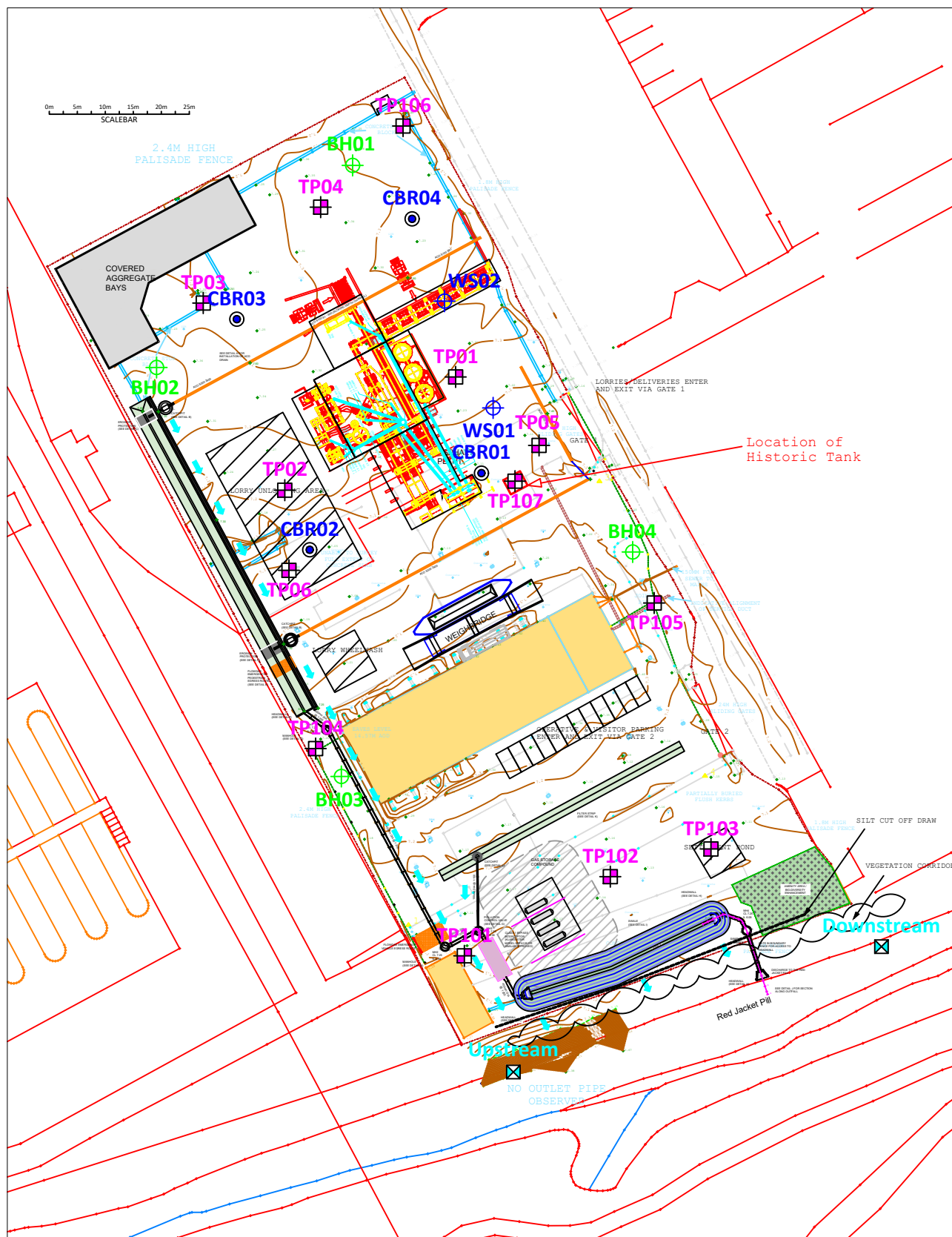
H55 adjacent to digging hole in the centre of the site

No photographic evidence available

No photographic evidence available

No photographic evidence available

DRAWINGS



5 Deryn Court, Wharfedale Road, Pentwyn,
Cardiff, CF23 7HA
TEL: 02920 735354

Site
Edwards Works, Llandarcy

Client
SigmaRoc PLC

Project No
16461

Scale
1:1,000 (at A4 size)

Drawing 01

Proposed Site Layout with
Exploratory Hole Positions



Terra Firma (Wales) Ltd. 5 Deryn Court, Wharfedale Road, Pentwyn, Cardiff CF23 7HA
Tel: 029 2073 5354 **Fax:** 029 2073 5433 **Email:** info@terrafirmawales.co.uk www.terrafirmawales.co.uk