LAND AT PERSON WAY, PENRHIWTYN, NEATH, SA11 2EJ

COAL MINING RISK ASSESSMENT (Addendum statement)

October 2025

INTRODUCTION

This coal mining risk assessment statement is prepared on behalf of Wellspring Homes in support of planning application Ref. P2025/0622 for the proposed conversion of partially constructed four-bedroom dwelling houses (Plots 2 and 3 approved under P2021/0780) into 6 No. one bedroom maisonettes, fenestration changes and associated works at land at Pearson Way, Penrhiwtyn, Neath.

BACKGROUND/ CONTEXT

As you will be aware, the proposed site is part of a larger strip of land that was granted planning permission for the erection of eight dwellings back in 2021 under LPA Ref P2021/0780, subject to conditions. Applications to discharge associated conditions were made under LPA Refs P2022/0418 and P2022/0927, which were subsequently granted. Furthermore, S96a applications were made to secure minor changes to the approved scheme under LPA Refs P2022/0413, P2023/0395 and P2025/0114. These were again approved following the usual appraisal process.

The approved scheme is accordingly in a very advanced stage of construction, with the buildings substantially complete. The applicant has been in discussion with Pobl Group, a Registered Social Landlord, about the sale of certain plots which would be procured as affordable housing.

An invalidation letter received from the LPA, dated 17/09/2025 which detailed a number of additional documents/ supporting information required for validation purposes of the application, including this coal mining risk assessment/ Geotechnical and geoenvironmental report. Due to the nature of the application and the context/ planning history in which this application has arisen, it was agreed by the case officer via the meeting held on 25/09/2025 and subsequent emails that it was unnecessary for all of this information to be reproduced from the extant consent (given the stage of construction, and that these details have already been confirmed and implemented under the previous application). Rather, it was agreed that a covering statement would be prepared for each with updated site context and the original documents appended for ease of reference.

As such, please see the geotechnical/ geoenvironmental and remediation strategy reports appended to this statement, as well as relevant conditions that have been discharged and agreed in relation to

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Geotechnical and Geoenvironmental / coal mining risk in relation to the extant consent below. This information is considered sufficient and policy-complaint in order to process and validate the application.

DETAILS APPROVED BY CONDITION

Condition 3 of planning consent P2021/0780

"No development shall commence on site until an assessment of the nature and extent of contamination affecting the application site area has been submitted to and approved in writing by the Local Planning Authority. This assessment must be carried out by or under the direction of a suitably qualified competent person in accordance with BS10175 (2011) 'Investigation of Potentially Contaminated Sites Code of Practice' and shall assess any contamination on the site, whether or not it originates on the site. The report of the findings shall include: (i) a desk top study to identify all previous uses at the site and potential contaminants associated with those uses and the impacts from those contaminants on land and controlled waters. The desk study shall establish a 'conceptual site model' (CSM) which identifies and assesses all identified potential source, pathway, and receptor linkages; (ii) an intrusive investigation to assess the extent, scale and nature of contamination which may be present, if identified as required by the desk top study; (iii) an assessment of the potential risks to: - human health, - groundwater and surface waters - adjoining land, - property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,- ecological systems, - archaeological sites and ancient monuments; and - any other receptors identified at (i) (iv) an appraisal of remedial options, and justification for the preferred remedial option(s).

Reason: To ensure that information provided for the assessment of the risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems is sufficient to enable a proper assessment, and to ensure compliance with Policies SP16 and EN8 of the Neath Port Talbot Local Development Plan."

Details in respect of the above condition were approved by planning permission ref. P2022/0418 on 13 October 2022

Condition 4 of planning consent P2021/0780

"No development shall commence on site until a remediation scheme to bring the site to a condition suitable for the intended use by removing any unacceptable risks to human health, buildings, other property and the natural and historic environment shall be prepared and submitted to and approved in writing with the Local Planning Authority. The scheme shall include all works to be undertaken, proposed remediation objectives, remediation criteria and site management procedures. The measures proposed within the remediation scheme shall be implemented in accordance with an agreed programme of works.

Reason: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors, and to ensure compliance with Policies SP16 and EN8 of the Neath Port Talbot Local Development Plan."

Details in respect of the above condition were approved by planning permission ref. P2022/0927 on 30 November 2022

APPENIDX 1: AUGUST 2021 GEOTECHNICAL AND GEOENVIRONMENTAL REPORT

terra firma
Geotechnical & Geoenvironmental Specialists



Geotechnical and Geoenvironmental Report

Site: Pearson Way, Neath

Prepared For: Wellspring Property and Investments Ltd

Issue Date: August 2021

Job No: 16819

info@terrafirmawales.co.uk

www.terrafirmawales.co.uk

V3

REPORT TITLE : **Geotechnical and Geoenvironmental Report: Proposed Development, Pearson Way, Neath**

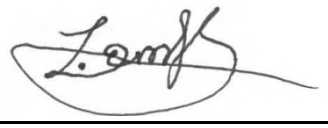
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	Name	Signature
Prepared	**Ieuan Brooks** BSc(Hons), FGS	
Checked	**Ruth Howells** M.Geol, FGS	
Approved	**Gwyn Lake** BSc (Hons). PhD, CGeol, FGS	

Executive Summary

Site Location and Proposed Development	*The development site is rectangular in shape and locates at Pearson Way, Neath, SA11 2EJ. The site centres on an approximate National Grid Reference of 274640 195700, occupying a plan area of approximately 0.25 Hectares. The proposed development is residential in nature.*
Site History	*The site has remained as undeveloped land, however it has been the subject of cut and fill exercises.*
Geology	*The site is underlain by the Hughes Member of the Upper Coal Measures strata of Carboniferous Age. The conjectural outcrop of the Mountain Coal seam is shown close to the west of the site. Due to the topography of the area this seam will underlie the site at shallow depth. No superficial deposits are shown to overlie the solid geology, however residual soils are likely to be present.* *Significant made ground/reworked materials are likely to overlie the in-situ deposits.*
Radon	*No radon protective measures are required for new developments on the investigation site.*
Coal Mining Risk Assessment	*The site situates within the South Wales coal fields. The Coal Authority CONM29M Coal Mining Report states that the property is not within a surface area that could be affected by any past recorded underground coal mining.* *However, the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past.* *The seam referred to is the Mountain seam which is estimated to lie between 25m and 45m beneath the site. This seam is thin and intermittent with no historical evidence of it being worked beneath the site. The risk is therefore concluded to be low. This low risk can be negated by the use of appropriate foundations.*
Ground Conditions	*Ground conditions encountered beneath the accessible part of the site shows potentially re-worked in-situ till deposits of a generally firm and stiff consistency down to 3.7m depth, underlain by in-situ gravely clays (residual soils).*
Contamination of Concern	*There were no contaminants of concern encountered in the area of the site accessible to the drilling rig.*
Ground Gas Risk Assessment	*The site has provisionally been characterised as GS2. A final assessment will be given as soon as the full monitoring period is complete.*
Foundation Solution	*A reinforced concrete raft on 1.0m of recompacted ground is recommended. Depending upon the finished floor slab levels it may be economic to construct a reinforced box construction incorporating an integral reinforced concrete retaining wall and floor slab.* *In order to negate the low mining risk, the raft should be designed to span a crown hole of 3m with a cantilever effect on corners of 1.5m.*
Recommended Further Works	*Due to inaccessible nature of areas of the site it is recommended that a supplementary site investigation comprising trial pits excavated using a tracked excavator is used to confirm the ground conditions in these areas.*

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ANNEX B Coal Authority Mining Report
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ANNEX D Windowless Sampling Logs
ANNEX E Soil Laboratory Chemical Test Results
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Drawings

Drawing 01 Proposed Site Layout

SECTION 1 Introduction and Proposed Development

1.1 Introduction

Wellspring Property and Investment Limited (the Client) is proposing the development of residential housing at Pearson Way, Neath.

PHG Consulting is the Consulting Civil and Structural Engineer for the development.

Terra Firma (Wales) Limited has been commissioned by PHG Consultant Engineers Ltd on behalf of 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

In order to achieve the above objectives, Terra Firma (Wales) Limited carried out an assessment programme including 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 Terra Firma (Wales) Limited. 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. Terra Firma (Wales) Limited 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 steepness of the slope present on the site, restricting access for the window sampler drill rig.

1.3 Quality Assurance

The quality and environmental aspects of the assessment comply with Terra Firma Wales Ltd business management system which is UKAS Accredited to 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 locates at Pearson Way, Neath, SA11 2EJ. The site centres on an approximate National Grid Reference of 274640 195700, occupying a plan area of approximately 0.25 Hectares.

The site is currently empty brownfield space. Vegetation covers the whole of the site. The site is a steep slope inclining towards the west.

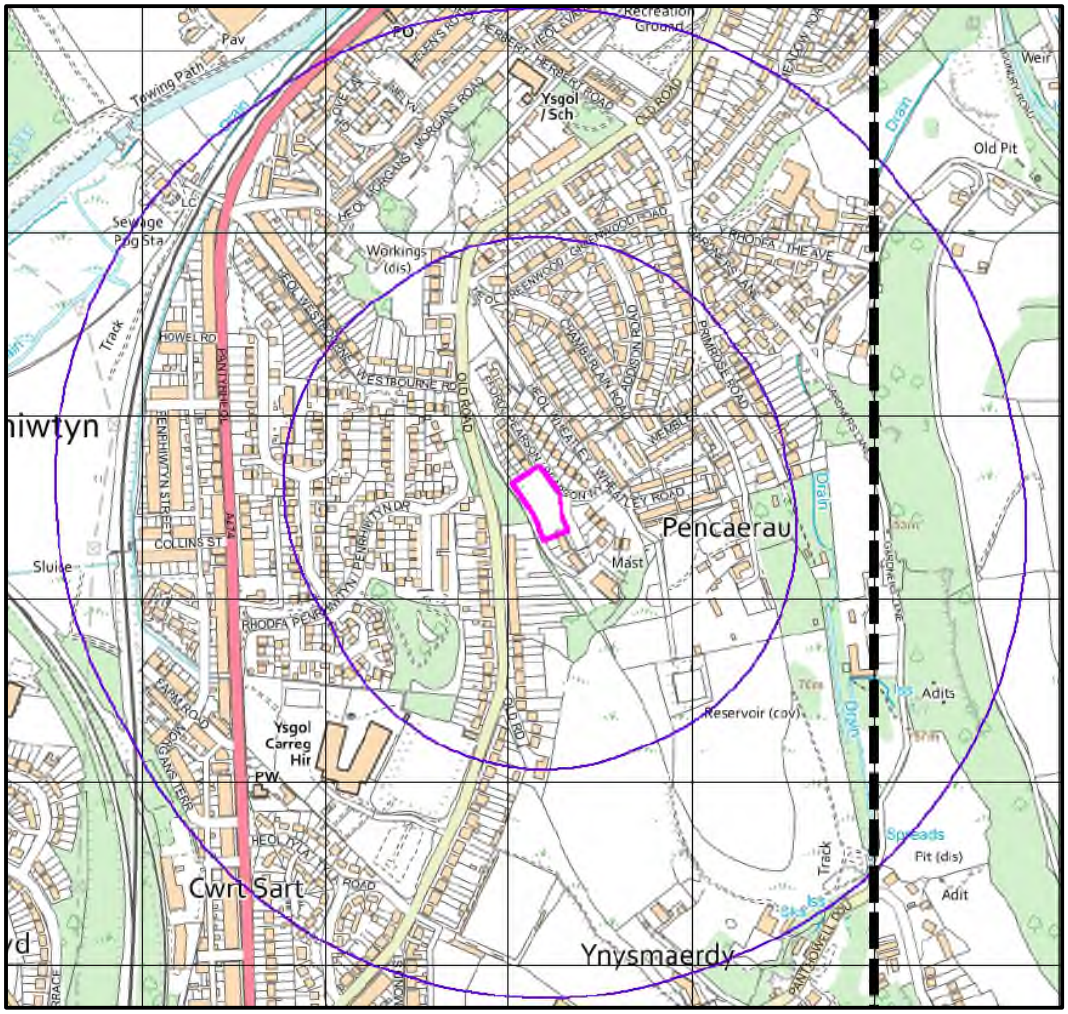
The northern and southern boundaries of the site are defined by residential housing and their gardens. The eastern boundary of the site is defined by Pearson Way Road. A public footpath is located adjacent to the east of the site.

The wider surrounding area is predominantly residential housing with empty greenfield space. The majority of the town centre of Neath is situated north of the site.

The site elevation is approximately 55 to 45m AOD steeply sloping down to the west. A steep drop off is situated in the northwest of the site.

The site location can be seen on
Figure 2.1 along with the proposed site layout on **Drawing 01**.

Figure 2.1 Site Location



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 where quoted are 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 -1882 1:2500	The site is part of an empty greenfield space. A track runs along the site's western boundary.	The site is surrounded by empty greenfield space. Houses of Mansell Terrace lie nearby to the southeast. An old Quarry is shown 170m north of the site.
1899 1:2500 1900 1:10,000	No significant changes.	More quarrying has taken place to the north. The gardens of Mansell Terrace are becoming more established. In the wider area to the north and west residential and commercial development has occurred.
1918 -1919 1:2500	The formation of a level plateau by a cut and fill exercise has taken place in the south of the site	An old coal level heading in a north easterly direction is shown to be present 150m south of the site. 'New Graded' Infirmary has been constructed to the west.
1935 – 1941 1:2500	No Significant changes are evident.	Significant residential development has occurred in the surrounding area. New Grade Infirmary is now known as Penrhiwtyn Infirmary.
1951 1:1250	The earth to the south of the site has been levelled. A slope is shown in the southern corner of the site and along the western boundary of the site.	Residential houses 50m northeast at Wheatley Road are now present. Further residential and commercial development has occurred in the surrounding area. Penrhiwtyn Infirmary has increased significantly size and is now known as Neath General Hospital.
1958 – 1967 1:1250	Earthworks are shown in the northeast corner of the site. Mapping indicates a level plateau has been constructed but a cut and fill exercise.	No significant changes.
1964:1970 1:2500	No significant changes.	No significant changes.
1979-1989	No significant changes.	Development has occurred at Neath General Hospital to the west of the site.
1993 1:2500 1992 – 1996 1:10,000	No significant changes.	No significant changes.
2006 1:10,000	No significant changes since previous map additions.	The whole of Neath General Hospital has been demolished and this is now an empty space.
2021 1;10,000	The site is shown to be flat and level.	Residential development has occurred in the immediate sounding area. Including adjacent houses north, south and west of Pearsons Way.
Historical Google Earth Satellite Imagery.		
2002 -	The site is empty greenfield space. Evidence of mounds of material is evident at the site and wider field.	
2006	A track runs through the site. The houses west of the site are in development and a cut exercise has taken place into the hill side.	
2013	The houses north of the site are now in development. Earth has been moved and mounded onto the site itself.	
2016	Construction of 3No Houses at the northern end of Pearson Way is nearing completion. Cut earthworks exercises for the garden areas are evident. The site is now a sloping grass field.	

2.3 Geological Setting

2.3.1 Geology

The 1:10,000 scale British Geological Map of the area (SS 79 NW) was consulted for geology underlying the site. The site is shown to be underlain by sandstone rock. Detailed stratigraphical information is provided in **Table 2.2**.

Table 2.2 Detailed Stratigraphical Information

Period	Group	Formation
Carboniferous		Hughes Member – Described as “Green-grey, lithic arenites ("Pennant sandstones"), with thin mudstone/siltstone and seatearth interbeds, and mainly thin coals.” The conjectured outcrop of the Mountain Coal Seam is shown to the west of the site. Due to the topography of the area this seam will underlie the site at relatively shallow depth.

Superficial deposits are not recorded at the site.

Made ground is anticipated at the site to an unknown depth in relation to historical earthworks.

2.3.2 Radon

The Envirocheck Report (**Annex A**) details that **NO** radon protective measures are required for new developments on the investigation site.

2.3.3 Mining

The site situates within the South Wales coal fields. The Coal Authority CONM29M Coal Mining Report states that the property is not within a surface area that could be affected by any past recorded underground coal mining.

However, the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past.

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

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

Relevant BGS mineral sites as recorded in the Envirocheck Report datasheets (**Annex A**) are summaries in **Table 2.3**.

Table 2.3 BGS Recorded Mineral Sites

Site Name	Distance/ Direction from site	Type	Commodity
Garth-Mor	146m South	Underground	Coal -Deep
Pen-Rhiw-Tyn	172m North	Opencast	Sandstone

The Coal Authority Consultants Coal Mining Report is appended in **Annex C**.

2.3.4 Natural Hazards

All natural hazards within the Envirocheck report are described as a very low hazard or no hazard.

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

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

Deep 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.

The site does not locate within a groundwater source protection zone.

The nearest groundwater abstraction point is located 1989m away and will not be affected by the site.

2.4.2 Hydrology

The nearest surface water feature locates off site, 269m to the east and comprises a drain.

The topography of the site slopes down towards to the west. Surface water is likely to drain in this direction.

2.4.3 Flooding

The site is not at risk from extreme flooding from rivers or sea.

2.4.4 Waste

No Historical or Recorded landfill sites are shown to be situated within 250m of the site

One licensed waste management facility is situated 109m west, situated at Pant Yr Heol, Neath, NPT SA11 and operated by Glan Y Mor NHS Trust. This facility is likely concerning an operation at the old Neath hospital now demolished. The license is surrendered, this should not affect the site.

Two waste Transfer sites are recorded 221m southwest, these are again relating to Neath General Hospital, and will no longer affect the site.

No discharge consents are shown to be situated within 250m of the site.

2.4.5 Pollution

No pollution incidents are recorded to have occurred within 250m radius of the site.

2.4.6 Sensitive Land Use

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

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.

The site is shown to lie within an area where high Arsenic levels are typically encountered. 35-45mg/kg with a Threshold value of 37mg/kg. Arsenic contamination may be present at the site.

All other 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
Neath general Hospital	163	Hospitals	Inactive

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
Infilled Land (Non-Water) Unknown Filled Ground (Pit, quarry etc)	162m South
Infilled Land (Non-Water) Unknown Filled Ground (Pit, quarry etc) – Shown to be relating to the historical sandstone quarry	163m Northwest

However, historical mapping for the site show that infill has taken place historically at the site. Additionally, fill is shown to have been placed on site from recent nearby residential development.

SECTION 3 Coal Mining Risk Assessment

3.1 Geotechnical Risk

3.1.1 Underground Mining

Based upon geological map data, the stratigraphical sequence within 50m of the ground surface of the site is illustrated in

Figure 3.2 Sheet SS 79 NW Geological Map

Figure 3.3 Site levels detail

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Table 3.1 Stratigraphical Sequence

Holocene	**Residual Soils & Fill**	**2-6m**
South Wales Lower Coal Measures	**Coal Bearing Sandstone with occasional Mudstone/Siltstone bands**	**25-45m**
	COAL - "Mountain" primarily two "thin" coal seams.	**25-45m**

Figure 3.2 Sheet SS 79 NW Geological Map

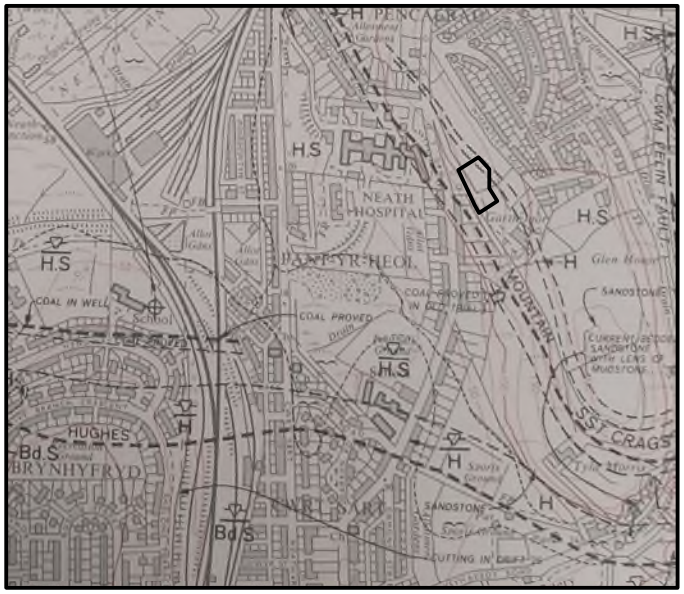


Figure 3.3 Site levels detail



As previously stated, the Coal Authority Report reports that the property is not within a surface area that could be affected by any past recorded underground coal mining. However, the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past.

Geological map evidence indicates that the Mountain coal seam lies approximately 30m to the west. Generally, geology within the area is dipping 15° to the northeast.

Map contours show the mountain coal seam to lie at approximately 125m AOD Topographically the site drops steeply towards the west and the level of the site is shown to be 150-160m AOD. The coal seam is therefore anticipated to lie 25-to 45m depth below the site.

The mountain coal seam is shown as primarily two thin coal seams.

3.1.2 Shafts & Adits

The Coal Authority Report (presented in **Annex B**) states there are no known mine entries within 20m of the site.

Geological mapping shows that the presence of an ‘old coal level’ first recorded on the 1918/19 1:2500 OS map, 146m to the south. This level was not recorded on the previous 1899 edition so had a short operating life, an indication of either poor geological conditions of poor quality coal. The recorded rock strata is Hughes Sandstone, a strong and competent rock. It is therefore likely that the old coal level was a trial abandoned due to inferior coal. The geological maps Generalised vertical section shows the Mountain seam to be thin in two leaves and intermittent in nature. The historical maps also show no mining features such as adits or shafts that could have affected the site.

3.1.3 Conclusion

The overall risk to the surface stability of the site from possible unrecorded workings is considered low. This low risk can be negated by the use of an appropriate foundation/floor slab solution as recommended in **Section 9.2**.

3.2 Geoenvironmental Risk

3.2.1 Mine Gas Risk Assessment

Gas monitoring is taking place at the site due to the deep made ground of unknown nature expected at the site. This monitoring will also detect any mine related gases.

SECTION 4 Preliminary Human Health and Environmental Risk Assessment

4.1 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 B** which includes our classifications of consequence and probability, and risk assessment matrix.

4.2 Potential Sources of Contamination

Potential or known sources of contamination associated the sites current and historical land use are summarised in **Table 4.1**.

Table 4.1 Contamination Sources

ID	Source	Contaminant
S1	Made Ground	Potentially metals, hydrocarbons, PAH, asbestos, sulphates
S2	Contaminated Groundwater	
S3	Made ground/infilled land	Carbon dioxide and methane
S4	Possible mine workings beneath the site	Carbon dioxide and methane
S5	Aggressive Ground Conditions	Soil pH and sulphate levels may affect construction concrete

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

4.3 Potential Pollution Pathways

Potential contaminant pathways associated with a residential with home grown produce land use are as follows.

P1 – Direct soil ingestion
P2 – Dermal contact with soil
P3 – Inhalation and ingestion of soil dust
P4 – Consumption of home grown produce
P5 – Dermal contact with groundwater
P6 – Inhalation of asbestos fibres
P7 – Horizontal and vertical migration and inhalation of ground gas
P8 – Horizontal and vertical migration and inhalation of mine gas
P9 – Absorption of contaminants into potable water pipes
P10 – Vertical migration of leachates (unsaturated zone)
P11 – Surface run-off
P12– Horizontal and vertical migration of contaminants (saturated zone)
P13 – Direct contact with construction materials

4.4 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 (residents)
R3 – Passers-by or neighbouring site users
R4 – Groundwater (aquifer)
R5 – Surface waters (river/lake)
R6 – Construction materials (concrete/potable water pipes)

4.5 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 4.2**.

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 4.2 Preliminary Conceptual Site Model

Source	Pathway	Receptor	Preliminary Risk Assessment		
			Consequence	Probability	Risk
Human Health					
Made Ground S1	Direct soil and dust ingestion P1 Dermal contact with soil P2 Inhalation and ingestion of dust P3 Dermal contact with groundwater P5 Inhalation of asbestos fibres P6	Construction and maintenance workers R1	**Medium**	**Likely**	**Medium Risk -** COSHH assessment and good level of PPE/ hygiene by site workers/ staff; dust suppression measures if required. Suitably designed site investigation recommended
Made Ground S1	Inhalation and ingestion of dust P3	Passers-by or neighbouring site users R3	**Medium**	**Unlikely**	**Low Risk** - Dust suppression measures if required.
Made Ground S1	Inhalation of asbestos fibres P6	Passers-by or neighbouring site users R3	**Medium**	**Unlikely**	**Low Risk** - Dust suppression measures if required.
Made Ground S1	Direct soil and dust ingestion P1 Dermal contact with soil P2 Inhalation and ingestion of dust P3 Consumption of home grown produce P4	Future site users (residents) R2	**Medium**	**Likely**	**Medium Risk -** Suitably designed site investigation recommended
Made Ground S1	Inhalation of asbestos fibres P6	Future site users (residents) R2	**Medium**	**Likely**	**Medium Risk -** Suitably designed site investigation recommended
Made ground/Infilled Land S3	Migration and inhalation of ground gas P7	Future site users (residents) R2	**Severe**	**Likely**	**Medium Risk –**High volumes of made ground on site evident.- assessed through gas monitoring
Mine Workings S4	Migration and inhalation of mine gas P8	Future site users (residents) R2	**Severe**	**Unlikely**	**Low Risk –** Underground mining unlikely beneath the site. Assessed through gas monitoring
Contaminated Groundwater S2	Dermal contact with groundwater P5	Future site users (residents) R2	**Medium**	**Unlikely**	**Low Risk**
Aggressive ground conditions S5	Direct contract with construction materials	Construction materials (concrete) R7	**Mild**	**Low Likelihood**	**Low Risk**
Aquatic Environment					
Contaminated Soils S1 Contaminated Groundwater S2	Vertical migration of leachates (unsaturated zone) P10	Groundwater R4 Surface waters R5	**Mild**	**Low Likelihood**	**Low Risk**
	Surface run-off P11	Surface waters R5			
	Horizontal and vertical migration of contaminants (saturated zone) P12				

SECTION 5 Field Investigation

5.1 Site Works

A geotechnical and geo-environmental site investigation comprising 3No Window Sampling Boreholes was undertaken on the 28th of June 2021.

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

The boreholes referenced WS01 to WS03, were formed using a Terrier 2000 rig. Dynamic sampling techniques were employed from surface to produce a continuous disturbed sample.

Standard penetration tests (SPT) were carried out at regular intervals in general accordance with BS1377: Part 9:1990:3.3. SPT results summarised as N values are presented on the borehole log.

Boreholes were monitored for groundwater ingress as drilling proceeded.

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

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

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

5.2 Ground Conditions

The ground conditions encountered by the exploratory holes can in general be summarised as shown in **Table 5.1**.

Table 5.1 Summary of Typical Ground Conditions

Depth (m)			Thickness (m)	Stratum
0.00	-	0.1-0.2	0.1-0.2	Grass over soft brown very sandy **CLAY** with fine rootlets.
0.1-0.2	-	1.7-2.0	1.6-1.8	Very stiff occasionally firm brown, orange and blue mottled very Gravelly **CLAY**. (Made Ground) (Suspected Fill)
1.7-2.0	-	3.7-4.0	2.0-2.2	Firm locally stiff brown very gravelly **CLAY** or Medium Dense very Clayey sandy **GRAVEL**. Very wet in places. (Made Ground) (Suspected Fill)
3.7	-	4.0	NA	Very stiff brown gravelly **CLAY**. (Suspected Hughes Member) BH3 only
Gravels comprised typically angular sandstone with some weak angular mudstone.				

5.3 Groundwater

Groundwater information recorded during the site investigation is summarised in **Table 5.2**.

Table 5.2 Groundwater Summary

Location	Depth (m)	Details
WS02	2.0 - 2.3 3.8 - 4.0	Strata observed wet
WS03	1.7 - 3.7	Strata observed very wet

5.4 Stability and Obstructions

All Boreholes refused at 4m depth.

5.5 Installation Well Construction

Gas well locations were selected on a non-targeted basis to characterise the gas contamination status for the whole length of site.

Groundwater/Gas installation well construction details are summarised in **Table 5.3**.

Table 5.3 Installation Well Summary

Location	Response Zone		Stratum
	From (m)	To (m)	
WS01	4	3	Made Ground / Infill
WS02	4	3	Made Ground / Infill
WS03	3.7	2.7	Made Ground / Infill

5.6 Laboratory Chemical Testing

5.6.1 Sampling Strategy

Soil sampling locations were selected on a non-targeted basis to characterise the contamination status of the accessible site area.

Sample locations, depths and suspected/known contamination source targets are summarised in **Table 5.4**:

Table 5.4 Sample Locations, Depths and Targets

Location	Depth (m)	Contamination Targets
WS01	0.45	S1
WS01	1.5	S1
WS02	0.3	S1
WS03	0.5	S1
WS03	2.5	S1

5.6.2 Soil Laboratory Analysis

During the site investigation works soil 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 5.5**.

Table 5.5 Soil Laboratory Analysis

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

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

5.7 Soil Property Testing

5.7.1 In-situ Permeability Testing

During the site investigation three borehole soakaway tests were undertaken in WS01 to WS03 carried out in general accordance with BRE DG 365:2016.

Soakaway test results are summarised in **Table** 5..

Table 5.6 Summary of Soakaway Results

Trial Pit	Infiltration Rate (ms^{-1})
WS01	No Movement Observed
WS02	No Movement Observed
WS03	No Movement Observed

The test results are discussed in **SECTION 9.6.**

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).

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.

6.2 Soil Test Results

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

6.2.1 Inorganics & Miscellaneous

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

Table 6.1 Summary of Soil Chemical Test Results – Inorganics & Miscellaneous

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Arsenic	37	LQM/CIEH	6.3	19	0
Cadmium	11	LQM/CIEH	0.12	0.4	0
Chromium III	910	LQM/CIEH	12	21	0
Chromium VI	6	LQM/CIEH	< 0.50	< 0.50	0
Copper	2400	LQM/CIEH	22	43	0
Lead	200	pC4SL	17	59	0
Mercury (inorganic)	40	LQM/CIEH	0.07	0.13	0
Nickel	180	LQM/CIEH	30	50	0
Selenium	250	LQM/CIEH	0.27	0.81	0
Zinc	3700	LQM/CIEH	66	160	0
Cyanide	-	-	<0.5	<0.5	-
Boron	290	LQM/CIEH	<0.4	0.42	0
Sulphate (%)	0.24	BRE	<0.01	0.047	0
Organic Matter (%)	-	-	< 0.10	3.4	-
pH	-	-	8.1	8.2	-

Notes:
- No available guideline

6.2.2 Organics

Five samples were tested for speciated polycyclic aromatic hydrocarbons. The summarised results are in **Table 6.2**.

Table 6.2 Summary of Soil Chemical Test Results – Speciated Polycyclic Aromatic Hydrocarbons and Phenol

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Naphthalene	2.3	LQM/CIEH	<0.1	<0.1	0
Acenaphthylene	170	LQM/CIEH	<0.1	<0.1	0
Acenaphthene	210	LQM/CIEH	<0.1	<0.1	0
Fluorene	170	LQM/CIEH	<0.1	<0.1	0
Phenanthrene	95	LQM/CIEH	<0.1	<0.1	0
Anthracene	2400	LQM/CIEH	<0.1	<0.1	0
Fluoranthene	280	LQM/CIEH	<0.1	0.2	0
Pyrene	620	LQM/CIEH	<0.1	0.18	0
Benzo(a)anthracene	7.2	LQM/CIEH	<0.1	<0.1	0
Chrysene	15	LQM/CIEH	<0.1	<0.1	0
Benzo(b)fluoranthene	2.6	LQM/CIEH	<0.1	<0.1	0
Benzo(k)fluoranthene	77	LQM/CIEH	<0.1	<0.1	0
Benzo(a)pyrene	2.2	LQM/CIEH	<0.1	<0.1	0
Indeno(123cd)pyrene	27	LQM/CIEH	<0.1	<0.1	0
Dibenzo(ah)anthracene	0.24	LQM/CIEH	<0.1	<0.1	0
Benzo(ghi)perylene	320	LQM/CIEH	<0.1	<0.1	0
Total PAH	-	-	<2.0	<2.0	-
Phenol	120	LQM/CIEH	<0.1	<0.1	0

Notes:
Thresholds based on 1.0% soil organic matter
- No available guidelines

Five 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	42	LQM/CIEH	<1.0	<1.0	0
PH C6 – C8 Ali	100	LQM/CIEH	<1.0	<1.0	0
PH C8 – C10 Ali	27	LQM/CIEH	<1.0	9.1	0
PH C10 – C12 Ali	130	LQM/CIEH	<1.0	<1.0	0
PH C12 – C16 Ali	1100	LQM/CIEH	<1.0	3.7	0
PH C16 – C21 Ali	65000*	LQM/CIEH	<1.0	3.9	0
PH C21 – C35 Ali	65000*	LQM/CIEH	<1.0	26	0
PH C35 – C44 Ali	65000	LQM/CIEH	<1.0	<1.0	0
Aromatic					
PH C5 – C7 Arom	70	LQM/CIEH	<1.0	<1.0	0
PH C7 – C8 Arom	130	LQM/CIEH	<1.0	<1.0	0
PH C8 – C10 Arom	34	LQM/CIEH	<1.0	13	0
PH C10 – C12 Arom	74	LQM/CIEH	<1.0	7.9	0
PH C12 – C16 Arom	140	LQM/CIEH	4.3	15	0
PH C16 – C21 Arom	260	LQM/CIEH	<1.0	15	0
PH C21 – C35 Arom	1100	LQM/CIEH	24	38	0
PH C35 – C44 Arom	1100	LQM/CIEH	<1.0	<1.0	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

6.2.3 Asbestos Testing

All made ground soil samples were scheduled for asbestos screening. Asbestos was not detected

SECTION 7 Ground Gas Risk Assessment

7.1 Gas Risk Characterisation

7.1.1 Gas Source

Ground gas associated with the decomposition and degradation of thick made ground soils is considered a potential source of carbon dioxide and methane gas at the site.

Shallow mine workings, if present, are also viable source of gas.

7.1.2 Gas Migration Pathways

Made Ground observed at the site contained irregular layers of granular material and will likely have adequate permeability to permit the horizontal and vertical migration of hazardous gasses.

7.1.3 Potential Receptors

Potential receptors are future site residents.

7.2 Gas Screening Value

Two ground gas monitoring wells were installed in WS01 and WS03.

One round of gas monitoring has been carried out to date. The installations were tested for carbon dioxide, methane, oxygen, carbon monoxide and hydrogen sulphide using a Gas Analyser GA2000/5000.

Recorded gas concentrations are summarised in **Table 7.1**.

Table 7.1 Measured Gas Concentration Summary

Gas	Minimum (% V/V)	Maximum (% V/V)
Methane	0	0
Carbon Dioxide	1.1	10.5
Oxygen	7	19.7

Methane levels peaked at 0% V/V. Carbon dioxide levels varied between 1.1% and 10.5% V/V. Oxygen concentrations varied between 7% and 19.7% V/V.

The gas flow rate from the boreholes was also assessed, a maximum flow rate of 0.l/hr was recorded.

Based on a flow rate of 0.1l/hr (monitor lower limit of detection) and the highest recorded carbon dioxide concentration 10.5%, a gas screening value of 0.0105l/hr is calculated, as follows:

*(10.5/100) x 0.1 = 0.0105 l/hr

The results to date are presented in **Annex F**.

7.3 Conclusion

When this monitoring result is compared with Table 8.5 of CIRIA report C665, the site is classified as ‘Gas Characteristic Situation 1’ (CS1). However, as the peak carbon dioxide concentration has risen above 5%, therefore it is recommended that ‘Gas Characteristic Situation 2’ (GS2) is applied to the site in line with recommendations provided in CIRIA C665.

Upon completion of the full six rounds of monitoring the recommendation will be reviewed in a letter report and if necessary amended.

SECTION 8 Quantitative Risk Assessment

8.1 Contaminants of Concern

All substances tested for were found to be present at concentrations below their respective human health threshold level.

Mitigation measures to deal with soil contamination is therefore not required.

8.2 Mitigation and Remedial Measures

As stated above mitigation/remedial measures are not required on site to deal with contaminated soils. However, the following general recommendations should be adhered to.

8.2.1 Human Health

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.

If during earthworks ground conditions are encountered that are markedly different to those found during the investigation then the ground should be subject to additional sampling and testing and any necessary remedial measures designed and implemented before continuing with the works.

8.2.2 Ground Gas

To mitigate against the risk to future site users from ground gas full protection measures will be required in all structures. Reference should be made to guidance publication BR 211:2015 for further details on required protection elements. Verification of the installed protection measures is highly recommended. Terra Firma Wales Ltd. offer a comprehensive ground gas protection system verification service.

To protect the future site users from identified ground gas, proposed structures will need to incorporate within its construction a suitable ground gas protection system. The ground gas protection system should be designed, verified, installed and validated in accordance with the British Standard 8485:2015+A1:2019 and CIRIA guidance C735:2014. *With respect to volatile organic compounds encountered at the site, ground gas protection elements should be selected based on guidelines presented in CIRIA C748:2014. In addition, NHBC guidance may also need to be adopted depending on the requirements of the proposed development guarantor.

It is recommended that a specialist consultant is retained to prepare a risk assessed ground gas protection system Verification Plan for the proposed development. The Verification Plan

will detail the required protection measures based on the perceived risk associated with the complexity of design, experience of the installer, size of the site and gas characteristic situation. The Verification Plan also details the step-by-step process and requirements to allow for the completion of a Validation Report. Terra Firma (Wales) Ltd offer Verification and Validation services.

Validation of installed ground gas protection systems by an independent third party will be required upon completion of the development. Validation may only be achieved if processes prescribed in the Verification Plan are undertaken.

8.2.3 Aquatic Environment

Site specific mitigation and remedial measures are not required with respect to the aquatic environment.

However, 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 accidently 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

Due to the uneven nature of the ground, it was not possible to provide a coverage of the site that would normally be required. Therefore, the recommendations in the following sections should be confirmed by further trial pitting with a tracked mechanical excavator.

9.1 Preparation of Site

Areas of vegetation including all roots should be stripped and removed from beneath the proposed development 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

Due to extensive filling of the site from past adjacent developments it is preliminary recommendations are for a reinforced concrete raft type foundation/floor slab solution founded upon 1.0m of recompacted materials is used for the development.

The re-compaction should comprise the excavation of 1.0m of made ground/natural materials to at least 1.0m outside the plan areas of the buildings, the removal of all deleterious materials and the re-compaction in layers of the material to Series 600 of the Specification for Highway Works. The materials should be compacted to within 95% of their optimum moisture content. To this end samples of the materials should be taken and tested in the laboratory in order to determine their optimum moisture content/maximum dry density relationship together with grading analysis. A Compaction Specification can then be prepared.

Should the natural moisture content of the materials be +or- 5% of the optimum moisture content then measures should be taken to either reduce or increase the moisture content as appropriate.

If this is not feasible or after the removal of deleterious materials, there is a shortfall of fill then an appropriate clean source of mainly granular materials should be sought.

Following the above earthworks an allowable bearing pressure of 50kN/m^2 can be used for design purposes. For the given foundation and allowable bearing pressure following the above earthworks maximum settlements should not exceed 25mm with angular distortions of less than 1:750 will results.

The raft should also be designed to span a crown hole of 3m with a cantilever effect on corners.

In order to protect the formations, from the effect of frost heave and or thermal shrinkage the foundations should be a minimum depth below the finished ground level of 0.9m.

If significant cut excavations are to be carried out for the buildings, it may be economical to construct a box type structure with integral raft and reinforced concrete walls.

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.

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.

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 C1/C2 of BRE Digest 1:2005, it indicates that buried concrete should generally conform to Class AC-1.

9.5 Access Roads and Car Parking Areas

For car parking and road areas, formations within the made ground a CBR value of 2% may be used 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 falling head permeability soakaway test was undertaken in in the boreholes. No movement was observed during the test periods.

It is considered that soakaway storm water draining is unsuitable at the site.

9.7 Retaining Walls

Due to the sloping nature of the site, retaining walls may be required. The existing steepness of any embankments should not be increased. Any cuts should be undertaken in small sections and in such a way so as not to induce any instability to the ground.

Effective shear parameters for retaining wall design are presented in **Table 9.1**.

Table 9.1 Effective Shear Stress Parameters

Stratum Description	Bulk Unit Weight (γ) kN/m^3	Effective Cohesion (c') kN/m^2	Effective Angle of Shearing Resistance (ϕ') degrees
Made Ground and stiff clay	17-19	0	30
Hughes Member Bedrock	19	15	40-50

The parameters are based on experience in similar ground conditions.

The materials to be in-filled behind the retaining wall should be placed at or close to its optimum moisture content/maximum dry density and compacted in layers as per the requirements of the Specification for Highway Works. During the earthworks suitable in-situ testing should be carried out to ensure that the compaction process is achieving the required maximum dry density to achieve at least 95% compaction.

The acceptability of the filling works should be verified by appropriate on-site testing. A certification report should also be prepared on the earthworks by a suitably qualified Geotechnical Engineer.

Appropriate drainage should be incorporated in the design to prevent the build-up of hydrostatic pressure.

Appropriate cutting and benching of the existing slope should be conducted prior to the replacement of any imported fill to minimise the risk of any slip surfaces forming on the interface between the existing imported materials.

ANNEX A
Envirocheck Report

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
281040714_1_1

Customer Reference:
16819 - Pearson Way

National Grid Reference:
274640, 195700

Slice:
A

Site Area (Ha):
0.25

Search Buffer (m):
1000

Site Details:

1, Pearson Way
NEATH
SA11 2EJ

Client Details:

Mr I Brookes
Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

terra firma
Geotechnical & Geoenvironmental Specialists

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Introduction

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

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Report Version v53.0

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Summary

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 1			2	18
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 6				4
Integrated Pollution Prevention And Control	pg 7				1
Local Authority Integrated Pollution Prevention And Control	pg 7				1
Local Authority Pollution Prevention and Controls	pg 7				5
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 8			Yes	
Pollution Incidents to Controlled Waters	pg 8			11	10
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 11		7		
River Quality	pg 12				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 12			1	
Water Abstractions	pg 13				(*6)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 14	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 14	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 14			39	134

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Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 35				1
Historical Landfill Sites	pg 35				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 35				1
Licensed Waste Management Facilities (Locations)	pg 35		1		2
Local Authority Landfill Coverage	pg 36	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 36				1
Potentially Infilled Land (Non-Water)	pg 36		2	3	9
Potentially Infilled Land (Water)	pg 37			4	19
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 38		2		
Registered Waste Treatment or Disposal Sites	pg 39		1		1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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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 41	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 41	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 44		2	6	13
BGS Urban Soil Chemistry	pg 48		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 51	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 51	Yes	n/a	n/a	n/a
Mining Instability	pg 51	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 51	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 51		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 51	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 52		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 52		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 53		1	1	41
Fuel Station Entries	pg 56				2
Points of Interest - Commercial Services	pg 57		1	1	14
Points of Interest - Education and Health	pg 58		1		
Points of Interest - Manufacturing and Production	pg 58		1	3	21
Points of Interest - Public Infrastructure	pg 60		1	3	25
Points of Interest - Recreational and Environmental	pg 62				7
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 64			5	15
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 65				1
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (NW)	0	1	274637 195704
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	121	1	274600 195550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	232	1	274550 195450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	336	1	275000 195704
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (S)	344	1	274500 195350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (SE)	403	1	275000 195450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	423	1	274550 195250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SW)	436	1	274400 195300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	442	1	274200 195550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	470	1	274750 196200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	485	1	275150 195704
1	**Discharge Consents** Operator: Mr P Williams Property Type: Undefined Or Other Location: Eaglesbush Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4003001 Permit Version: 1 Effective Date: 2nd April 1973 Issued Date: 2nd April 1973 Revocation Date: 13th November 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Trib Of Crythan Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	371	2	274950 195940
2	**Discharge Consents** Operator: Mr P E Woodhouse Property Type: Domestic Property (Single) Location: 3 Eaglesbush Cottage Gardners Lane, Gardners Lane Neath* Authority: Natural Resources Wales Catchment Area: River Neath Reference: BM0049001 Permit Version: 1 Effective Date: 15th August 1985 Issued Date: 15th August 1985 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge Environment: Into Land Receiving Water: To Land **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	405	2	274900 196050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Given Reference: BO5110401 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 23rd March 2005 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Neath Canal **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
4	**Discharge Consents** Operator: M Davies Property Type: Domestic Property (Single) Location: The Grove Eaglesbush Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: BP0045101 Permit Version: 2 Effective Date: 19th September 1995 Issued Date: 18th September 1995 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Stram At Eaglebush, Ne **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	618	2	275100 196150
4	**Discharge Consents** Operator: Mr M Davies Property Type: Domestic Property (Single) Location: The Grove Eaglesbush Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0045101 Permit Version: 1 Effective Date: 30th April 1987 Issued Date: 30th April 1987 Revocation Date: 18th September 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Unnamed Stram At Eaglebush, Ne **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	618	2	275100 196150
5	**Discharge Consents** Operator: Carnaud Metal Box Plc Property Type: Undefined Or Other Location: Factory At Canal Side (Cooling Wate, (Cooling Water) Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: BM0000703 Permit Version: 1 Effective Date: 1st June 1979 Issued Date: 1st June 1979 Revocation Date: 24th June 2005 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Not Supplied Receiving Water: Japan Brook **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	669	2	274500 196400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: Carnaud Metal Box Plc Property Type: Undefined Or Other Location: Boiler House (Cooling Water) Factor, Factory Site Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bm0000702 Permit Version: 1 Effective Date: 1st June 1979 Issued Date: 1st June 1979 Revocation Date: 18th November 1992 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Japan Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	791	2	274400 196500
7	**Discharge Consents** Operator: Neath Port Talbot Waste Management Co Ltd Property Type: Household, Commercial and Industrial Waste Landfills Location: D3 Ne Corner Giants Grave Landfill, De Ne Corner Giants Grave Lfill, Giants Grave Road, Briton Ferry Neath, Sa11 Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp027870101 Permit Version: 1 Effective Date: 9th November 1999 Issued Date: 9th November 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge Environment: Saline 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	A12NW (W)	815	2	273800 195850
7	**Discharge Consents** Operator: Neath Port Talbot Waste Management Co Ltd Property Type: Not Supplied Location: D3 Ne Corner Giants Grave Landfill, De Ne Corner Giants Grave Lfill, Giants Grave Road, Briton Ferry Neath, Sa11 Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0278701 Permit Version: 1 Effective Date: 9th November 1999 Issued Date: 9th November 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge Environment: Saline Estuary Receiving Water: Neath Estuary **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	815	2	273800 195850
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Saltings Ps Authority: Natural Resources Wales Catchment Area: Not Given Reference: BO5114701 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 31st March 2004 Discharge Type: Unspecified Discharge Environment: Not Supplied 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	A12SW (W)	837	2	273800 195500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works Location: Penrhiwtyn Sps Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0256001 Permit Version: 2 Effective Date: 31st March 2005 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Estuarial Waters Of The River **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	854	2	274024 196350
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works Location: Penrhiwtyn Sps Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0256001 Permit Version: 2 Effective Date: 31st March 2005 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Estuarial Waters Of The River **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	854	2	274024 196350
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Penrhiwtyn Sps, Opp 3 Pant Yr Heol, Penrhiwtyn, Neath, Sa11 2hn Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bp0256001 Permit Version: 3 Effective Date: 6th February 2020 Issued Date: 6th February 2020 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Neath Via Surface Water Sewer **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	860	2	274036 196370
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Penrhiwtyn Sps, Opp 3 Pant Yr Heol, Penrhiwtyn, Neath, Sa11 2hn Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bp0256001 Permit Version: 3 Effective Date: 6th February 2020 Issued Date: 6th February 2020 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Neath Via Surface Water Sewer **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	860	2	274036 196370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: Carnaud Metal Box Plc Property Type: Trade (Unknown/Other) Location: Advance Factory Site Dafen Llanelli, Dafen, Carmarthenshire Authority: Natural Resources Wales Catchment Area: River Neath Reference: BM0000701 Permit Version: 1 Effective Date: 1st June 1979 Issued Date: 1st June 1979 Revocation Date: 30th May 2008 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Not Supplied Receiving Water: Japan Brook **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	918	2	274300 196600
11	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Milland Rd Est Milland Road Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0036001 Permit Version: 1 Effective Date: 16th March 1987 Issued Date: 16th March 1987 Revocation Date: 10th October 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Cryddan Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	956	2	274600 196700
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Millands Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: BD1377 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A18NW (N)	902	3	274620 196647
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Unit 16 And 17, Briton Ferry Industrial Estate, Milland Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: AM1020 Dated: 31st May 1994 Process Type: IPC new application Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A18NW (N)	902	3	274615 196647
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Unit 16 And 17, Briton Ferry Industrial Estate, Milland Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: AR1400 Dated: 13th April 1995 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A18NW (N)	907	3	274615 196652

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Unit 16 And 17, Briton Ferry Industrial Estate, Milland Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: BH3088 Dated: 3rd March 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	3	274615 196653
13	**Integrated Pollution Prevention And Control** Name: Baglan Operations Ltd Location: Old Road, Briton Ferry, PORT TALBOT, West Glamorgan, SA11 2S Authority: Environment Agency, Welsh Region Permit Reference: Bj7891 Original Permit Ref: Bj7891 Effective Date: 31st December 2001 **Status: Superseded By Variation** Application Type: PPC APPLICATION App. Sub Type: Not Supplied Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Not Supplied	A8NW (S)	594	3	274403 195119
14	**Local Authority Integrated Pollution Prevention And Control** Name: Crown Packaging Uk Plc Location: Neath Factory, Po Box 20, Canalside, Neath, SA11 1PQ Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/104 Dated: Not Supplied Process Type: Production and Processing of Metals Description: SG6 **Status: Permit Issued** Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	673	4	274329 196345
15	**Local Authority Pollution Prevention and Controls** Name: Mr H. J. G. SmithMile End Service Station Location: 188 Mile End Row, Neath, West Glamorgan, SA11 2ED Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/80 Dated: 26th February 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	637	4	274596 196381
16	**Local Authority Pollution Prevention and Controls** Name: Crown Packaging Uk Plc Location: Neath Factory, PO Box 20, Canalside, NEATH, West Glamorgan, SA11 1PQ Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/104 Dated: 14th September 1993 Process Type: Local Authority Air Pollution Control Description: PG4/1 Processes for the surface treatment of metals **Status: Transferred to LAIPPC** Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	673	4	274329 196345
17	**Local Authority Pollution Prevention and Controls** Name: Metal Processors Ltd Location: Griffiths Way, Melyn, NEATH, West Glamorgan, SA11 1BT Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG2/6 Aluminium and aluminium alloy processes **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	874	4	274714 196615
18	**Local Authority Pollution Prevention and Controls** Name: Deoxidant Ltd Location: D C Griffiths Way, Melyn, NEATH, West Glamorgan, SA11 1BT Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/31 Dated: 6th April 1993 Process Type: Local Authority Air Pollution Control Description: PG2/1Furnaces for the extraction of non-ferrous metal from scrap **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	922	4	274795 196652

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Local Authority Pollution Prevention and Controls** Name: Ds Smith Packaging Ltd Location: D C Griffiths Way, PO Box 14, Melyn, NEATH, West Glamorgan, SA11 1BT Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/39 Dated: 6th April 1993 Process Type: Local Authority Air Pollution Control Description: PG6/16 Printworks **Status: Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	924	4	274788 196656
	Nearest Surface Water Feature	A13NE (E)	269	-	274933 195720
19	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Bt Manhole In Authority: Environment Agency, Welsh Region Pollutant: Cesspit Contents Note: Not Supplied Incident Date: 12th August 1994 Incident Reference: 20823 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 1 - Major Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	290	3	274400 195500
20	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Farm Road And, Grandison Pub Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Not Supplied Incident Date: 13th July 1995 Incident Reference: 25165 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	A13SW (W)	307	3	274300 195700
21	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Garage Tended, Fire Service, Has Been Closed Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 30th October 1994 Incident Reference: 21651 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	A13NW (W)	315	3	274300 195800
22	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Opposite Neath Hospital, By Footbridge Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 1st December 1994 Incident Reference: 21948 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	A13SW (SW)	377	3	274300 195500
22	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Grandison Park, NEATH Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 7th September 1994 Incident Reference: 21052 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	A13SW (SW)	379	3	274300 195495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**Pollution Incidents to Controlled Waters** Property Type: Cess Pit Location: Adjacent To, Slurry Lagoon Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Neglect Incident Date: 15th January 1996 Incident Reference: 27134 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	378	3	275001 195501
23	**Pollution Incidents to Controlled Waters** Property Type: Cess Pit Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Cesspit Contents Note: Neglect Incident Date: 12th January 1996 Incident Reference: 27135 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	381	3	275001 195496
23	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Cesspit Contents Note: Neglect Incident Date: 12th January 1996 Incident Reference: 27135 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	383	3	275006 195501
23	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Neglect Incident Date: 15th January 1996 Incident Reference: 27134 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	385	3	275006 195496
24	**Pollution Incidents to Controlled Waters** Property Type: Road (Lost Load) Location: Maternity, Unit At Neath, General Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Accidental Spillage/Leakage Incident Date: 8th November 1994 Incident Reference: 21770 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	413	3	274200 195800
25	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Grandison Point Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 21st October 1994 Incident Reference: 21647 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	425	3	274200 195600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Pant Howel Ddu, Ynysmaerdy Road, Briton Authority: Environment Agency, Welsh Region Pollutant: Agricultural: Carcasses Note: Not Supplied Incident Date: 27th February 1995 Incident Reference: 23516 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	586	3	274800 195100
27	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: 100 Yards Upstream Tip Road, Between Mellon And, Briton Ferry Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Tip Leachate Note: Neath Canal Overflow; Run-Off Incident Date: 19th November 1997 Incident Reference: 34266 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Inadequate Design/Capacity Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	727	3	273900 195900
28	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Rear Of Factory Cottage, Former Siliconics Site, NEATH Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Deliberate Act Incident Date: 16th July 1996 Incident Reference: 29179 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	727	3	275200 196200
29	**Pollution Incidents to Controlled Waters** Property Type: Road (Lost Load) Location: Pond Up Stream Of, Waterfall Near, Builders Pub Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Deliberate Act Incident Date: 1st December 1994 Incident Reference: 21885 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	794	3	275200 196300
30	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Lane Behind Giants Grave Road, BRITON FERRY Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Blockage Incident Date: 6th April 1997 Incident Reference: 31775 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	816	3	273800 195600
31	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Millands Road Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Poor Operational Practise Incident Date: 30th April 1992 Incident Reference: 4643 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	854	3	274350 196550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Dy-Oxydent Co D, C Griffiths Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Accidental Spillage/Leakage Incident Date: 7th October 1991 Incident Reference: 4023 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	855	3	274650 196600
33	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Milland Road, NEATH Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Fire water / Foam Note: Nant Crythan (Tributary Of River Neath); Direct Introduction Incident Date: 30th July 1997 Incident Reference: 33189 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	951	3	274600 196695
33	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Milland Industrial Estate, NEATH Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Vandalism Incident Date: 21st August 1994 Incident Reference: 20744 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	A18NW (N)	956	3	274600 196700
34	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: D C Griffith Way, Melin Y Wig Corwen, NEATH Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 19th February 1996 Incident Reference: 27414 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	A18NE (N)	958	3	274700 196700
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, Penrhiwtyn, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AQ6813 Dated: 4th April 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	159	2	274450 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, Penrhiwtyn, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AT7545 Dated: 3rd January 1996 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	160	2	274450 195759

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Penrhiwtyn, Neath, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: BI0987 Dated: 31st July 2001 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	2	274445 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: Bh9957 Dated: 16th March 2000 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	2	274445 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, Penrhiwtyn, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AH7704 Dated: 14th July 1993 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	163	2	274445 195754
35	**Registered Radioactive Substances** Name: Bro Morgannwg Nhs Trust Location: Penrhiwtyn, Neath, West Glamorgan, SA11 2LQ Authority: Environment Agency, Welsh Region Permit Reference: Bt1797 Dated: Not Supplied Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Application has met the requirements for authorisation (but not yet authorised)** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	3	274445 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AY1072 Dated: 28th February 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	168	2	274440 195754
	River Quality Name: Neath Canal GQA Grade: River Quality D Reach: Conf.Neath - Aberdulais Aqueduct Estimated Distance (km): 8 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A17NE (NW)	932	3	274199 196569
36	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 28th October 2001 Incident Reference: 39936 Water Impact: Category 2 - Significant Incident Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural)	A12NE (W)	395	2	274213 195770

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	A1SE (SW)	1989	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	A1SE (SW)	1989	2	273419 194094
	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	A1SE (SW)	1997	2	273410 194090
	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	A1SE (SW)	1997	2	273410 194090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A1SE (SW)	1997	3	273410 194090
	Water Abstractions Operator: Hope Construction Materials Limited Licence Number: 21/58/72/0036 Permit Version: Not Supplied Location: Neath Canal - General Use 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	A1SE (SW)	1997	2	273410 194090
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13SE (NW)	0	2	274637 195704
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (NW)	0	2	274637 195704
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 221.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	269	5	274929 195746

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	282	5	274946 195657
39	**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	A13SE (E)	286	5	274950 195655
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	288	5	274952 195653
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	294	5	274948 195594
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	294	5	274948 195595
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	295	5	274948 195591
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 142.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	298	5	274949 195584
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	298	5	274953 195597
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 91.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	302	5	274958 195603

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 201.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	303	5	274917 195867
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 674.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SW (SW)	330	5	274426 195411
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (SE)	347	5	274972 195513
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 86.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SW (SE)	348	5	274973 195513
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A14SW (SE)	348	5	274973 195513
52	**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: 2	A13SE (SE)	349	5	274972 195509
53	**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: 1	A12SE (SW)	386	5	274283 195514
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (SW)	395	5	274271 195516
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 147.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (SW)	400	5	274262 195521

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 400.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (W)	414	5	274192 195738
57	**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	A12SE (W)	425	5	274190 195637
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	429	5	274186 195637
59	**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	A12SE (W)	440	5	274175 195638
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	449	5	274271 196024
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A9NW (SE)	464	5	274997 195350
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	471	5	274187 195939
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	476	5	274262 196054
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	477	5	274138 195635

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 162.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	477	5	274998 196052
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 87.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	484	5	274131 195635
67	**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: 2	A9NW (SE)	491	5	274997 195313
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 189.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	492	5	274168 195950
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 146.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	492	5	274168 195950
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	492	5	274298 196109
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 123.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	492	5	274298 196109
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 60.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (SE)	495	5	274963 195279
73	**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: 2	A9NW (SE)	495	5	274995 195306

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 39.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (SE)	496	5	274939 195261
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	498	5	274287 196107
76	**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	A8NE (SE)	506	5	274968 195269
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (SE)	511	5	274966 195261
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 121.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (SE)	522	5	274944 195234
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 121.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (NW)	524	5	274378 196202
80	**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	A18SW (NW)	538	5	274345 196200
81	**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	A17SE (NW)	557	5	274183 196088
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	571	5	274044 195627

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (S)	571	5	274867 195140
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (S)	576	5	274834 195122
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (S)	576	5	274834 195122
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 284.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	577	5	274118 196033
87	**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)	591	5	274025 195835
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (S)	605	5	274857 195099
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 125.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (SE)	605	5	274943 195137
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	606	5	274008 195625
91	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	609	5	274005 195625

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**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	A12SE (W)	613	5	274002 195624
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	630	5	274987 195133
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	631	5	275079 196190
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 55.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	634	5	275006 195141
96	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 56.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	645	5	275092 196198
97	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Crythan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	668	5	275209 196089
98	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 278.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Crythan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	671	5	275224 196072
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 173.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	673	5	275058 195128
100	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	673	5	275170 196152

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	673	5	275170 196152
102	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 64.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	695	5	275232 196103
103	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	695	5	275146 196213
104	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 190.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	697	5	275149 196214
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	715	5	275213 196163
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 202.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	722	5	274421 196435
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 151.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	736	5	274723 194933
108	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 93.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	736	5	274723 194933
109	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	750	5	274816 194935

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 124.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	751	5	274724 194918
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 171.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	752	5	273871 195883
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	758	5	274818 194928
113	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 144.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	763	5	274750 196498
114	**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	A8SW (S)	764	5	274579 194902
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	764	5	274579 194902
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	775	5	274597 194890
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	779	5	274859 194917
118	**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	A8SW (S)	781	5	274541 194889

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.7 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	786	5	274717 196526
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	791	5	274532 194880
121	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.9 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	799	5	275106 196389
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	799	5	275085 196404
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.3 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	801	5	275074 196413
124	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 130.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	802	5	274706 196543
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	802	5	274896 194904
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	811	5	275060 196434
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	816	5	274531 194856

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 496.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Crythan Brook Catchment Name: Neath Primacy: 1	A14NE (E)	818	5	275446 195928
129	**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: 1	A9NW (SE)	819	5	275207 195061
130	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	822	5	274914 194890
131	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.4 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	822	5	274836 196542
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	831	5	274881 196537
133	**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	A12NW (W)	834	5	273777 195811
134	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	837	5	274512 194837
135	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.6 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	848	5	274988 196515
136	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	852	5	275223 195031

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**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	A9NW (SE)	852	5	275223 195031
138	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 77.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	854	5	274495 194822
139	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 167.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	860	5	275237 195032
140	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 27.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	860	5	275237 195032
141	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 54.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	879	5	274051 196407
142	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 215.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	890	5	273955 196331
143	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	891	5	274097 196457
144	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 65.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	892	5	273946 196327
145	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	894	5	274061 196434

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 74.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	896	5	274041 196421
147	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	897	5	274093 196461
148	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	897	5	274093 196461
149	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.9 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	900	5	274700 196643
150	**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	A17NE (NW)	905	5	274149 196509
151	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	907	5	274159 196518
152	**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: Neath Primacy: 1	A17SW (NW)	908	5	273847 196223
153	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	908	5	273738 195992
154	**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	A17NE (NW)	909	5	274097 196479

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	910	5	274955 194811
156	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	910	5	274955 194811
157	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 184.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	914	5	273871 196268
158	**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	A17NE (NW)	917	5	274186 196545
159	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 90.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	918	5	275255 194971
160	**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	A9SW (SE)	918	5	275258 194974
161	**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: Neath Primacy: 1	A17SW (NW)	919	5	273837 196229
162	**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	A18NW (N)	919	5	274323 196610
163	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	919	5	274442 194767

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	920	5	274111 196502
165	**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	A8SE (S)	922	5	274969 194803
166	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	922	5	274969 194803
167	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	923	5	274089 196490
168	**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	A17NE (NW)	925	5	274074 196482
169	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	925	5	274075 196482
170	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	925	5	274074 196482
171	**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	A17NE (NW)	926	5	274050 196466
172	**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	A17NE (NW)	927	5	274176 196551

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
173	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	928	5	274194 196562
174	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 101.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (W)	929	5	273733 196043
175	**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	A9SW (SE)	932	5	275264 194961
176	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	932	5	275264 194961
177	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	932	5	274437 194755
178	**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	A18NW (N)	933	5	274318 196623
179	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 215.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	942	5	274954 194776
180	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	946	5	273898 196353
181	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	947	5	274315 196636

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	952	5	273917 196383
183	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 45.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (S)	957	5	275013 194783
184	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 310.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A17SW (NW)	958	5	273769 196191
185	**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	A18NW (N)	958	5	274310 196646
186	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	959	5	274022 196485
187	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 18.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	960	5	275381 195035
188	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	964	5	274019 196490
189	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	965	5	274310 196654
190	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	967	5	275397 195043

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 175.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	969	5	274690 196712
192	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 590.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	970	5	274412 194721
193	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 98.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	970	5	275463 195122
194	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	974	5	274303 196661
195	**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	A9NE (SE)	975	5	275453 195100
196	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 47.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	977	5	274302 196663
197	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 62.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	978	5	273891 196392
198	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	981	5	273893 196399
199	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 16.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	986	5	275279 194903

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
200	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	987	5	273893 196407
201	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 148.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	987	5	273893 196407
202	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 14.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	989	5	273716 196156
203	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	989	5	273716 196159
204	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	991	5	274007 196515
205	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 36.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	992	5	273888 196411
206	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A17SW (NW)	993	5	273736 196205
207	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	998	5	273844 196370
208	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (S)	999	5	275027 194743

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 31.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (S)	999	5	275027 194743

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
210	**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	A12NW (W)	796	-	273816 195827
211	**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 Type: Deposited Waste included Inert, Industrial, Commercial, Household and Special Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6930/0006 BGS Ref: 2676 Other Ref: SWW-68-L	A12NW (W)	796	2	273816 195827
212	**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	A12NW (W)	800	2	273812 195831
213	**Licensed Waste Management Facilities (Locations)** Licence Number: 34102 Location: Pant Yr Heol, Neath, N P T, SA11 2LQ Operator Name: Glan Y Mor NHS Trust Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Clinical Waste Transfer Stations **Licence Status: Surrendered** Issued: 8th July 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 7th December 2001 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (W)	109	2	274500 195700
214	**Licensed Waste Management Facilities (Locations)** Licence Number: PP3098FS Location: Fordpad Scrap, Neath, N P T, Neath Port Talbot, SA11 1AU Operator Name: Fordpad Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) **Licence Status: Effective** Issued: 2nd January 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	A18NE (N)	885	2	274765 196620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
214	**Licensed Waste Management Facilities (Locations)** Licence Number: 34035 Location: Foundry Works, D C Griffiths Way, Neath, SA11 1AU Operator Name: Fordpad Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) **Licence Status: Modified** Issued: 2nd February 1992 Last Modified: 22nd February 2002 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	885	2	274765 196620
	Local Authority Landfill Coverage Name: Neath Port Talbot County Borough Council - Has supplied landfill data		0	4	274637 195704
215	**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	A12NW (W)	794	4	273819 195832
216	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A13SE (S)	162	-	274693 195511
217	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A13NW (NW)	163	-	274556 195888
218	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A14SW (SE)	395	-	275011 195484
219	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SE (N)	399	-	274797 196108
220	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SE (N)	488	-	274824 196193
221	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SE (N)	534	-	274722 196271
222	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SW (NW)	557	-	274397 196249
223	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A9NW (SE)	561	-	275085 195302
224	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A19SW (NE)	591	-	275134 196062
225	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A9NW (SE)	678	-	274986 195077

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
226	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A17SE (NW)	741	-	274223 196361
227	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A9NW (SE)	786	-	275238 195136
228	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NE (N)	912	-	274806 196640
229	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NE (N)	955	-	274686 196698
230	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A13SW (SW)	290	-	274385 195525
231	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A13SW (SW)	306	-	274381 195499
232	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A8NW (S)	449	-	274533 195228
233	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12NE (NW)	484	-	274174 195944
234	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A12SE (W)	509	-	274117 195584
235	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SE (W)	528	-	274091 195606
236	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A18SW (NW)	559	-	274384 196245
237	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A12NE (W)	567	-	274046 195820
238	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SE (W)	608	-	274008 195617
239	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SW (N)	662	-	274395 196362
240	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A18NW (N)	717	-	274392 196420
241	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SW (W)	753	-	273860 195625
242	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A12SW (W)	768	-	273845 195621
243	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A17NE (NW)	776	-	274187 196379
244	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18NW (N)	822	-	274311 196501
245	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1935	A18NE (N)	833	-	274898 196535

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
246	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8SE (S)	837	-	274897 194868
247	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A18NW (N)	853	-	274381 196560
248	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12NW (W)	857	-	273759 195859
249	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12SW (W)	865	-	273757 195562
250	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A18NW (N)	923	-	274496 196657
251	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SW (W)	923	-	273692 195596
252	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A18NW (N)	969	-	274437 196694
253	**Registered Waste Transfer Sites** Licence Holder: Glan-Y-Mor Nhs Trust Licence Reference: NBWD 3 Site Location: Neath General Hospital, Pant Yr Heol, NEATH, West Glamorgan, SA11 2LQ Operator Location: 21 Orchard Street, SWANSEA, West Glamorgan, SA1 5AQ Authority: Environment Agency Wales, South West Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Licence Status: Operational as far as is knownOperational Dated: 24th September 1996 Preceded By Licence: NBWD 3 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Clinical Waste Max.Stor; Food Waste Max.Stor; Household Waste Max.Stor; Pharmaceuticals Max.Stor Prohibited Waste: Highly Flam./Lpg Regs'72 Subs Percussive/Explosive/Similar Waste Special Wastes (As In '96 Regs) N.O.S Sub'S Control. Radioactive Subs Act'60 Waste N.O.S.	A13SW (SW)	221	3	274450 195550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
253	**Registered Waste Transfer Sites** Licence Holder: West Glamorgan Health Authority Licence Reference: NBWD 3 Site Location: Neath General Hospital, Pant Yr Heol, NEATH, West Glamorgan, SA11 2LQ Operator Location: 36 Orchard Street, SWANSEA, West Glamorgan, SA1 5AQ Authority: Environment Agency Wales, South West Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 8th July 1994 Preceded By Licence: 12/88 Superseded By Licence: NBWD 3 Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Clinical Wastes; Food Waste; Gen.Hosp'Waste/Bottle/Aerosol Max.Stor; Pharmaceuticals; Radioactive Cont.Glassware/Syringe/Etc; Sharps Prohibited Waste: Highly Flam./Lpg Regs'72 Subs; Percussive/Explosive/Similar Waste; Special Wastes N.O.S.; Sub'S Control. Radioactive Subs Act'60; Waste N.O.S.	A13SW (SW)	221	3	274450 195550
254	**Registered Waste Treatment or Disposal Sites** Licence Holder: West Glamorgan Area Health Authority Licence Reference: 12/88 Site Location: Adj Outpatient Dept, Main Hospital Site, Neath, West Glamorgan Operator Location: 36 Orchard Street, SWANSEA, West Glamorgan, SA1 5AQ Authority: Environment Agency Wales, South West Area Site Category: Incineration Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st June 1988 Preceded By Licence: Not Given Superseded By Licence: NBWD 3 Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Hospital Wastes; Pathology Wastes Suitable For Inc'N; Sharps (Med./Surg./Vet); Soiled Surgical Dress./Swaps/Cont.Wast; Solid Medicines & Injectables Prohibited Waste: Broken Thermometers Contain. Mercury; Pharmaceutical Aerosols	A13SW (SW)	221	3	274450 195550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
255	**Registered Waste Treatment or Disposal Sites** Licence Holder: Fordpad Ltd Licence Reference: NBSC 1 Site Location: Foundry Works, D C Griffiths Way, NEATH, West Glamorgan, SA11 1AU Operator Location: Abernant House, Altygraban Road, Pontarddulais, SWANSEA, West Glamorgan, SA4 1DS Authority: Environment Agency Wales, South West Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 19th December 1991 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Batteries Max.Stor Electrical Scrap Max.Stor Ferrous Metal Scrap Max.Stor Non-Ferrous Metal Scrap Max.Stor Prohibited Waste: Elemental Sodium/Potassium Metal In Fine Powder Form Percussive/Explosive/Similar Waste Special Wastes N.O.S. Sub'S Control. Radioactive Subs Act'60 Waste Cont. Flam.Solvent (Exc.Petrol) Waste N.O.S.	A18NE (N)	888	3	274780 196620

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	274637 195704
	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 (NW)	0	1	274637 195704
	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	A13SW (SW)	218	1	274471 195523
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 45 - 60 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	223	1	274830 195854
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 45 - 60 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (N)	255	1	274637 196000
	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	A13SW (SW)	262	1	274517 195432
	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: 30 - 45 mg/kg	A13NE (E)	298	1	274960 195727

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 Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8NW (S)	360	1	274517 195326
	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: 30 - 45 mg/kg	A8NE (S)	424	1	274695 195244
	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: 30 - 45 mg/kg	A14NW (E)	428	1	275088 195741
	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: 30 - 45 mg/kg	A8NW (SW)	448	1	274306 195365
	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: 30 - 45 mg/kg	A18SE (NE)	449	1	274917 196094
	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	A14NW (E)	478	1	275137 195747

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 Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8NE (S)	545	1	274844 195159
	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: 30 - 45 mg/kg	A9NW (SE)	612	1	274996 195160
	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	A12NE (NW)	665	1	274000 196000
	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	A9SW (SE)	753	1	275000 195000
	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 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	755	1	274637 196500
	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 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18NE (N)	774	1	274804 196500

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 Concentration: 45 - 60 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	A18NE (N)	781	1	274833 196500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 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	A18NE (N)	799	1	274827 196520
	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	A7SE (SW)	893	1	274274 194849
	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 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A9SE (SE)	937	1	275315 195000
256	**BGS Recorded Mineral Sites** Site Name: Garth-Mor Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154446 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13SE (S)	146	1	274696 195529
257	**BGS Recorded Mineral Sites** Site Name: Pen-Rhiw-Tyn Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154429 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13NW (N)	172	1	274562 195901

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
258	**BGS Recorded Mineral Sites** Site Name: Park Terrace Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154428 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	334	1	274471 196036
259	**BGS Recorded Mineral Sites** Site Name: Eaglebush Cottage Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154444 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NW (E)	370	1	275021 195778
260	**BGS Recorded Mineral Sites** Site Name: Garth-Mor Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154430 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	405	1	275028 195496
261	**BGS Recorded Mineral Sites** Site Name: Eaglesbush House Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154427 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (N)	425	1	274807 196133
262	**BGS Recorded Mineral Sites** Site Name: Garth-Mor Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154431 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SW (E)	444	1	275103 195605
263	**BGS Recorded Mineral Sites** Site Name: Tyla Morris Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156549 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	491	1	274971 195290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
264	**BGS Recorded Mineral Sites** Site Name: Eaglebush House Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154445 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	513	1	274847 196211
265	**BGS Recorded Mineral Sites** Site Name: Tyla Morris Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156550 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	540	1	274890 195184
266	**BGS Recorded Mineral Sites** Site Name: Ty-Nef Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156577 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	611	1	275131 195279
267	**BGS Recorded Mineral Sites** Site Name: Eaglesbush Grove Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154426 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	629	1	275095 196171
268	**BGS Recorded Mineral Sites** Site Name: Tyla Morris Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156551 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	641	1	275030 195148
269	**BGS Recorded Mineral Sites** Site Name: Eagle Tin Plate Works Clay Pit Location: Neath, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154109 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	A18SW (N)	645	1	274416 196352

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
270	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156578 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	646	1	275126 195222
271	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156579 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	694	1	275034 195087
272	**BGS Recorded Mineral Sites** Site Name: Pont Y Lady Clay Pit Location: Neath, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154126 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	A17SE (NW)	749	1	274216 196367
273	**BGS Recorded Mineral Sites** Site Name: Eagle Tin Plate Works Clay Pit Location: Neath, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154108 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	A18NW (N)	819	1	274419 196535
274	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156552 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	A9SW (SE)	956	1	275180 194869
275	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156614 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	981	1	275428 195058

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
276	**BGS Recorded Mineral Sites** Site Name: Mount Pleasant Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154442 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	989	1	275175 196572
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274760, 195770 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 34.50 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 56.40 mg/kg Lead Measured Concentration: 99.70 mg/kg Nickel Measured Concentration: 28.00 mg/kg	A13NE (NE)	118	1	274760 195770
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274250, 195740 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 84.60 mg/kg Cadmium Measured Concentration: 2.00 mg/kg Chromium Measured Concentration: 87.50 mg/kg Lead Measured Concentration: 784.20 mg/kg Nickel Measured Concentration: 115.50 mg/kg	A12NE (W)	356	1	274250 195740
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274750, 195250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 93.00 mg/kg Cadmium Measured Concentration: 5.70 mg/kg Chromium Measured Concentration: 84.90 mg/kg Lead Measured Concentration: 1072.30 mg/kg Nickel Measured Concentration: 96.50 mg/kg	A8NE (S)	428	1	274750 195250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274750, 196240 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 73.90 mg/kg Cadmium Measured Concentration: 1.20 mg/kg Chromium Measured Concentration: 57.40 mg/kg Lead Measured Concentration: 188.00 mg/kg Nickel Measured Concentration: 33.20 mg/kg	A18SE (N)	509	1	274750 196240

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: 274230, 195250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 23.50 mg/kg Cadmium Measured Concentration: 2.60 mg/kg Chromium Measured Concentration: 80.20 mg/kg Lead Measured Concentration: 596.20 mg/kg Nickel Measured Concentration: 45.30 mg/kg	A7NE (SW)	582	1	274230 195250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 275250, 195740 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 75.90 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 63.10 mg/kg Lead Measured Concentration: 90.50 mg/kg Nickel Measured Concentration: 28.70 mg/kg	A14NW (E)	589	1	275250 195740
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274150, 196140 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 25.80 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 77.50 mg/kg Lead Measured Concentration: 146.60 mg/kg Nickel Measured Concentration: 51.70 mg/kg	A17SE (NW)	616	1	274150 196140
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 275250, 196250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 60.20 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 65.30 mg/kg Lead Measured Concentration: 188.70 mg/kg Nickel Measured Concentration: 36.40 mg/kg	A19SW (NE)	797	1	275250 196250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273760, 195770 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 43.80 mg/kg Cadmium Measured Concentration: 5.10 mg/kg Chromium Measured Concentration: 60.00 mg/kg Lead Measured Concentration: 93.60 mg/kg Nickel Measured Concentration: 71.60 mg/kg	A12NW (W)	847	1	273760 195770

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: 274750, 194780 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 139.50 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 57.70 mg/kg Lead Measured Concentration: 216.80 mg/kg Nickel Measured Concentration: 38.10 mg/kg	A8SE (S)	891	1	274750 194780
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274330, 196660 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 33.00 mg/kg Cadmium Measured Concentration: 1.50 mg/kg Chromium Measured Concentration: 115.70 mg/kg Lead Measured Concentration: 157.40 mg/kg Nickel Measured Concentration: 64.20 mg/kg	A18NW (N)	964	1	274330 196660
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273750, 195230 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 78.80 mg/kg Cadmium Measured Concentration: 3.10 mg/kg Chromium Measured Concentration: 68.40 mg/kg Lead Measured Concentration: 146.80 mg/kg Nickel Measured Concentration: 39.00 mg/kg	A7NW (SW)	989	1	273750 195230
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274190, 194780 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 27.90 mg/kg Cadmium Measured Concentration: 1.10 mg/kg Chromium Measured Concentration: 95.60 mg/kg Lead Measured Concentration: 387.70 mg/kg Nickel Measured Concentration: 53.70 mg/kg	A7SE (SW)	992	1	274190 194780
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273750, 196240 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 165.50 mg/kg Cadmium Measured Concentration: 0.80 mg/kg Chromium Measured Concentration: 89.50 mg/kg Lead Measured Concentration: 280.50 mg/kg Nickel Measured Concentration: 71.50 mg/kg	A17SW (NW)	999	1	273750 196240

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: 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	274637 195704
	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	6	274637 195704
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SE (NW)	0	-	274637 195704
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	203	1	274463 195564
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	241	1	274560 195436
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	204	1	274460 195567

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	241	1	274560 195437
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	241	1	274560 195436
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	37	1	274575 195692
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	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	274637 195704
	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	274637 195704

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
277	**Contemporary Trade Directory Entries** Name: Neath General Hospital Location: Penrhiwtyn, Neath, West Glamorgan, SA11 2LQ Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	-	274445 195754
278	**Contemporary Trade Directory Entries** Name: Tarmac Location: Briton Ferry, Neath, West Glamorgan, SA11 2HZ Classification: Sand, Gravel & Other Aggregates **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SE (W)	371	-	274252 195614
279	**Contemporary Trade Directory Entries** Name: J F Coals Location: 8, Herbert Road, Neath, West Glamorgan, SA11 2DN Classification: Coal & Smokeless Fuel Merchants & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	522	-	274513 196253
280	**Contemporary Trade Directory Entries** Name: A & S Tyre Services Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Tyre Repairs & Retreading **Status: Active** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	539	-	274229 195315
280	**Contemporary Trade Directory Entries** Name: Longlife Swansea Location: Station Road,Station Yard, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Exhaust & Shock Absorber Centres **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A7NE (SW)	539	-	274229 195315
280	**Contemporary Trade Directory Entries** Name: West Coastal White Line Co Ltd Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Road Marking & Surfacing Equipment & Material Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	547	-	274226 195305
280	**Contemporary Trade Directory Entries** Name: A & S Tyre Services Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	547	-	274226 195305
280	**Contemporary Trade Directory Entries** Name: A & S Tyres Ltd Location: Unit 1-5 Station Yard,Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7NE (SW)	562	-	274234 195275
281	**Contemporary Trade Directory Entries** Name: Genie'S Cleaners Location: Meadow Road, Neath, West Glamorgan, SA11 2AB Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18SE (NE)	567	-	274902 196244
282	**Contemporary Trade Directory Entries** Name: Double P Motors Ltd Location: Station Road, Briton Ferry, Neath, SA11 2SU Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	587	-	274239 195235
282	**Contemporary Trade Directory Entries** Name: Station Sprayers Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	591	-	274240 195229

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
283	**Contemporary Trade Directory Entries** Name: Mile End Service Station Location: Mile End Row, NEATH, West Glamorgan, SA11 2ED Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	637	-	274596 196381
283	**Contemporary Trade Directory Entries** Name: Esso Location: Mile End Row, Neath, SA11 2ED Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	647	-	274606 196391
283	**Contemporary Trade Directory Entries** Name: Mile End Service Station Location: Neath, West Glamorgan, Sa11 2ed Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	647	-	274606 196391
284	**Contemporary Trade Directory Entries** Name: Car Tec Location: 1, Ormond Street, Neath, West Glamorgan, SA11 2TG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	640	-	274461 195050
285	**Contemporary Trade Directory Entries** Name: Crown Food Uk Location: Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Can Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	657	-	274339 196331
286	**Contemporary Trade Directory Entries** Name: Crynant Plant & Transport Ltd Location: Eaglebush Works, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	816	-	274568 196558
287	**Contemporary Trade Directory Entries** Name: Kingfisher Mobile Tyre Services Location: 53, Olive Branch Crescent, Neath, West Glamorgan, SA11 2UH Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	836	-	273872 195324
287	**Contemporary Trade Directory Entries** Name: Kingfisher Mobile Tyre Services Location: 53, Olive Branch Crescent, Neath, SA11 2UH Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	837	-	273872 195324
288	**Contemporary Trade Directory Entries** Name: Lodge Garage Location: The Yard, Shelone Road, Neath, West Glamorgan, SA11 2NS Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	871	-	274195 194915
289	**Contemporary Trade Directory Entries** Name: Melanies Cleaning Service Ltd Location: 12, Exchange Road, Neath, West Glamorgan, SA11 1TD Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	878	-	274960 196559
290	**Contemporary Trade Directory Entries** Name: Fordpad Ltd Location: Foundry Works, Dc Griffiths Way, Neath, SA11 1AU Classification: Scrap Metal Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	891	-	274779 196624

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
291	**Contemporary Trade Directory Entries** Name: South Wales Transport Location: Unit 19, Milland Road Industrial Estate, Neath, SA11 1NJ Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	902	-	274560 196644
291	**Contemporary Trade Directory Entries** Name: Milland Tyre & Auto Location: Unit 18, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Exhaust & Shock Absorber Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	903	-	274560 196644
291	**Contemporary Trade Directory Entries** Name: Precision Sealing Ltd Location: Unit 19, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Pumps - Sales, Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	903	-	274560 196644
291	**Contemporary Trade Directory Entries** Name: C J E N T Uk Ltd Location: UNIT 17, MILLAND ROAD INDUSTRIAL ESTATE, NEATH, SA11 1NJ Classification: Kitchen Furniture Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	904	-	274608 196648
292	**Contemporary Trade Directory Entries** Name: Acorn Chemical Services Location: Unit 16, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196653
292	**Contemporary Trade Directory Entries** Name: Acorn Chemical Services Ltd Location: Unit 16, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196652
292	**Contemporary Trade Directory Entries** Name: Acorn Chemical Services Location: Unit 16, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196653
292	**Contemporary Trade Directory Entries** Name: Equilibrium Chemical Services Ltd Location: 16 Milland Rd Ind Est, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	908	-	274614 196652
292	**Contemporary Trade Directory Entries** Name: C I S Contract Packaging Ltd Location: Unit 17, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196653
292	**Contemporary Trade Directory Entries** Name: Lase Ltd Location: Unit 15, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Coating Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	274632 196683
292	**Contemporary Trade Directory Entries** Name: L Pugh & Son Location: 15, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	274632 196683
292	**Contemporary Trade Directory Entries** Name: Equipment Supply Services Location: Unit 15, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Agricultural Machinery - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	274632 196683

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
293	**Contemporary Trade Directory Entries** Name: Lafarge Readymix Location: Old Iron Works,Briton Ferry, Neath, West Glamorgan, SA11 2LD Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	915	-	274007 195003
294	**Contemporary Trade Directory Entries** Name: Alter Kennys Location: Neath Road, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	923	-	274356 194786
295	**Contemporary Trade Directory Entries** Name: Camps Transport Location: 33, Bryn Teg, Neath, SA11 2YH Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	929	-	273746 195373
295	**Contemporary Trade Directory Entries** Name: J & J Skip Hire Location: 33, Bryn Teg, Neath, West Glamorgan, SA11 2YH Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	929	-	273745 195374
296	**Contemporary Trade Directory Entries** Name: F & T Refrigeration Ltd Location: Dc Griffiths Way, Neath, West Glamorgan, SA11 1BT Classification: Refrigeration Equipment - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	962	-	274783 196695
296	**Contemporary Trade Directory Entries** Name: F & T Refrigeration Ltd Location: Dc Griffiths Way, Neath, West Glamorgan, SA11 1BT Classification: Refrigeration Equipment - Commercial **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	962	-	274783 196695
297	**Contemporary Trade Directory Entries** Name: Autocare Neath Location: Neath Road, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	274391 194710
297	**Contemporary Trade Directory Entries** Name: Neath Car Sales Ltd Location: Neath Road, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	274391 194710
298	**Contemporary Trade Directory Entries** Name: Neath Road Filling Station Location: Neath Rd, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (S)	998	-	274333 194714
299	**Fuel Station Entries** Name: Mile End Service Station Location: 188, Mile End Row , Melyn , Neath, Neath Port Talbot, SA11 2ED Brand: ESSO Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	647	-	274607 196391
300	**Fuel Station Entries** Name: Neath Road Filling Station Location: Neath Road , Briton Ferry , Neath, Neath Port Talbot, SA11 2AX Brand: Total Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	274391 194710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
301	**Points of Interest - Commercial Services** Name: Dai-agnostics Mobile Motor Repairs Location: 8 Clos Warren, Neath, SA11 2FF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (E)	181	7	274834 195746
302	**Points of Interest - Commercial Services** Name: I M O Car Wash Location: 117 Pant yr Heol, Neath, SA11 2HB Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12SE (W)	335	7	274279 195653
303	**Points of Interest - Commercial Services** Name: Station Sprayers Location: Station House, Station Road, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	510	7	274264 195319
303	**Points of Interest - Commercial Services** Name: Longlife Swansea Location: Station Road, Station Yard, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	550	7	274229 195298
303	**Points of Interest - Commercial Services** Name: A & S Tyre Services Location: Unit 6 West Coastal White Line Company, Station Road, Briton Ferry, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	554	7	274231 195290
303	**Points of Interest - Commercial Services** Name: Double P Motors Ltd Location: Station Road, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	587	7	274239 195235
304	**Points of Interest - Commercial Services** Name: Station Sprayers Location: Station Road, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	605	7	274240 195210
305	**Points of Interest - Commercial Services** Name: Car Tec Location: 1 Ormond Street, Neath, SA11 2TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (S)	640	7	274461 195050
305	**Points of Interest - Commercial Services** Name: Car Tec Location: 1 Ormond Street, Neath, SA11 2TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (S)	640	7	274461 195050
306	**Points of Interest - Commercial Services** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274607 196391
306	**Points of Interest - Commercial Services** Name: Car Wash Location: Mile End Row, Neath, SA11 2ED Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274607 196391
307	**Points of Interest - Commercial Services** Name: UK Flooring Distribution Location: Unit 4, Milland Road Industrial Estate, Neath, SA11 1NJ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NW (N)	685	7	274379 196381

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
308	**Points of Interest - Commercial Services** Name: Fordpad Ltd Location: Foundry Works, Dc Griffiths Way, Neath, SA11 1AU Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A18NE (N)	891	7	274779 196624
308	**Points of Interest - Commercial Services** Name: Fordpad Ltd Location: Foundry Works, Dc Griffiths Way, Neath, SA11 1AU Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A18NE (N)	891	7	274779 196624
309	**Points of Interest - Commercial Services** Name: Milland Tyre & Auto Location: Unit 18, Milland Road Industrial Estate, Neath, SA11 1NJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NW (N)	903	7	274560 196644
310	**Points of Interest - Commercial Services** Name: Camps Transport Location: 33 Bryn Teg, Neath, SA11 2YH Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	929	7	273746 195373
311	**Points of Interest - Education and Health** Name: Neath General Hospital Location: Penrhiwtyn, Neath, SA11 2LQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A13NW (W)	163	7	274445 195754
312	**Points of Interest - Manufacturing and Production** Name: Tanks Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	189	7	274421 195687
313	**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	A13NW (NW)	304	7	274487 196011
313	**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	A13NW (NW)	326	7	274470 196027
314	**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	A8NE (S)	436	7	274796 195257
315	**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	A7NE (SW)	541	7	274248 195290
316	**Points of Interest - Manufacturing and Production** Name: Workings (Dis) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	548	7	275072 195307
317	**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	A18SW (NW)	670	7	274346 196350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
317	**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	A18SW (NW)	671	7	274346 196351
318	**Points of Interest - Manufacturing and Production** Name: Eaglesbush Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	728	7	274563 196469
318	**Points of Interest - Manufacturing and Production** Name: Eaglesbush Works Location: SA11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	808	7	274569 196550
318	**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	A18NW (N)	811	7	274578 196554
319	**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)	799	7	273850 195984
320	**Points of Interest - Manufacturing and Production** Name: L Williams Location: Cimla, Neath, SA11 2HS Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A9NE (SE)	815	7	275336 195212
321	**Points of Interest - Manufacturing and Production** Name: Air Shafts (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	829	7	275256 195093
322	**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	A18NW (N)	830	7	274318 196512
323	**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	A17NE (NW)	870	7	274204 196501
323	**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	A17NE (NW)	882	7	274189 196506
324	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	873	7	274770 196607
324	**Points of Interest - Manufacturing and Production** Name: Factory Location: SA11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	883	7	274775 196616

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
325	**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	A7SE (SW)	877	7	274268 194870
325	**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	A7SE (SW)	880	7	274263 194869
326	**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	A19SE (NE)	907	7	275465 196124
327	**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	A18NE (N)	977	7	274741 196716
328	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	983	7	275424 195050
328	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	984	7	275424 195048
329	**Points of Interest - Public Infrastructure** Name: Mortuary Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	180	7	274456 195826
330	**Points of Interest - Public Infrastructure** Name: Chapel of Rest Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	432	7	274285 195417
331	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	475	7	274141 195630
331	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	479	7	274136 195631
332	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	602	7	274475 196325
333	**Points of Interest - Public Infrastructure** Name: Ynysymaerdy Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	633	7	274729 195037

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
333	**Points of Interest - Public Infrastructure** Name: Ynysymaerdy Cemetery Location: SA11 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	633	7	274729 195037
333	**Points of Interest - Public Infrastructure** Name: Chapel of Rest Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	665	7	274788 195016
333	**Points of Interest - Public Infrastructure** Name: Chapel of Rest Location: SA11 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to address or location	A8SE (S)	666	7	274788 195015
333	**Points of Interest - Public Infrastructure** Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	687	7	274679 194978
334	**Points of Interest - Public Infrastructure** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	637	7	274596 196381
334	**Points of Interest - Public Infrastructure** Name: Esso Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274606 196391
334	**Points of Interest - Public Infrastructure** Name: Esso Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274606 196391
334	**Points of Interest - Public Infrastructure** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274606 196391
334	**Points of Interest - Public Infrastructure** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274607 196391
335	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	695	7	275150 196210
335	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	697	7	275149 196213
336	**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	A12SW (W)	791	7	273836 195544

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
337	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	798	7	275116 196380
337	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	825	7	275055 196454
337	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	826	7	275055 196455
338	**Points of Interest - Public Infrastructure** Name: Filter Beds Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	880	7	274225 196524
338	**Points of Interest - Public Infrastructure** Name: Filter Beds Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	884	7	274215 196523
339	**Points of Interest - Public Infrastructure** Name: South Wales Transport Location: Unit 19, Milland Road Industrial Estate, Neath, SA11 1NJ Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A18NW (N)	903	7	274560 196644
340	**Points of Interest - Public Infrastructure** Name: J & J Skip Hire Location: 33 Bryn Teg, Neath, SA11 2YH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SW (W)	929	7	273745 195374
340	**Points of Interest - Public Infrastructure** Name: J & J Skip Hire Location: 33 Bryn Teg, Neath, SA11 2YH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SW (W)	929	7	273745 195374
341	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (S)	964	7	274992 194767
341	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (S)	967	7	274995 194765
342	**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	A12NW (W)	985	7	273625 195817
343	**Points of Interest - Recreational and Environmental** Name: Play Area Location: SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	535	7	274735 196270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
344	**Points of Interest - Recreational and Environmental** Name: Playground Location: Nr Ynysymaerdy Road, SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	742	7	274573 194925
345	**Points of Interest - Recreational and Environmental** Name: Playground Location: Nr Neath Road, SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	813	7	274496 194864
345	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	832	7	274460 194852
346	**Points of Interest - Recreational and Environmental** Name: Play Area Location: SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	922	7	273725 195452
347	**Points of Interest - Recreational and Environmental** Name: Playground Location: Bryn Road, SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A19NW (NE)	933	7	275247 196448
347	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	938	7	275249 196452

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
348	**Ancient Woodland** Name: Not Supplied Reference: 18281 Area(m²): 2902.32 Type: Ancient and Semi-Natural Woodland	A13NE (E)	300	2	274943 195801
349	**Ancient Woodland** Name: Not Supplied Reference: 11352 Area(m²): 20063.95 Type: Restored Ancient Woodland Site	A14NW (E)	351	2	275005 195765
350	**Ancient Woodland** Name: Not Supplied Reference: 7496 Area(m²): 1097.17 Type: Ancient and Semi-Natural Woodland	A14SW (E)	410	2	275074 195657
351	**Ancient Woodland** Name: Not Supplied Reference: 23143 Area(m²): 2723.57 Type: Restored Ancient Woodland Site	A14NW (E)	413	2	275064 195777
352	**Ancient Woodland** Name: Not Supplied Reference: 7495 Area(m²): 24539.37 Type: Ancient and Semi-Natural Woodland	A14SW (E)	429	2	275084 195582
353	**Ancient Woodland** Name: Not Supplied Reference: 23144 Area(m²): 5257.17 Type: Restored Ancient Woodland Site	A18SE (NE)	515	2	274970 196134
354	**Ancient Woodland** Name: Not Supplied Reference: 18279 Area(m²): 5962.42 Type: Ancient and Semi-Natural Woodland	A9NW (SE)	616	2	275027 195176
355	**Ancient Woodland** Name: Not Supplied Reference: 8058 Area(m²): 87385.89 Type: Ancient and Semi-Natural Woodland	A14NW (E)	626	2	275282 195776
356	**Ancient Woodland** Name: Not Supplied Reference: 12254 Area(m²): 9319.44 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	630	2	275162 196090
357	**Ancient Woodland** Name: Not Supplied Reference: 7497 Area(m²): 1939.69 Type: Ancient and Semi-Natural Woodland	A14NW (E)	653	2	275281 195903
358	**Ancient Woodland** Name: Not Supplied Reference: 7766 Area(m²): 4327.93 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	665	2	275071 196245
359	**Ancient Woodland** Name: Not Supplied Reference: 12255 Area(m²): 5217.98 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	700	2	275156 196210
360	**Ancient Woodland** Name: Not Supplied Reference: 7498 Area(m²): 19059.96 Type: Ancient and Semi-Natural Woodland	A14NE (NE)	748	2	275329 196042
361	**Ancient Woodland** Name: Not Supplied Reference: 18278 Area(m²): 2474.75 Type: Ancient and Semi-Natural Woodland	A9NW (SE)	801	2	275275 195155

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
362	**Ancient Woodland** Name: Not Supplied Reference: 18275 Area(m²): 22753.28 Type: Ancient and Semi-Natural Woodland	A8SE (S)	803	2	274838 194886
363	**Ancient Woodland** Name: Not Supplied Reference: 11351 Area(m²): 143855.64 Type: Restored Ancient Woodland Site	A8SE (S)	826	2	274788 194852
364	**Ancient Woodland** Name: Not Supplied Reference: 18274 Area(m²): 8554.76 Type: Ancient and Semi-Natural Woodland	A8SW (S)	870	2	274491 194806
365	**Ancient Woodland** Name: Not Supplied Reference: 10085 Area(m²): 16885.9 Type: Ancient and Semi-Natural Woodland	A9SW (SE)	900	2	275277 195015
366	**Ancient Woodland** Name: Not Supplied Reference: 8869 Area(m²): 8745.87 Type: Ancient and Semi-Natural Woodland	A9SW (SE)	949	2	275237 194917
367	**Ancient Woodland** Name: Not Supplied Reference: 18283 Area(m²): 10328.45 Type: Ancient and Semi-Natural Woodland	A15SW (E)	1000	2	275659 195573
368	**Local Nature Reserves** Name: Eaglesbush Valley Multiple Area: N Area (m2): 79888.24 Source: Neath Port Talbot County Borough Council Designation Date: 31st December 2008	A19SW (NE)	594	8	275143 196055

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
City and County of Swansea - Environmental Health Department	January 2015	Annual Rolling Update
Natural Resources Wales	June 2020	Annually
Neath Port Talbot County Borough Council - Environmental Health Department	March 2015	Annual Rolling Update
Discharge Consents		
Natural Resources Wales	April 2021	Quarterly
Environment Agency - Welsh Region	August 2014	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Welsh Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Welsh Region	October 2008	
Integrated Pollution Prevention And Control		
Natural Resources Wales	April 2021	Quarterly
Environment Agency - Welsh Region	January 2021	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Swansea Bay Port Health Authority	April 2014	Variable
Neath Port Talbot County Borough Council - Environmental Health Department	August 2012	Variable
City and County of Swansea - Environmental Health Department	June 2014	Variable
Local Authority Pollution Prevention and Controls		
Swansea Bay Port Health Authority	April 2014	Annually
City and County of Swansea - Environmental Health Department	June 2014	Annual Rolling Update
Neath Port Talbot County Borough Council - Environmental Health Department	March 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Swansea Bay Port Health Authority	April 2014	Variable
City and County of Swansea - Environmental Health Department	June 2014	Variable
Neath Port Talbot County Borough Council - Environmental Health Department	March 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2021	
Pollution Incidents to Controlled Waters		
Environment Agency - Welsh Region	December 1998	
Prosecutions Relating to Authorised Processes		
Environment Agency - Welsh Region	March 2013	
Natural Resources Wales	March 2013	
Prosecutions Relating to Controlled Waters		
Environment Agency - Welsh Region	March 2013	
Natural Resources Wales	March 2013	
Registered Radioactive Substances		
Natural Resources Wales	January 2015	Annually
Environment Agency - Welsh Region	June 2016	Annually
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
Substantiated Pollution Incident Register		
Natural Resources Wales	April 2021	Quarterly
Environment Agency Wales - South West Area	January 2021	Quarterly
Water Abstractions		
Environment Agency - Welsh Region	April 2021	Quarterly
Natural Resources Wales	April 2021	Quarterly
Water Industry Act Referrals		
Natural Resources Wales	April 2021	Quarterly
Environment Agency - Welsh Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Natural Resources Wales	June 2018	As notified

Agency & Hydrological	Version	Update Cycle
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	June 2021	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	January 2021	Quarterly
Natural Resources Wales	January 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency Wales - South West Area	April 2021	Quarterly
Natural Resources Wales	April 2021	Quarterly
Local Authority Landfill Coverage		
City and County of Swansea - Environmental Health Department	May 2000	Not Applicable
Neath Port Talbot County Borough Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
City and County of Swansea - Environmental Health Department	May 2000	
Neath Port Talbot County Borough Council - Environmental Health Department	September 2003	
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	
Registered Waste Treatment or Disposal Sites		
Environment Agency Wales - South West Area	March 2003	
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	
Planning Hazardous Substance Enforcements		
City and County of Swansea - Planning Department	January 2016	Variable
Neath Port Talbot County Borough Council - Planning Department	October 2015	Variable
Planning Hazardous Substance Consents		
City and County of Swansea - Planning Department	January 2016	Variable
Neath Port Talbot County Borough Council - Planning Department	October 2015	Variable

Data Currency

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	May 2021	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	As notified
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

Data Currency

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

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	June 2020	Quarterly
Neath Port Talbot County Borough Council - Planning Services	June 2020	Quarterly
Areas of Unadopted Green Belt		
City and County of Swansea	June 2020	Quarterly
Neath Port Talbot County Borough Council - Planning Services	June 2020	Quarterly
Areas of Outstanding Natural Beauty		
Natural Resources Wales	June 2019	Bi-Annually
Environmentally Sensitive Areas		
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
City and County of Swansea	August 2018	Bi-Annually
Neath Port Talbot County Borough Council	August 2018	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	July 2019	Bi-Annually
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	October 2005	
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

Data Suppliers

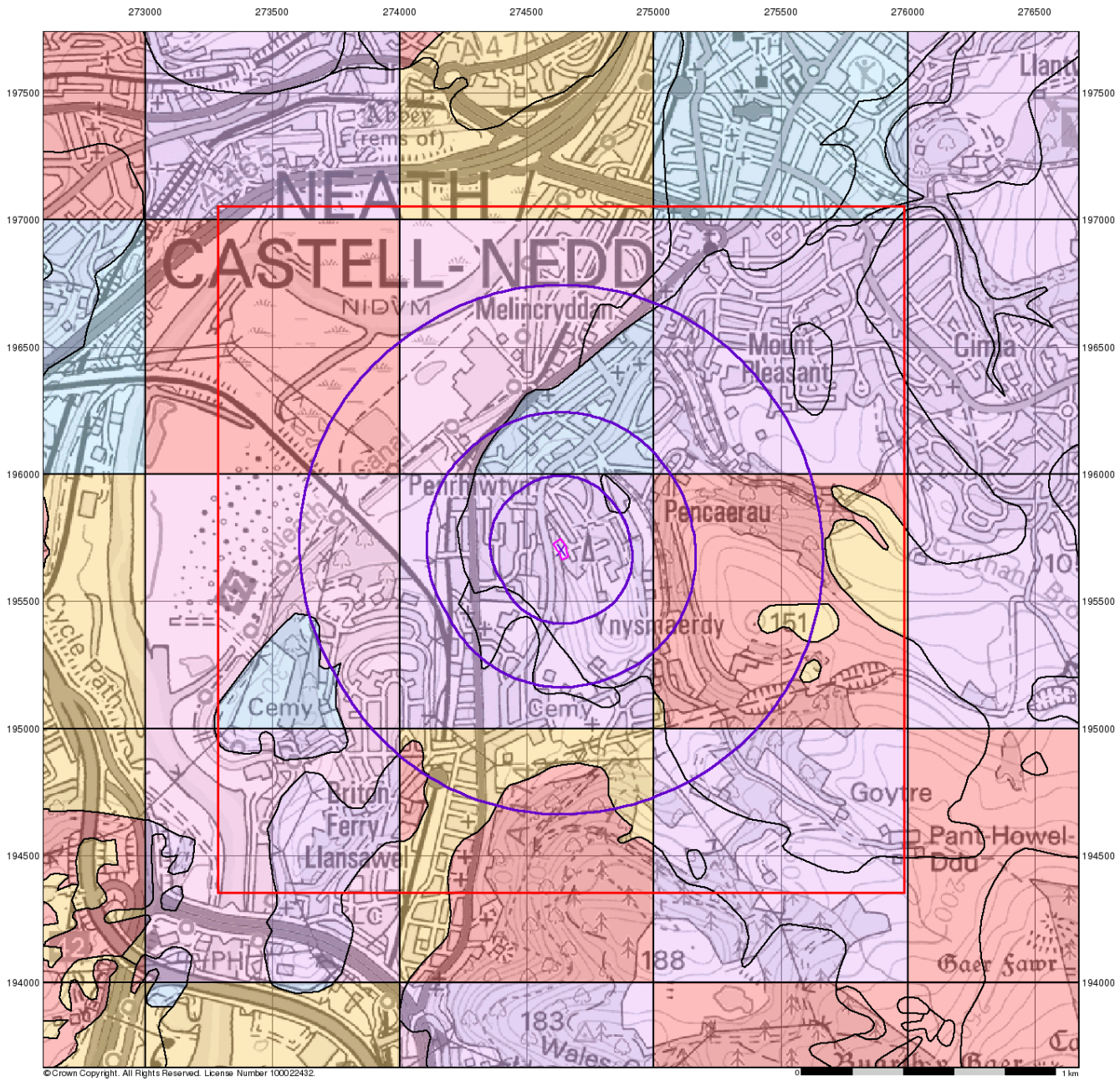
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	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	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	Stantec

Useful Contacts

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	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	**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

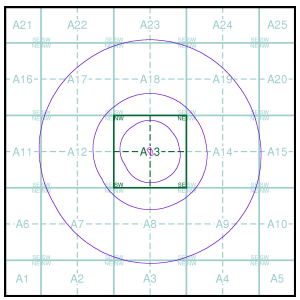
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

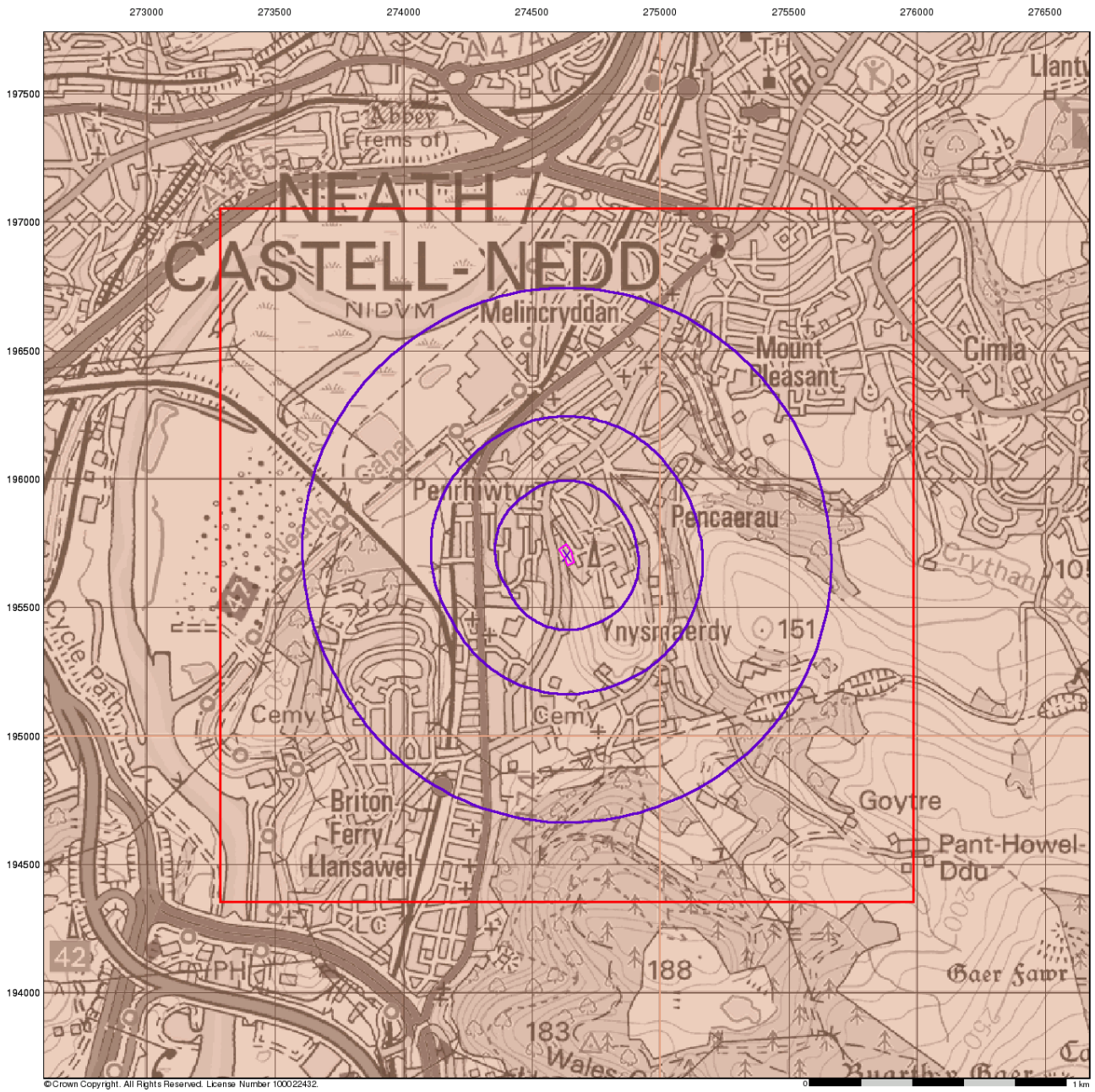
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Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

Site Details

1, Pearson Way, NEATH, SA11 2EJ

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



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Bedrock Aquifer Designation

General

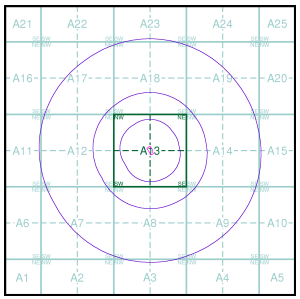
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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

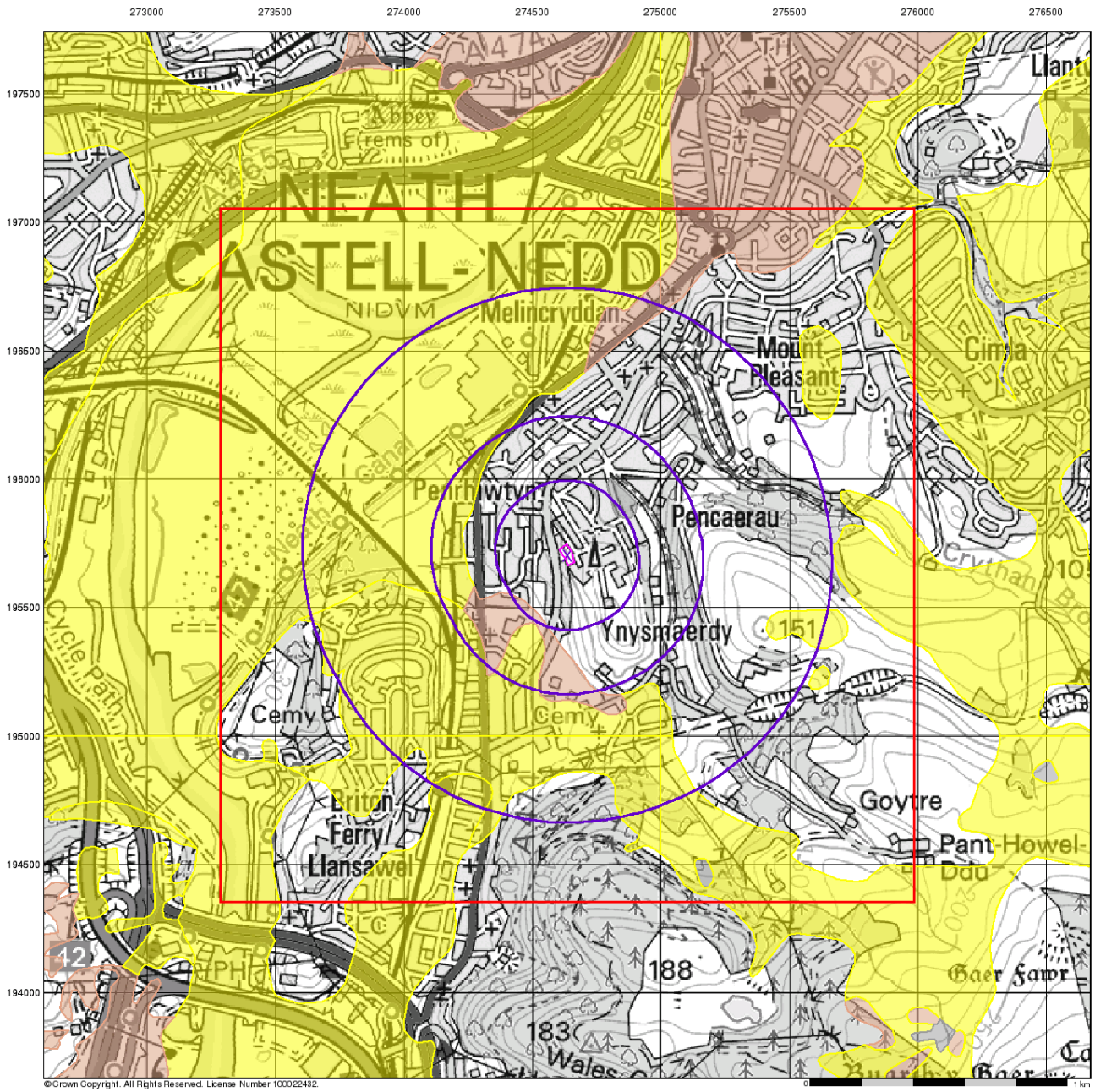
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National Grid Reference:	274640, 195700
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Site Area (Ha):	0.25
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Superficial Aquifer Designation

General

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

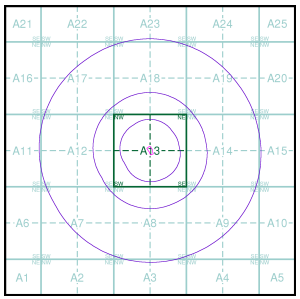
Slice | Map ID

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

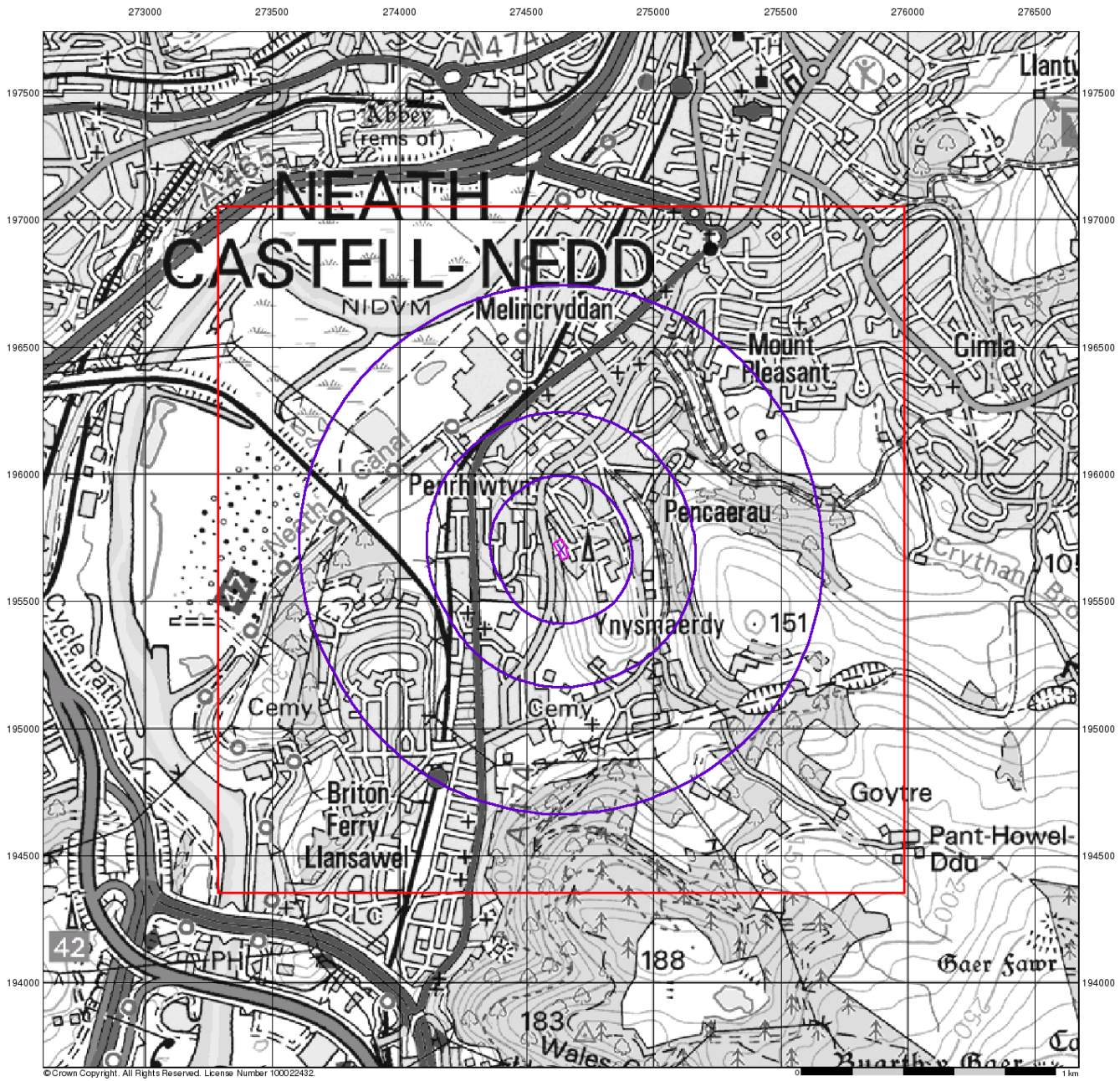


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Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

Site Details

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Source Protection Zones

General

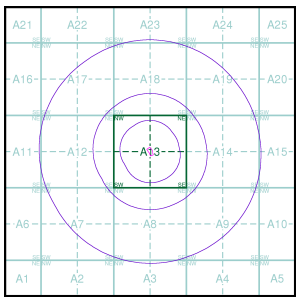
Specified Site | Specified Buffer(s) | Bearing Reference Point

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

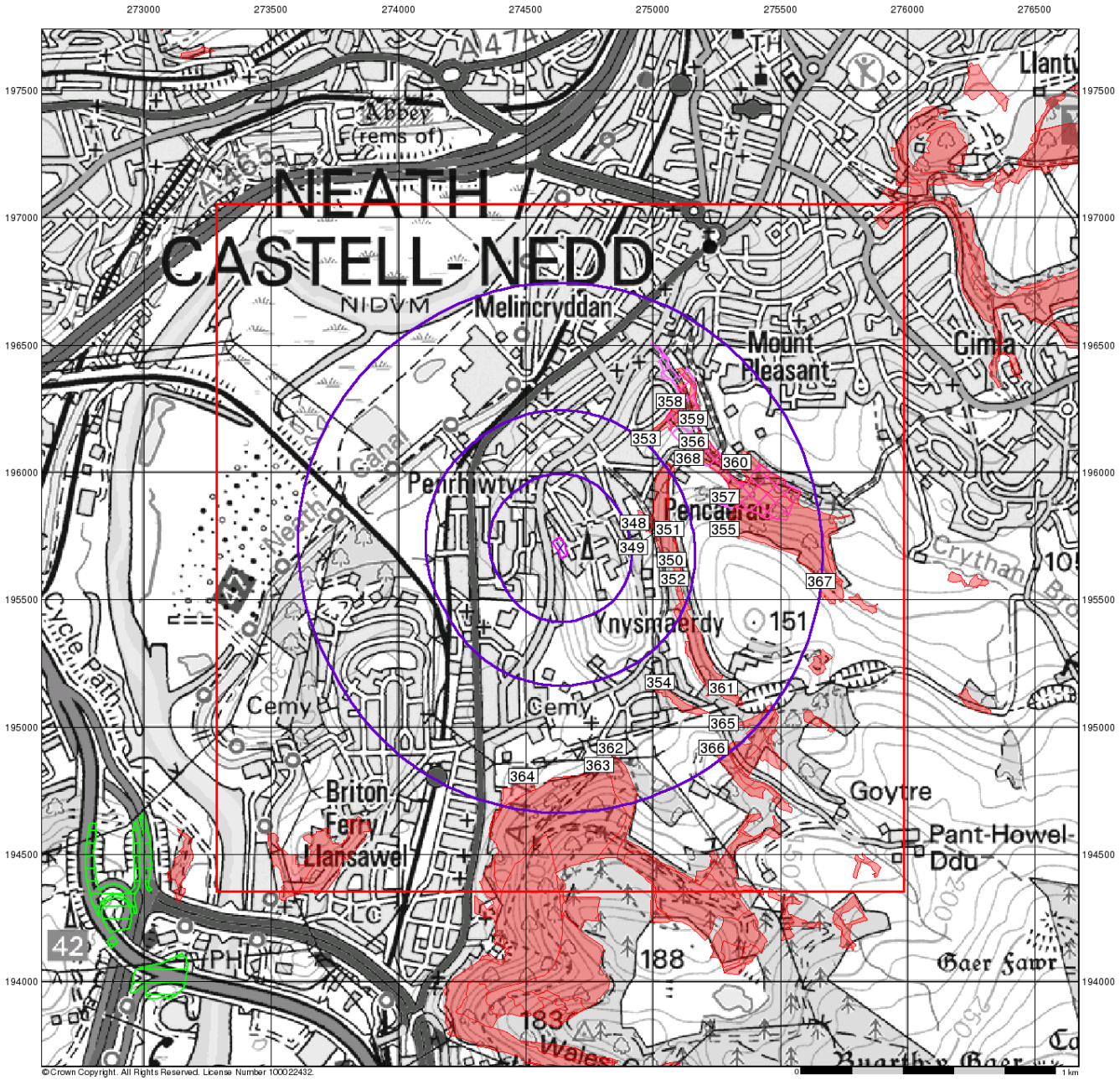
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Search Buffer (m):	1000

Site Details

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Sensitive Land Uses

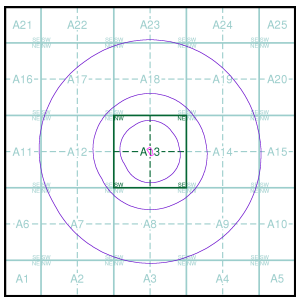
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

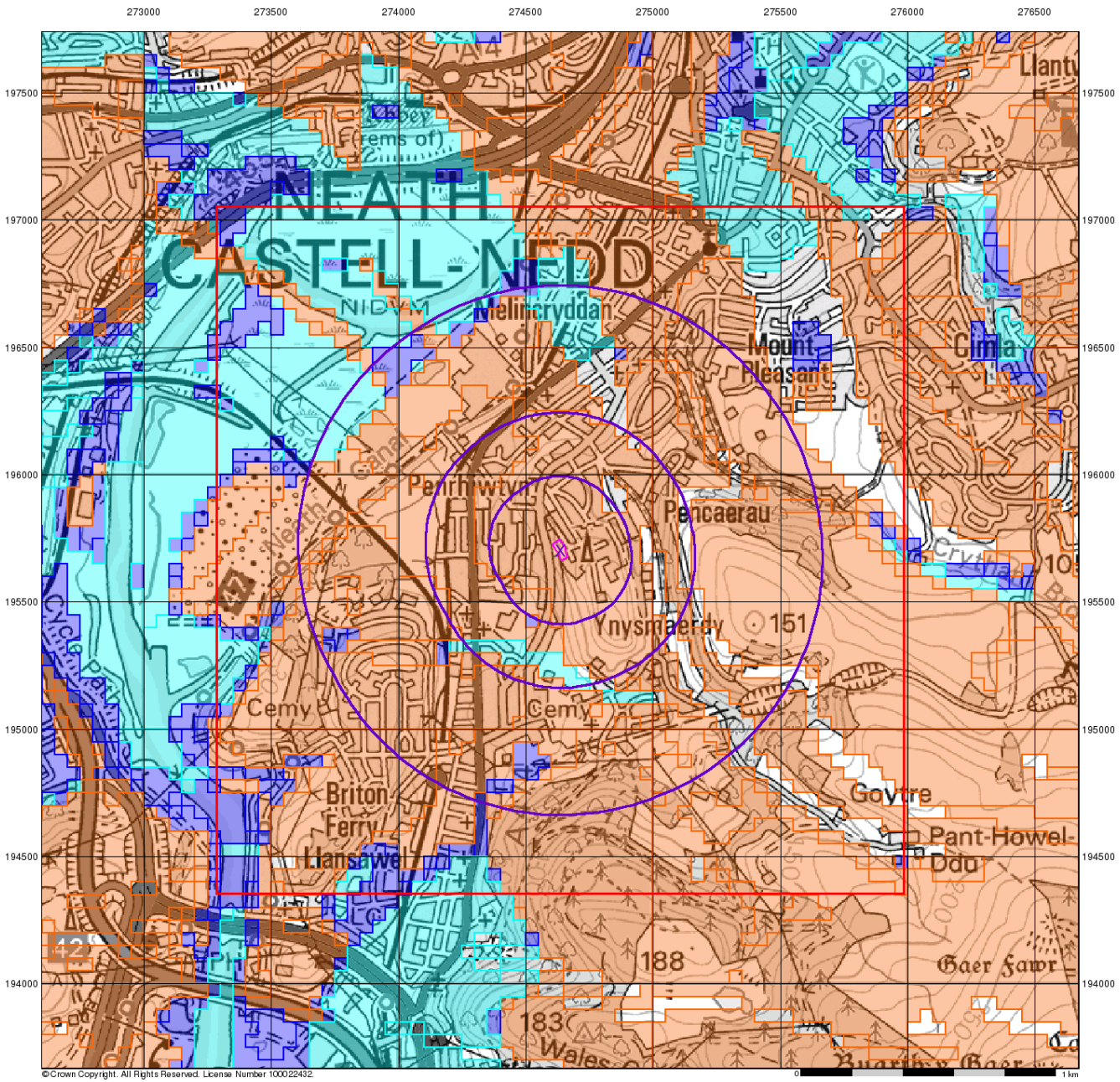
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Site Area (Ha):	0.25
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BGS Flood GFS Data

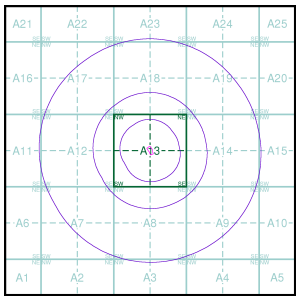
General

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

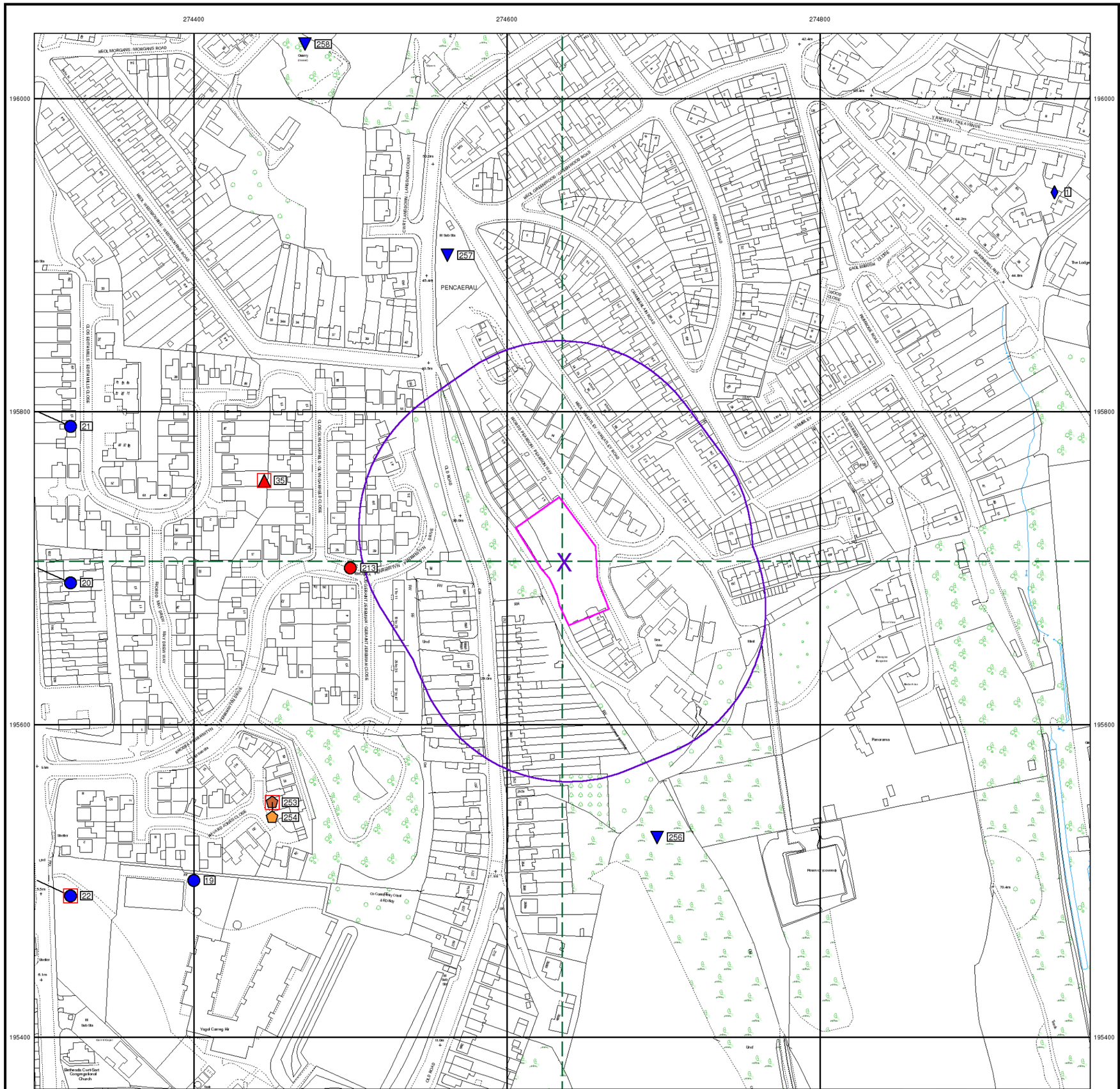
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Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

Site Details

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- 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
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

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

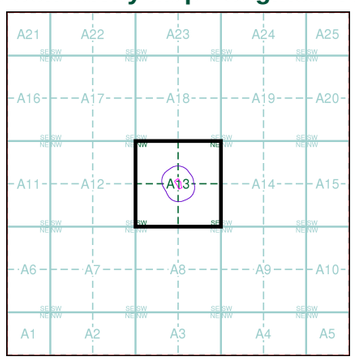
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



Order Details

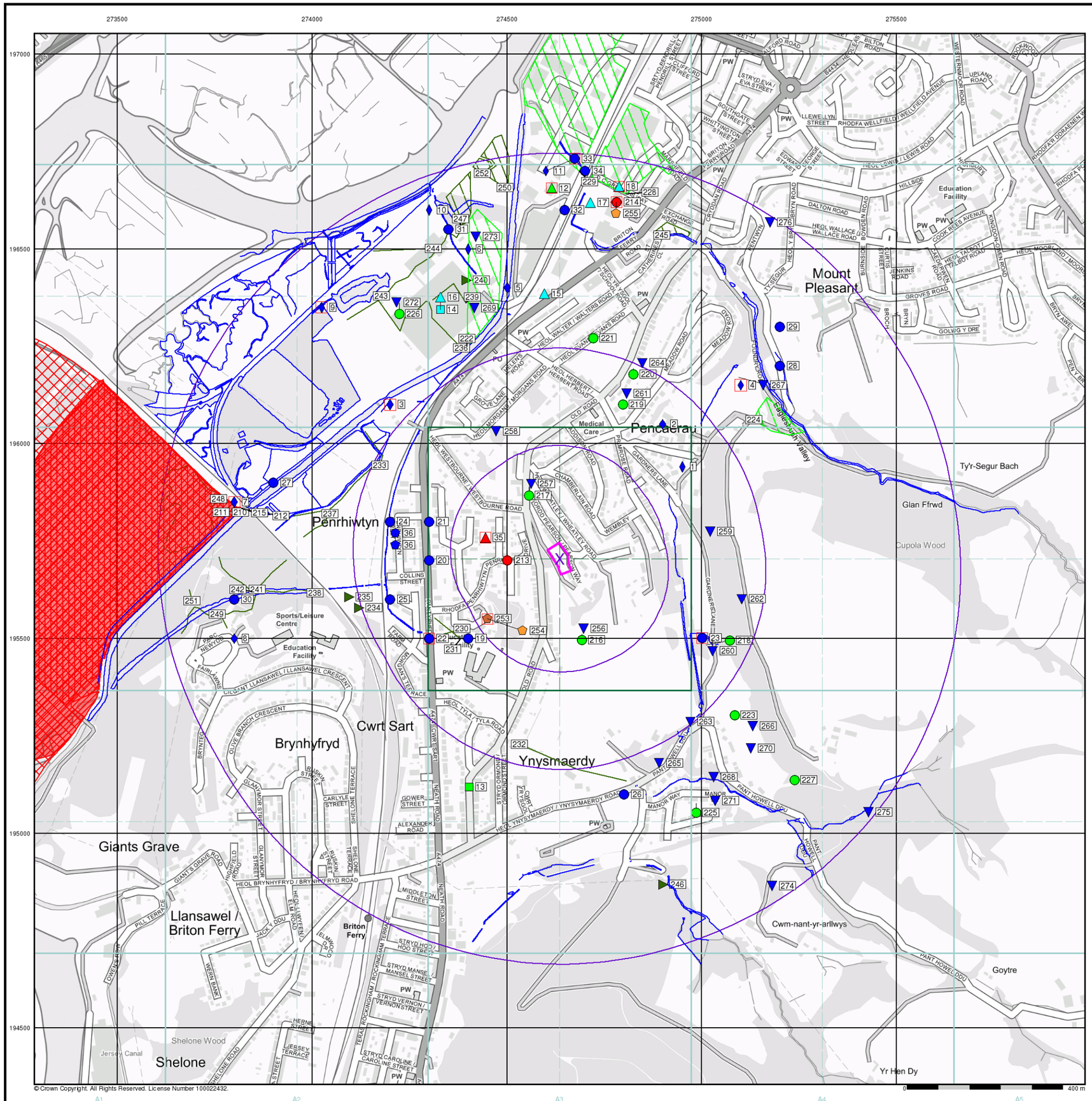
Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Plot Buffer (m):	100

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

- 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)
- 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

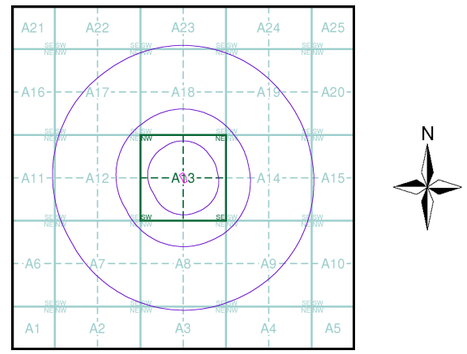
Hazardous Substances

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

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A



Order Details

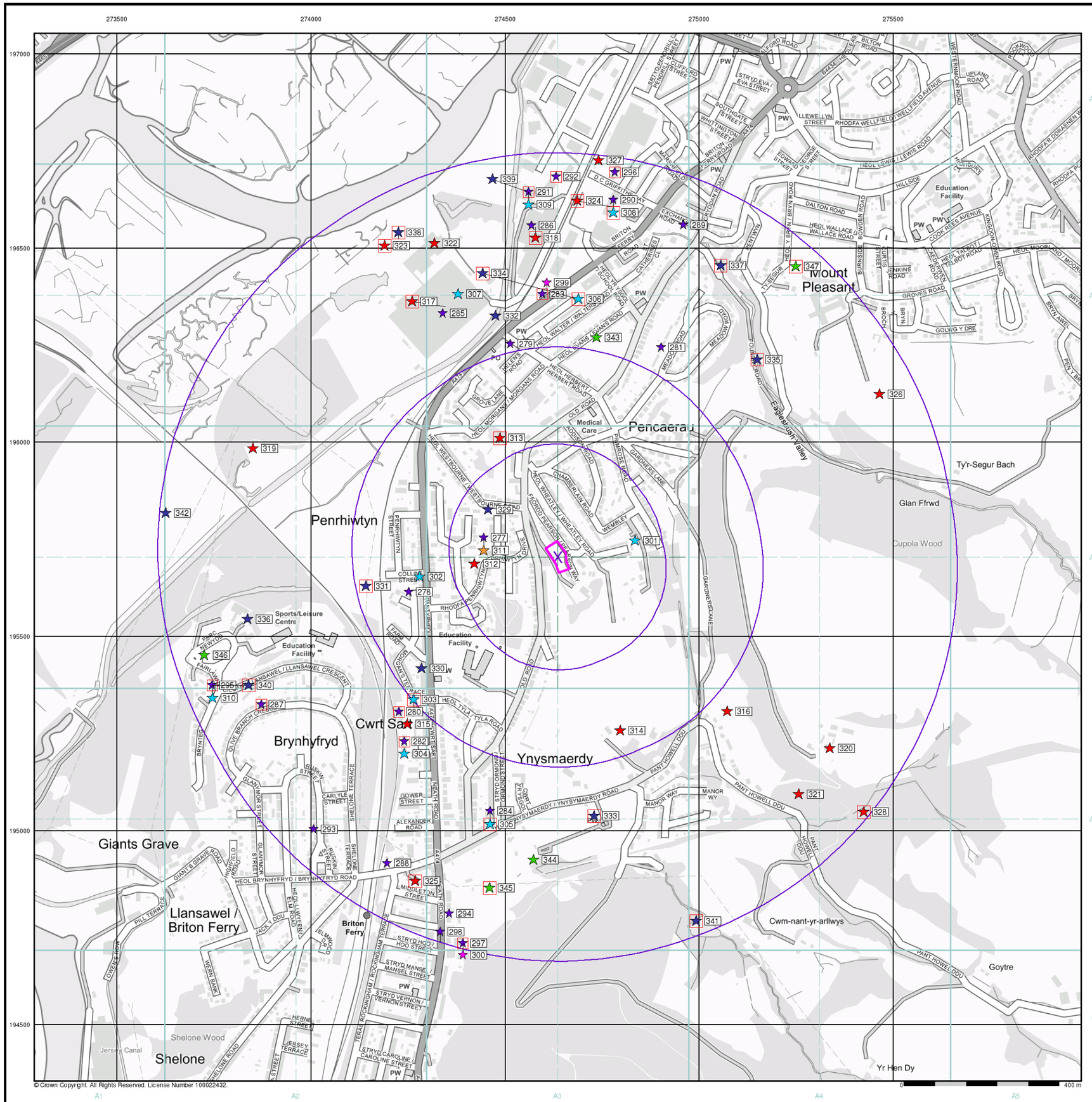
Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

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Industrial Land Use Map

General

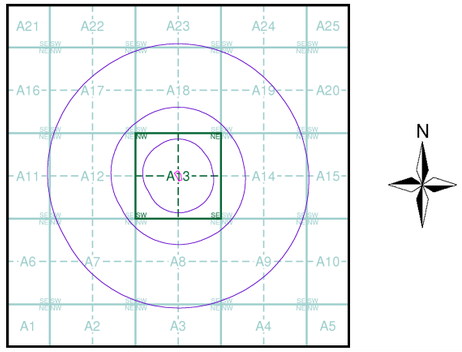
Specified Site | Specified Buffer(s) | Bearing Reference Point

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

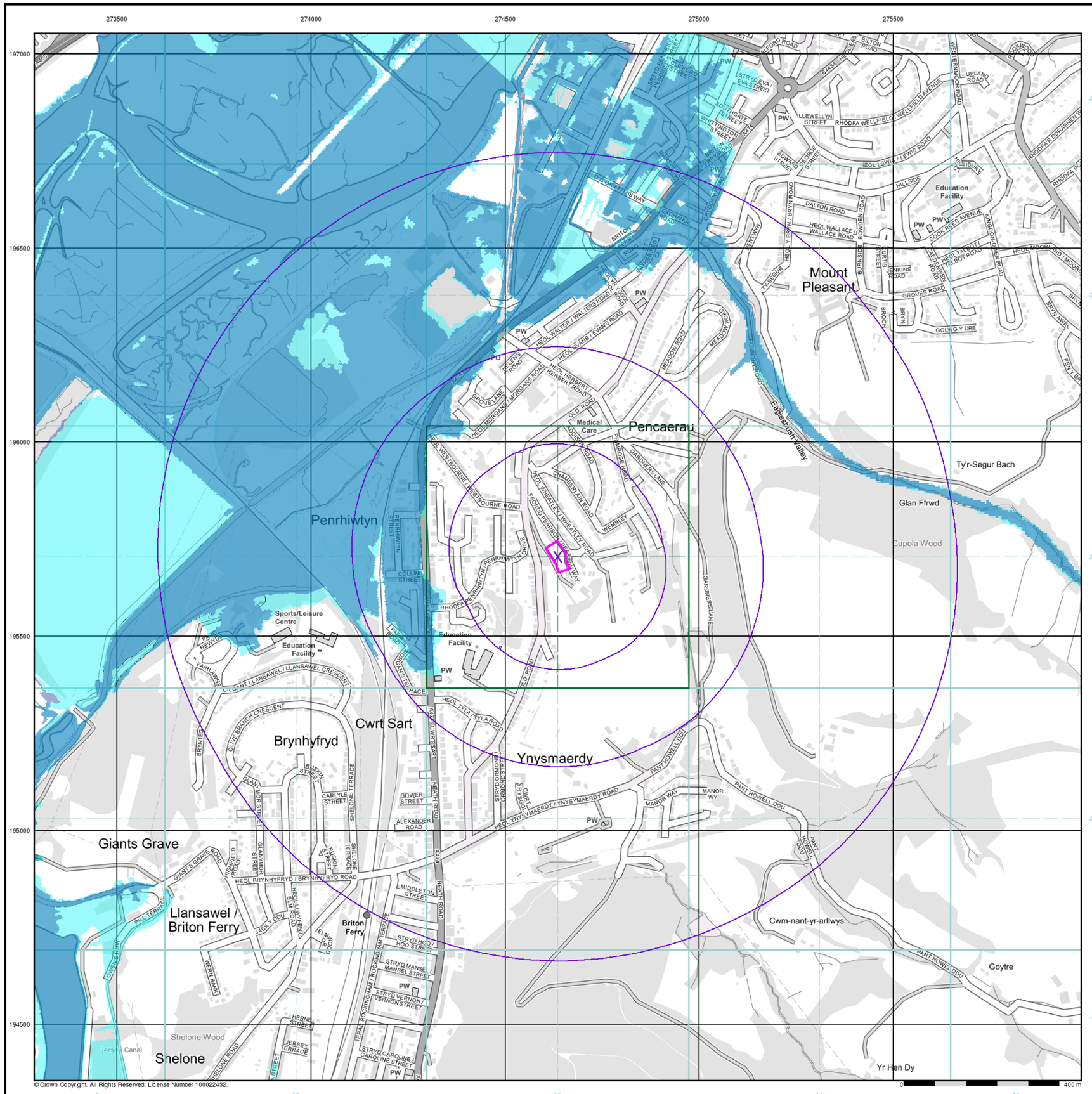
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Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
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Site Area (Ha):	0.25
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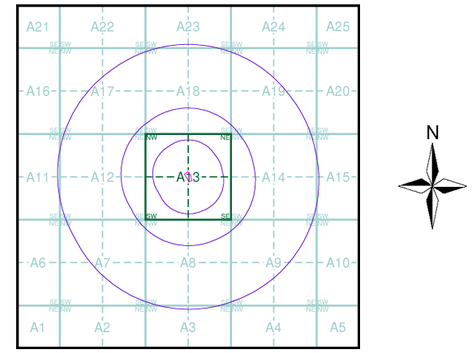
General

- 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



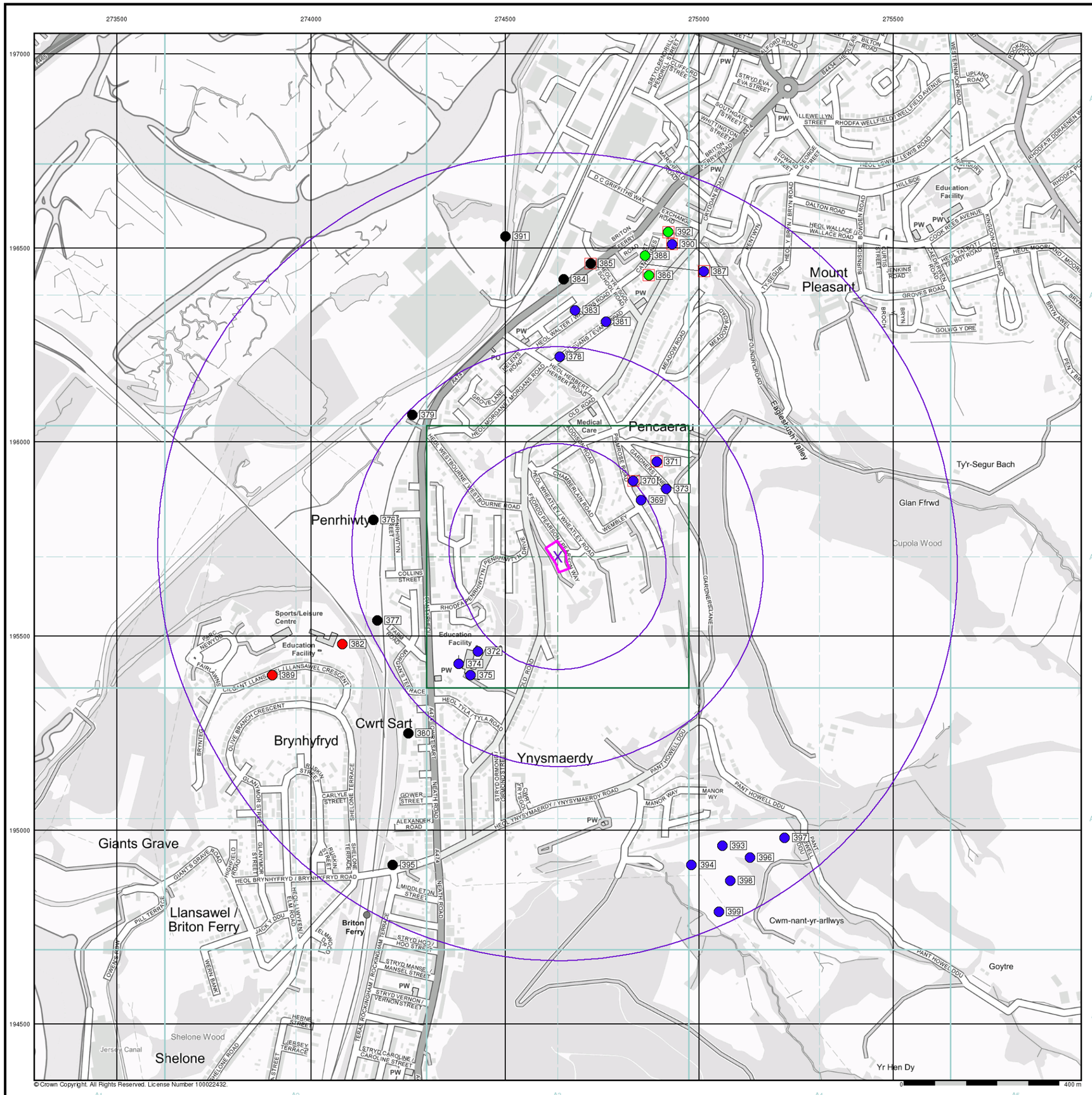
Order Details

Order Number:	281040714_1_1
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- Specified Site
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- Bearing Reference Point
- Map ID
- Several of Type at Location

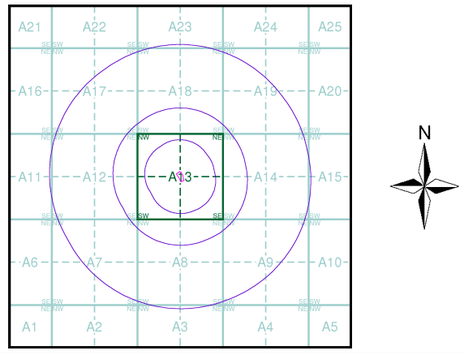
Agency and Hydrological (Boreholes)

- 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

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National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

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- Bearing Reference Point

OS Water Network Data

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

Contours (height in meters)

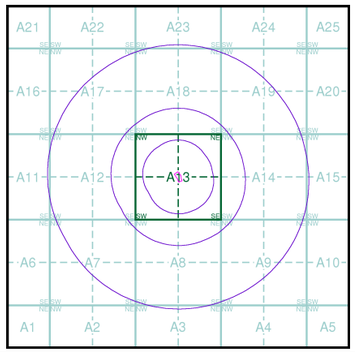
Standard Contour 105 100 95

Master Contour

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



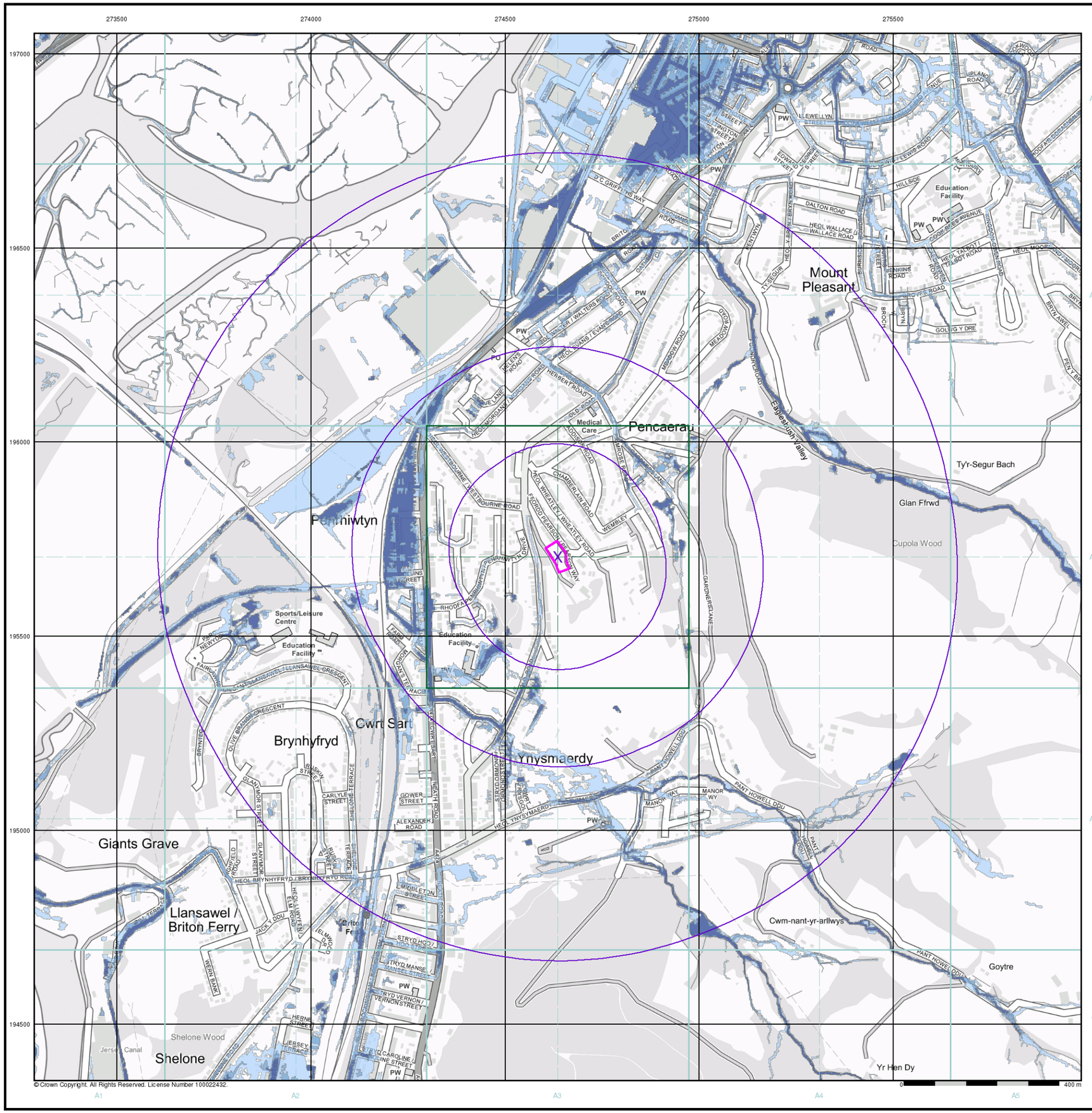
Order Details

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

Risk of Flooding from Surface Water

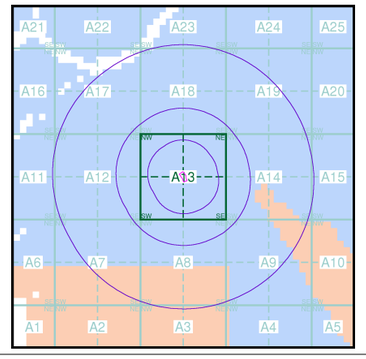
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice A



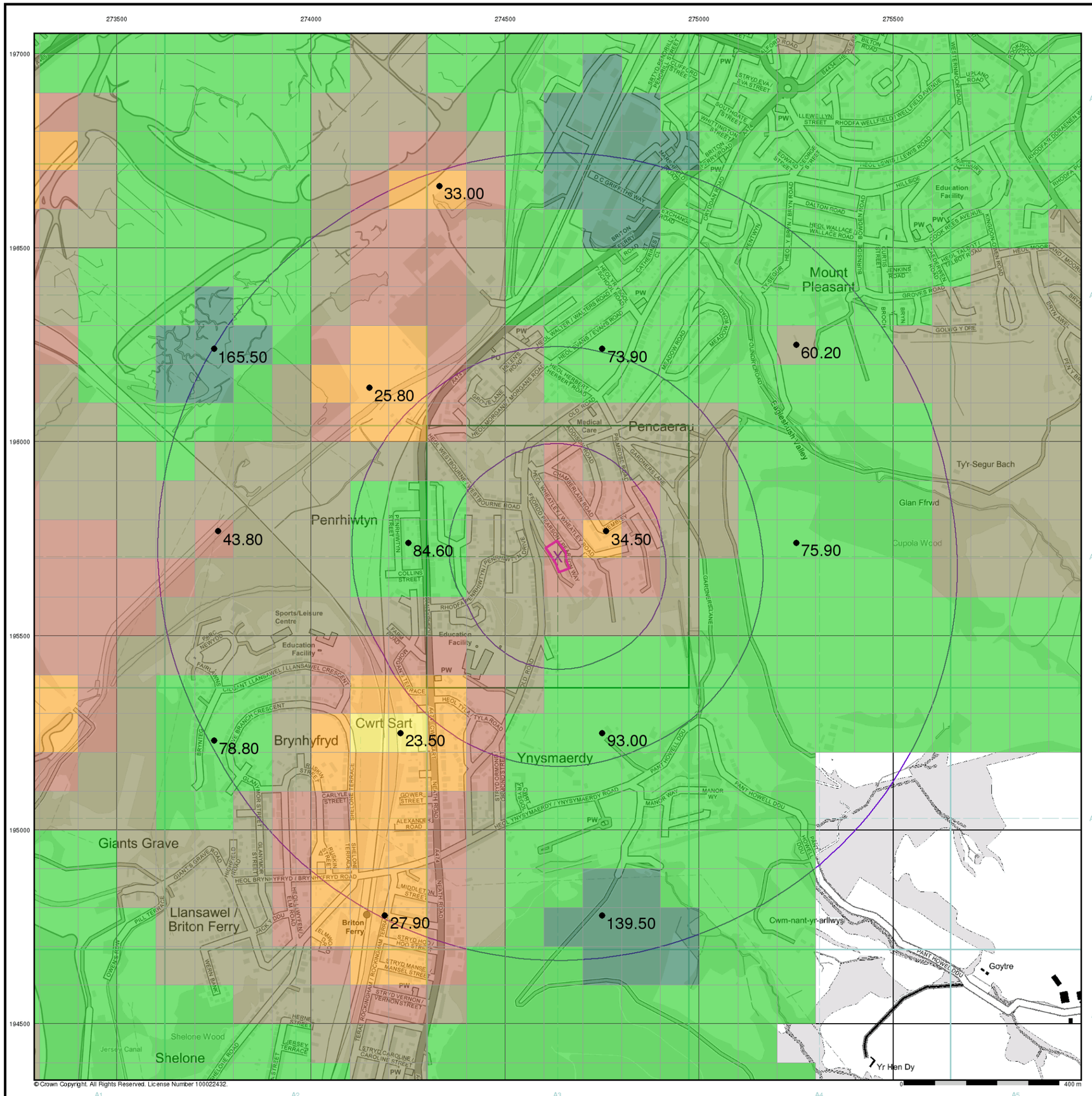
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Specified Site | Specified Buffer(s) | X Bearing Reference Point

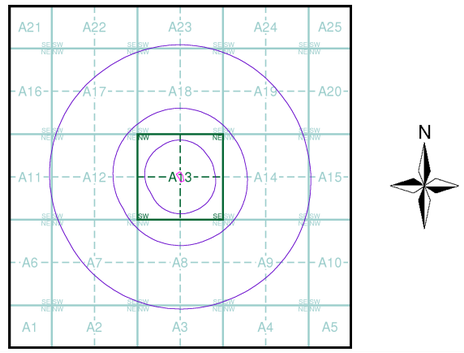
Urban Soil Chemistry Arsenic

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

Arsenic Concentrations mg/kg

< 15
15 - 25
25 - 35
35 - 45
45 - 60
60 - 120
> 120

Urban Soil Chemistry Arsenic - Slice A



Order Details

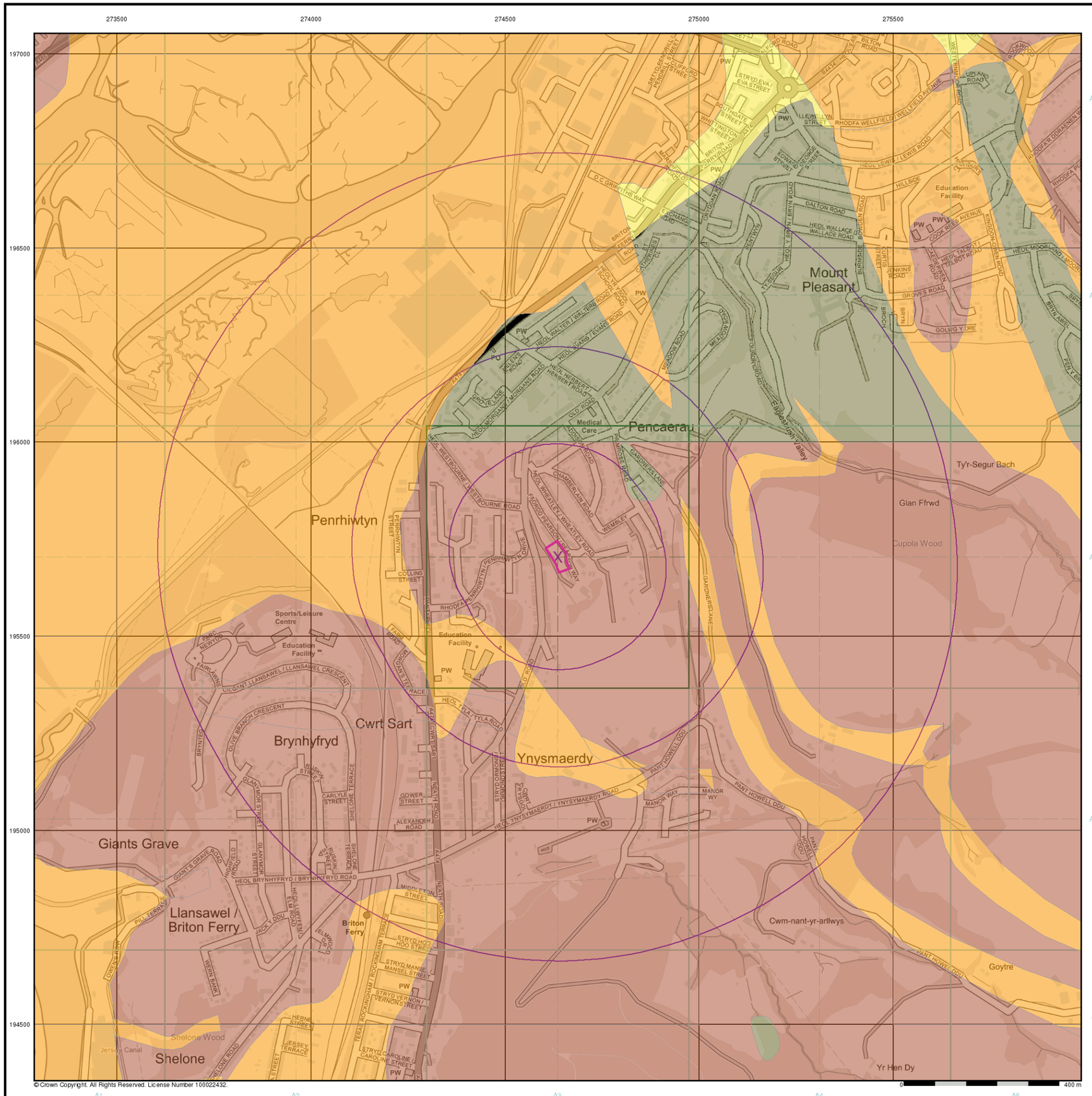
Order Details:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
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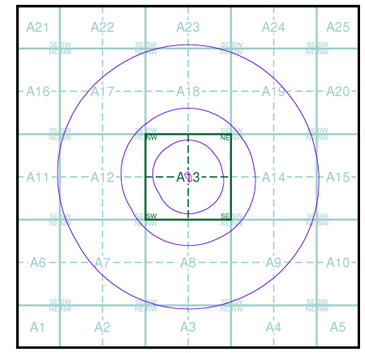
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



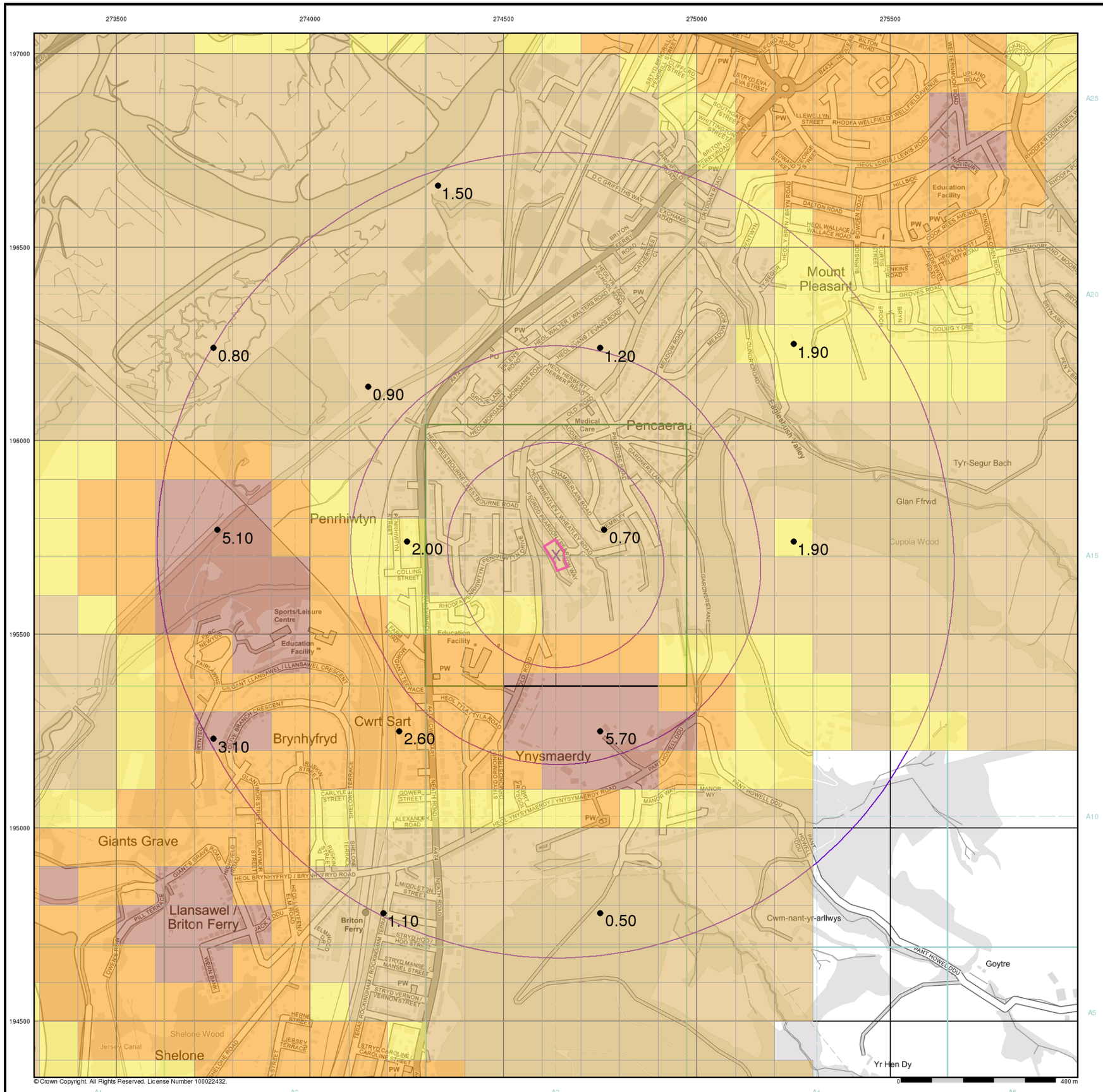
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Customer Ref:	16819 - Pearson Way
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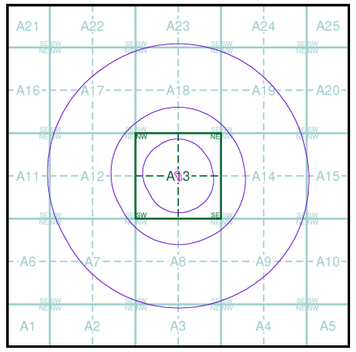
Urban Soil Chemistry Cadmium

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

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Urban Soil Chemistry Cadmium - Slice A



Order Details

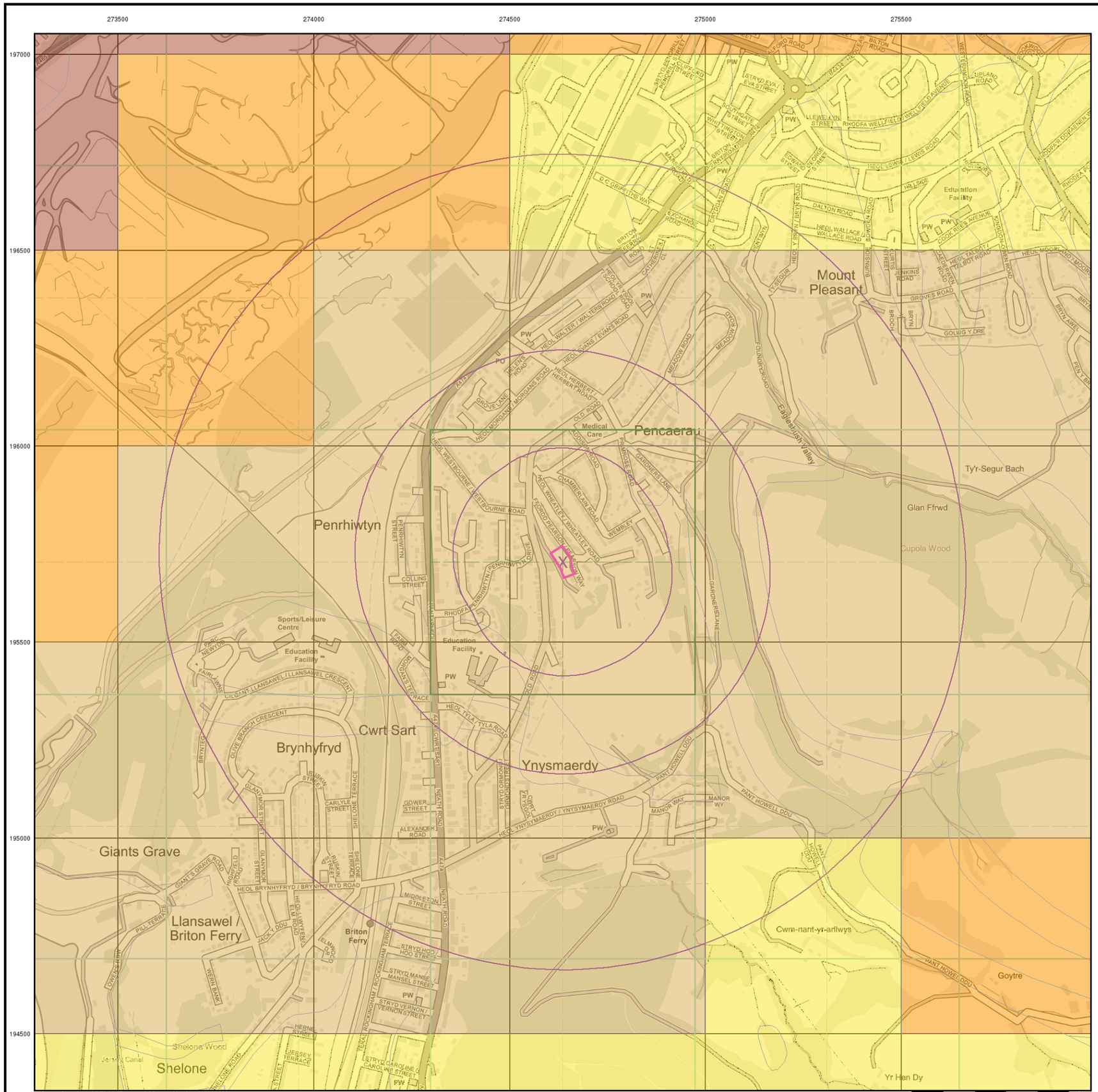
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Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
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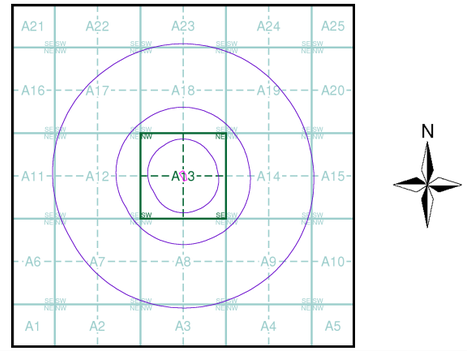
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



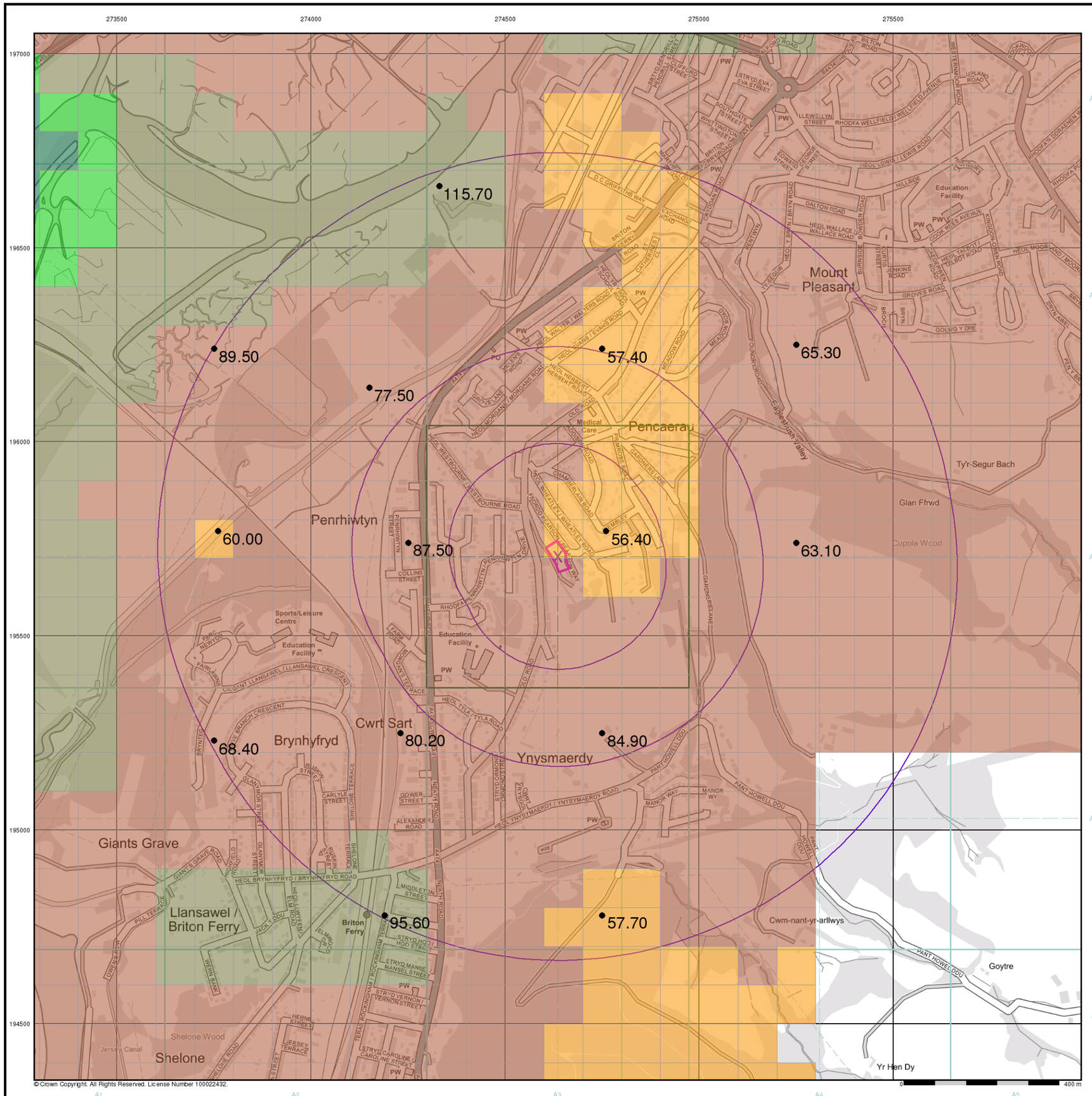
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National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
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Specified Site | Specified Buffer(s) | X Bearing Reference Point

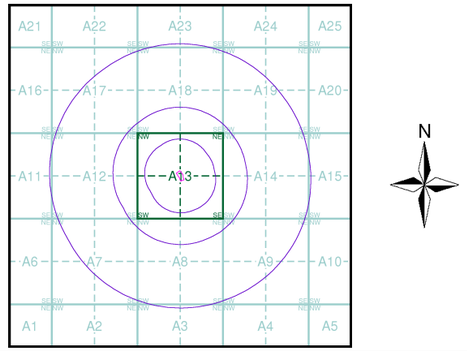
Urban Soil Chemistry Chromium

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

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Urban Soil Chemistry Chromium - Slice A



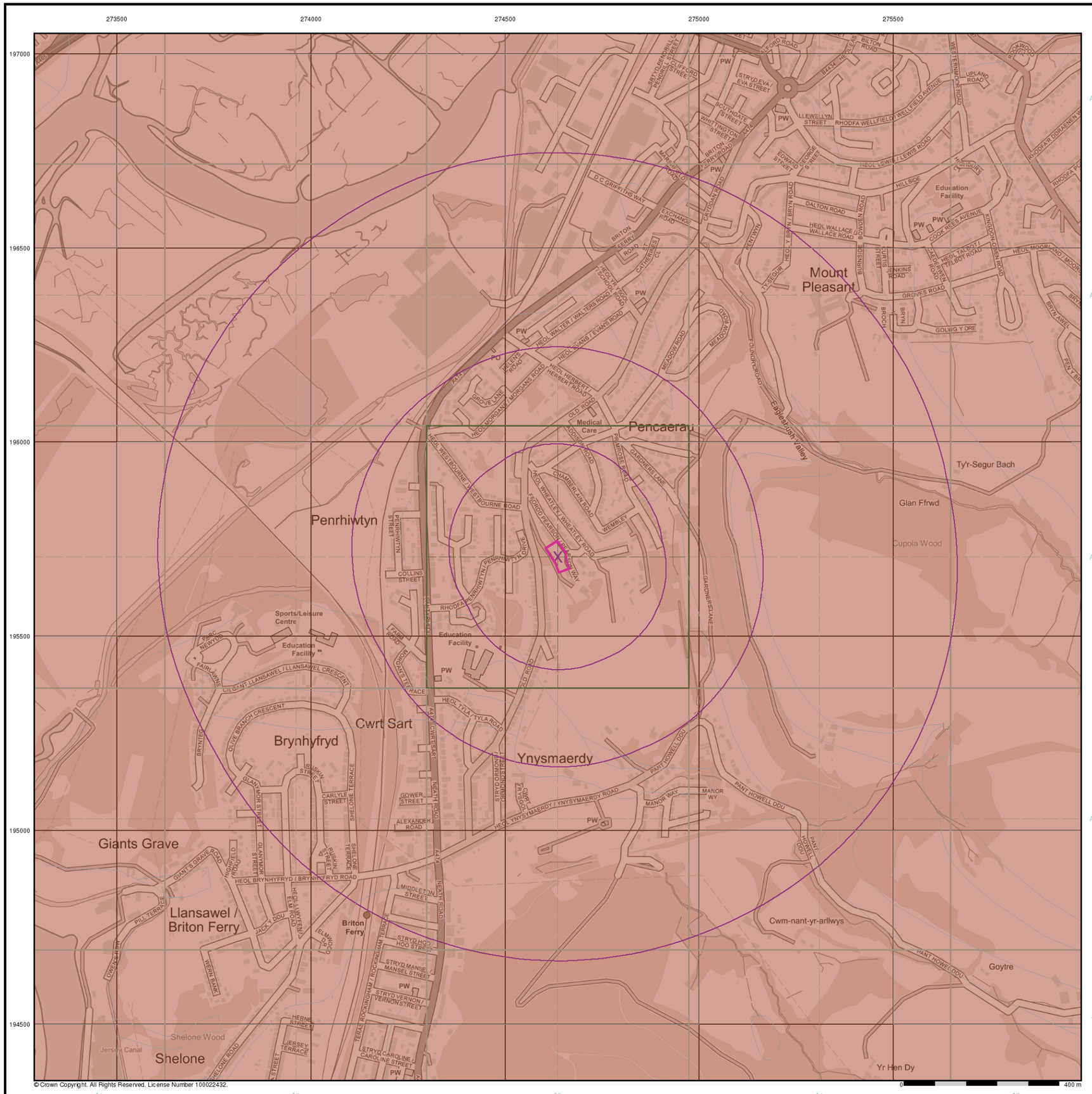
Order Details

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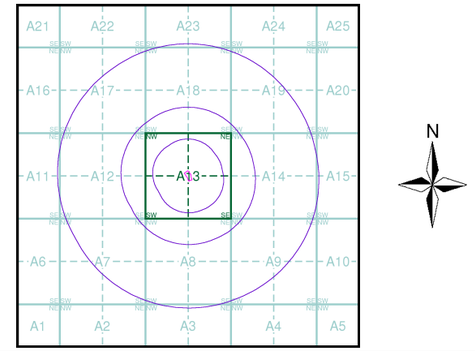
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



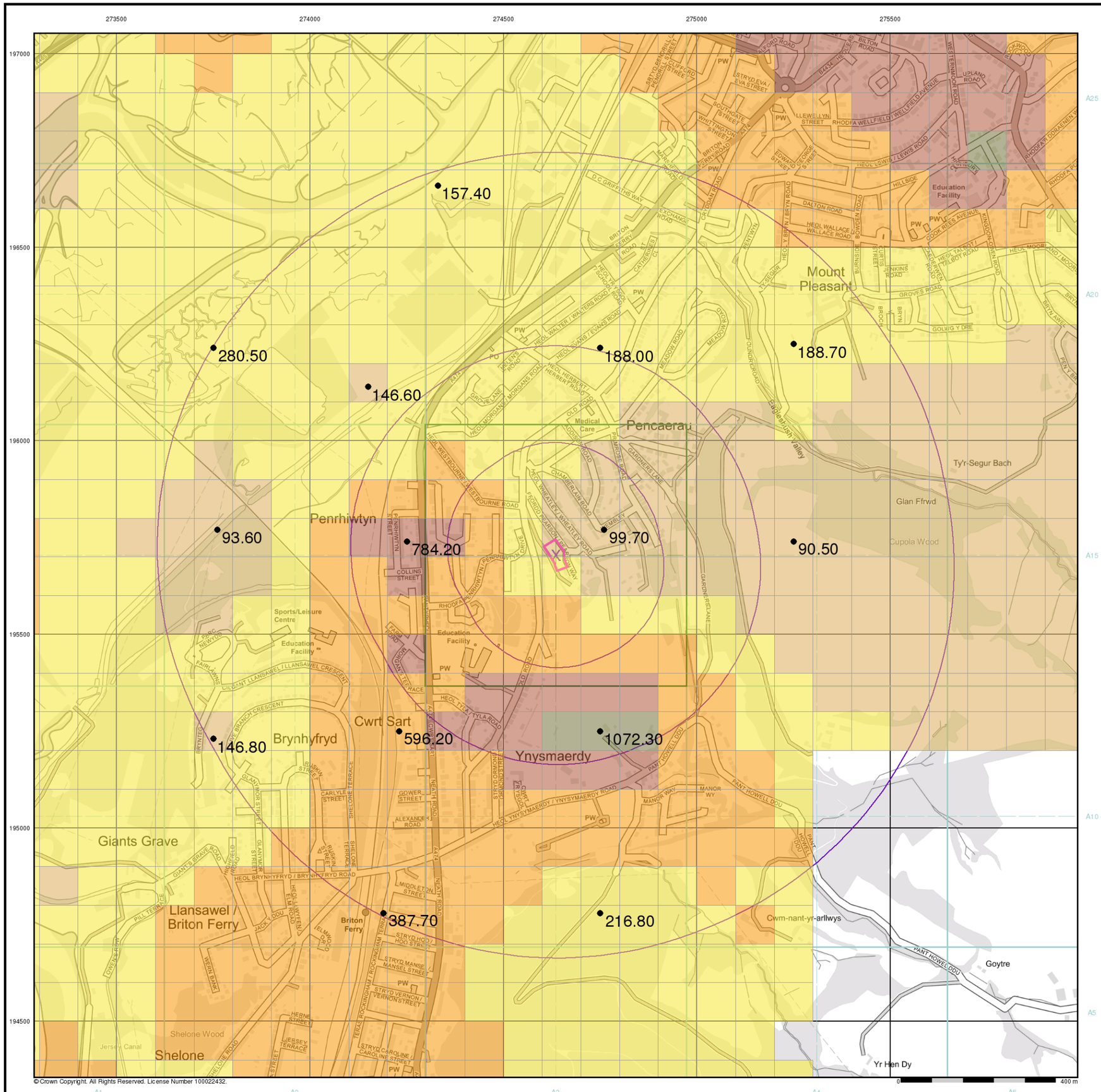
Order Details

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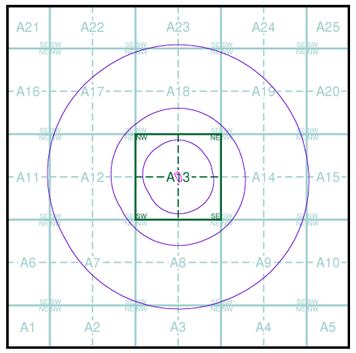
Urban Soil Chemistry Lead

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

Lead Concentrations mg/kg

- < 150
- 150 - 300
- 300 - 600
- 600 - 900
- > 900

Urban Soil Chemistry Lead - Slice A



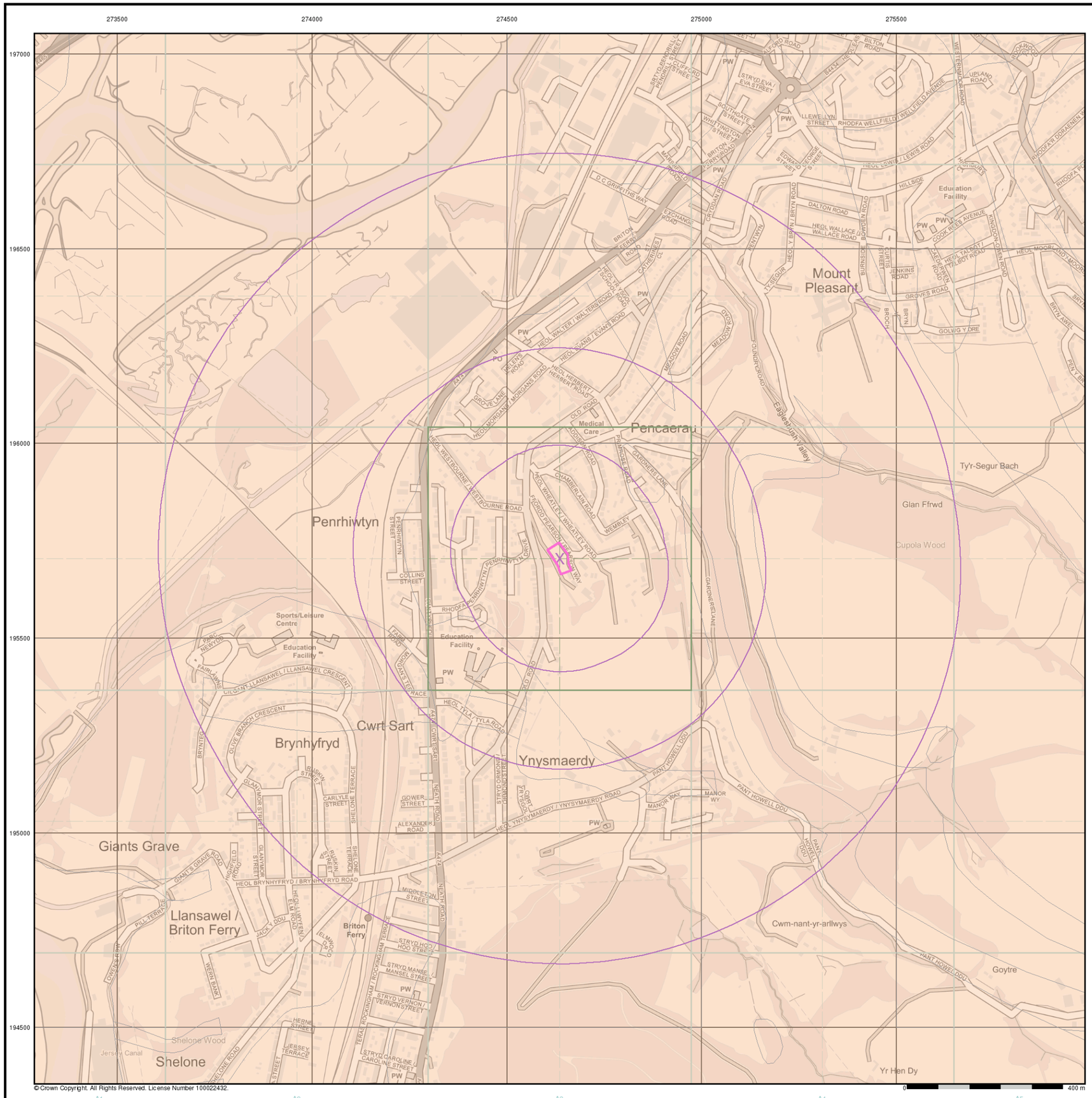
Order Details

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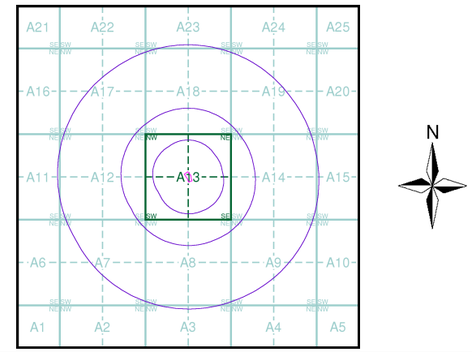
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



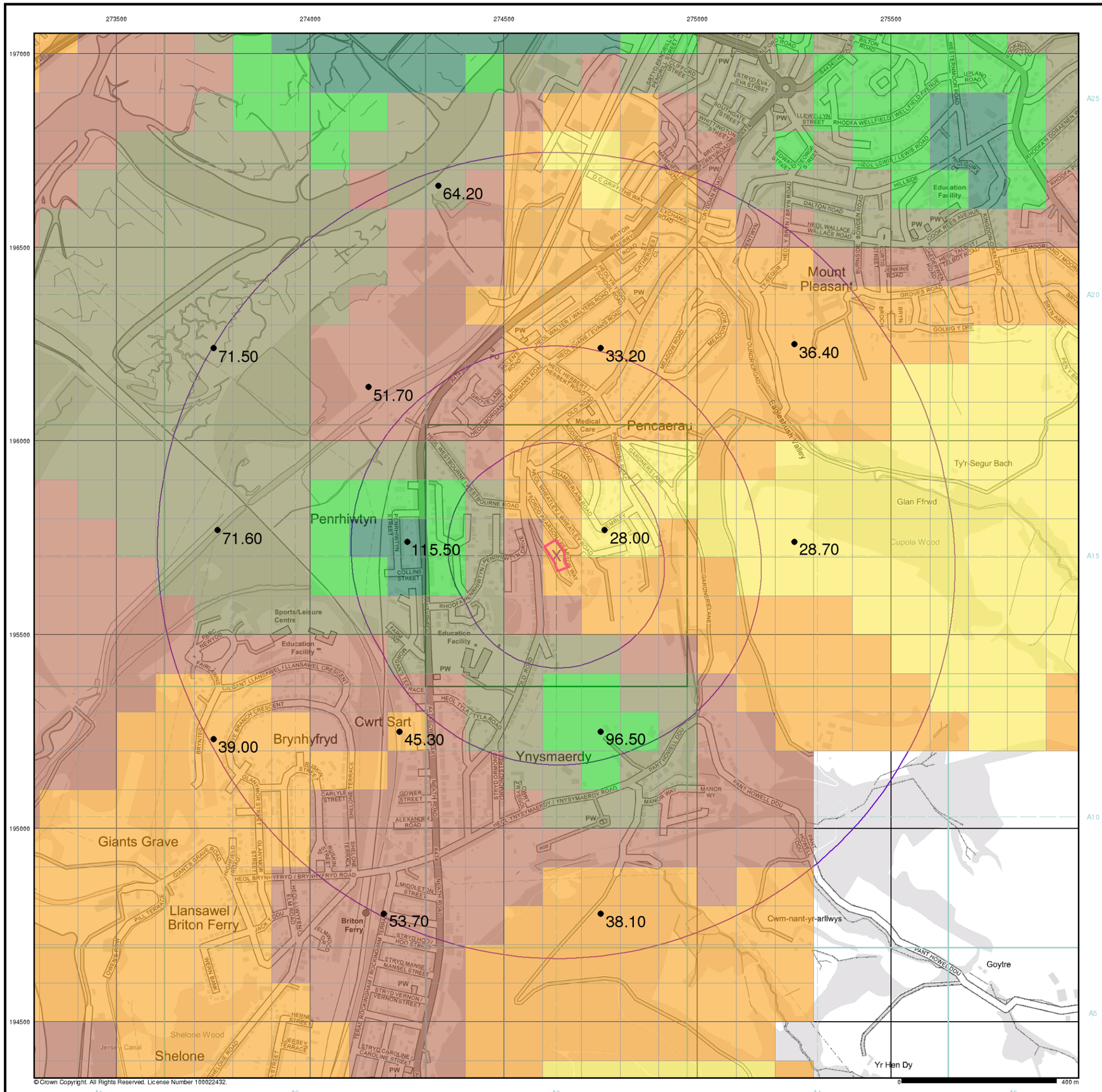
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Specified Site | Specified Buffer(s) | X Bearing Reference Point

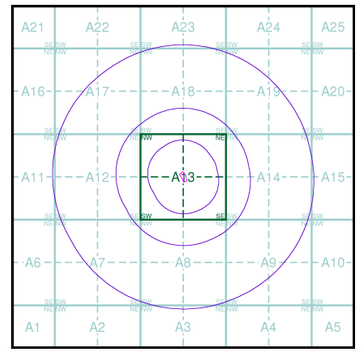
Urban Soil Chemistry Nickel

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

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Urban Soil Chemistry Nickel - Slice A



Order Details

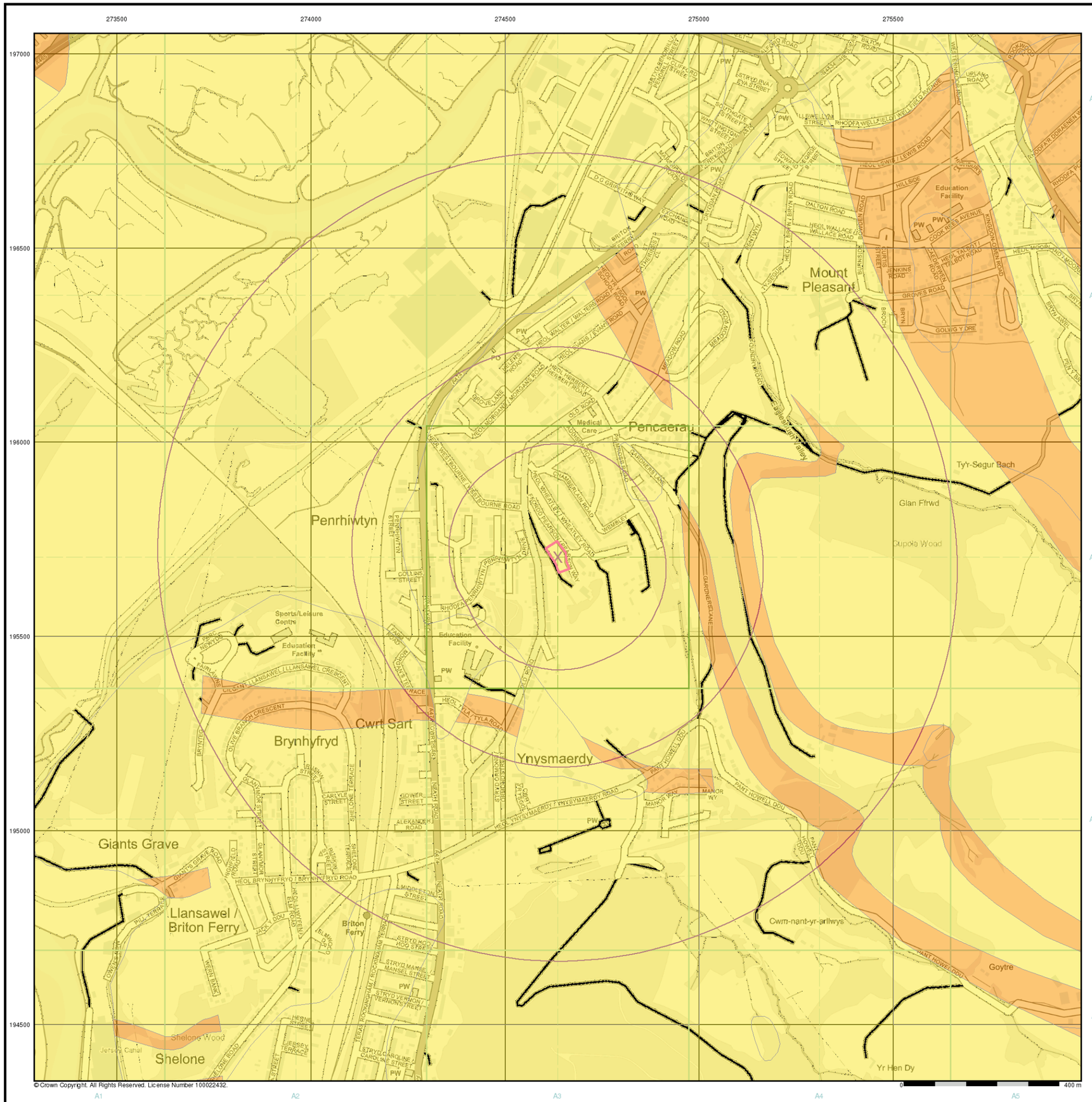
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Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search buffer (m):	1000

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General

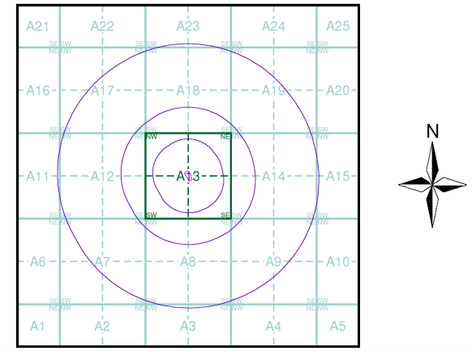
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



Order 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
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	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
	GFSDD	Glaciofluvial Sheet Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	GFICD	Glaciofluvial Ice Contact Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	PEAT	Peat	Peat	Not Supplied - Quaternary
	BSA	Blown Sand	Sand	Not Supplied - Quaternary

Bedrock and Faults

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

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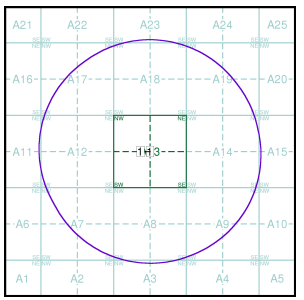
Geology 1:50,000 Maps

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



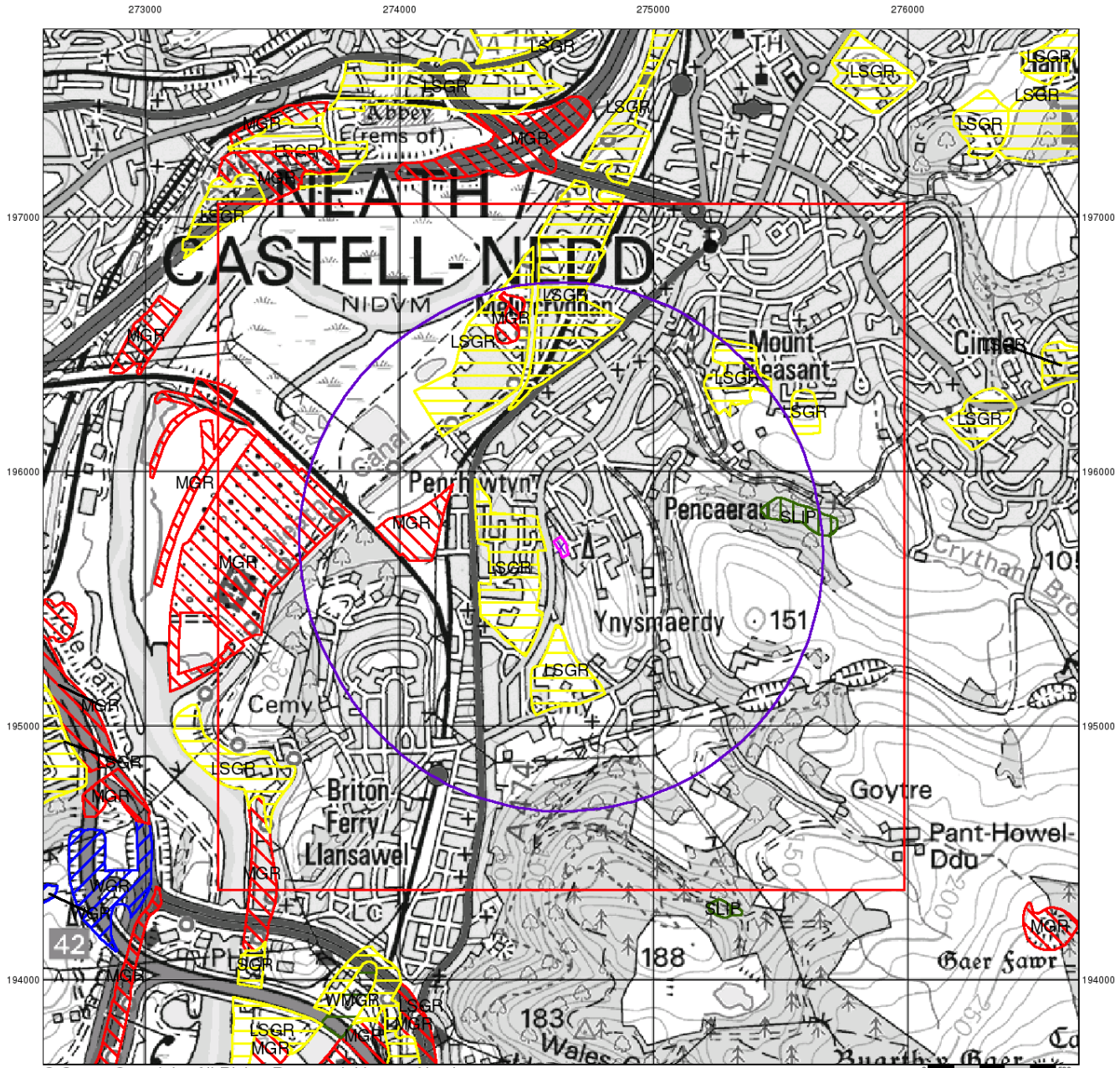
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Artificial Ground and Landslip

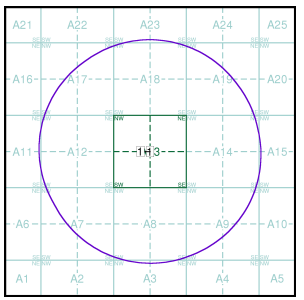
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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



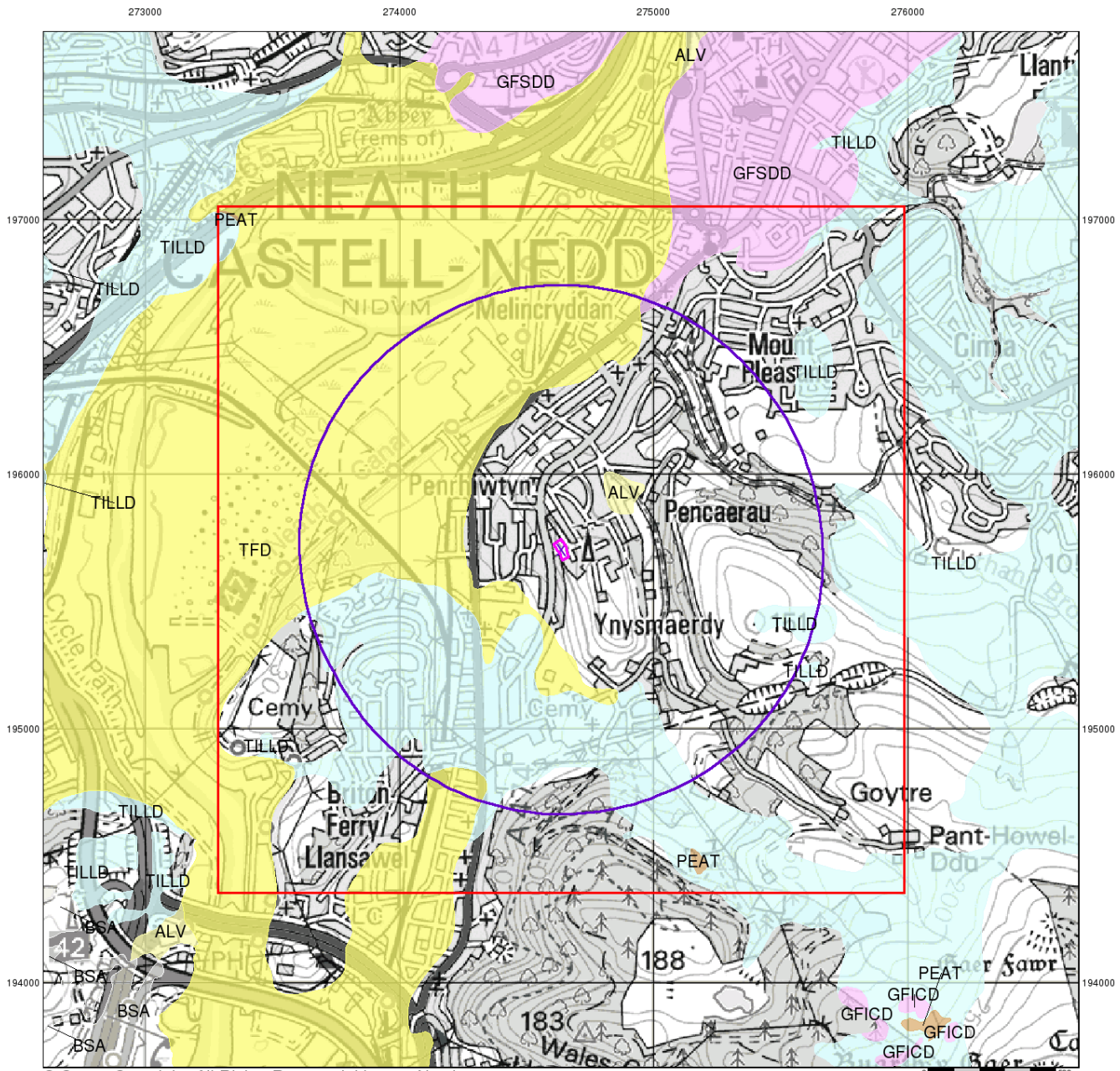
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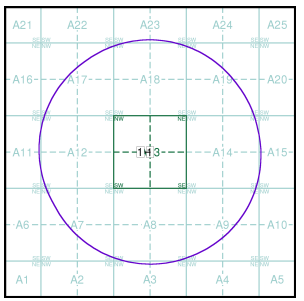
Superficial Geology

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



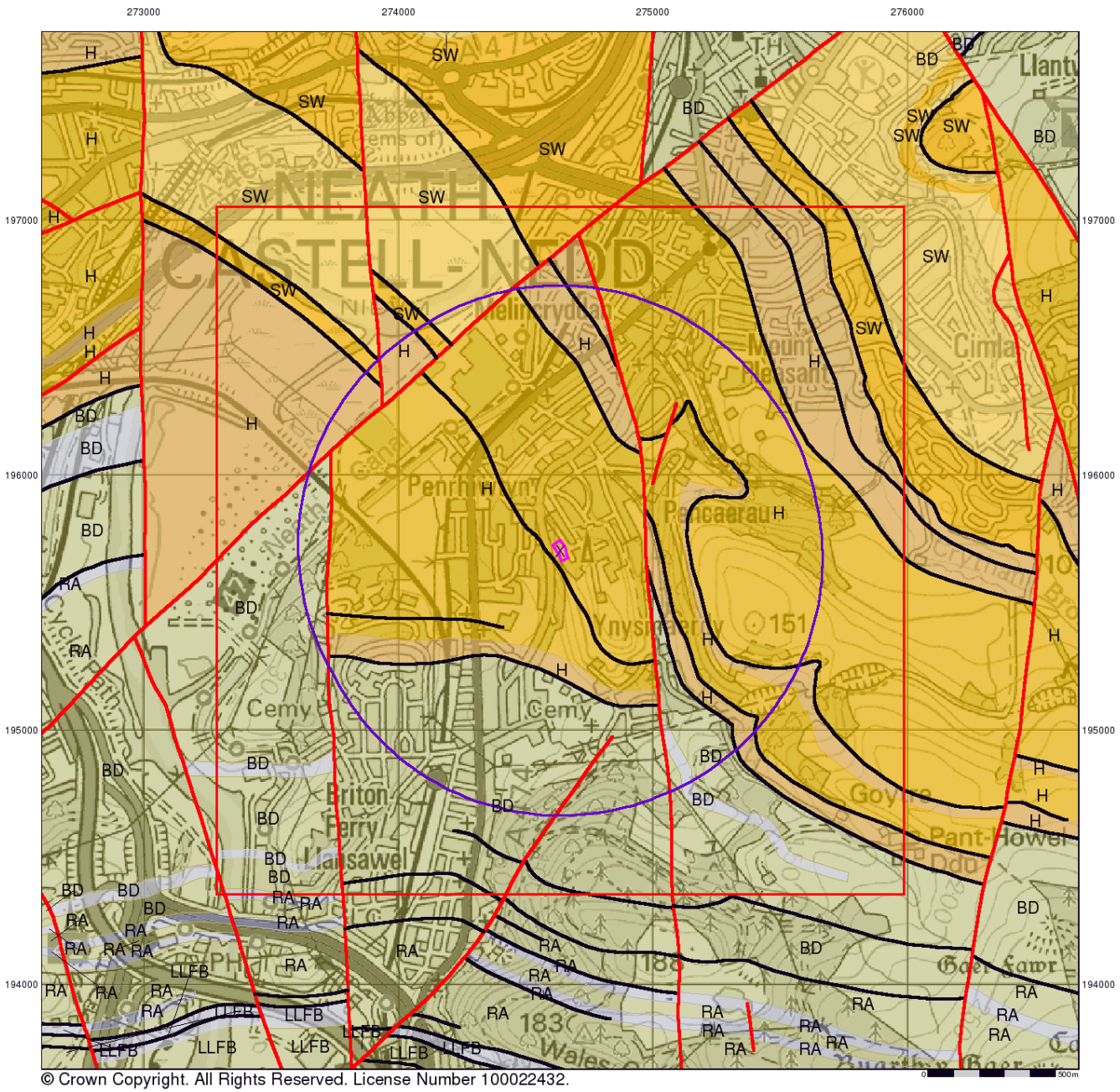
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Bedrock and Faults

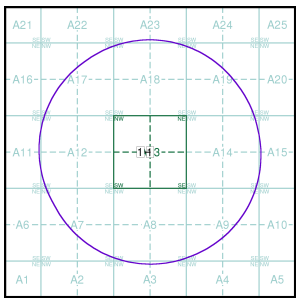
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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



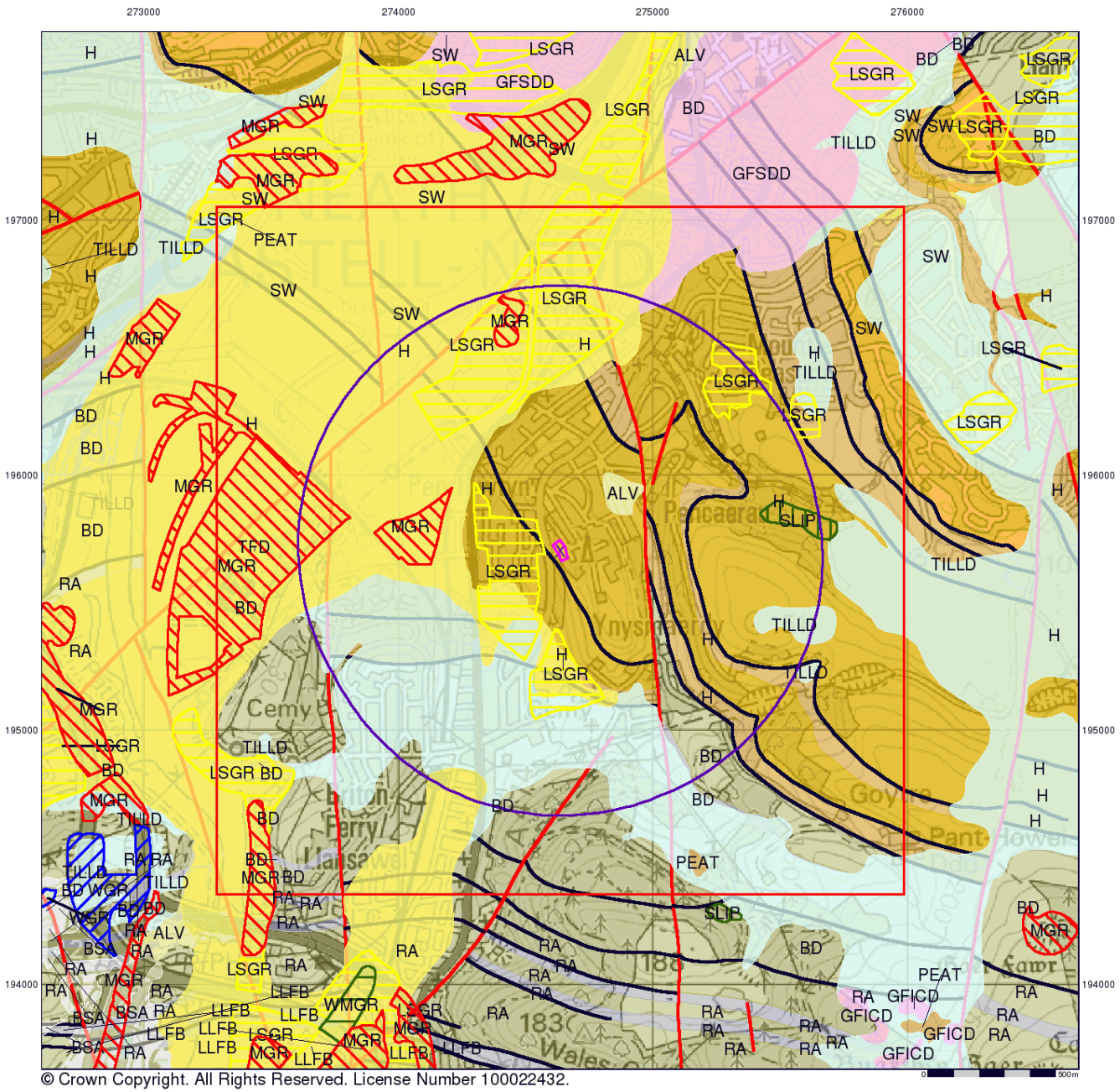
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Combined Surface Geology

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.

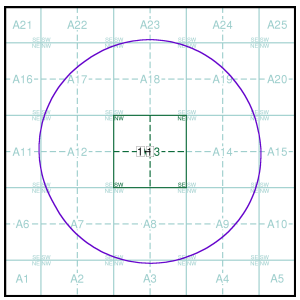
Additional Information

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:

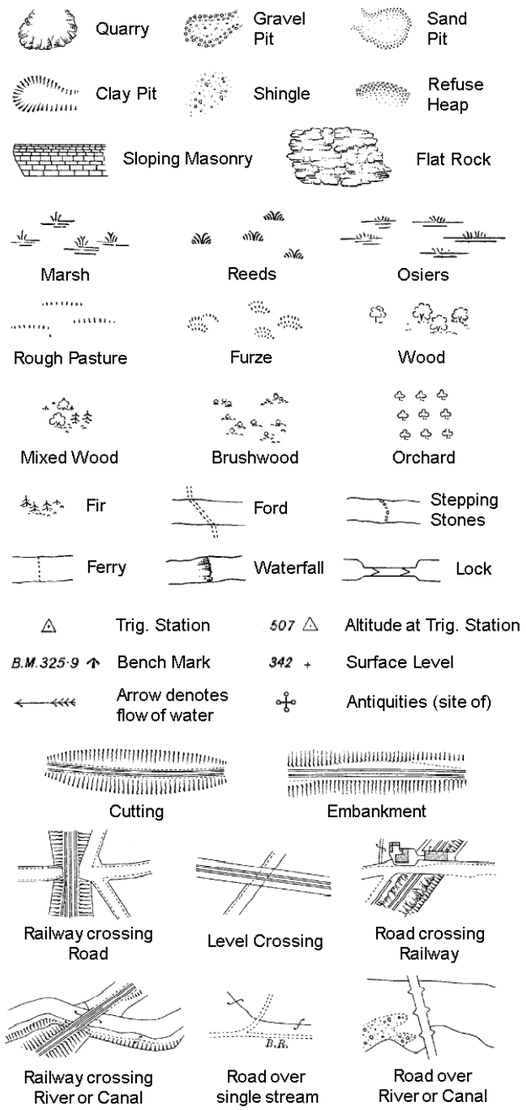
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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

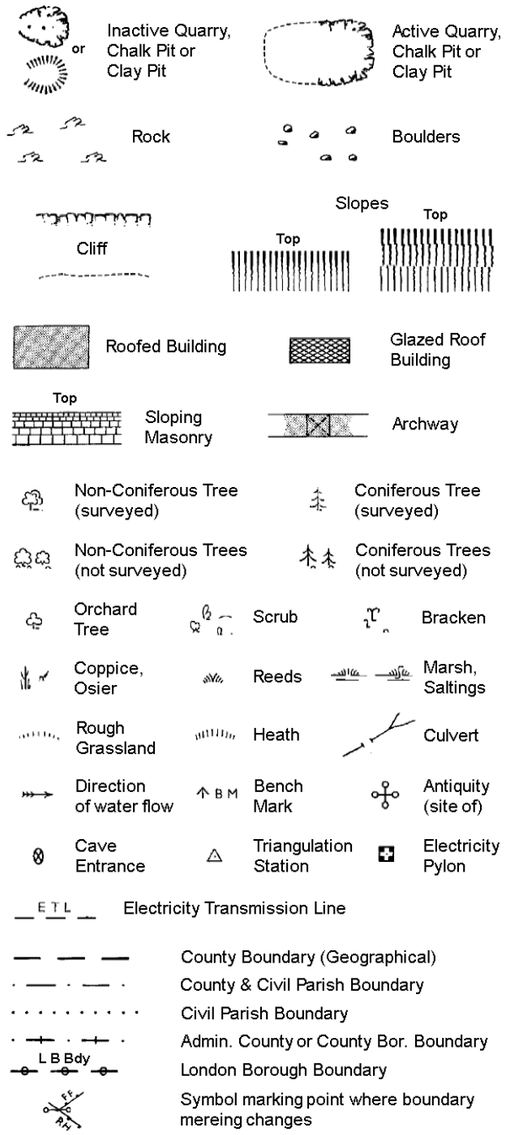
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

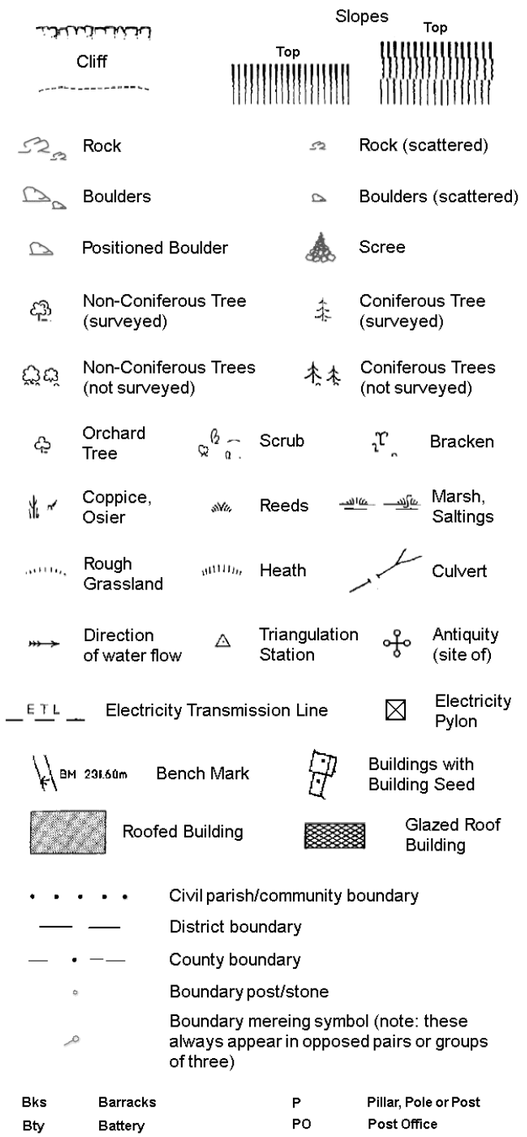
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

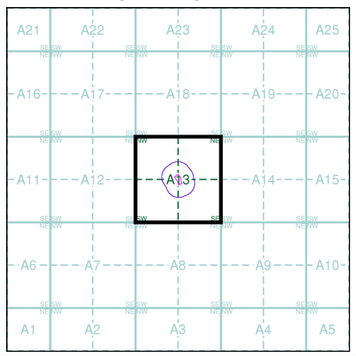
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1878 - 1882	2
Glamorganshire	1:2,500	1899	3
Glamorganshire	1:2,500	1918 - 1919	4
Glamorganshire	1:2,500	1935 - 1941	5
Ordnance Survey Plan	1:1,250	1951	6
Ordnance Survey Plan	1:2,500	1952	7
Ordnance Survey Plan	1:1,250	1958 - 1967	8
Ordnance Survey Plan	1:2,500	1964 - 1970	9
Ordnance Survey Plan	1:1,250	1967	10
Ordnance Survey Plan	1:1,250	1971	11
Additional SIMs	1:1,250	1979 - 1989	12
Additional SIMs	1:1,250	1987 - 1989	13
Additional SIMs	1:1,250	1989	14
Large-Scale National Grid Data	1:1,250	1993	15
Large-Scale National Grid Data	1:1,250	1995	16
Historical Aerial Photography	1:2,500	2000	17

Historical Map - Segment A13



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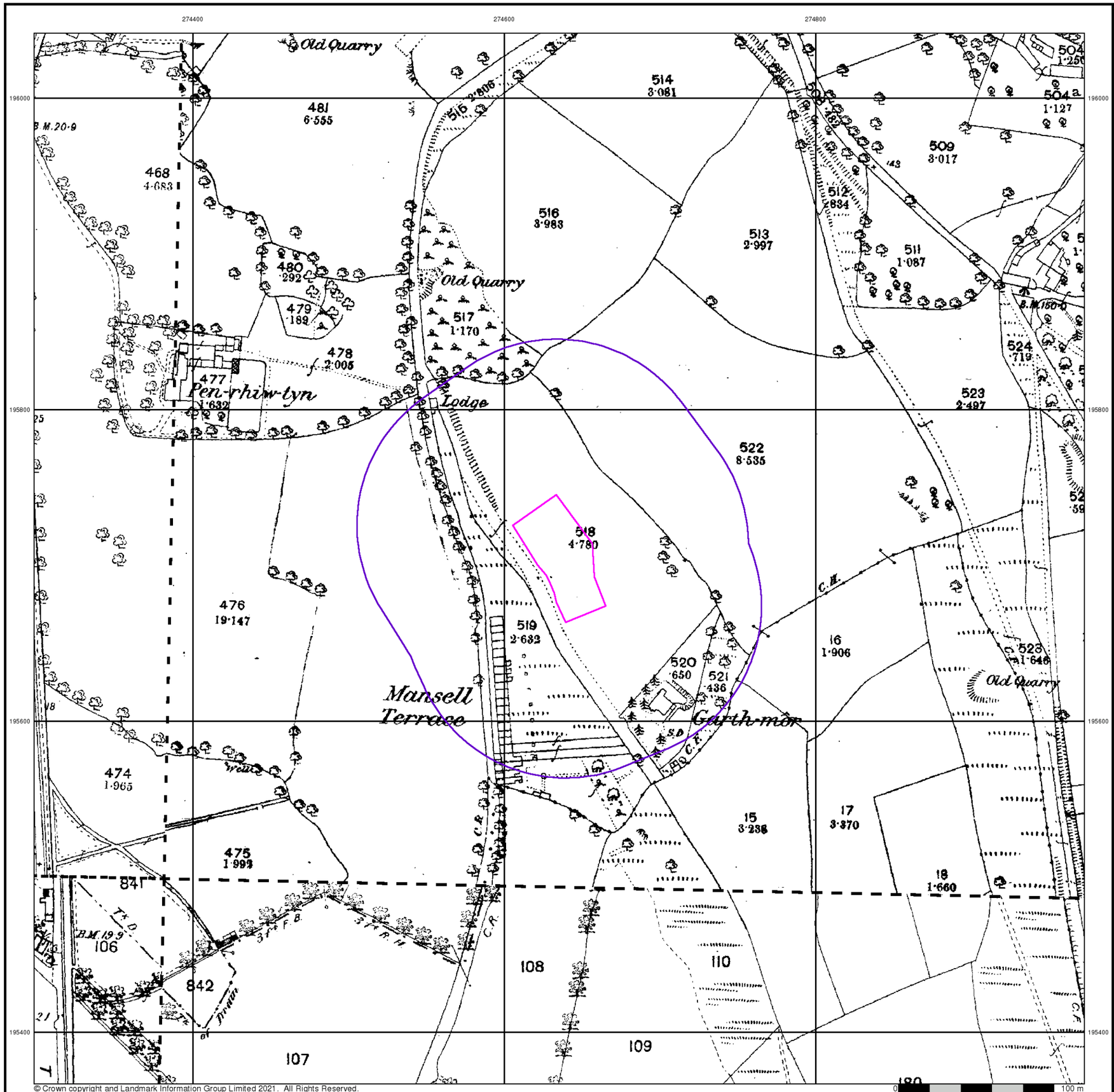
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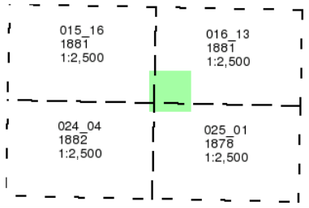
Glamorganshire

Published 1878 - 1882

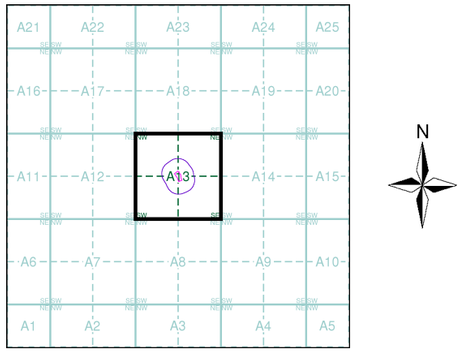
Source map scale - 1:2,500

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



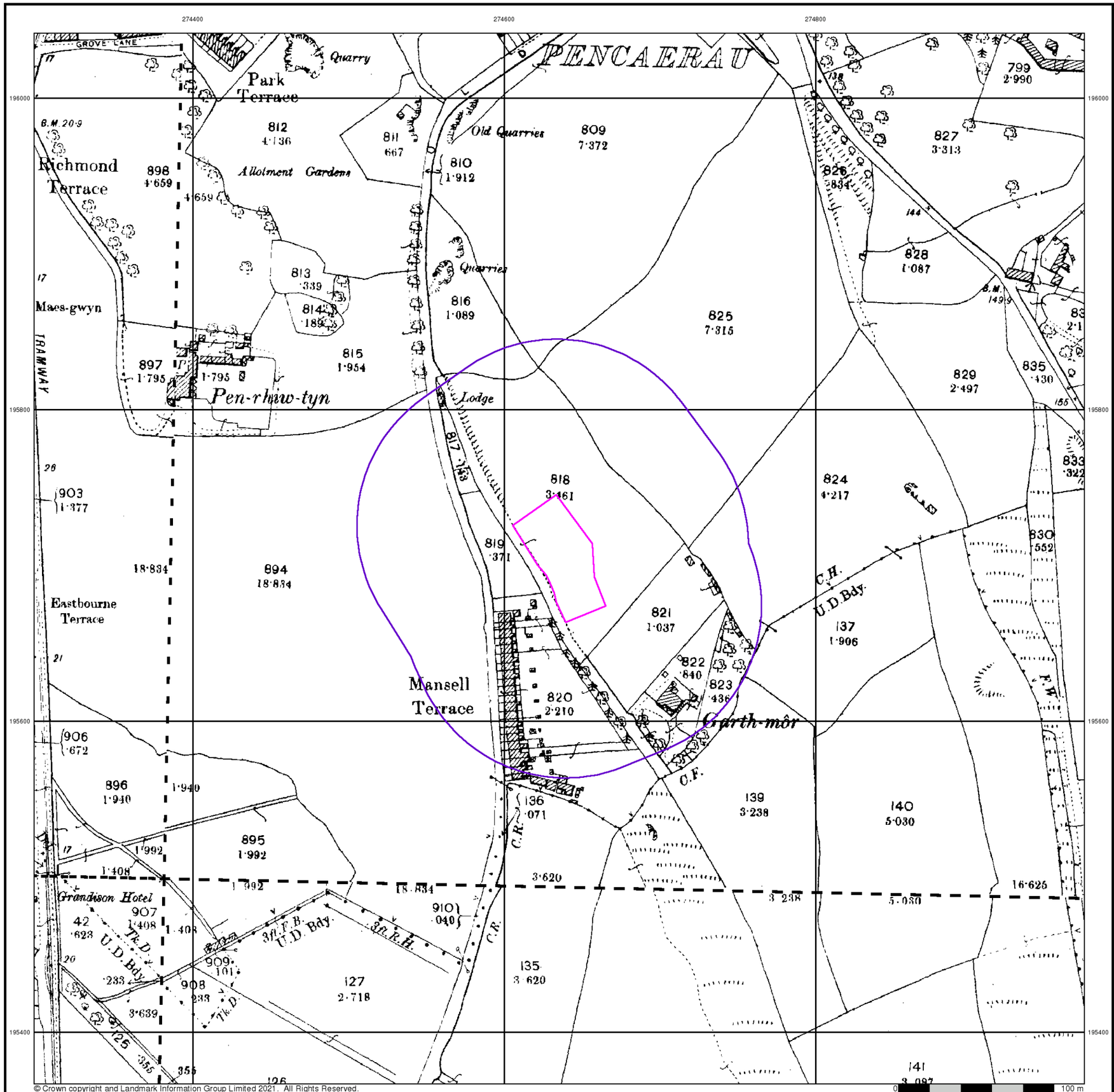
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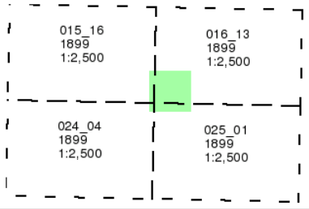
Glamorganshire

Published 1899

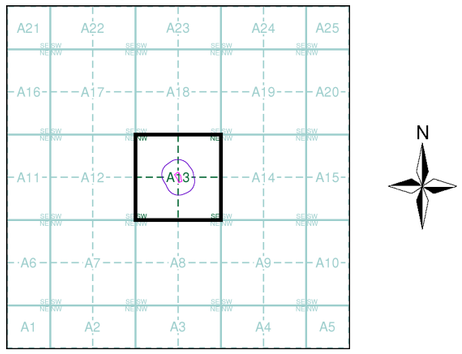
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered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



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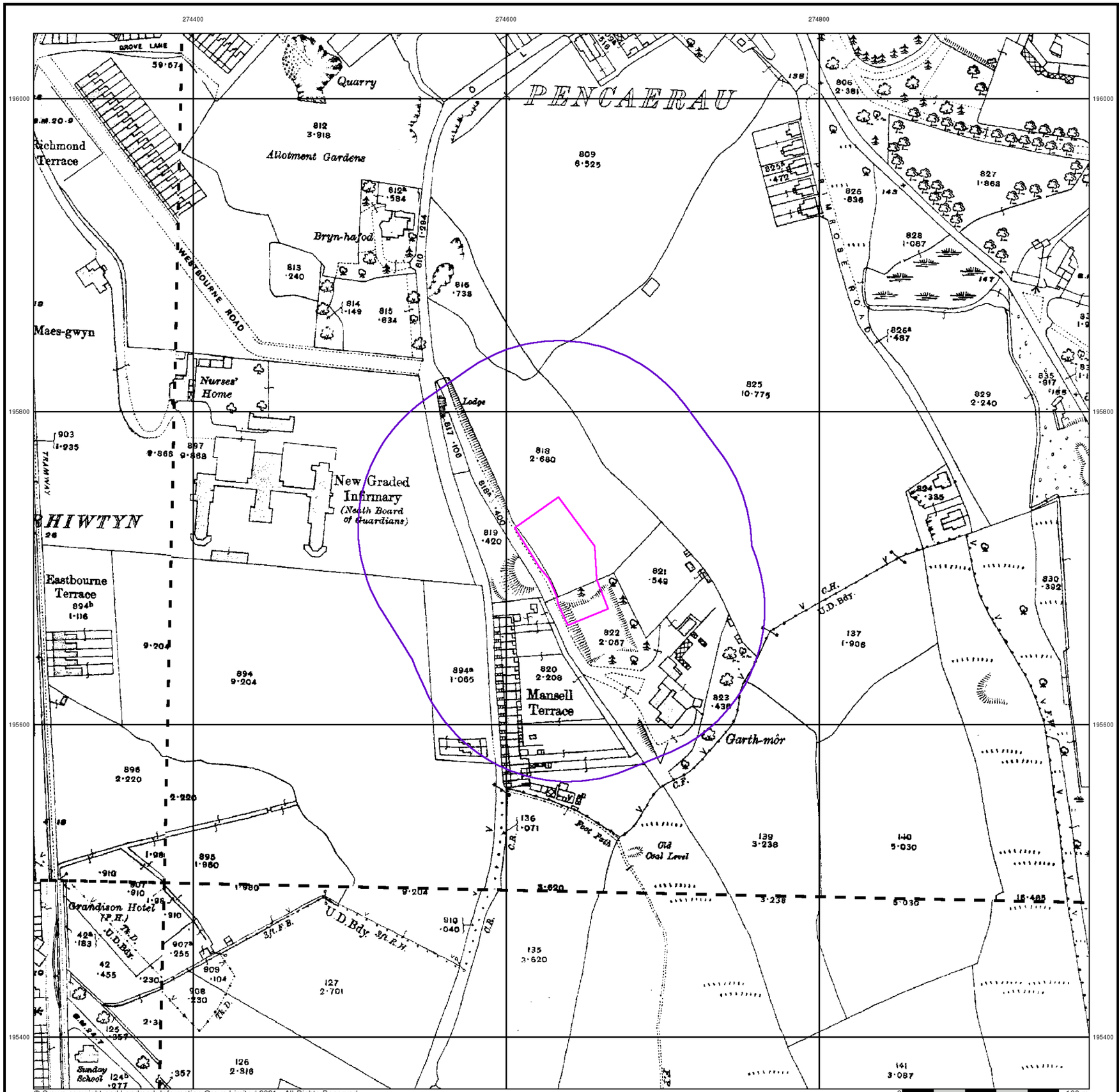
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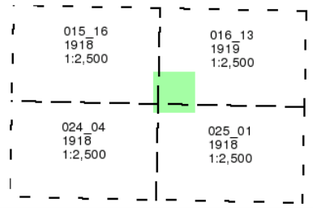
Glamorganshire

Published 1918 - 1919

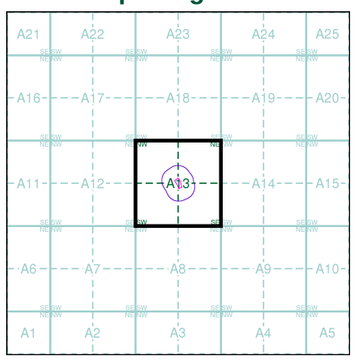
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered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



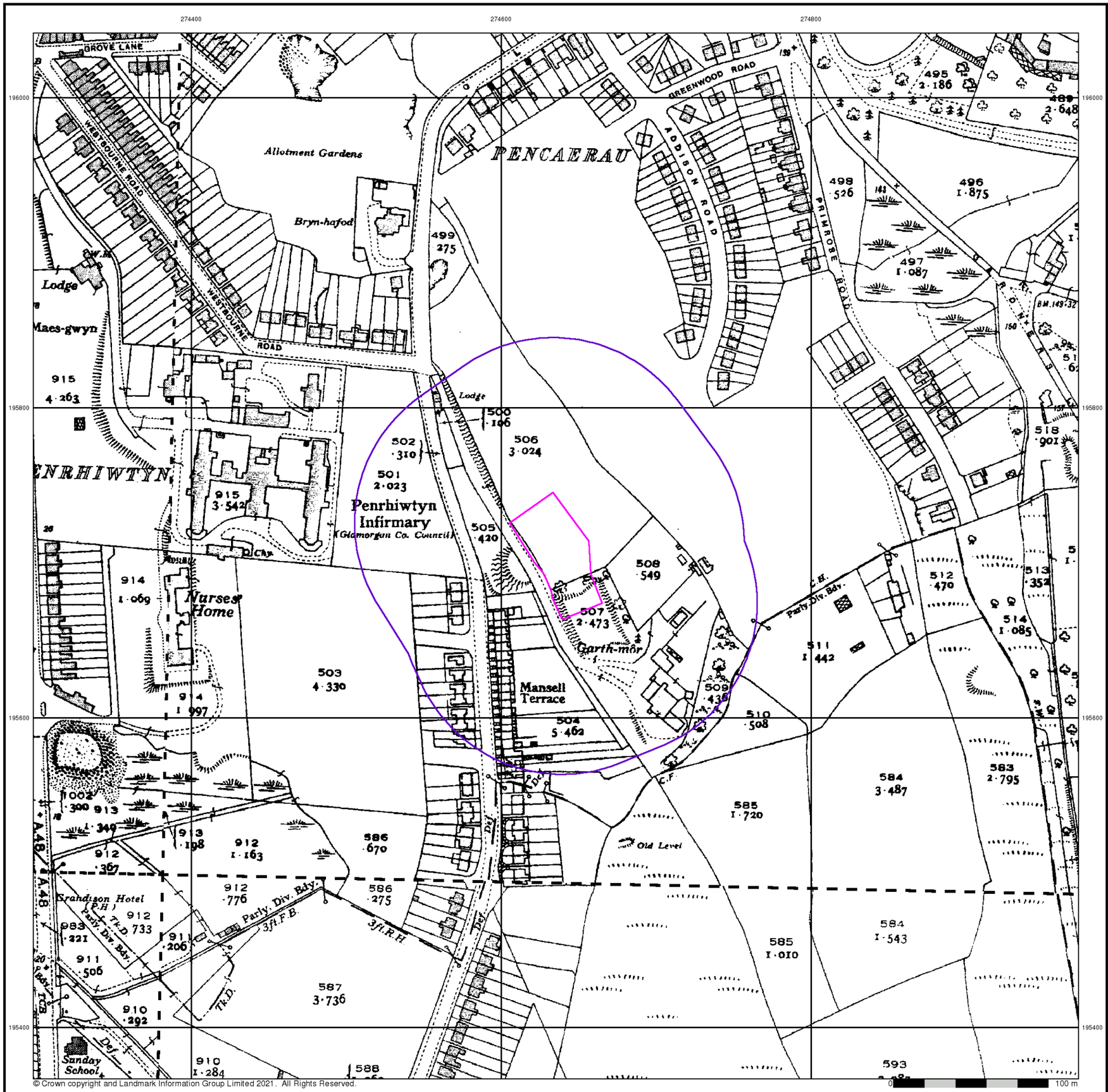
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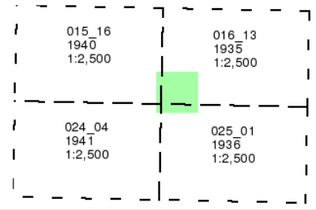
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Published 1935 - 1941

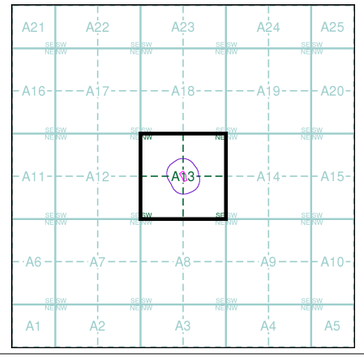
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Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

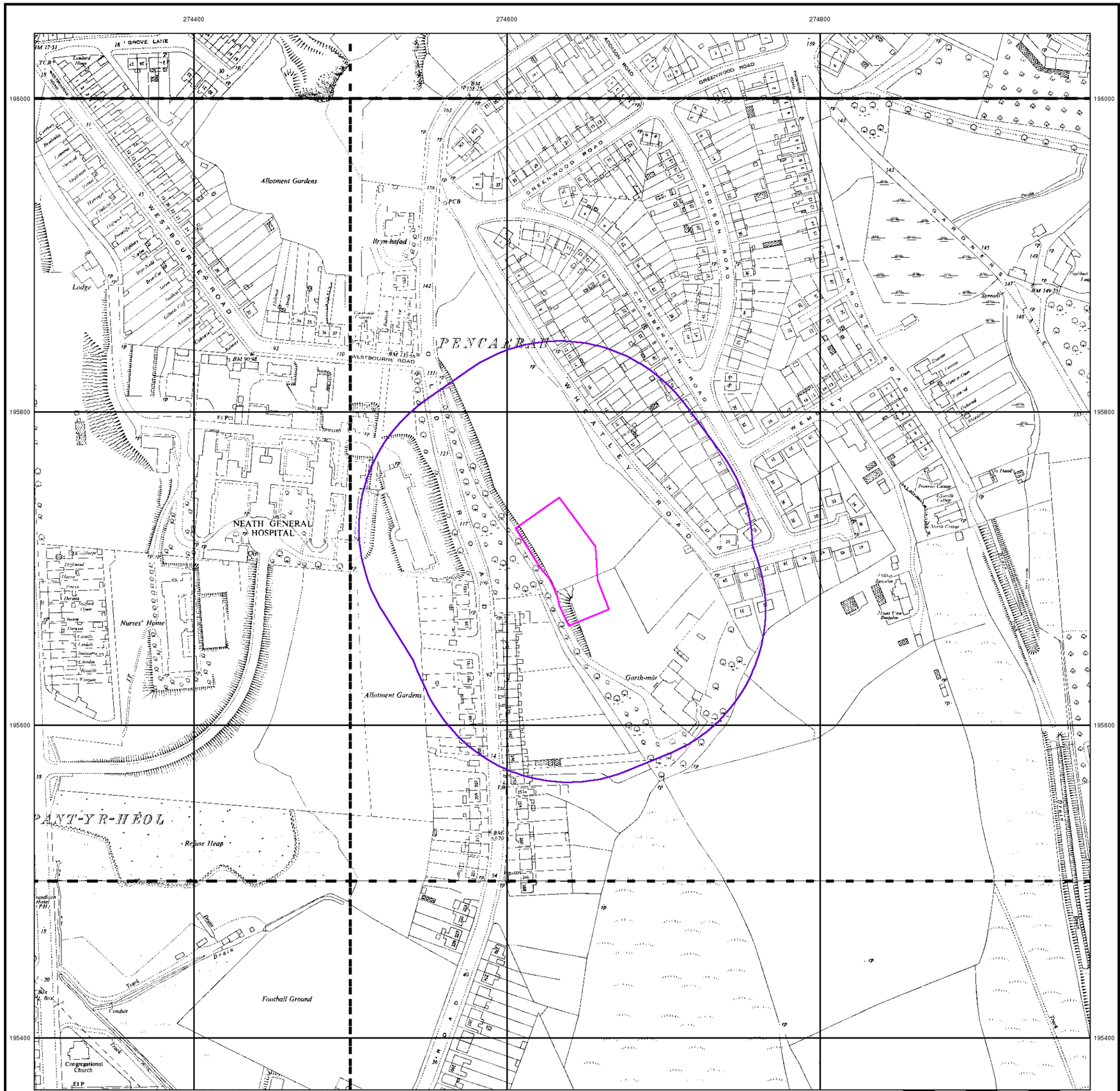
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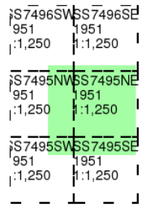
Ordnance Survey Plan

Published 1951

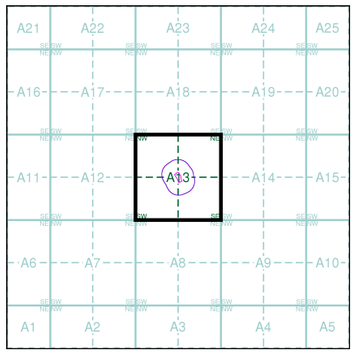
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



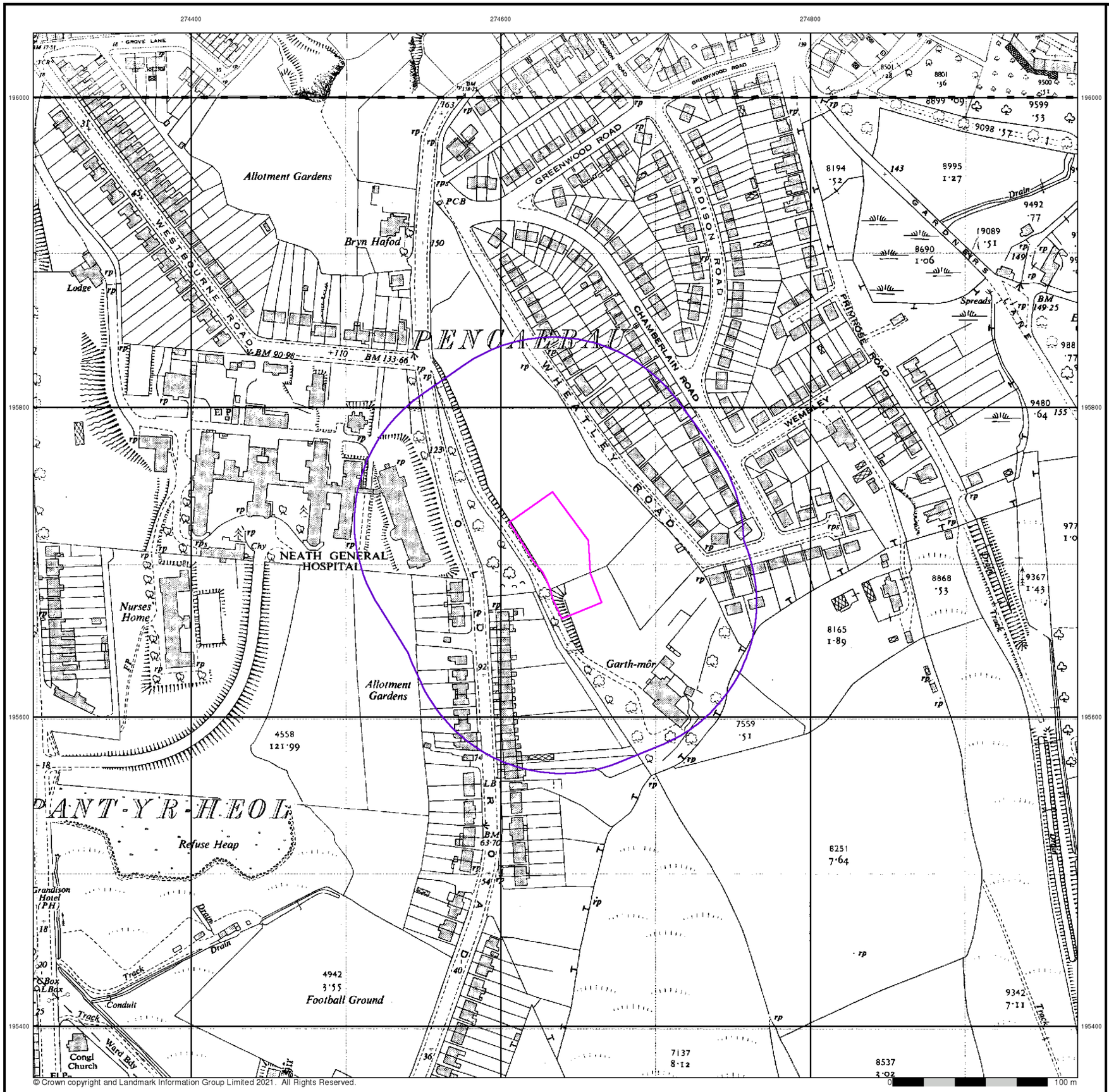
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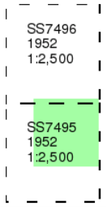
Ordnance Survey Plan

Published 1952

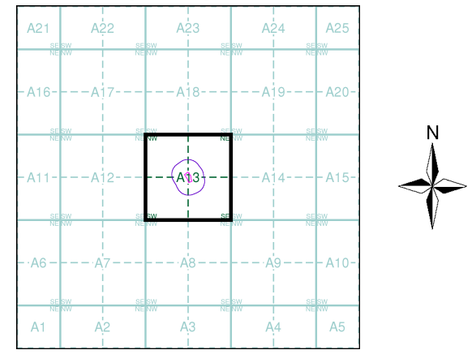
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



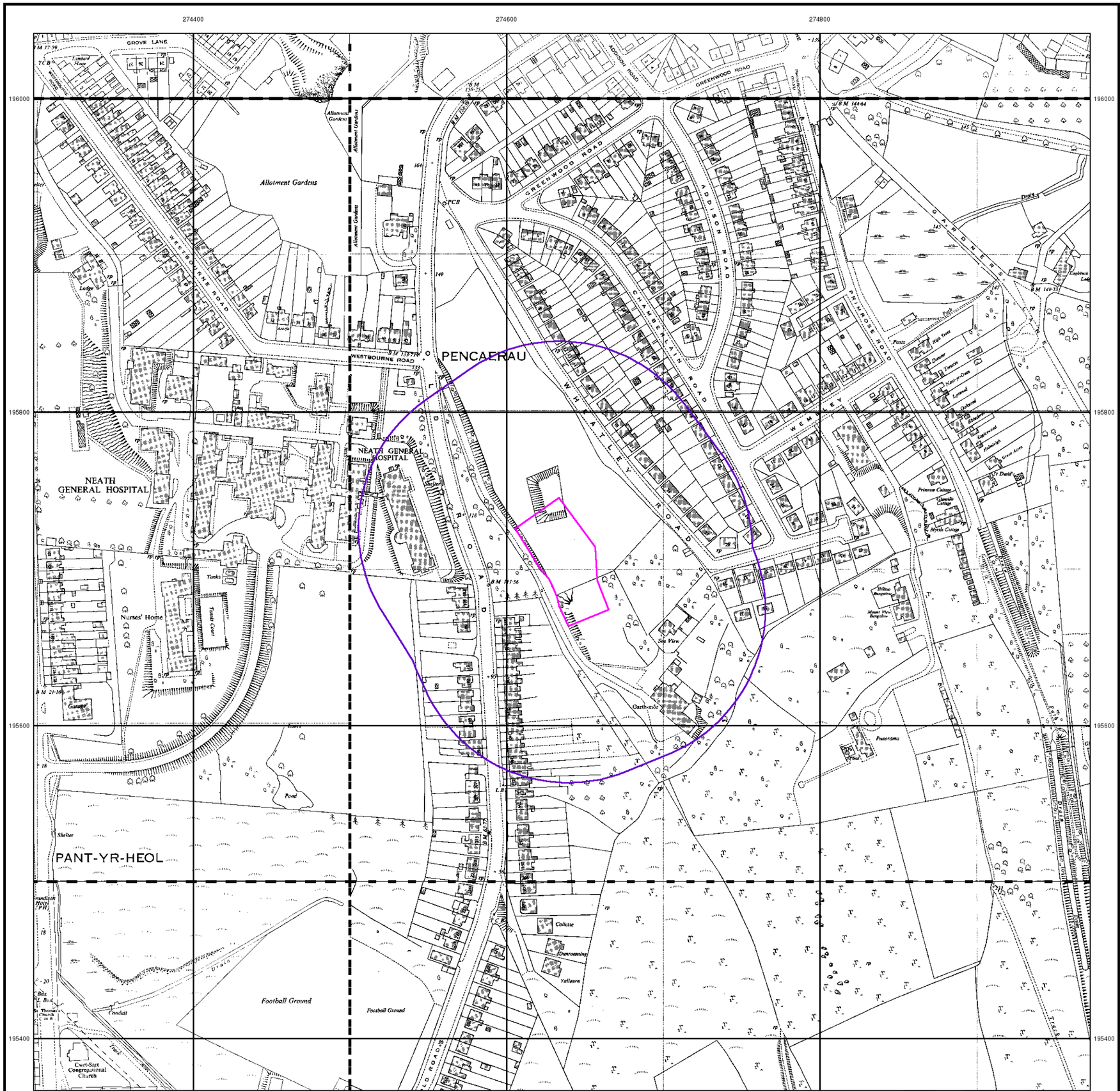
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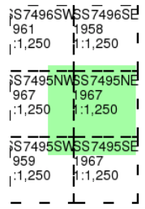
Ordnance Survey Plan

Published 1958 - 1967

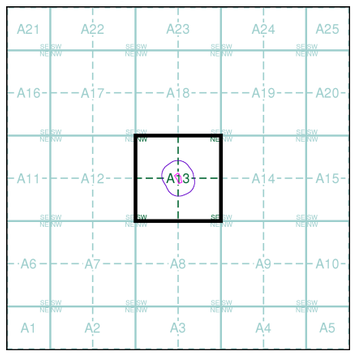
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



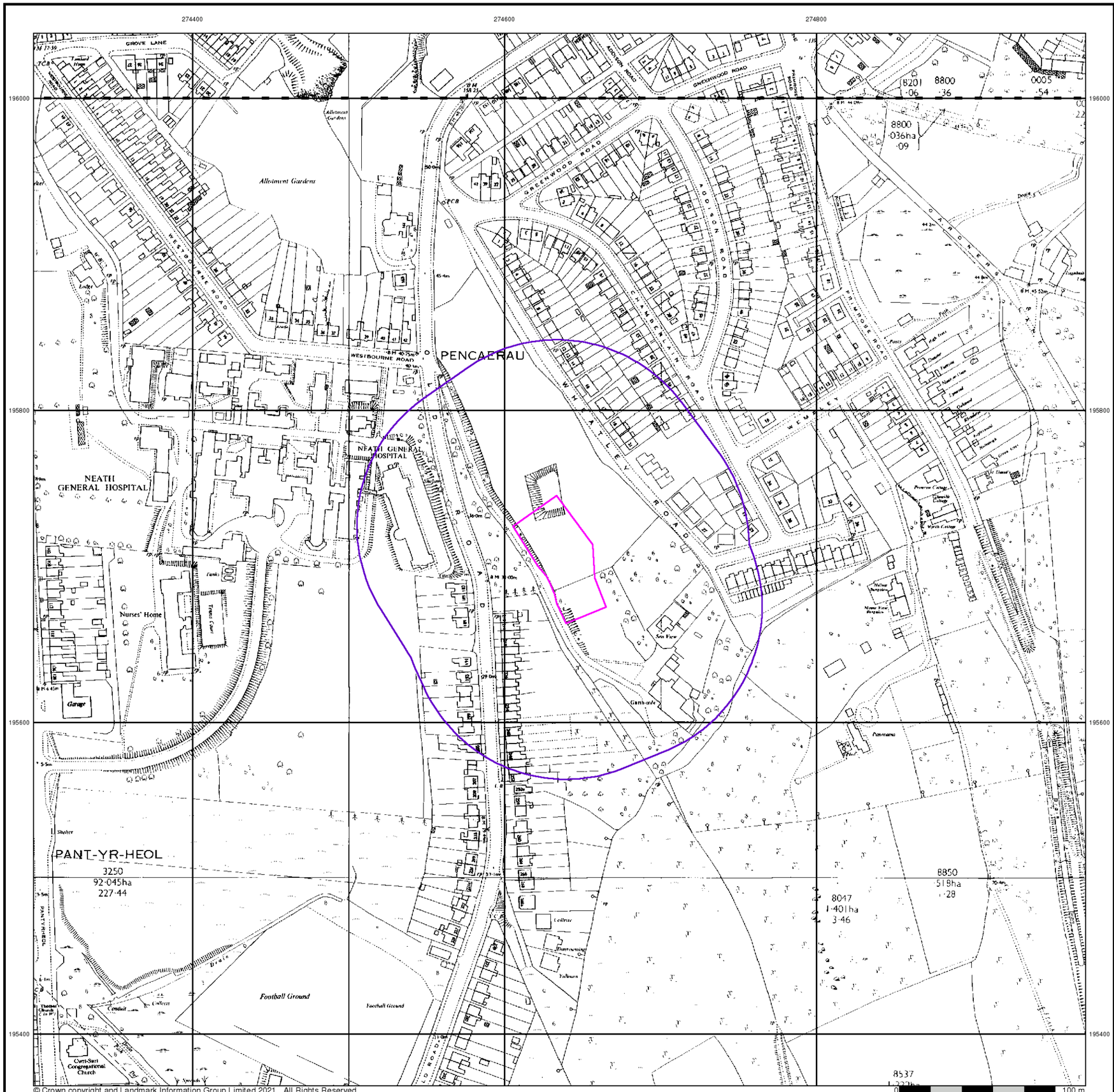
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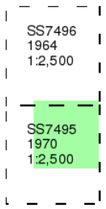
Ordnance Survey Plan

Published 1964 - 1970

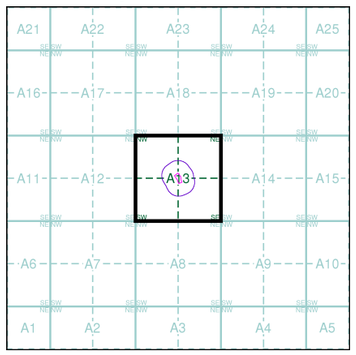
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



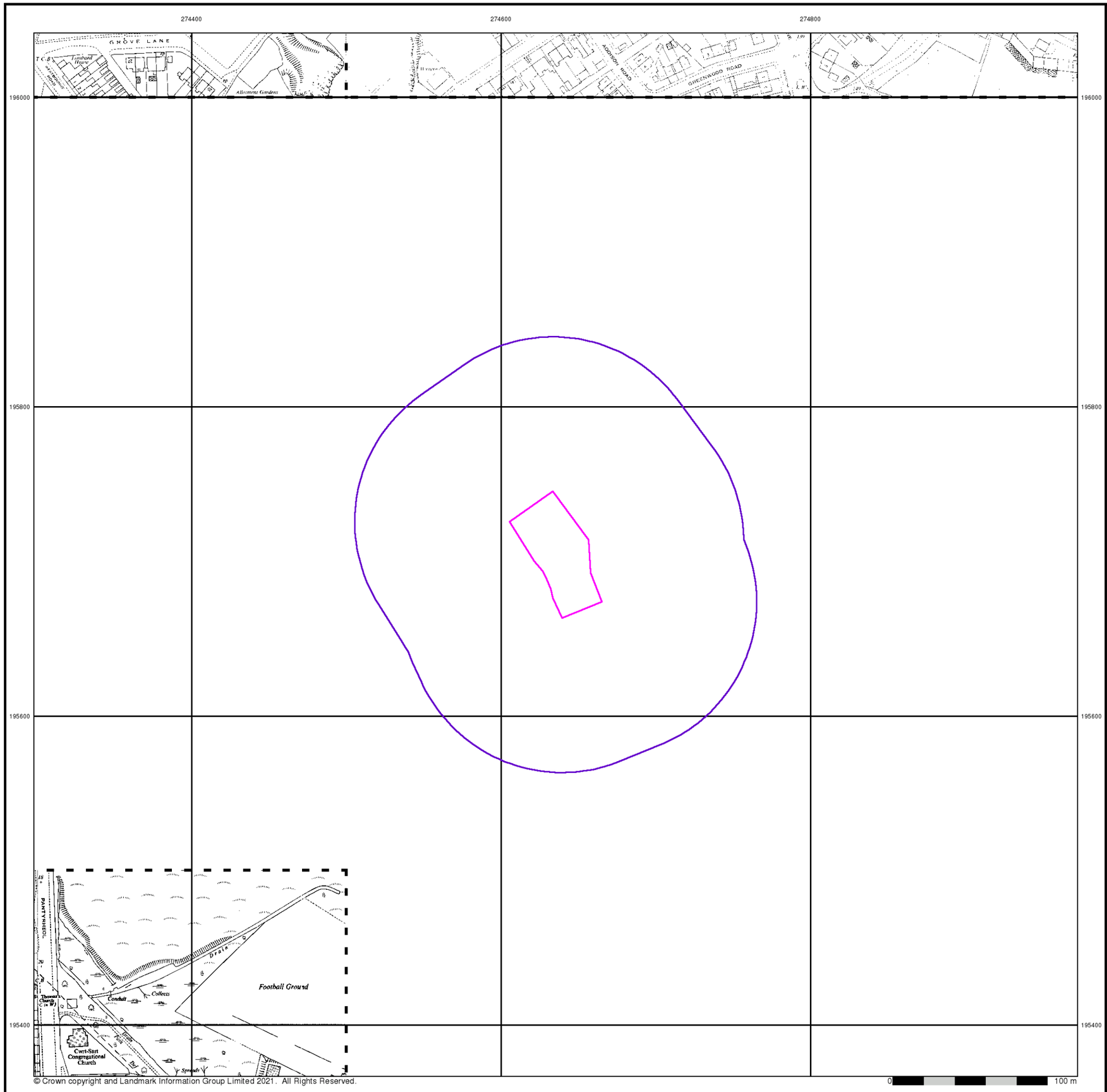
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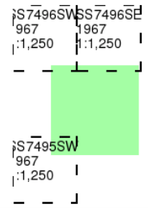
Ordnance Survey Plan

Published 1967

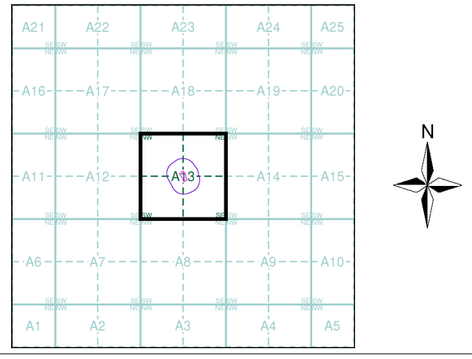
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



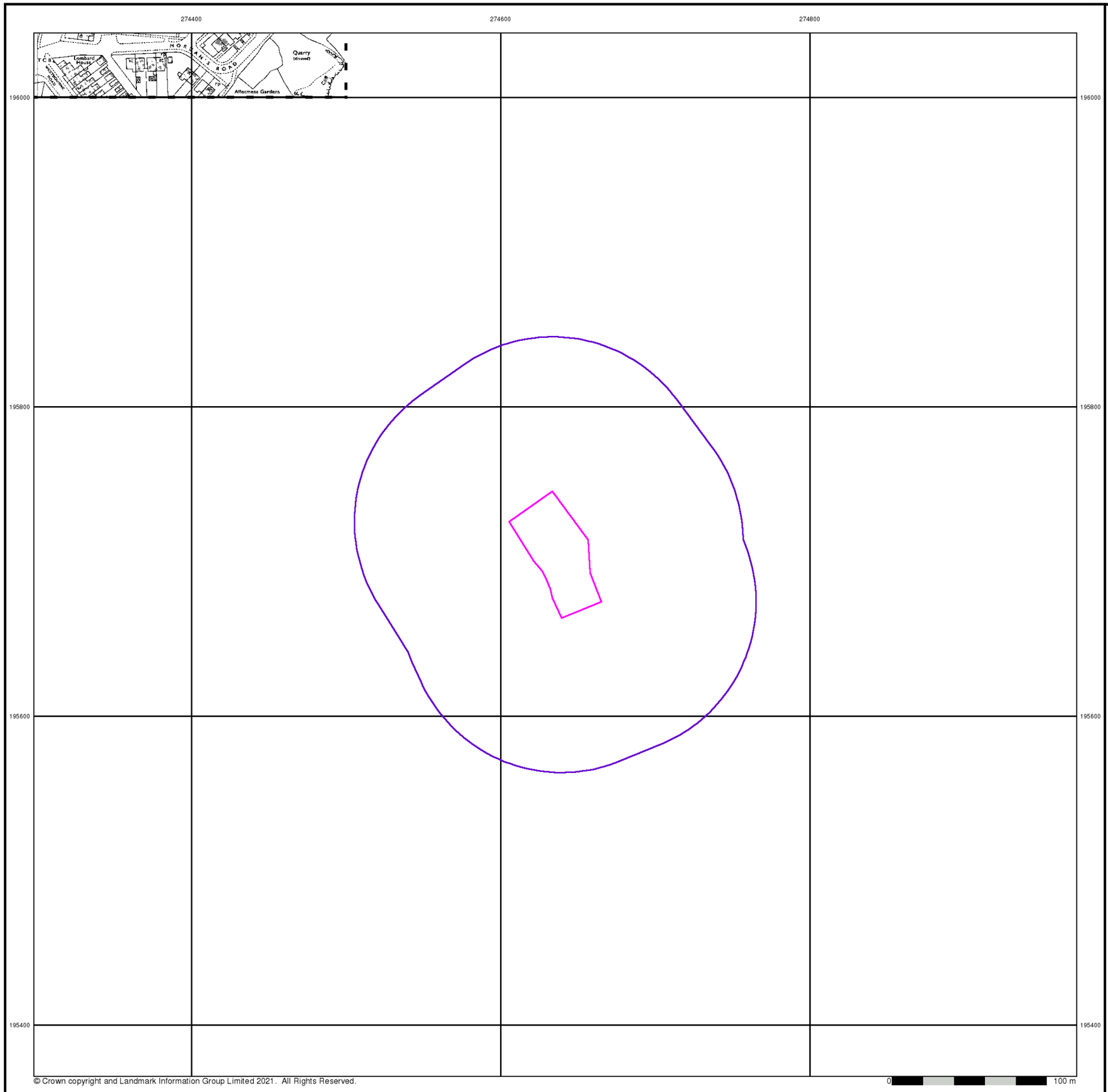
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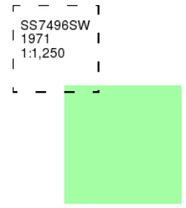
Ordnance Survey Plan

Published 1971

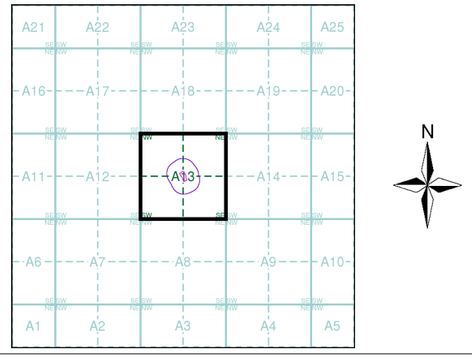
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Map Name(s) and Date(s)



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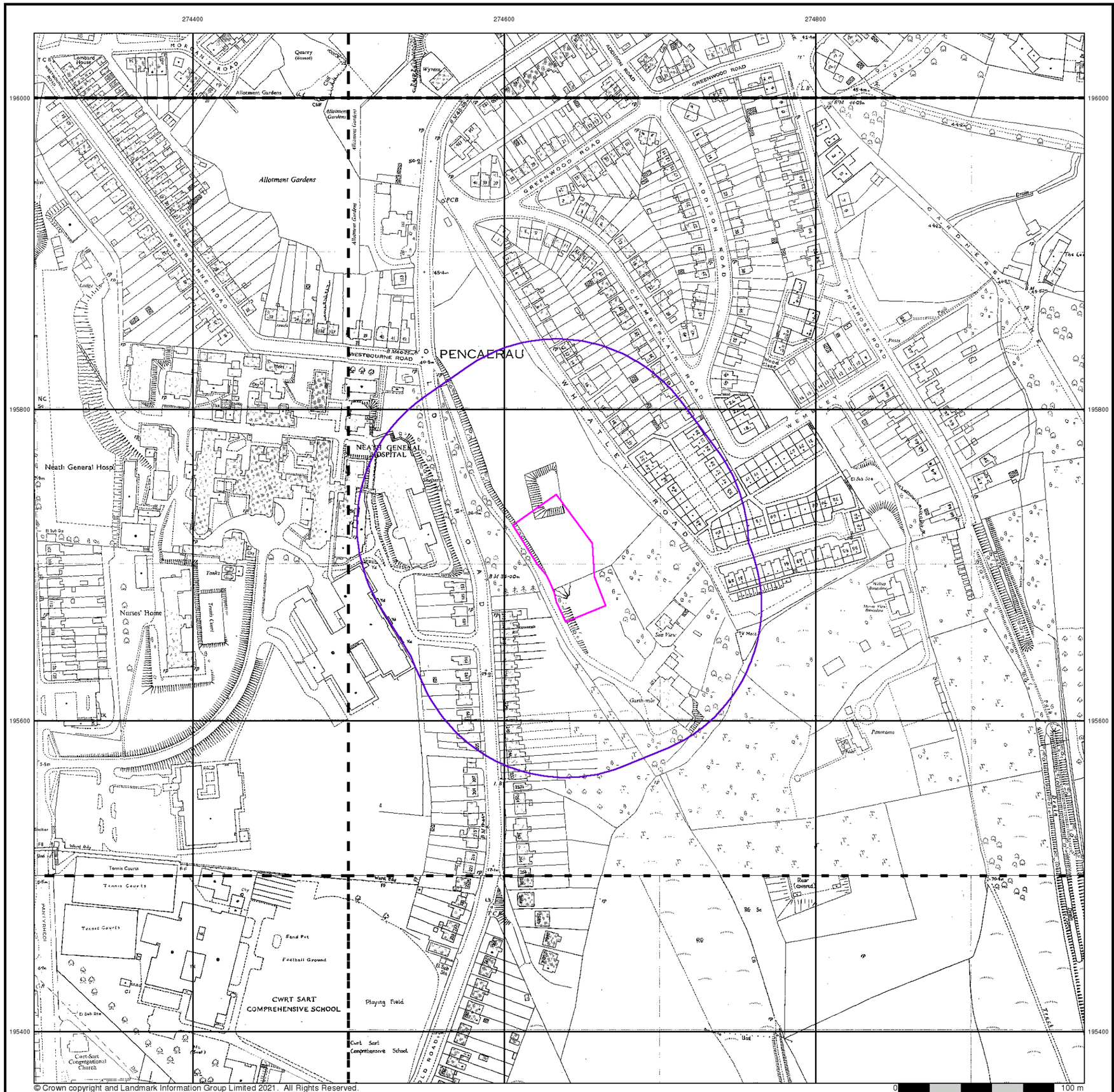
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Additional SIMs

Published 1979 - 1989

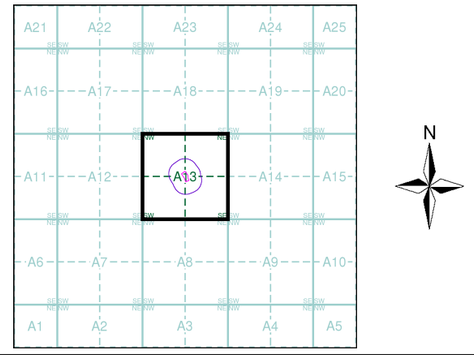
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The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information 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)

SS7496SW 989 1:1,250
SS7496SE 987 1:1,250
SS7495NW 985 1:1,250
SS7495NE 979 1:1,250
SS7495SW 979 1:1,250
SS7495SE 987 1:1,250

Historical Map - Segment A13



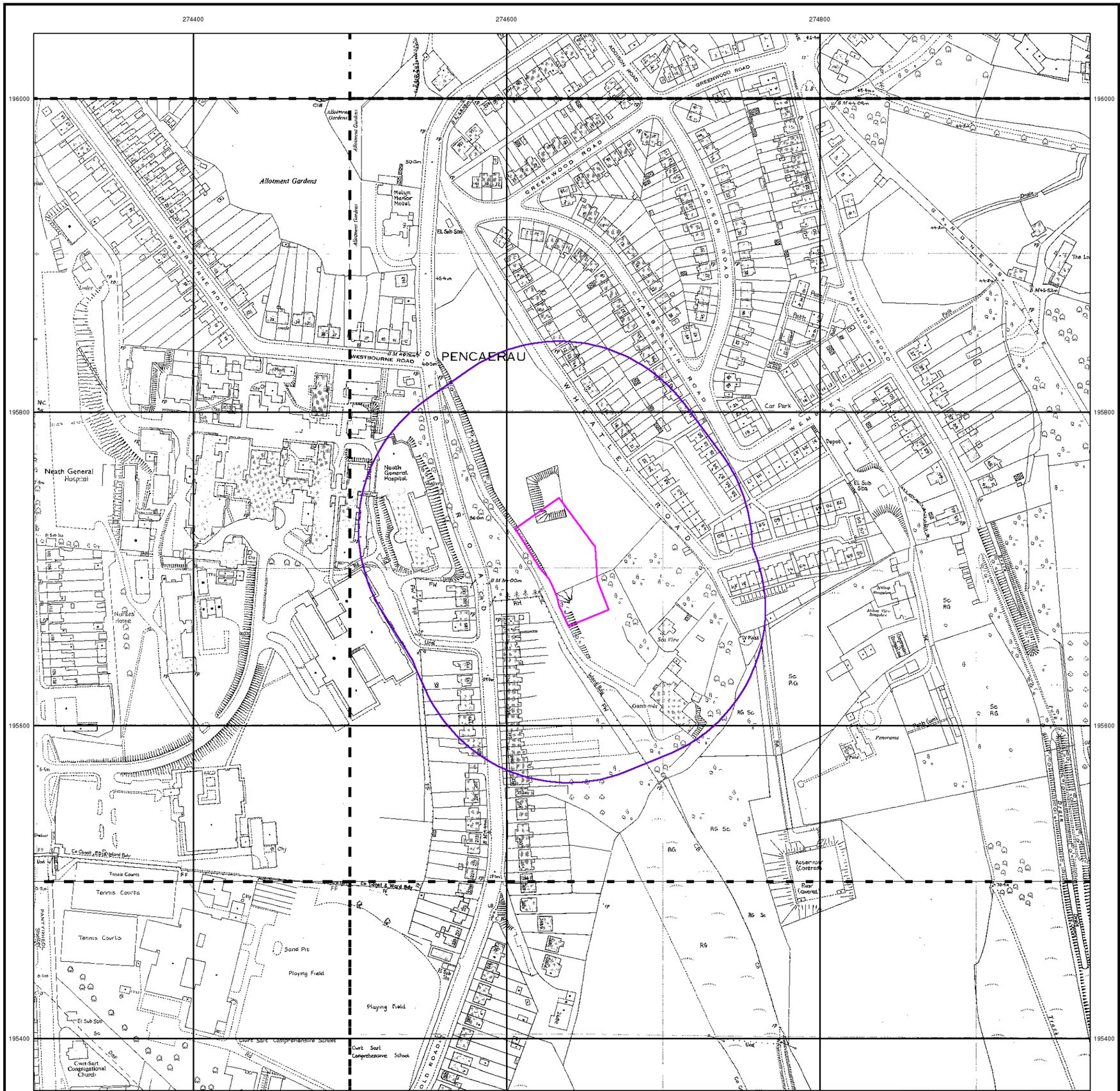
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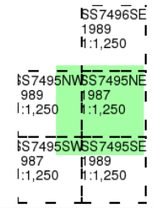
Additional SIMs

Published 1987 - 1989

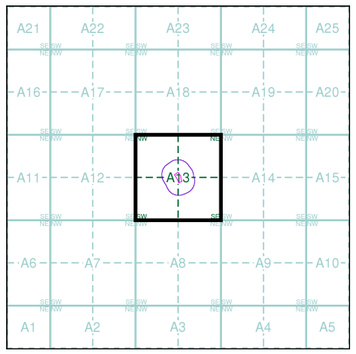
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Map Name(s) and Date(s)



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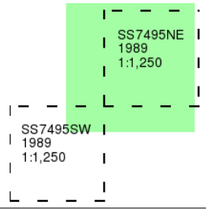
Additional SIMs

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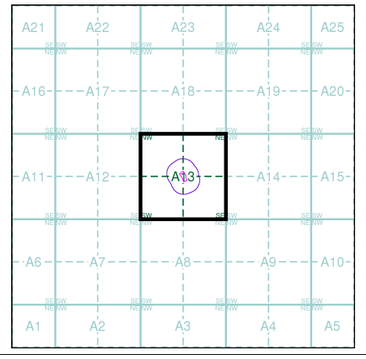
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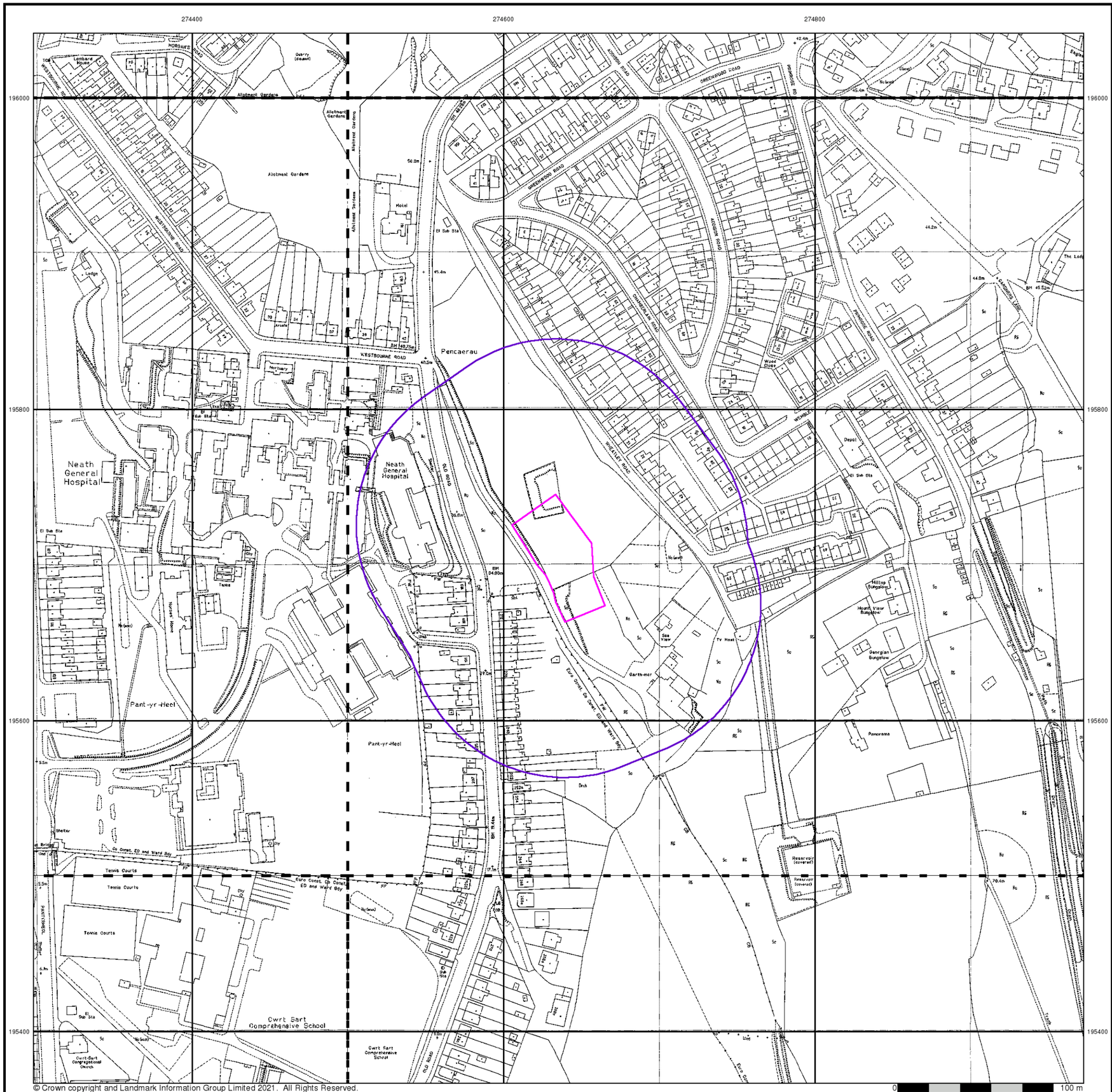
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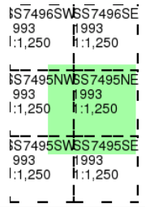
Large-Scale National Grid Data

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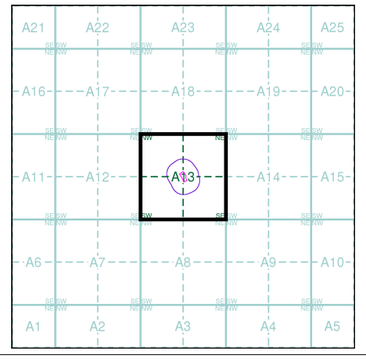
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

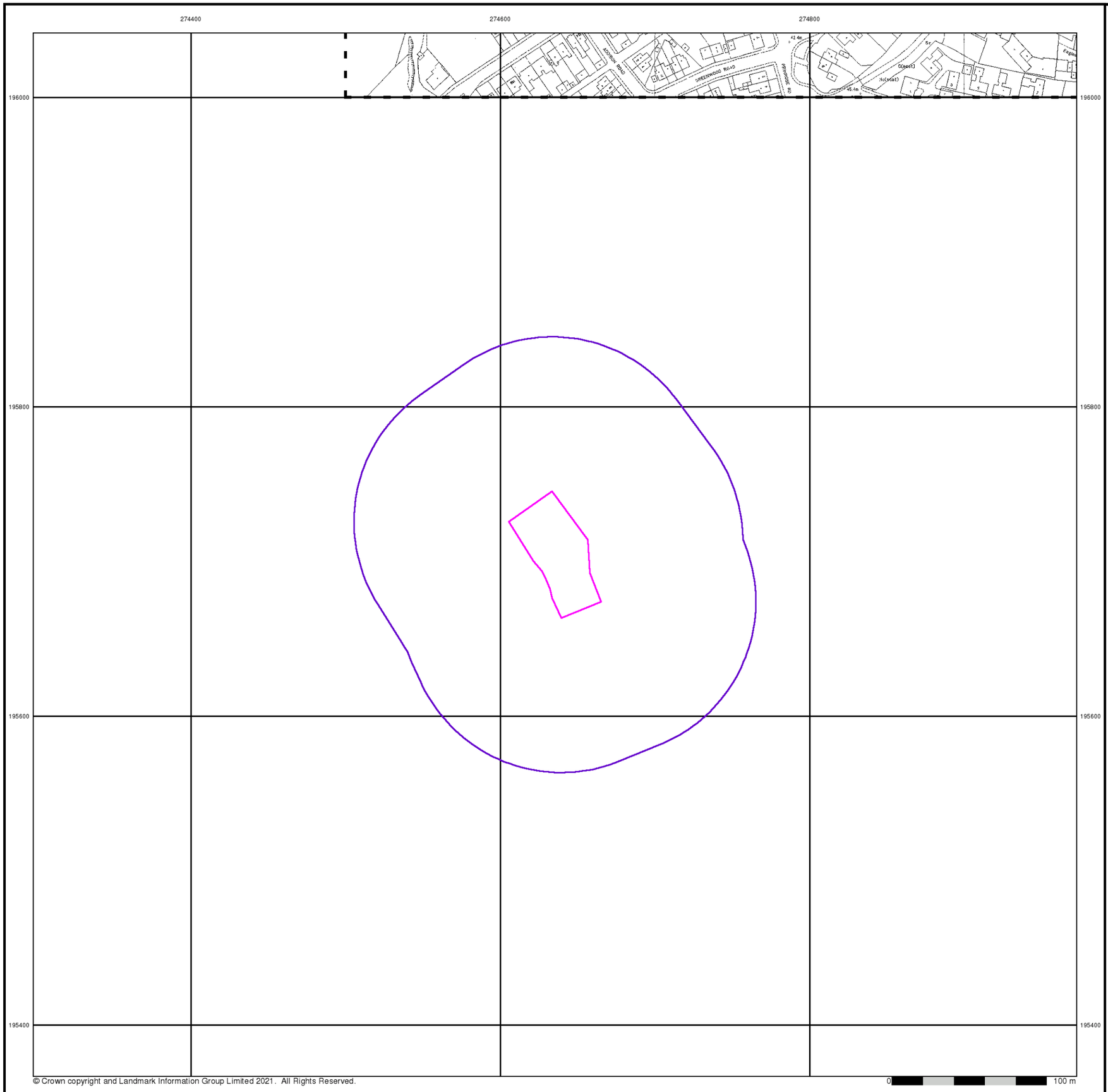
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Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	100

Site Details

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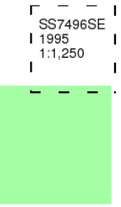
Large-Scale National Grid Data

Published 1995

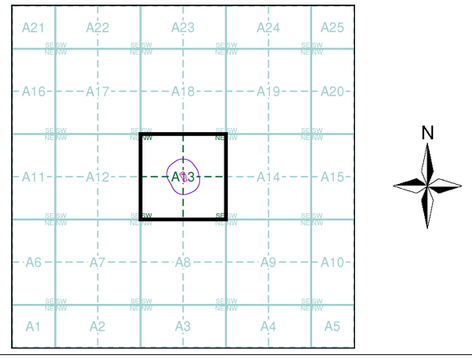
Source map scale - 1:1,250

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Map Name(s) and Date(s)



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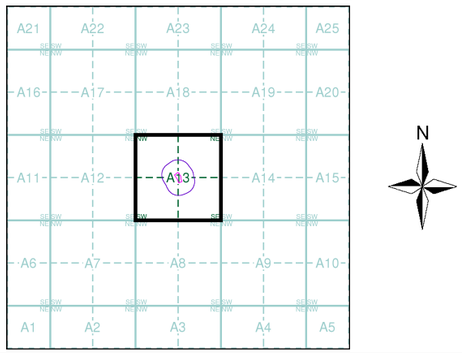
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Historical Aerial Photography

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



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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
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
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
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. 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
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
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
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

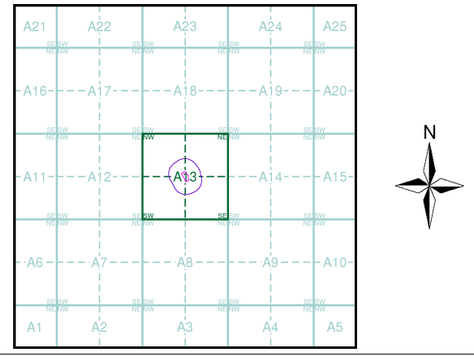
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or 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
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m 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

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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	1936	7
Glamorganshire	1:10,560	1938 - 1951	8
Historical Aerial Photography	1:10,560	1945 - 1949	9
Glamorganshire	1:10,560	1951 - 1952	10
Ordnance Survey Plan	1:10,000	1964 - 1965	11
Ordnance Survey Plan	1:10,000	1970 - 1974	12
Swansea	1:10,000	1976	13
Ordnance Survey Plan	1:10,000	1980 - 1983	14
Ordnance Survey Plan	1:10,000	1992 - 1996	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2021	18

Historical Map - Slice A



Order Details

Order Number: 281040714_1_1
Customer Ref: 16819 - Pearson Way
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Slice: A
Site Area (Ha): 0.25
Search Buffer (m): 1000

Site Details

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Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

- 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
- 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

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

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

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

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Partly Demolished Buildings
- Demolished Buildings
- Built-Up Area with Fireproof Buildings Predominant
- Built-Up Area with Non-Fireproof Buildings Predominant
- Individual Fireproof Building
- Prominent Industrial Building
- Individual Dwelling, Fireproof
- Ruins of an Individual Dwelling
- Factory or Mill Chimney
- Factory or Mill with Chimney
- Factory or Mill without Chimney
- Mine or Open Pit Mine
- Operating Shaft or Mine
- Non-Operating Shaft or Mine
- Salt Mine
- Tailings Pile
- Pit
- Stone Quarry
- Gas Pump or Service Station
- Fuel Storage or Natural Gas Tank
- Oil or Natural Gas Derrick
- Small Hydroelectric Power Station
- Power Station
- Transformer Station
- Cemetery
- Burial Mound (height in metres)
- Triangulation Point on Burial Mound
- Triangulation Point
- Bench Mark
- Bench Mark (monumented)
- Telegraph Office
- Telephone Station
- Radio Station
- Radio Tower
- Airfield or Seaplane Base
- Landing Strip
- 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
- 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

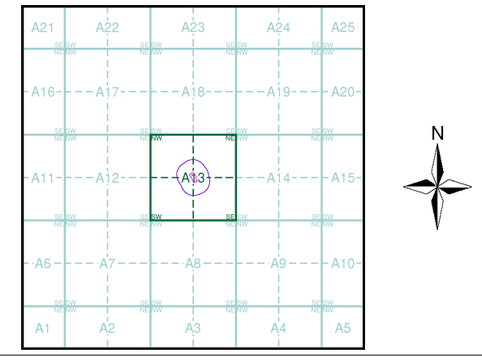
Key to Numbers on Mapping

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10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2021	18

Russian Map - Slice A



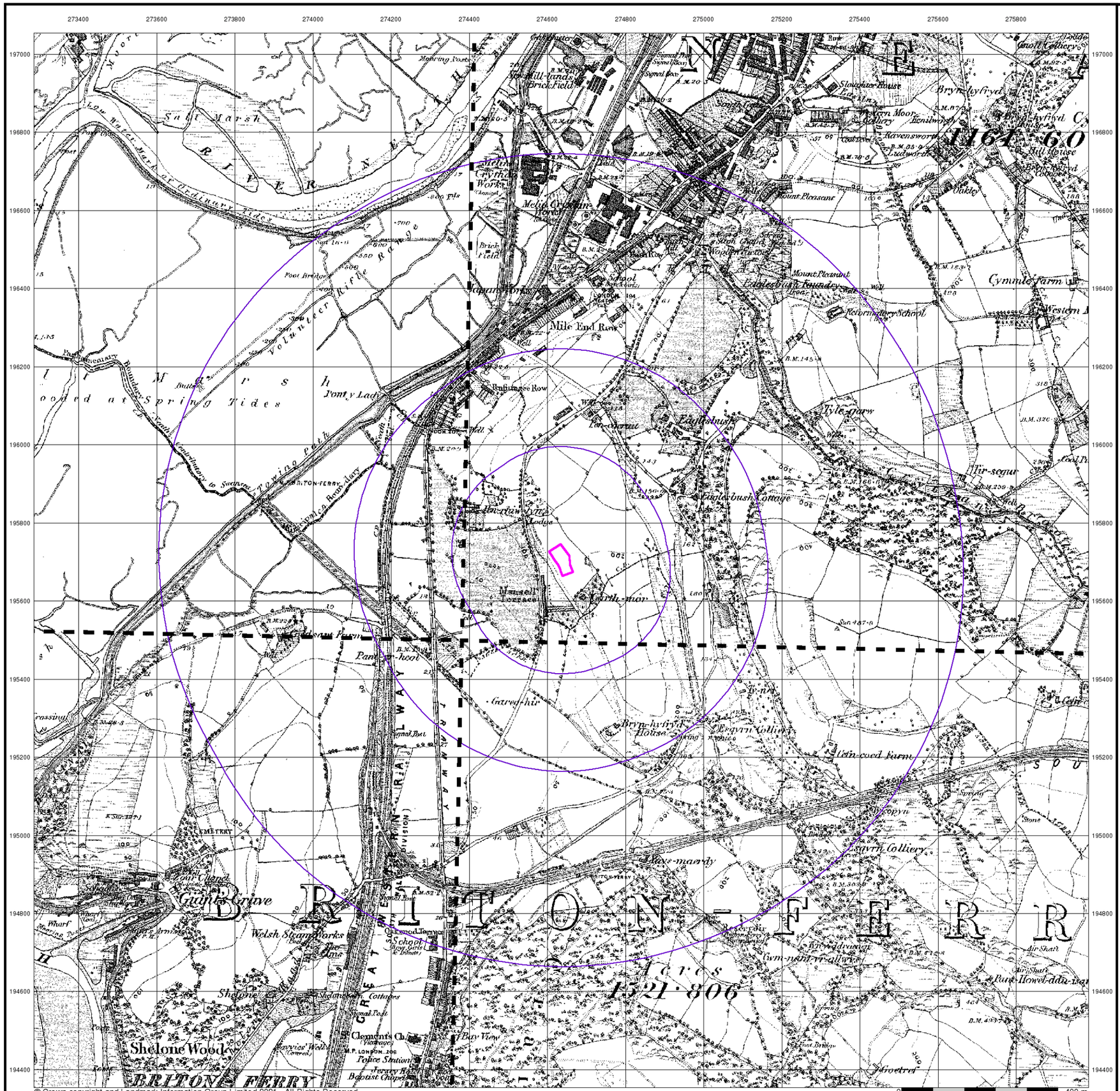
Order Details

Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

Site Details

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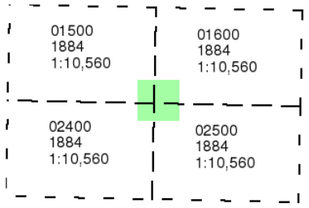
Glamorganshire

Published 1884

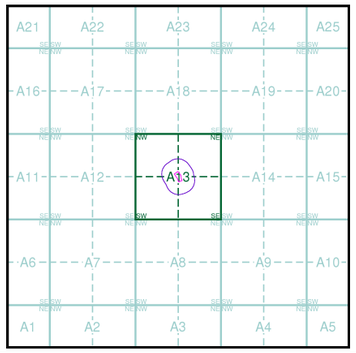
Source map scale - 1:10,560

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)



Historical Map - Slice A



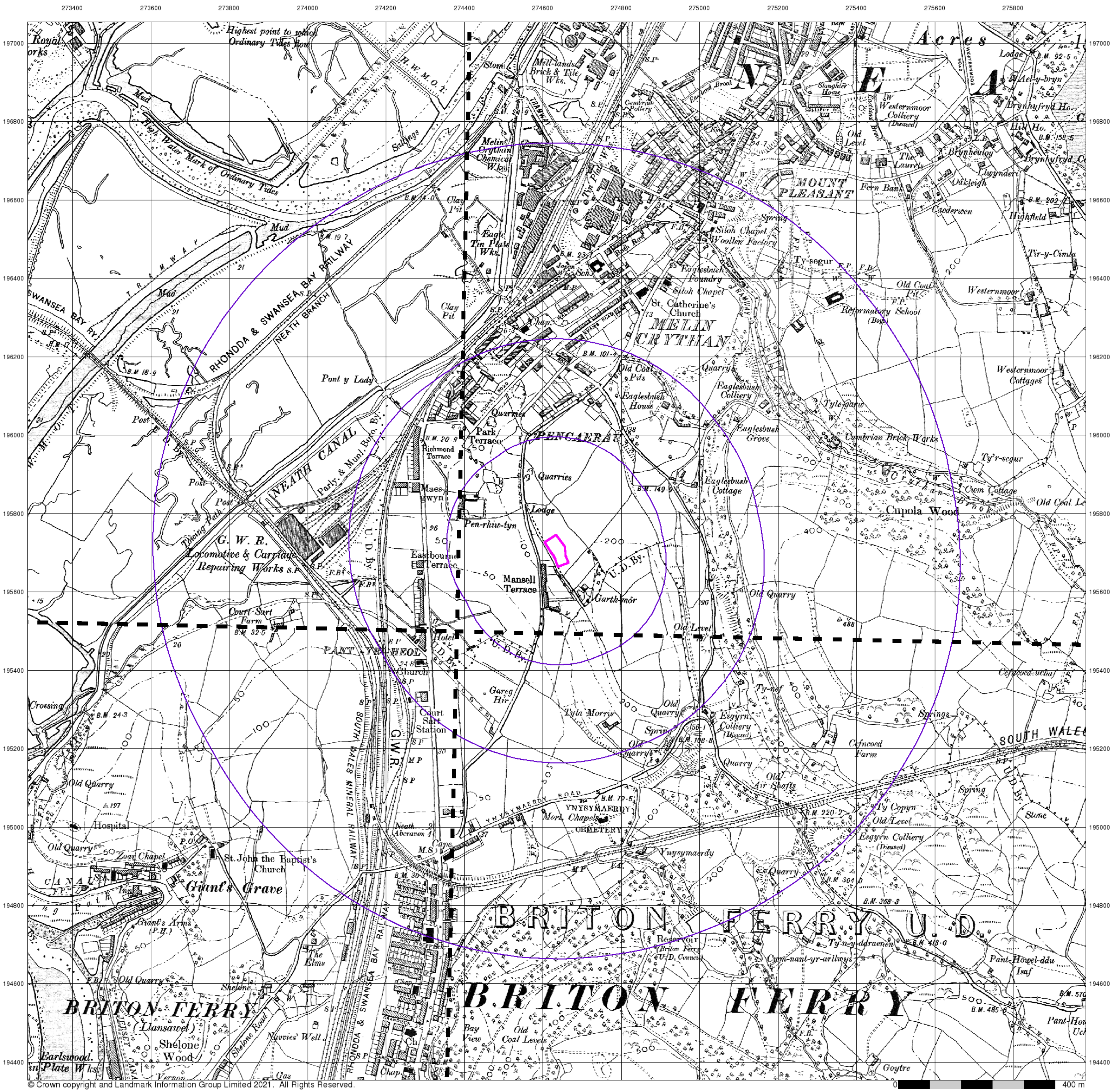
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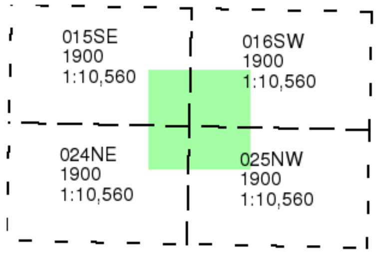
Glamorganshire

Published 1900

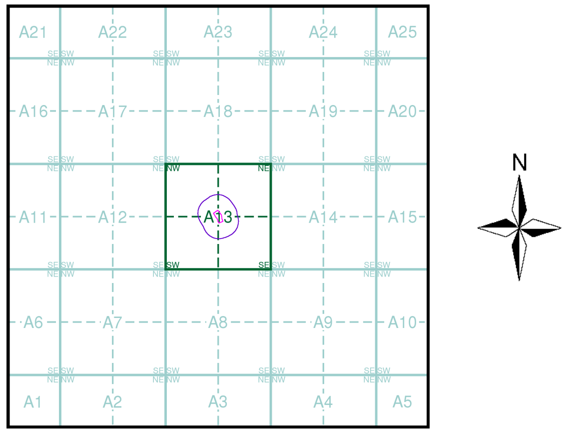
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Map Name(s) and Date(s)



Historical Map - Slice A



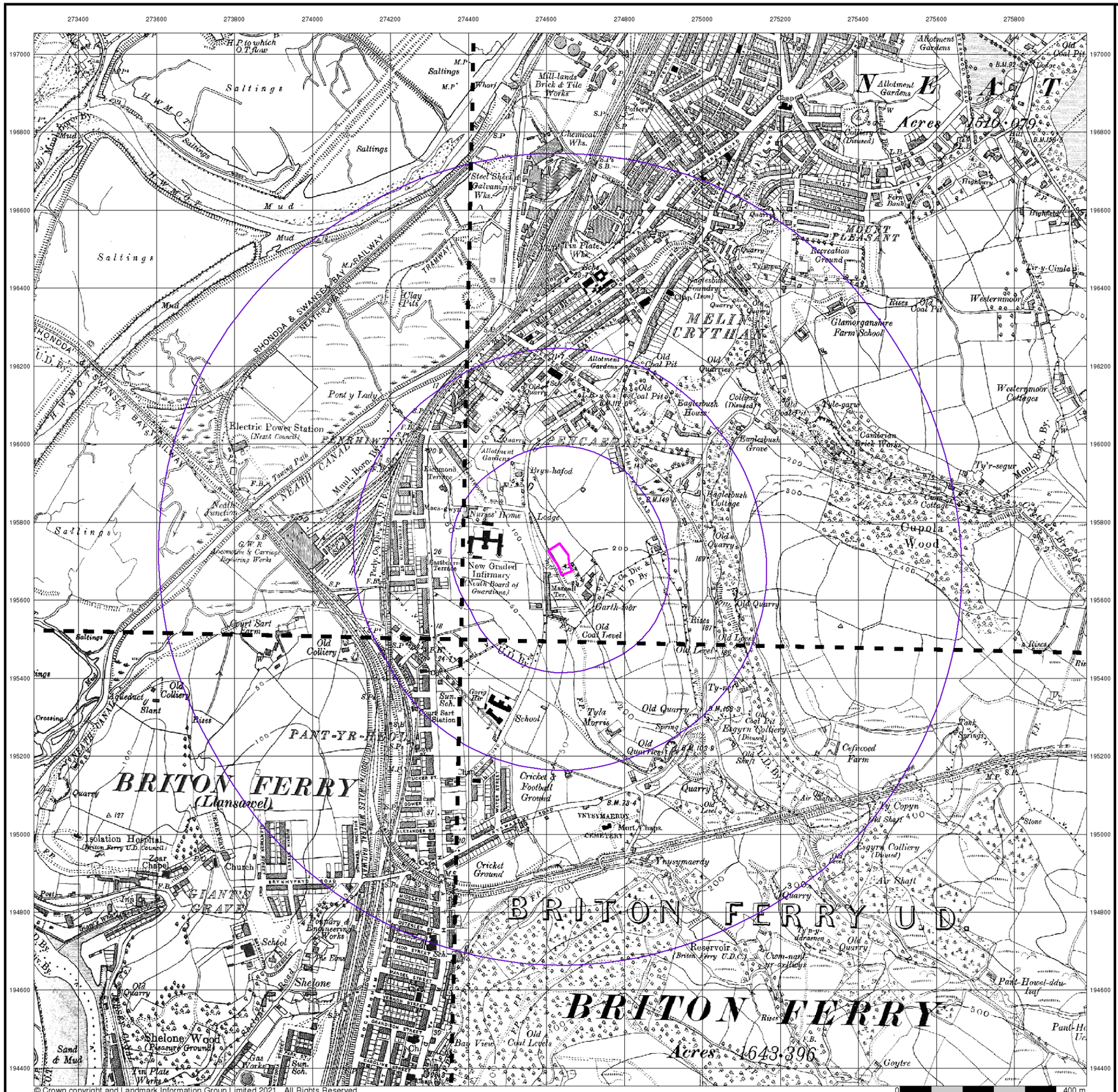
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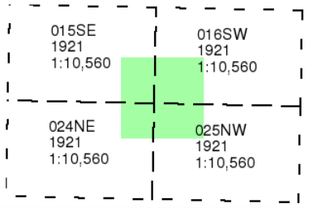
Glamorganshire

Published 1921

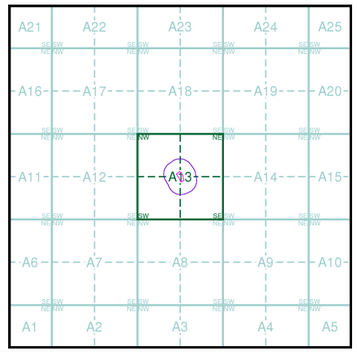
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



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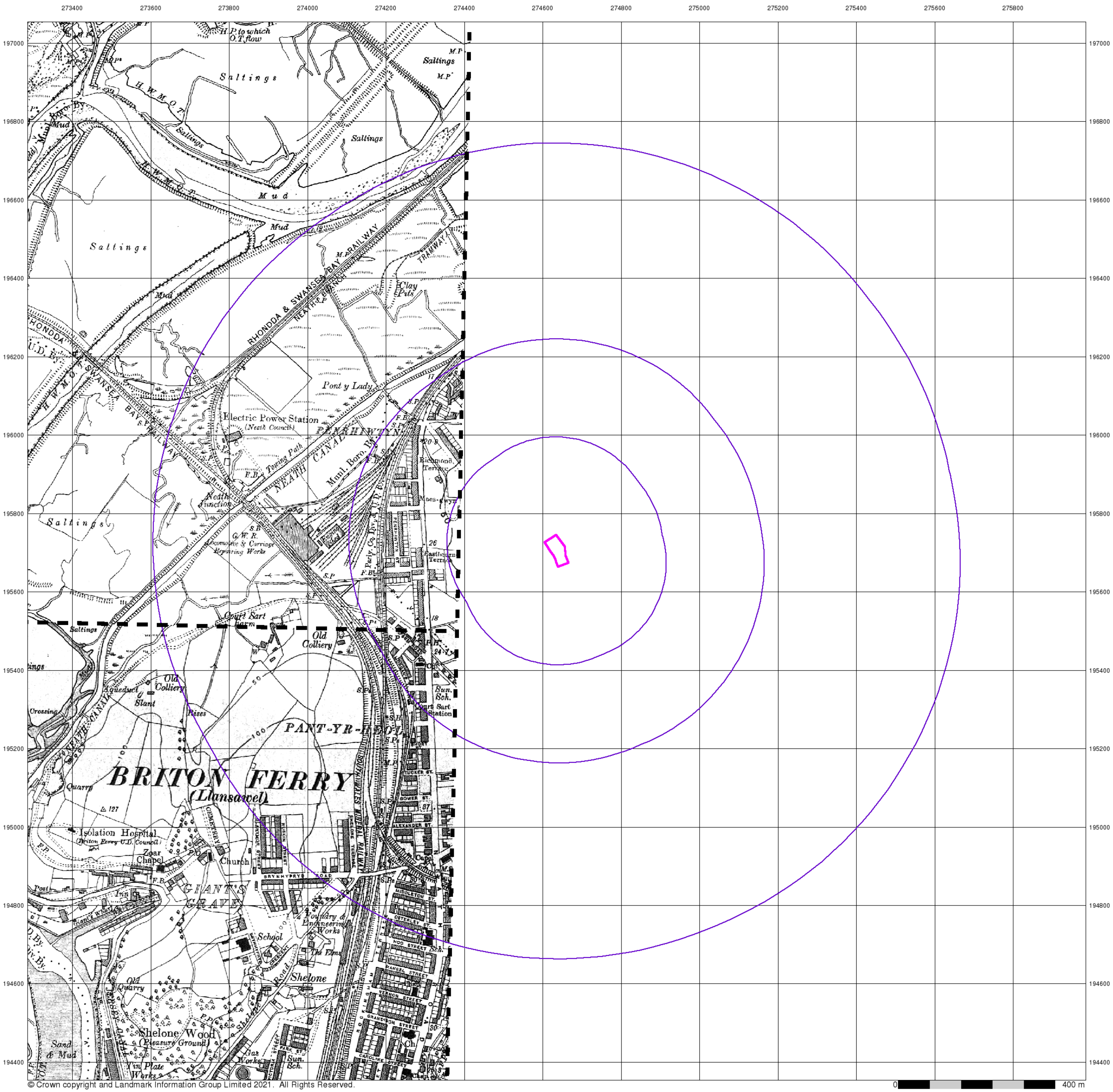
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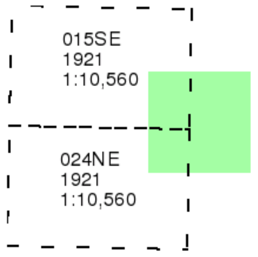
Glamorganshire

Published 1921

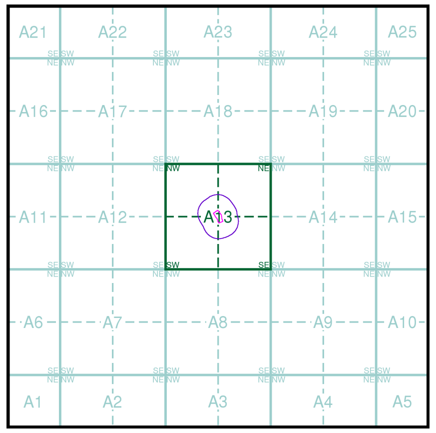
Source map scale - 1:10,560

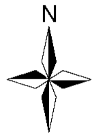
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Historical Map - Slice A





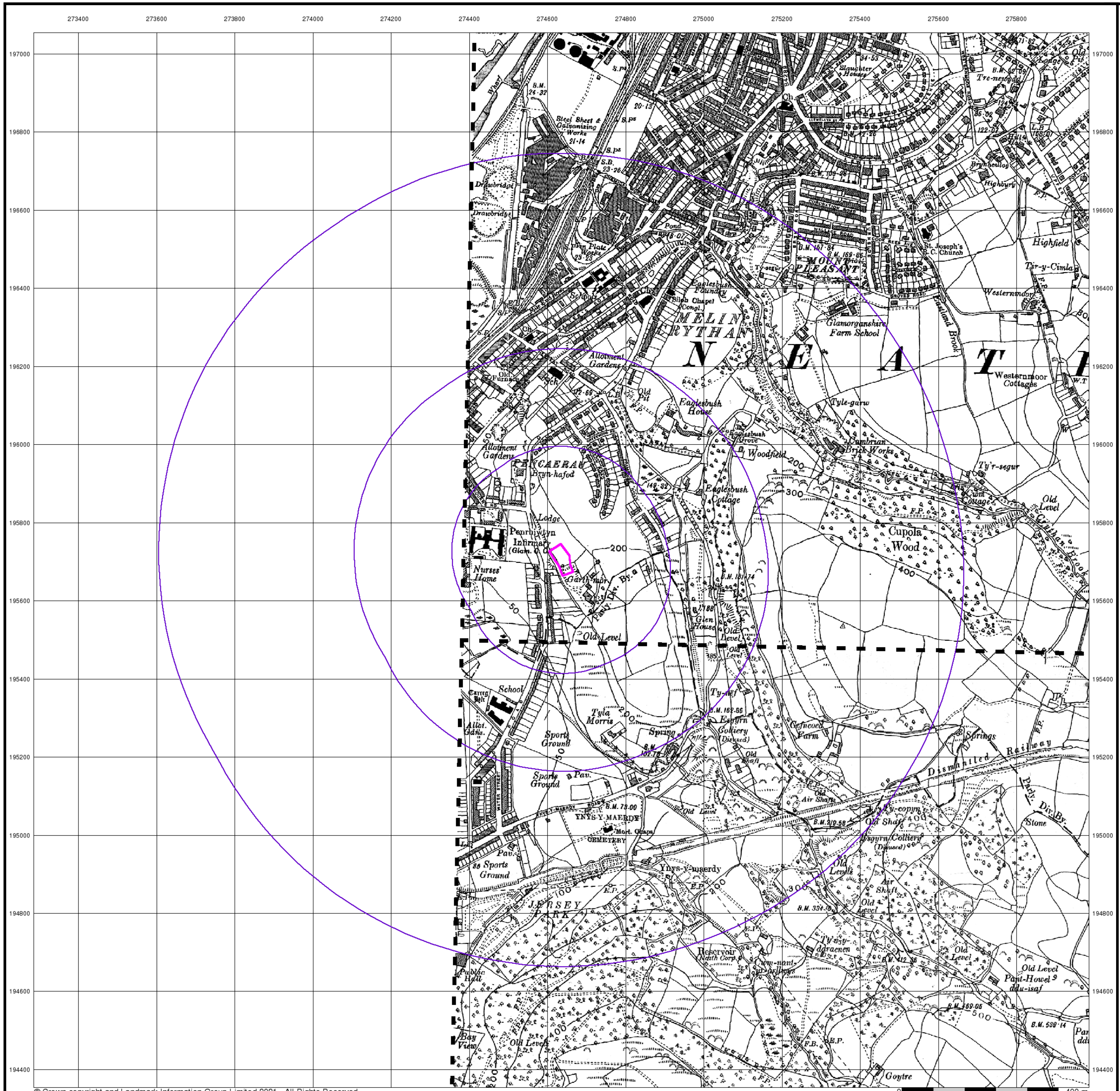
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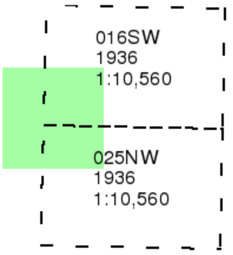
Glamorganshire

Published 1936

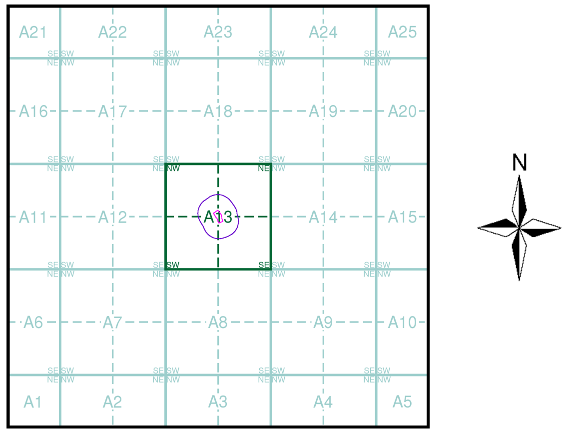
Source map scale - 1:10,560

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



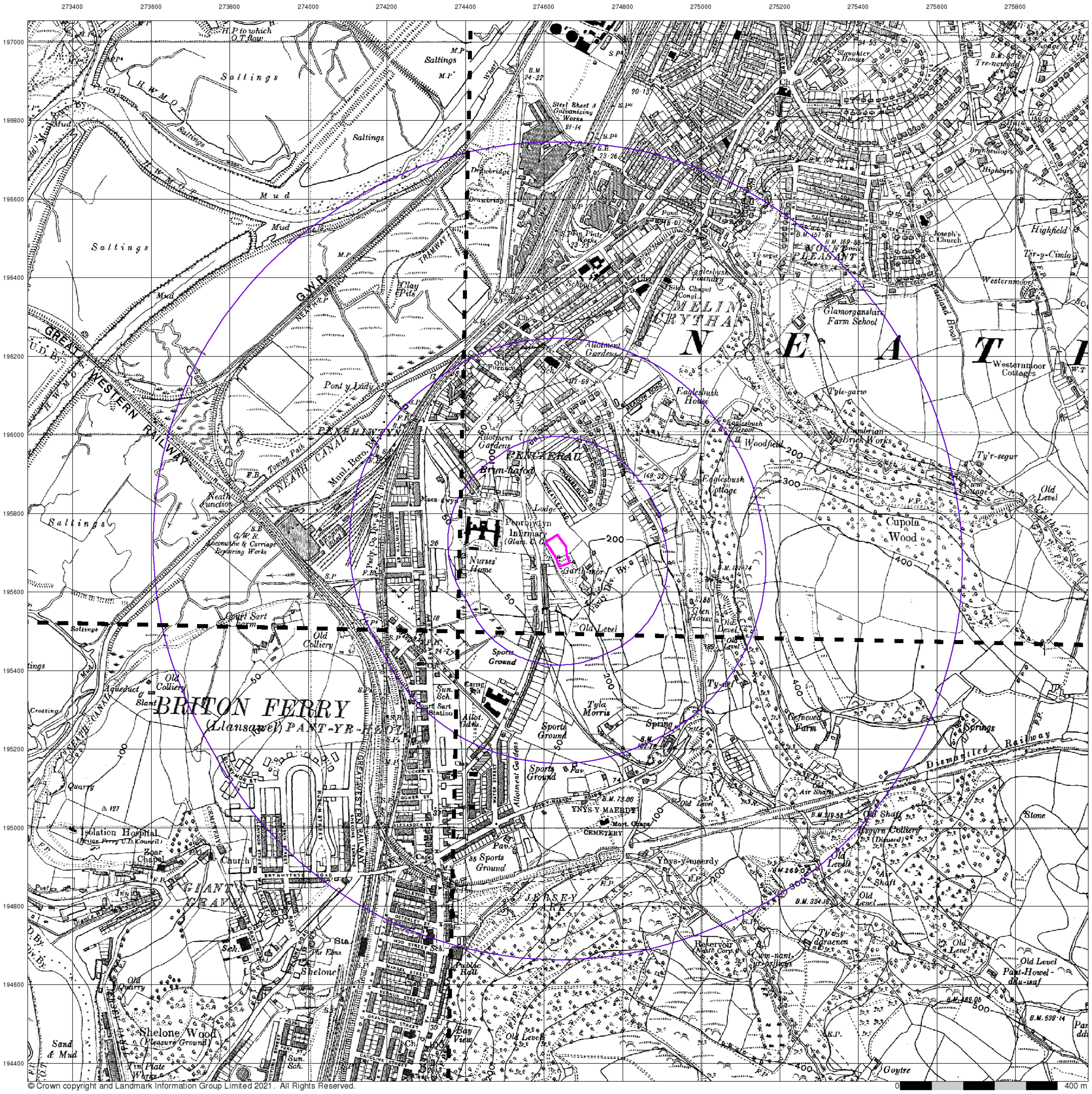
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Order Number: 281040714_1_1
Customer Ref: 16819 - Pearson Way
National Grid Reference: 274640, 195700
Slice: A
Site Area (Ha): 0.25
Search Buffer (m): 1000

Site Details

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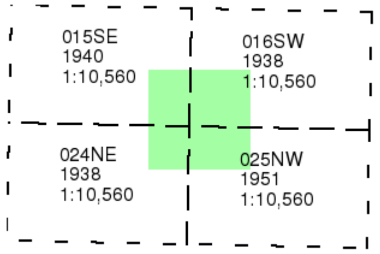
Glamorganshire

Published 1938 - 1951

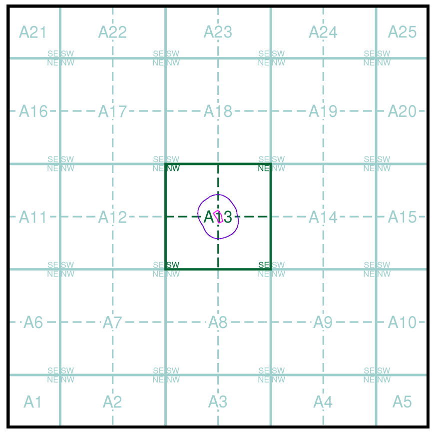
Source map scale - 1:10,560

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

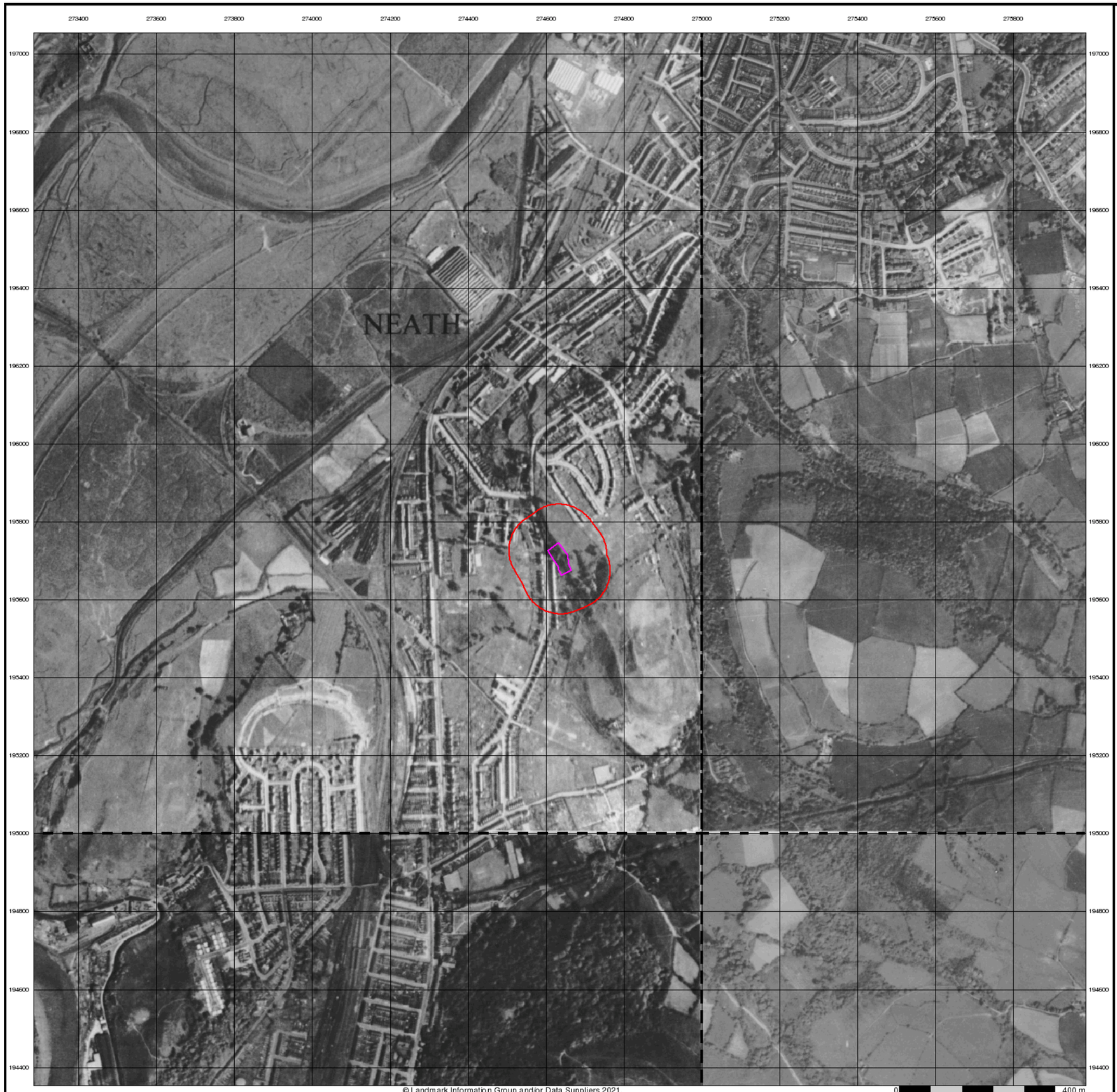
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Historical Aerial Photography

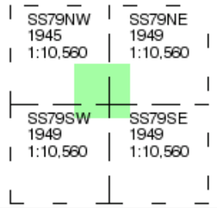
Published 1945 - 1949

Source map scale - 1:10,560

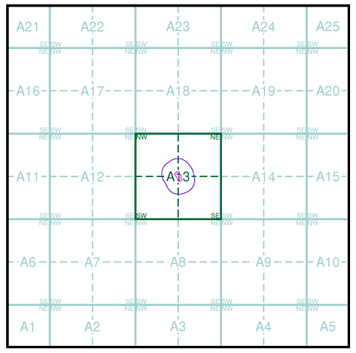
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 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.

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Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



Order Details

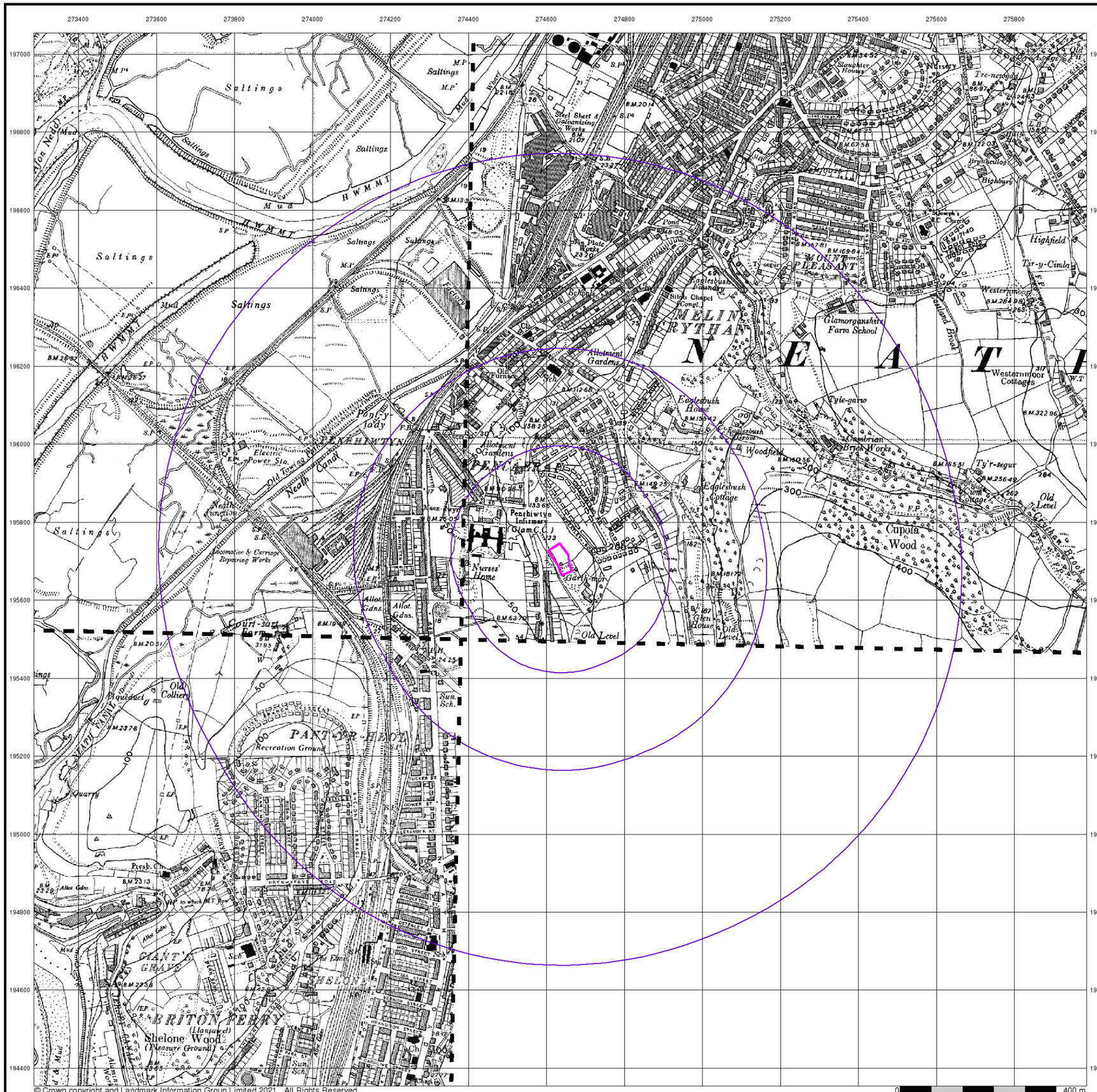
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National Grid Reference:	274640, 195700
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Site Area (Ha):	0.25
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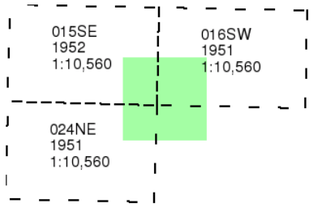
Glamorganshire

Published 1951 - 1952

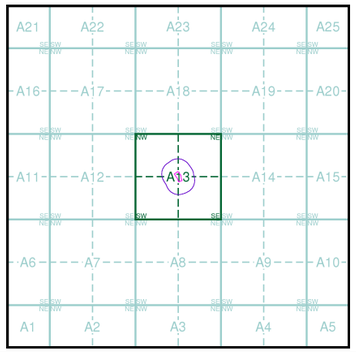
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	281040714_1_1
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Ordnance Survey Plan

Published 1964 - 1965

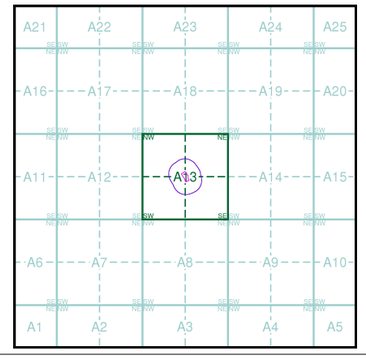
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps.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

SS79NW 1965 1:10,560	SS79NE 1964 1:10,560
SS79SW 1964 1:10,560	SS79SE 1964 1:10,560

Historical Map - Slice A



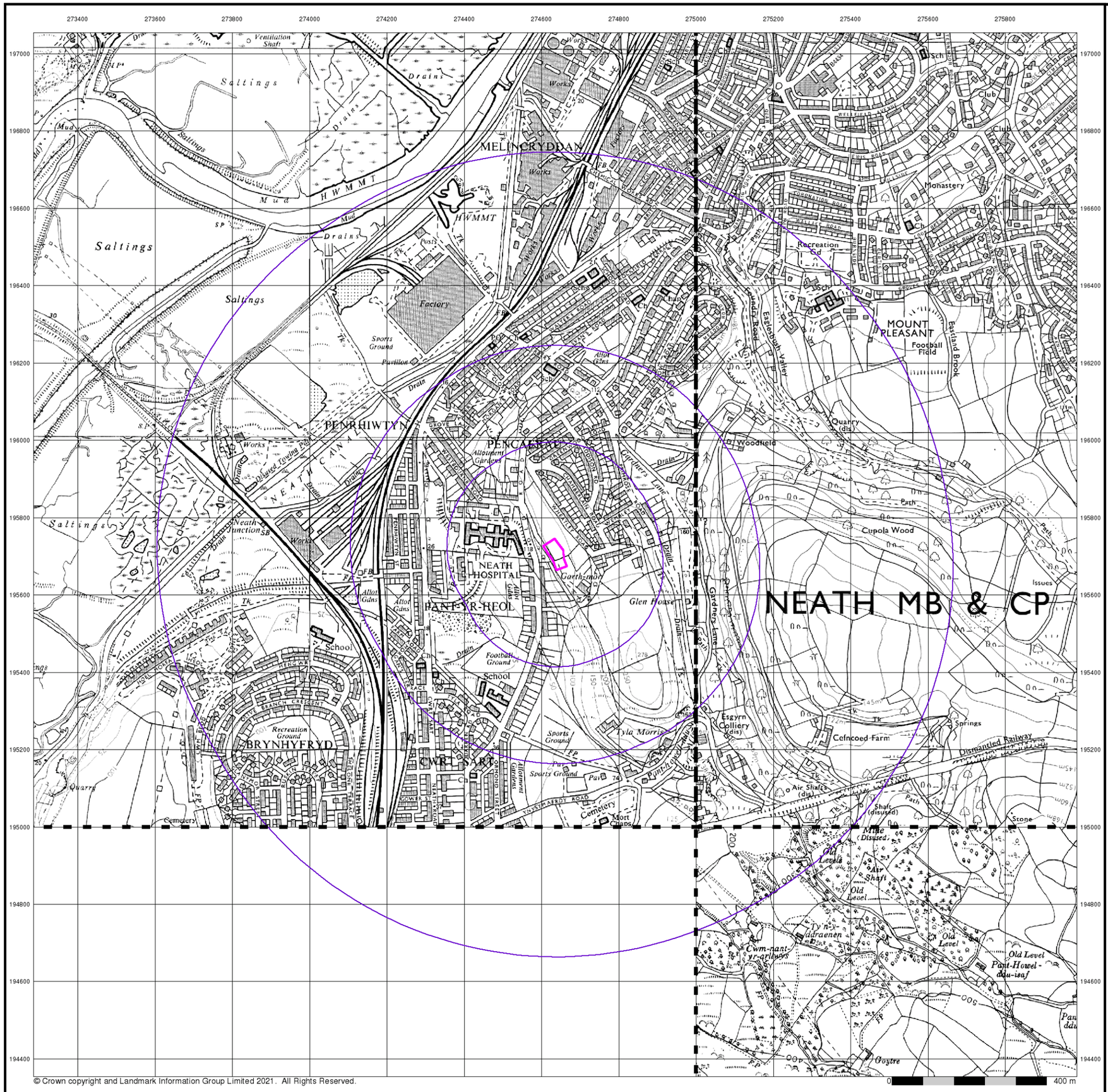
Order Details

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Ordnance Survey Plan

Published 1970 - 1974

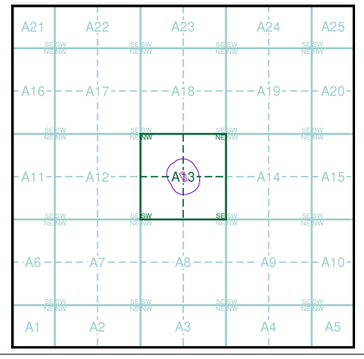
Source map scale - 1:10,000

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 1970 1:10,560
SS79NE 1973 1:10,000
SS79SE 1974 1:10,560

Historical Map - Slice A



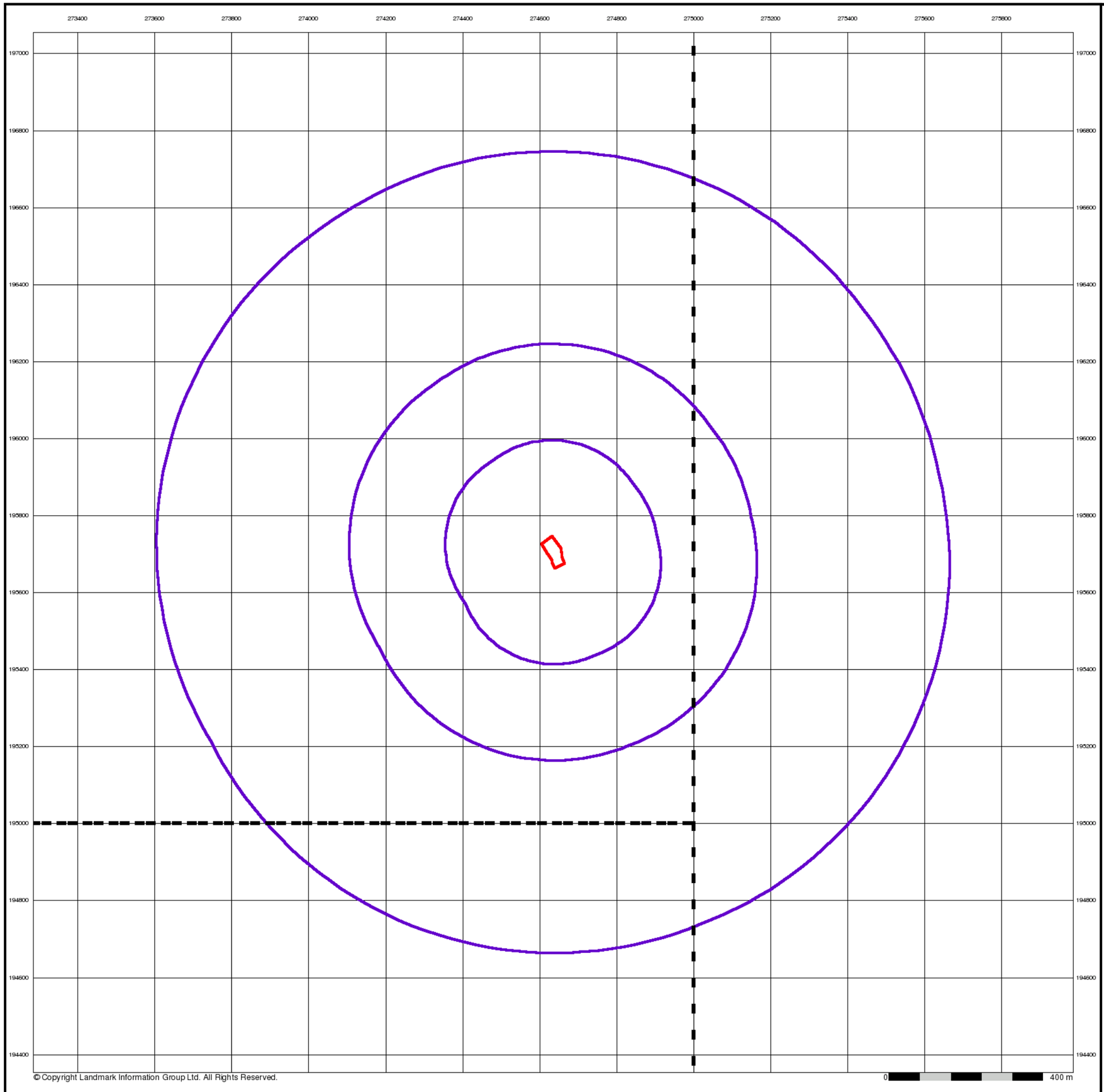
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Order Details

Order Number:	281040714_1_1
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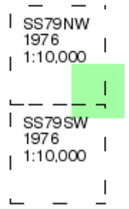
Swansea

Published 1976

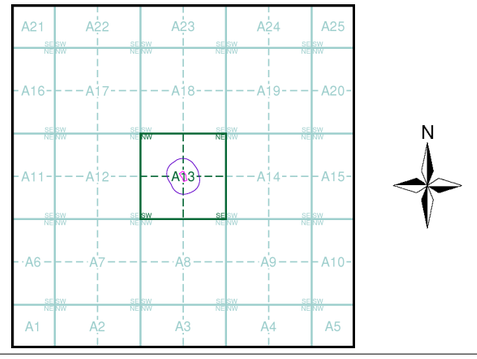
Source map scale - 1:10,000

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)



Russian Map - Slice A



Order Details

Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
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Ordnance Survey Plan

Published 1980 - 1983

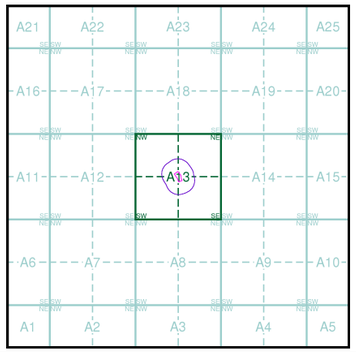
Source map scale - 1:10,000

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Map Name(s) and Date(s)

SS79NW 1980 1:10,000	SS79NE 1983 1:10,000
SS79SW 1980 1:10,000	SS79SE 1980 1:10,000

Historical Map - Slice A



Order Details

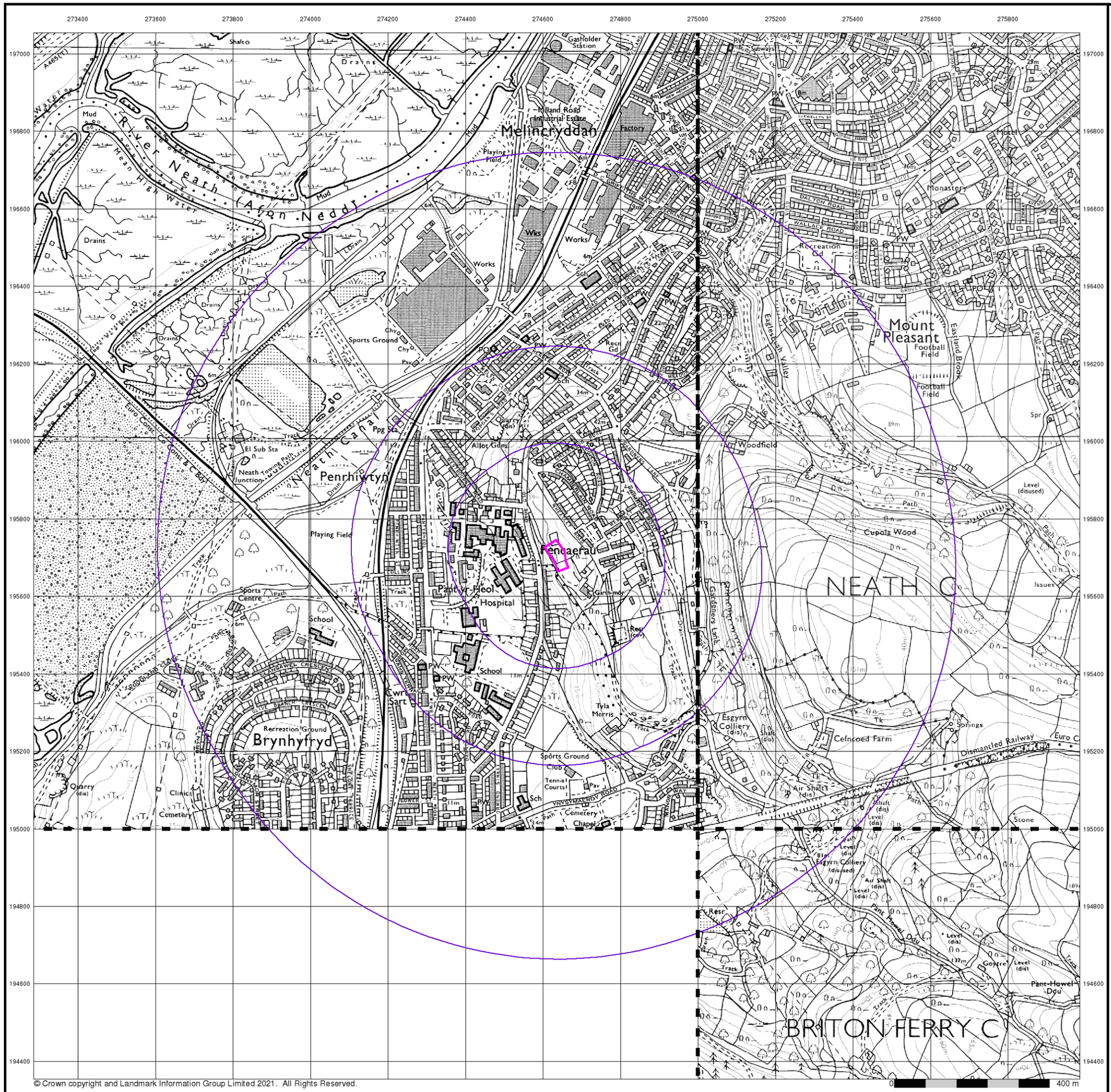
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Ordnance Survey Plan

Published 1992 - 1996

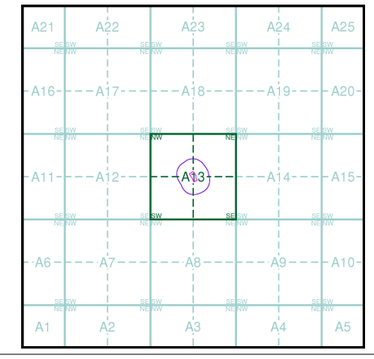
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SS79NW 1992 1:10,000
SS79NE 1992 1:10,000
SS79SE 1996 1:10,000

Historical Map - Slice A



N

Order Details

Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
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10k Raster Mapping

Published 1999

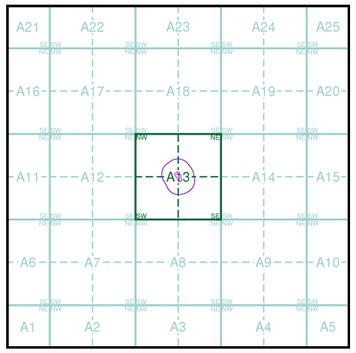
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SS79NW 1999 1:10,000	SS79NE 1999 1:10,000
SS79SW 1999 1:10,000	SS79SE 1999 1:10,000

Historical Map - Slice A



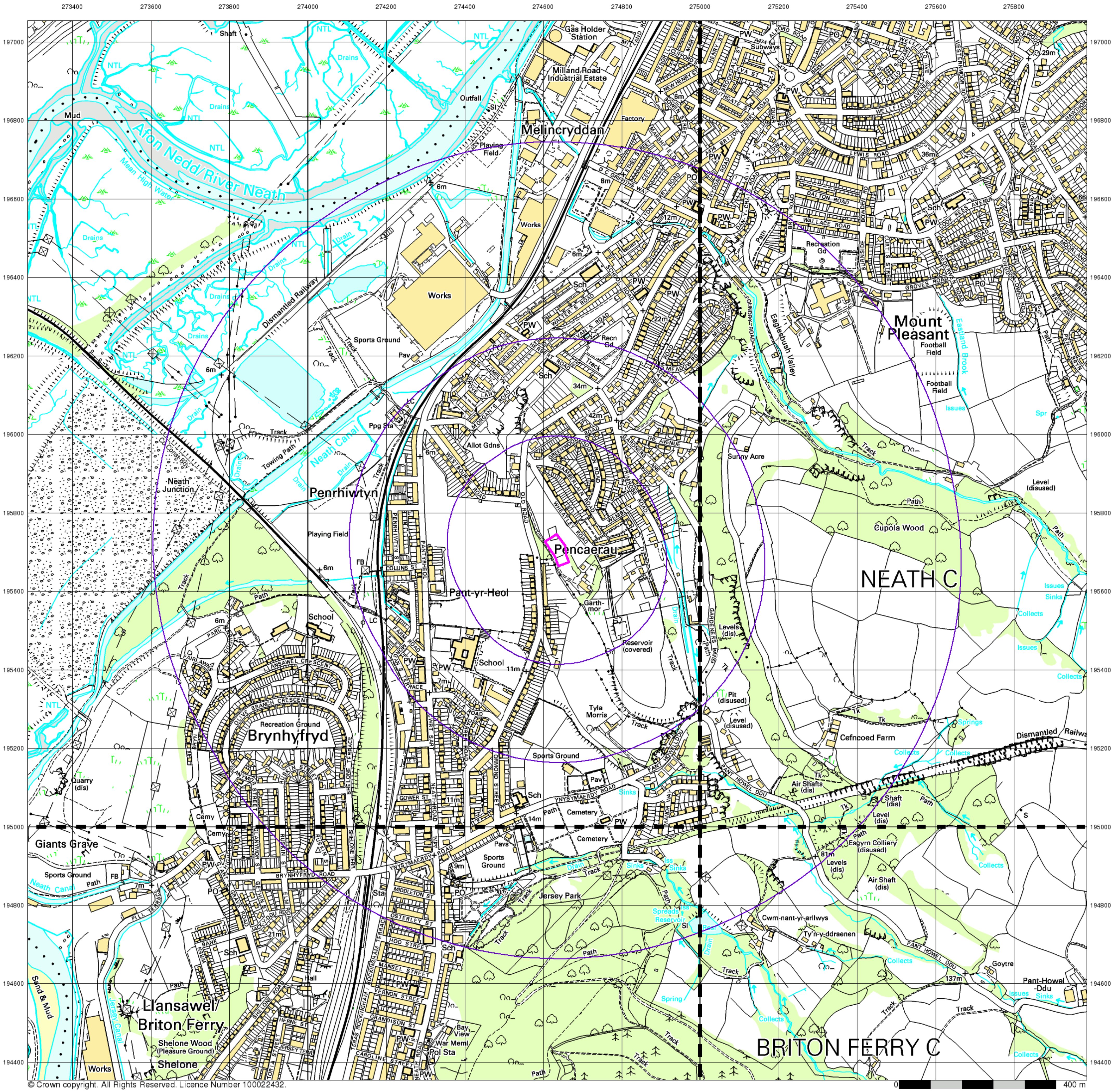
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Customer Ref:	16819 - Pearson Way
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Site Area (Ha):	0.25
Search Buffer (m):	1000

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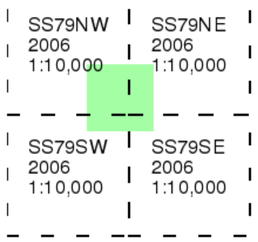
10k Raster Mapping

Published 2006

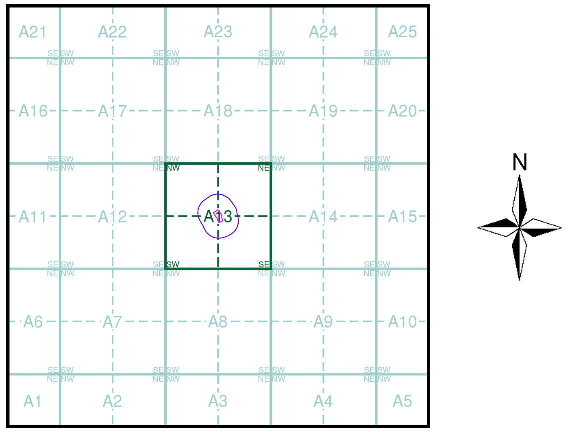
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

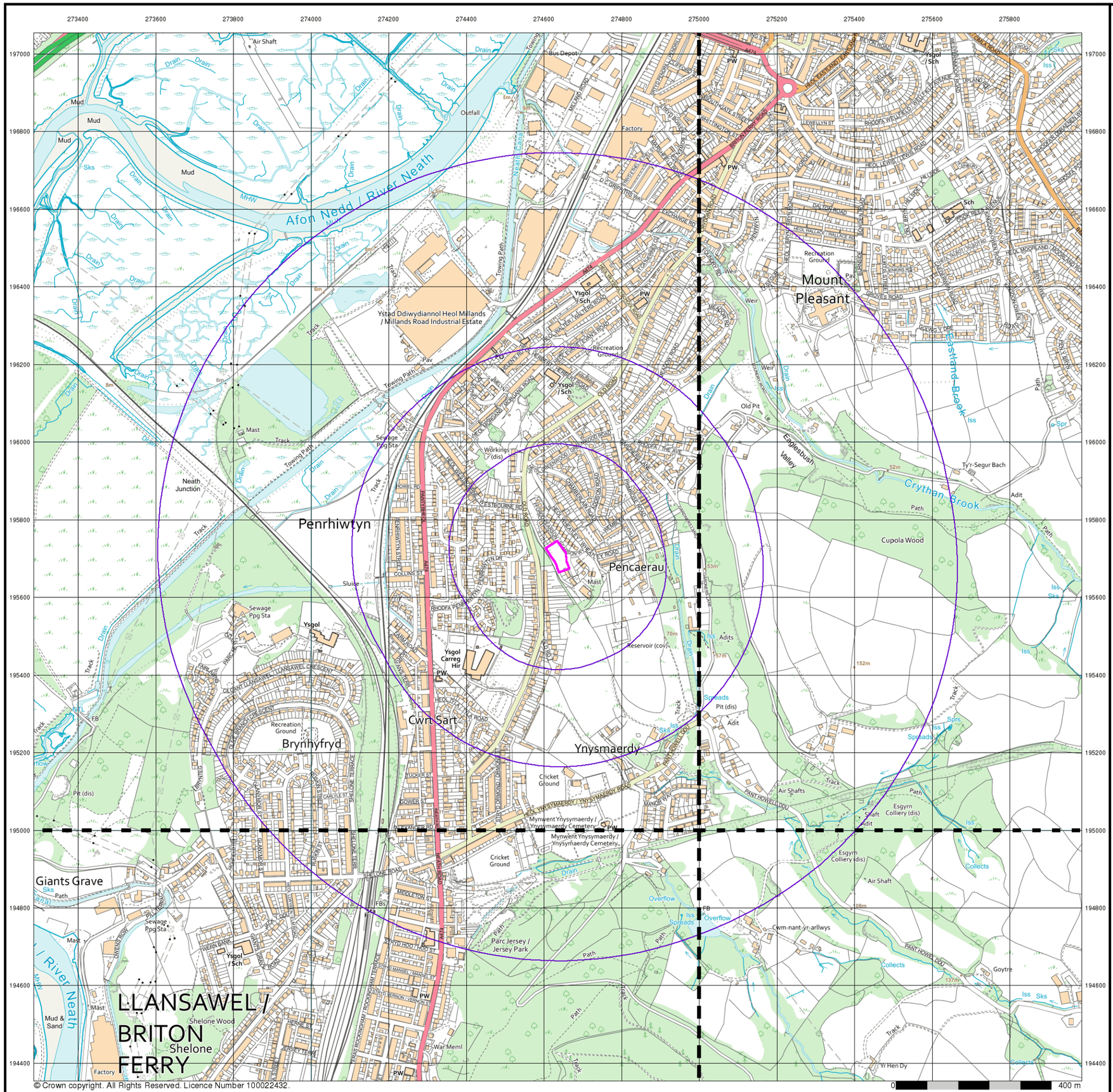
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Search Buffer (m): 1000

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VectorMap Local

Published 2021

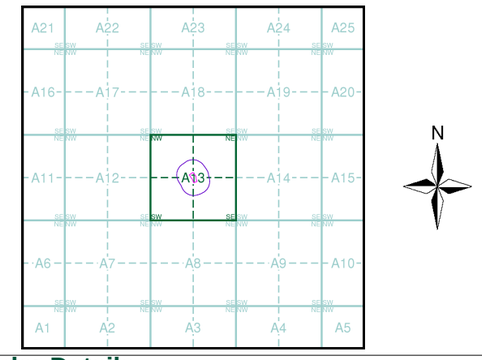
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SS79NW 2021 Variable	SS79NE 2021 Variable
SS79SW 2021 Variable	SS79SE 2021 Variable

Historical Map - Slice A



Order Details

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ANNEX B
Coal Authority Mining Report

The Coal Authority

CON29M
coal mining report

1, PEARSON WAY, NEATH, NEATH PORT TALBOT, SA11 2EJ

Known or potential coal mining risks

Past underground coal mining	Page 4
Future underground coal mining	Page 4
Mine entries	Page 5

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

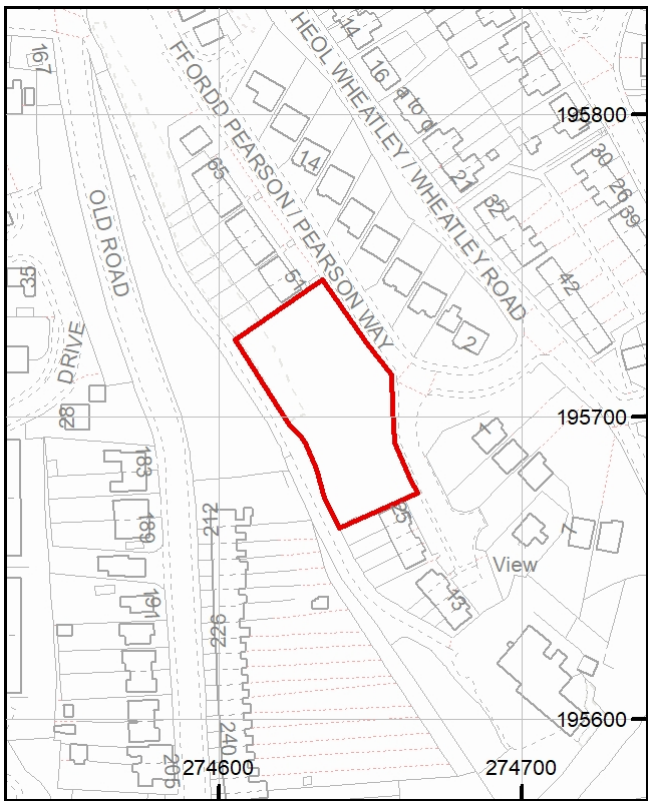
Professional opinion

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. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see page 3 for further details on Future development.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is **on the coalfield**

Map data

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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.

Professional opinion

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on 0345 762 6848 or email cmra@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.

However the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

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.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

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 overreaching 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 is it 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
Windowless Sampling Logs

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole Log

Borehole No. **WS01**
Sheet 1 of 1

Project Name:	Pearson Way	Project No: 16819	Co-ords:	Hole Type WLS
Location:	Pearson Way, Neath, SA11 2EJ		Level:	Scale 1:50
Client:	PHG Consulting Engineers Ltd		Dates: 28/07/2020 -	Logged By IB

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description
	Depth (m)	Type	Results					
				0.20				Grass over soft brown very sandy CLAY
	1.00	SPT	N=44 (3,5/7,11,12,14)					Very stiff grey, brown, orange and blue mottled very gravelly CLAY. Gravel is fine to coarse angular weak Mudstone. (Suspected Fill) *With bands of very snady clayey fine to coarse angular GRAVELS of SANDSTONE*
	2.00	SPT	N=16 (7,7/4,4,4,4)	2.00				Medium dense very clayey sandy fine to coarse sub angular to angular GRAVEL of sandstone. (Suspected Fill)
	3.00	SPT	N=8 (2,2/2,2,2,2)					
	4.00	SPT	50 (1,0/50 for 225mm)	4.00				End of Borehole at 4.000m

1 2 3 4 5 6 7 8 9 10

Remarks: Gas Monitoring Well Installed.

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole Log

Borehole No. **WS02**

Sheet 1 of 1

Project Name:	Pearson Way	Project No: 16819	Co-ords:
Location:	Pearson Way, Neath, SA11 2EJ		Level:
Client:	PHG Consulting Engineers Ltd		Dates: 28/07/2020 -

Hole Type: WLS
Scale: 1:50
Logged By: IB

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description
	Depth (m)	Type	Results					
				0.20				Grass over soft brown very sandy gravelly CLAY with fine rootlets
	1.00	SPT	N=10 (2,2/4,2,2,2)					Firm grey, brown, orange and blue mottled very gravelly CLAY. Gravel is fine to coarse angular weak Mudstone. With rare cobble (Suspected Fill)
				1.80				Firm brown very gravelly sandy CLAY. Gravel is fine to coarse subangular to angular sandstone and mudstone. (Suspected Fill)
	2.00	SPT	N=15 (2,2/2,2,4,7)					*very Wet 2 - 2.3*
	3.00	SPT	N=18 (6,7/7,5,3,3)					*Stiff Below 3m*
	3.80	SPT	50 (25 for 30mm/50 for 15mm)					*Wet and soft.*
				4.00				End of Borehole at 4.000m

Remarks: Gas Monitoring Well Installed.

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole Log

Borehole No. **WS03**
Sheet 1 of 1

Project Name: Pearson Way	Project No: 16819	Co-ords:	Hole Type WLS
Location: Pearson Way, Neath, SA11 2EJ		Level:	Scale 1:50
Client: PHG Consulting Engineers Ltd		Dates: 28/07/2020 -	Logged By IB

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description
	Depth (m)	Type	Results					
				0.10				Grass over soft brown very sandy gravelly CLAY with fine rootlets
	1.00	SPT	N=20 (5,5/4,5,5,6)					Very stiff grey, brown, orange and blue mottled very gravelly CLAY. Gravel is fine to coarse angular weak mudstone. With rare cobbles (Suspected Fill)
				1.70				Stiff brown very gravelly sandy CLAY. Gravel is fine to coarse subangular to angular sandstone and mudstone. (Suspected Fill) (Wet)
	2.00	SPT	N=10 (1,0/1,3,3,3)					
	3.00	SPT	N=27 (3,5/4,11,5,7)					*Firm/Soft Below 3m*
				3.70				Very stiff brown gravelly CLAY. Gravel is fine to coarse subrounded to subangular sandstone.
	4.00	SPT	50 (10,12/50 for 190mm)	4.00				End of Borehole at 4.000m

Remarks: Gas Monitoring Well Installed.

ANNEX E
Soil Laboratory Chemical Test Results

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	21-22305-1		
Initial Date of Issue:	06-Jul-2021		
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	ieuan@terrafirmawales.co.uk		
Project	16819 - Pearsons Way		
Quotation No.:	Q19-16176	**Date Received:**	30-Jun-2021
Order No.:	16819 IB	**Date Instructed:**	30-Jun-2021
No. of Samples:	5		
Turnaround (Wkdays):	5	**Results Due:**	06-Jul-2021
Date Approved:	06-Jul-2021		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Soil

Project: 16819 - Pearsons Way

Client: Terra Firma (Wales) Ltd				**Chemtest Job No.:**	21-22305	21-22305	21-22305	21-22305	21-22305
Quotation No.: Q19-16176				**Chemtest Sample ID.:**	1231144	1231145	1231146	1231147	1231148
Order No.: 16819 IB				Client Sample Ref.:	WS01	WS01	WS02	WS03	WS03
				Client Sample ID.:	WS01	WS01	WS02	WS03	WS03
				Sample Location:	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL
				Bottom Depth (m):	0.45	1.5	03	0.5	2.5
				Date Sampled:	28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021
				Time Sampled:	0:00	0:00	0:00	0:00	0:00
				Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
ACM Type	U	2192		N/A	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	-	-
Moisture	N	2030	%	0.020	6.7	8.4	11	8.7	11
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones and Roots	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Clay	Clay	Clay	Clay
pH	M	2010		4.0	8.2	8.1	8.1	8.2	8.1
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40	< 0.40	0.42	< 0.40	< 0.40
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.010	0.014	0.014	0.040	0.047	< 0.010
Arsenic	M	2450	mg/kg	1.0	12	12	19	6.3	7.9
Cadmium	M	2450	mg/kg	0.10	0.21	0.28	0.40	0.12	0.18
Chromium	M	2450	mg/kg	1.0	20	21	21	12	14
Mercury Low Level	M	2450	mg/kg	0.05	0.13	0.09	0.13	0.09	0.07
Copper	M	2450	mg/kg	0.50	43	28	43	27	22
Nickel	M	2450	mg/kg	0.50	50	44	40	33	30
Lead	M	2450	mg/kg	0.50	26	25	59	18	17
Selenium	M	2450	mg/kg	0.20	0.70	0.34	0.81	0.31	0.27
Zinc	M	2450	mg/kg	0.50	110	100	160	66	74
Chromium (Trivalent)	N	2490	mg/kg	1.0	20	21	21	12	14
Chromium (Hexavalent)	N	2490	mg/kg	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
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	8.1	9.1	9.1	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	2.2	2.0	3.7	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	2.6	3.9	2.1	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	17	26	18	< 1.0	1.8
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	30	41	33	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 16819 - Pearsons Way

Client: Terra Firma (Wales) Ltd			**Chemtest Job No.:**		21-22305	21-22305	21-22305	21-22305	21-22305
Quotation No.: Q19-16176			**Chemtest Sample ID.:**		1231144	1231145	1231146	1231147	1231148
Order No.: 16819 IB			Client Sample Ref.:		WS01	WS01	WS02	WS03	WS03
			Client Sample ID.:		WS01	WS01	WS02	WS03	WS03
			Sample Location:		16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
			Bottom Depth (m):		0.45	1.5	03	0.5	2.5
			Date Sampled:		28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021
			Time Sampled:		0:00	0:00	0:00	0:00	0:00
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	13	13	13	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	7.5	7.9	7.1	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	15	14	15	4.4	4.3
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	13	15	15	< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	33	38	37	24	25
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	82	88	87	29	29
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	110	130	120	29	31
Naphthalene	M	2700	mg/kg	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
Acenaphthene	M	2700	mg/kg	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
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	< 0.10	0.20	< 0.10	< 0.10	< 0.10
Pyrene	M	2700	mg/kg	0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 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	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 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	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Organic Matter BS1377	N	2930	%	0.10	< 0.10	1.5	3.4	1.4	1.1

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline 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
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
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 F
Gas Monitoring Results

GROUND GAS & GROUNDWATER MONITORING RESULTS

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Geotechnical & Geoenvironmental Specialists

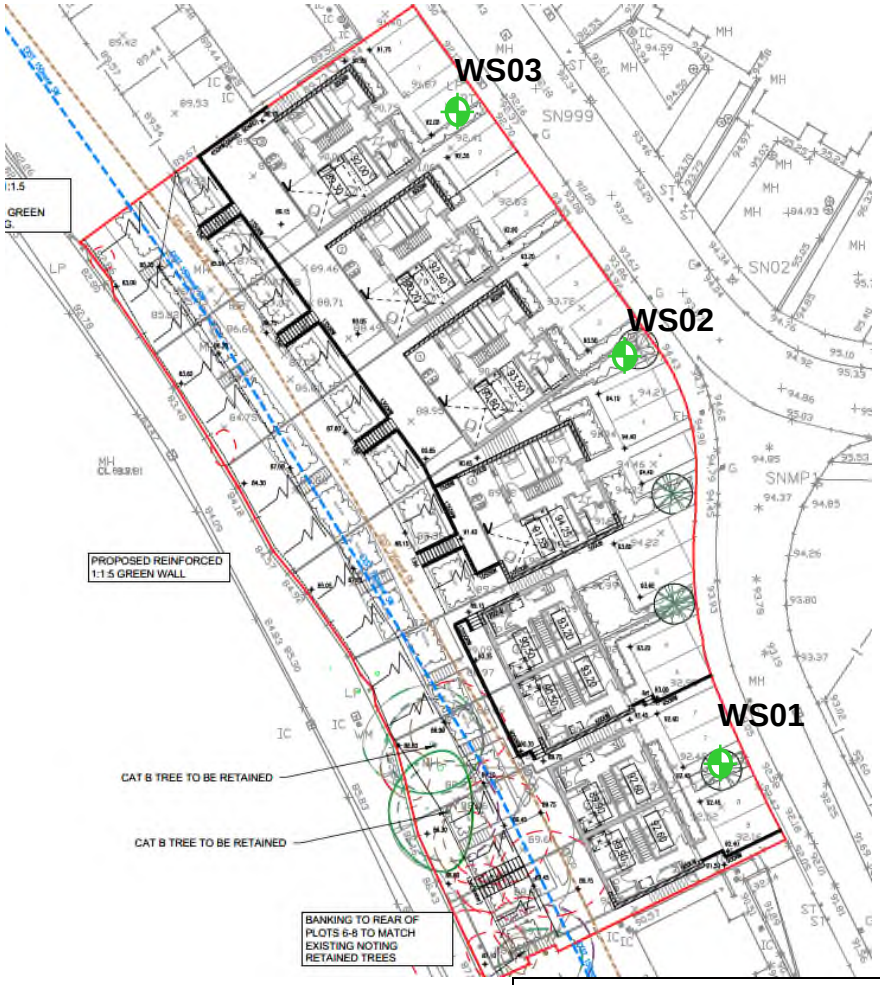
Site Name: Pearson Way, Neath
Project Number: 16819
Date: 20.07.2021
Engineer: IB
Weather: Dry
Visit: 1 of 6

Atmospheric Pressure: 984

Equipment:

Well ID	Time (Minutes)	Flow Rate (l/hr)	CH_4 (%)	CO_2 (%)	O_2 (%)	CO (ppm)	H_2S (ppm)
WS01	1	0.0	0.0	1.5	18.4	1	0
	2		0.0	1.5	18.5	1	0
	3		0.0	1.3	18.6	1	0
	4		0.0	1.2	18.8	1	0
	5		0.0	1.1	18.8	1	0
	10		0.0	1.1	19.0	1	0
WS03	1	0.0	0.0	10.4	7.0	2	0
	2		0.0	10.5	6.7	2	0
	3		0.0	10.5	6.6	2	0
	4		0.0	10.5	6.8	2	0
	5		0.0	10.5	6.9	2	0

DRAWINGS



Site Name: Pearson Way

Project Number: 16819

Drawing Title: Investigation Locations

Drawing Number: 01

Scale: Not to scale

KEY

Window Sample Locations



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**

APPENDIX 2: APRIL 2022 GEOTECHNICAL AND GEOENVIRONMENTAL REPORT

terra firma
Geotechnical & Geoenvironmental Specialists



Geotechnical and Geoenvironmental Report

Site: Pearson Way, Neath

Prepared For: Wellspring Property and Investments Ltd

Issue Date: April 2022

Job No: 16819

info@terrafirmawales.co.uk

www.terrafirmawales.co.uk

V3

REPORT TITLE : **Geotechnical and Geoenvironmental Report: Proposed Development, Pearson Way, Neath**

JOB NUMBER : **16819**

ISSUE DATE : **April 2022**

REPORT REFERENCE : **28042022-16819-2**

Document Revision Record

Issue Number	Date	Revision Details
01	2.8.2021	First Issue
02	28.4.2022	Additional Trial Pits in west of site

	Name	Signature
Prepared	**David Emanuel** BSc (Hons), MSc, FGS, Dip.Chem, M Phil, CGeol	
Checked	**Ruth Howells** M.Geol, FGS	
Approved	**Gwyn Lake** BSc (Hons). PhD, CGeol, FGS	

Executive Summary

Site Location and Proposed Development	*The development site is rectangular in shape and locates at Pearson Way, Neath, SA11 2EJ. The site centres on an approximate National Grid Reference of 274640 195700, occupying a plan area of approximately 0.25 Hectares. The proposed development is residential in nature.*
Site History	*The site has remained as undeveloped land, however it has been the subject of cut and fill exercises.*
Geology	*The site is underlain by the Hughes Member of the Upper Coal Measures strata of Carboniferous Age. The conjectural outcrop of the Mountain Coal seam is shown close to the west of the site. Due to the topography of the area this seam will underlie the site at shallow depth. No superficial deposits are shown to overlie the solid geology, however residual soils are likely to be present.* *Significant made ground/reworked materials are likely to overlie the in-situ deposits.*
Radon	*No radon protective measures are required for new developments on the investigation site.*
Coal Mining Risk Assessment	*The site situates within the South Wales coal fields. The Coal Authority CONM29M Coal Mining Report states that the property is not within a surface area that could be affected by any past recorded underground coal mining.* *However, the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past.* *The seam referred to is the Mountain seam which is estimated to lie between 25m and 45m beneath the site. This seam is thin and intermittent with no historical evidence of it being worked beneath the site. The risk is therefore concluded to be low. This low risk can be negated by the use of appropriate foundations.*
Ground Conditions	*Ground conditions encountered during investigation beneath the site shows re-worked till deposits of a generally firm and stiff consistency down to a maximum 3.7m depth.*
Contamination of Concern	*There were no contaminants of concern encountered during the ground investigations.*
Ground Gas Risk Assessment	*Gas monitoring has placed the site in Gas Characteristic Situation 2 (GCS 2), requiring gas protective measures. Protection measures should be designed and validated.*
Foundation Solution	*A reinforced concrete raft on 1.0m of recompacted ground is recommended. Depending upon the finished floor slab levels it may be economic to construct a reinforced box construction incorporating an integral reinforced concrete retaining wall and floor slab.* *In order to negate the low mining risk, the raft should be designed to span a crown hole of 3m with a cantilever effect on corners of 1.5m.*

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Drawings

Drawing 01 Proposed Site Layout

SECTION 1 Introduction and Proposed Development

1.1 Introduction

Wellspring Property and Investment Limited (the Client) is proposing the development of residential housing at Pearson Way, Neath.

PHG Consulting is the Consulting Civil and Structural Engineer for the development.

Terra Firma (Wales) Limited has been commissioned by PHG Consultant Engineers Ltd on behalf of 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

In order to achieve the above objectives, Terra Firma (Wales) Limited carried out an assessment programme including 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 Terra Firma (Wales) Limited. 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. Terra Firma (Wales) Limited 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.

Excavation in the far west of the site was not possible on account of buried services

1.3 Quality Assurance

The quality and environmental aspects of the assessment comply with Terra Firma Wales Ltd business management system which is UKAS Accredited to 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 locates at Pearson Way, Neath, SA11 2EJ. The site centres on an approximate National Grid Reference of 274640 195700, occupying a plan area of approximately 0.25 Hectares.

The site is currently empty brownfield space. Vegetation covers the whole of the site. The site is a steep slope inclining towards the west.

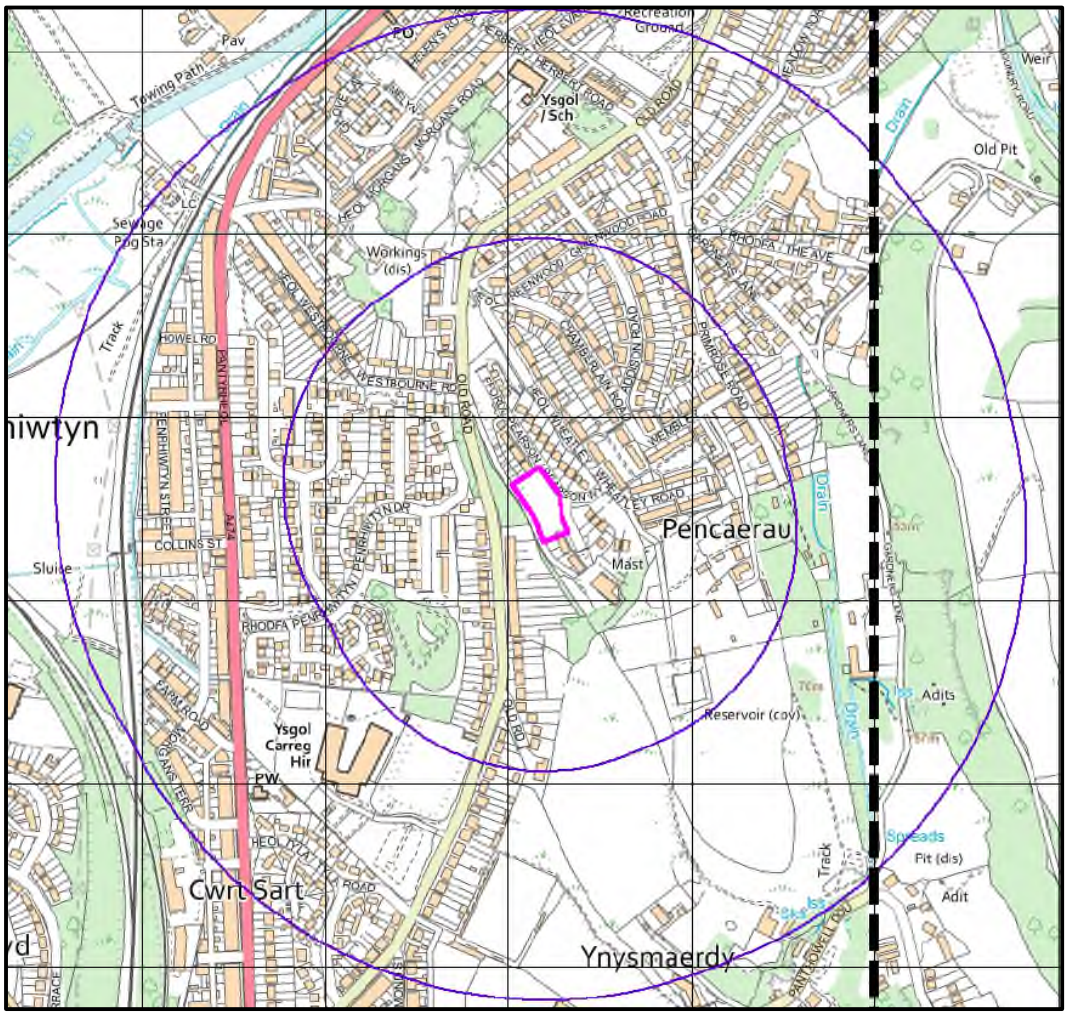
The northern and southern boundaries of the site are defined by residential housing and their gardens. The eastern boundary of the site is defined by Pearson Way Road. A public footpath is located adjacent to the east of the site.

The wider surrounding area is predominantly residential housing with empty greenfield space.

The site elevation is approximately 55 to 45m AOD steeply sloping down to the west. A steep drop off is situated in the northwest of the site.

The site location can be seen on
Figure 2.1 along with the proposed site layout on **Drawing 01**.

Figure 2.1 Site Location



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 where quoted are 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 -1882 1:2500	The site is part of an empty greenfield space. A track runs along the site's western boundary.	The site is surrounded by empty greenfield space. Houses of Mansell Terrace lie nearby to the southeast. An old Quarry is shown 170m north of the site.
1899 1:2500 1900 1:10,000	No significant changes.	More quarrying has taken place to the north. The gardens of Mansell Terrace are becoming more established. In the wider area to the north and west residential and commercial development has occurred.
1918 -1919 1:2500	The formation of a level plateau by a cut and fill exercise has taken place in the south of the site	An old coal level heading in a north easterly direction is shown to be present 150m south of the site. 'New Graded' Infirmary has been constructed to the west.
1935 – 1941 1:2500	No Significant changes are evident.	Significant residential development has occurred in the surrounding area. New Grade Infirmary is now known as Penrhiwtyn Infirmary.
1951 1:1250	The earth to the south of the site has been levelled. A slope is shown in the southern corner of the site and along the western boundary of the site.	Residential houses 50m northeast at Wheatley Road are now present. Further residential and commercial development has occurred in the surrounding area. Penrhiwtyn Infirmary has increased significantly size and is now known as Neath General Hospital.
1958 – 1967 1:1250	Earthworks are shown in the northeast corner of the site. Mapping indicates a level plateau has been constructed but a cut and fill exercise.	No significant changes.
1964:1970 1:2500	No significant changes.	No significant changes.
1979-1989	No significant changes.	Development has occurred at Neath General Hospital to the west of the site.
1993 1:2500 1992 – 1996 1:10,000	No significant changes.	No significant changes.
2006 1:10,000	No significant changes since previous map additions.	The whole of Neath General Hospital has been demolished and this is now an empty space.
2021 1;10,000	The site is shown to be flat and level.	Residential development has occurred in the immediate sounding area. Including adjacent houses north, south and west of Pearsons Way.
Historical Google Earth Satellite Imagery.		
2002 -	The site is empty greenfield space. Evidence of mounds of material is evident at the site and wider field.	
2006	A track runs through the site. The houses west of the site are in development and a cut exercise has taken place into the hill side.	
2013	The houses north of the site are now in development. Earth has been moved and mounded onto the site itself.	
2016	Construction of 3No Houses at the northern end of Pearson Way is nearing completion. Cut earthworks exercises for the garden areas are evident. The site is now a sloping grass field.	

2.3 Geological Setting

2.3.1 Geology

The 1:10,000 scale British Geological Map of the area (SS 79 NW) was consulted for geology underlying the site. The site is shown to be underlain by sandstone rock. Detailed stratigraphical information is provided in **Table 2.2**.

Table 2.2 Detailed Stratigraphical Information

Period	Group	Formation
Carboniferous		Hughes Member – Described as “Green-grey, lithic arenites ("Pennant sandstones"), with thin mudstone/siltstone and seatearth interbeds, and mainly thin coals.” The conjectured outcrop of the Mountain Coal Seam is shown to the west of the site. Due to the topography of the area this seam will underlie the site at relatively shallow depth.

Superficial deposits are not recorded at the site.

Made ground is anticipated at the site to an unknown depth in relation to historical earthworks.

2.3.2 Radon

The Envirocheck Report (**Annex A**) details that **NO** radon protective measures are required for new developments on the investigation site.

2.3.3 Mining

The site situates within the South Wales coal fields. The Coal Authority CONM29M Coal Mining Report states that the property is not within a surface area that could be affected by any past recorded underground coal mining.

However, the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past.

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

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

Relevant BGS mineral sites as recorded in the Envirocheck Report datasheets (**Annex A**) are summaries in **Table 2.3**.

Table 2.3 BGS Recorded Mineral Sites

Site Name	Distance/ Direction from site	Type	Commodity
Garth-Mor	146m South	Underground	Coal -Deep
Pen-Rhiw-Tyn	172m North	Opencast	Sandstone

The Coal Authority Consultants Coal Mining Report is appended in **Annex C**.

2.3.4 Natural Hazards

All natural hazards within the Envirocheck report are described as a very low hazard or no hazard.

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

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

Deep 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.

The site does not locate within a groundwater source protection zone.

The nearest groundwater abstraction point is located 1989m away and will not be affected by the site.

2.4.2 Hydrology

The nearest surface water feature locates off site, 269m to the east and comprises a drain.

The topography of the site slopes down towards to the west. Surface water is likely to drain in this direction.

2.4.3 Flooding

The site is not at risk from extreme flooding from rivers or sea.

2.4.4 Waste

No Historical or Recorded landfill sites are shown to be situated within 250m of the site

One licensed waste management facility is situated 109m west, situated at Pant Yr Heol, Neath, NPT SA11 and operated by Glan Y Mor NHS Trust. This facility is likely concerning an operation at the old Neath hospital now demolished. The license is surrendered, this should not affect the site.

Two waste Transfer sites are recorded 221m southwest, these are again relating to Neath General Hospital, and will no longer affect the site.

No discharge consents are shown to be situated within 250m of the site.

2.4.5 Pollution

No pollution incidents are recorded to have occurred within 250m radius of the site.

2.4.6 Sensitive Land Use

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

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.

The site is shown to lie within an area where high Arsenic levels are typically encountered. 35-45mg/kg with a Threshold value of 37mg/kg. Arsenic contamination may be present at the site.

All other 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
Neath general Hospital	163	Hospitals	Inactive

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
Infilled Land (Non-Water) Unknown Filled Ground (Pit, quarry etc)	162m South
Infilled Land (Non-Water) Unknown Filled Ground (Pit, quarry etc) – Shown to be relating to the historical sandstone quarry	163m Northwest

However, historical mapping for the site show that infill has taken place historically at the site. Additionally, fill is shown to have been placed on site from recent nearby residential development.

SECTION 3 Coal Mining Risk Assessment

3.1 Geotechnical Risk

3.1.1 Underground Mining

Based upon geological map data, the stratigraphical sequence within 50m of the ground surface of the site is illustrated in

Figure 3.2 Sheet SS 79 NW Geological Map

Figure 3.3 Site levels detail

.

Table 3.1 Stratigraphical Sequence

Holocene	**Residual Soils & Fill**	**2-6m**
South Wales Lower Coal Measures	**Coal Bearing Sandstone with occasional Mudstone/Siltstone bands**	**25-45m**
	COAL - "Mountain" primarily two "thin" coal seams.	**25-45m**

Figure 3.2 Sheet SS 79 NW Geological Map

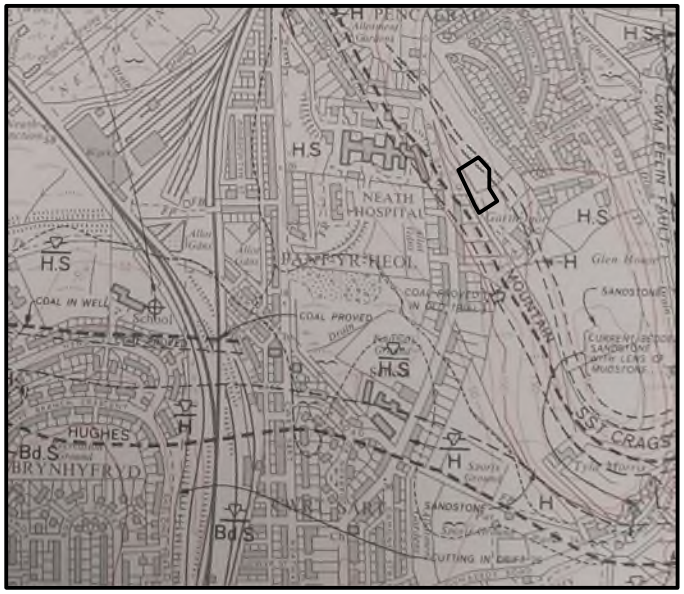
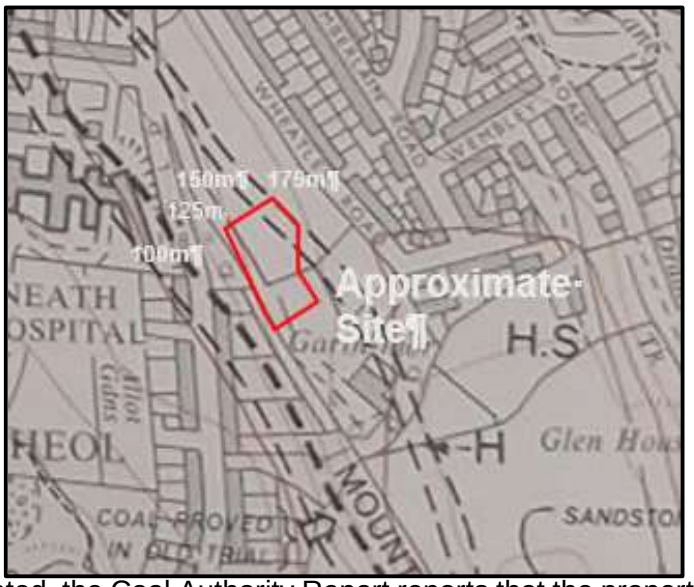


Figure 3.3 Site levels detail



As previously stated, the Coal Authority Report reports that the property is not within a surface area that could be affected by any past recorded underground coal mining. However, the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past.

Geological map evidence indicates that the Mountain coal seam lies approximately 30m to the west. Generally, geology within the area is dipping 15° to the northeast.

Map contours show the mountain coal seam to lie at approximately 125m AOD Topographically the site drops steeply towards the west and the level of the site is shown to be 150-160m AOD. The coal seam is therefore anticipated to lie 25-to 45m depth below the site.

The mountain coal seam is shown as primarily two thin coal seams.

3.1.2 Shafts & Adits

The Coal Authority Report (presented in **Annex B**) states there are no known mine entries within 20m of the site.

Geological mapping shows that the presence of an ‘old coal level’ first recorded on the 1918/19 1:2500 OS map, 146m to the south. This level was not recorded on the previous 1899 edition so had a short operating life, an indication of either poor geological conditions of poor quality coal. The recorded rock strata is Hughes Sandstone, a strong and competent rock. It is therefore likely that the old coal level was a trial abandoned due to inferior coal. The geological maps Generalised vertical section shows the Mountain seam to be thin in two leaves and intermittent in nature. The historical maps also show no mining features such as adits or shafts that could have affected the site.

3.1.3 Conclusion

The overall risk to the surface stability of the site from possible unrecorded workings is considered low. This low risk can be negated by the use of an appropriate foundation/floor slab solution as recommended in **Section 9.2**.

3.2 Geoenvironmental Risk

3.2.1 Mine Gas Risk Assessment

Gas monitoring is taking place at the site due to the deep made ground of unknown nature expected at the site. This monitoring will also detect any mine related gases.

SECTION 4 Preliminary Human Health and Environmental Risk Assessment

4.1 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 B** which includes our classifications of consequence and probability, and risk assessment matrix.

4.2 Potential Sources of Contamination

Potential or known sources of contamination associated the sites current and historical land use are summarised in **Table 4.1**.

Table 4.1 Contamination Sources

ID	Source	Contaminant
S1	Made Ground	Potentially metals, hydrocarbons, PAH, asbestos, sulphates
S2	Contaminated Groundwater	
S3	Made ground/infilled land	Carbon dioxide and methane
S4	Possible mine workings beneath the site	Carbon dioxide and methane
S5	Aggressive Ground Conditions	Soil pH and sulphate levels may affect construction concrete

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

4.3 Potential Pollution Pathways

Potential contaminant pathways associated with a residential with home grown produce land use are as follows.

P1 – Direct soil ingestion
P2 – Dermal contact with soil
P3 – Inhalation and ingestion of soil dust
P4 – Consumption of home grown produce
P5 – Dermal contact with groundwater
P6 – Inhalation of asbestos fibres
P7 – Horizontal and vertical migration and inhalation of ground gas
P8 – Horizontal and vertical migration and inhalation of mine gas
P9 – Absorption of contaminants into potable water pipes
P10 – Vertical migration of leachates (unsaturated zone)
P11 – Surface run-off
P12– Horizontal and vertical migration of contaminants (saturated zone)
P13 – Direct contact with construction materials

4.4 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 (residents)
R3 – Passers-by or neighbouring site users
R4 – Groundwater (aquifer)
R5 – Surface waters (river/lake)
R6 – Construction materials (concrete/potable water pipes)

4.5 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 4.2**.

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 4.2 Preliminary Conceptual Site Model

Source	Pathway	Receptor	Preliminary Risk Assessment		
			Consequence	Probability	Risk
Human Health					
Made Ground S1	Direct soil and dust ingestion P1 Dermal contact with soil P2 Inhalation and ingestion of dust P3 Dermal contact with groundwater P5 Inhalation of asbestos fibres P6	Construction and maintenance workers R1	**Medium**	**Likely**	**Medium Risk -** COSHH assessment and good level of PPE/ hygiene by site workers/ staff; dust suppression measures if required. Suitably designed site investigation recommended
Made Ground S1	Inhalation and ingestion of dust P3	Passers-by or neighbouring site users R3	**Medium**	**Unlikely**	**Low Risk** - Dust suppression measures if required.
Made Ground S1	Inhalation of asbestos fibres P6	Passers-by or neighbouring site users R3	**Medium**	**Unlikely**	**Low Risk** - Dust suppression measures if required.
Made Ground S1	Direct soil and dust ingestion P1 Dermal contact with soil P2 Inhalation and ingestion of dust P3 Consumption of home grown produce P4	Future site users (residents) R2	**Medium**	**Likely**	**Medium Risk -** Suitably designed site investigation recommended
Made Ground S1	Inhalation of asbestos fibres P6	Future site users (residents) R2	**Medium**	**Likely**	**Medium Risk -** Suitably designed site investigation recommended
Made ground/Infilled Land S3	Migration and inhalation of ground gas P7	Future site users (residents) R2	**Severe**	**Likely**	**Medium Risk –**High volumes of made ground on site evident.- assessed through gas monitoring
Mine Workings S4	Migration and inhalation of mine gas P8	Future site users (residents) R2	**Severe**	**Unlikely**	**Low Risk –** Underground mining unlikely beneath the site. Assessed through gas monitoring
Contaminated Groundwater S2	Dermal contact with groundwater P5	Future site users (residents) R2	**Medium**	**Unlikely**	**Low Risk**
Aggressive ground conditions S5	Direct contract with construction materials	Construction materials (concrete) R7	**Mild**	**Low Likelihood**	**Low Risk**
Aquatic Environment					
Contaminated Soils S1 Contaminated Groundwater S2	Vertical migration of leachates (unsaturated zone) P10	Groundwater R4 Surface waters R5	**Mild**	**Low Likelihood**	**Low Risk**
	Surface run-off P11	Surface waters R5			
	Horizontal and vertical migration of contaminants (saturated zone) P12				

SECTION 5 Field Investigation

5.1 Site Works

A geotechnical and geo-environmental site investigation comprising 3No Window Sampling Boreholes was undertaken on 28th of June 2021. Additionally, three trial pits were performed on 13th April 2022.

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

The boreholes referenced WS01 to WS03, were formed using a Terrier 2000 rig. Dynamic sampling techniques were employed from surface to produce a continuous disturbed sample.

Standard penetration tests (SPT) were carried out at regular intervals in general accordance with BS1377: Part 9:1990:3.3. SPT results summarised as N values are presented on the borehole log.

Boreholes were monitored for groundwater ingress as drilling proceeded.

Trial Pits were performed using a 6 tonne tracked excavator

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

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

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

5.2 Ground Conditions

The ground conditions encountered by the exploratory holes can in general be summarised as shown in **Table 5.1**.

Table 5.1 Summary of Typical Ground Conditions

Depth (m)			Thickness (m)	Stratum
0.00	-	0.1-0.8	0.1-0.8	Grass over soft brown very sandy locally gravelly, **CLAY** with fine rootlets.
0.1-0.8	-	1.7-2.2	1.1-1.4	Stiff to Very stiff occasionally firm brown, orange and blue mottled very Gravelly **CLAY** to medium dense clayey **GRAVEL**. (Made Ground Fill)
1.7-2.0	-	3.7-4.0	2.0-2.2	(Boreholes Only) Firm locally stiff brown very gravelly **CLAY** or Medium Dense very Clayey sandy **GRAVEL**. Very wet in places. (Made Ground) (Suspected Fill)
3.7	-	4.0	NA	(BH03 and TP02 and TP03 Only). Stiff to very stiff brown gravelly **CLAY**.
Gravels comprised typically angular sandstone with some weak angular mudstone.				

5.3 Groundwater

Groundwater information recorded during the site investigation is summarised in **Table 5.2**.

Table 5.2 Groundwater Summary

Location	Depth (m)	Details
WS02	2.0 - 2.3 3.8 - 4.0	Strata observed wet
WS03	1.7 - 3.7	Strata observed very wet
TP03	2.0	Minor groundwater ingress.

5.4 Stability and Obstructions

All Boreholes refused at 4m depth. An obstruction was encountered in the south of TP02 at 0.8m depth.

5.5 Installation Well Construction

Gas well locations were selected on a non-targeted basis to characterise the gas contamination status for the whole length of site.

Groundwater/Gas installation well construction details are summarised in **Table 5.3**.

Table 5.3 Installation Well Summary

Location	Response Zone		Stratum
	From (m)	To (m)	
WS01	4	3	Made Ground / Infill
WS02	4	3	Made Ground / Infill
WS03	3.7	2.7	Made Ground / Infill

5.6 Laboratory Chemical Testing

5.6.1 Sampling Strategy

Soil sampling locations were selected on a non-targeted basis to characterise the contamination status of the site area.

Sample locations, depths and suspected/known contamination source targets are summarised in **Table 5.4**:

Table 5.4 Sample Locations, Depths and Targets

Location	Depth (m)	Contamination Targets
WS01	0.45	S1
WS01	1.5	S1
WS02	0.3	S1
WS03	0.5	S1
WS03	2.5	S1
TP01	0.5	S1
TP02	0.1	S1
TP03	0.1	S1

5.6.2 Soil Laboratory Analysis

During the site investigation works soil 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 5.5**.

Table 5.5 Soil Laboratory Analysis

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

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

5.7 Soil Property Testing

5.7.1 In-situ Permeability Testing

During the site investigation three borehole soakaway tests were undertaken in WS01 to WS03 carried out in general accordance with BRE DG 365:2016.

Soakaway test results are summarised in **Table** 5..

Table 5.6 Summary of Soakaway Results

Trial Pit	Infiltration Rate (ms^{-1})
WS01	No Movement Observed
WS02	No Movement Observed
WS03	No Movement Observed

The test results are discussed in **SECTION 9.6.**

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).

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.

6.2 Soil Test Results

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

6.2.1 Inorganics & Miscellaneous

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

Table 6.1 Summary of Soil Chemical Test Results – Inorganics & Miscellaneous

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Arsenic	37	LQM/CIEH	6.3	19	0
Cadmium	11	LQM/CIEH	0.12	0.4	0
Chromium III	910	LQM/CIEH	6.6	21	0
Chromium VI	6	LQM/CIEH	< 0.50	< 0.50	0
Copper	2400	LQM/CIEH	22	43	0
Lead	200	pC4SL	17	59	0
Mercury (inorganic)	40	LQM/CIEH	0.05	0.13	0
Nickel	180	LQM/CIEH	10	50	0
Selenium	250	LQM/CIEH	0.25	0.81	0
Zinc	3700	LQM/CIEH	66	160	0
Cyanide	-	-	<0.5	<0.5	-
Boron	290	LQM/CIEH	<0.4	0.90	0
Sulphate (%)	0.24	BRE	<0.01	0.047	0
Organic Matter (%)	-	-	< 0.10	4.8	-
pH	-	-	8.1	8.4	-

Notes:
- No available guideline

6.2.2 Organics

Eight samples were tested for speciated polycyclic aromatic hydrocarbons. The summarised results are in **Table 6.2**.

Table 6.2 Summary of Soil Chemical Test Results – Speciated Polycyclic Aromatic Hydrocarbons and Phenol

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Naphthalene	2.3	LQM/CIEH	<0.1	<0.1	0
Acenaphthylene	170	LQM/CIEH	<0.1	<0.1	0
Acenaphthene	210	LQM/CIEH	<0.1	<0.1	0
Fluorene	170	LQM/CIEH	<0.1	<0.1	0
Phenanthrene	95	LQM/CIEH	<0.1	<0.64	0
Anthracene	2400	LQM/CIEH	<0.1	<0.1	0
Fluoranthene	280	LQM/CIEH	<0.1	3.0	0
Pyrene	620	LQM/CIEH	<0.1	3.0	0
Benzo(a)anthracene	7.2	LQM/CIEH	<0.1	2.1	0
Chrysene	15	LQM/CIEH	<0.1	2.8	0
Benzo(b)fluoranthene	2.6	LQM/CIEH	<0.1	2.3	0
Benzo(k)fluoranthene	77	LQM/CIEH	<0.1	0.96	0
Benzo(a)pyrene	2.2	LQM/CIEH	<0.1	2.1	0
Indeno(123cd)pyrene	27	LQM/CIEH	<0.1	1.3	0
Dibenzo(ah)anthracene	0.24/0/28*	LQM/CIEH	<0.1	0.27*	0
Benzo(ghi)perylene	320	LQM/CIEH	<0.1	1.4	0
Total PAH	-	-	<2.0	<2.0	-
Phenol	120	LQM/CIEH	<0.1	<0.1	0

Notes:
Thresholds based on 1.0% soil organic matter
* - When sample TP02, 0.10m was corrected for Soil Organic Matter the guideline was not exceeded
- No available guidelines

Eight 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	42	LQM/CIEH	<1.0	<1.0	0
PH C6 – C8 Ali	100	LQM/CIEH	<1.0	<1.0	0
PH C8 – C10 Ali	27	LQM/CIEH	<1.0	9.1	0
PH C10 – C12 Ali	130	LQM/CIEH	<1.0	<1.0	0
PH C12 – C16 Ali	1100	LQM/CIEH	<1.0	3.7	0
PH C16 – C21 Ali	65000*	LQM/CIEH	<1.0	3.9	0
PH C21 – C35 Ali	65000*	LQM/CIEH	<1.0	26	0
PH C35 – C44 Ali	65000	LQM/CIEH	<1.0	<1.0	0
Aromatic					
PH C5 – C7 Arom	70	LQM/CIEH	<1.0	<1.0	0
PH C7 – C8 Arom	130	LQM/CIEH	<1.0	<1.0	0
PH C8 – C10 Arom	34	LQM/CIEH	<1.0	13	0
PH C10 – C12 Arom	74	LQM/CIEH	<1.0	7.9	0
PH C12 – C16 Arom	140	LQM/CIEH	4.3	15	0
PH C16 – C21 Arom	260	LQM/CIEH	<1.0	15	0
PH C21 – C35 Arom	1100	LQM/CIEH	24	38	0
PH C35 – C44 Arom	1100	LQM/CIEH	<1.0	<1.0	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

6.2.3 Asbestos Testing

All made ground soil samples were scheduled for asbestos screening. Asbestos was not detected

SECTION 7 Ground Gas Risk Assessment

7.1 Gas Risk Characterisation

7.1.1 Gas Source

Ground gas associated with the decomposition and degradation of thick made ground soils is considered a potential source of carbon dioxide and methane gas at the site.

Shallow mine workings, if present, are also viable source of gas.

7.1.2 Gas Migration Pathways

Made Ground observed at the site contained irregular layers of granular material and will likely have adequate permeability to permit the horizontal and vertical migration of hazardous gasses.

7.1.3 Potential Receptors

Potential receptors are future site residents.

7.2 Gas Screening Value

Two ground gas monitoring wells were installed, in WS01 and WS03.

Six round of gas monitoring have been carried. The installations were tested for carbon dioxide, methane, oxygen, carbon monoxide and hydrogen sulphide using a Gas Analyser GA2000/5000.

Recorded gas concentrations are summarised in **Table 7.1**.

Table 7.1 Measured Gas Concentration Summary

Gas	Minimum (% V/V)	Maximum (% V/V)
Methane	0	0
Carbon Dioxide	1.1	12.6
Oxygen	1.9	19.7

Methane levels peaked at 0% V/V. Carbon dioxide levels varied between 1.1% and 12.6% V/V. Oxygen concentrations varied between 1.9% and 19.7% V/V.

The gas flow rate from the boreholes was also assessed, a maximum flow rate of 0.l/hr was recorded.

Based on a flow rate of 0.1l/hr (monitor lower limit of detection) and the highest recorded carbon dioxide concentration 12.6%, a gas screening value of 0.0126l/hr is calculated, as follows:

*(12.6/100) x 0.1 = 0.0126 l/hr

The results to date are presented in **Annex F**.

7.3 Conclusion

With reference to Table 8.5 of CIRIA report C665, the site is classified as ‘Gas Characteristic Situation 2’ (CS2) on account of the peak carbon dioxide concentration being above 5%.

Any gas protection measures should be designed and validated as detailed in Section 8.2.2.

SECTION 8 Quantitative Risk Assessment

8.1 Contaminants of Concern

All substances tested for were found to be present at concentrations below their respective human health threshold level.

Mitigation measures to deal with soil contamination is therefore not required.

8.2 Mitigation and Remedial Measures

As stated above mitigation/remedial measures are not required on site to deal with contaminated soils. However, the following general recommendations should be adhered to.

8.2.1 Human Health

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.

If during earthworks ground conditions are encountered that are markedly different to those found during the investigation then the ground should be subject to additional sampling and testing and any necessary remedial measures designed and implemented before continuing with the works.

8.2.2 Ground Gas

To mitigate against the risk to future site users from ground gas full protection measures will be required in all structures. Reference should be made to guidance publication BR 211:2015 for further details on required protection elements. Verification of the installed protection measures is highly recommended. Terra Firma Wales Ltd. offer a comprehensive ground gas protection system verification service.

To protect the future site users from identified ground gas, proposed structures will need to incorporate within its construction a suitable ground gas protection system. The ground gas protection system should be designed, verified, installed and validated in accordance with the British Standard 8485:2015+A1:2019 and CIRIA guidance C735:2014. In addition, NHBC guidance may also need to be adopted depending on the requirements of the proposed development guarantor.

It is recommended that a specialist consultant is retained to prepare a risk assessed ground gas protection system Verification Plan for the proposed development. The Verification Plan will detail the required protection measures based on the perceived risk associated with the complexity of design, experience of the installer, size of the site and gas characteristic situation. The Verification Plan also details the step-by-step process and requirements to allow for the completion of a Validation Report. Terra Firma (Wales) Ltd offer Verification and Validation services.

Validation of installed ground gas protection systems by an independent third party will be required upon completion of the development. Validation may only be achieved if processes prescribed in the Verification Plan are undertaken.

8.2.3 Aquatic Environment

Site specific mitigation and remedial measures are not required with respect to the aquatic environment.

However, 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 accidently 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

A significant thickness of made ground was encountered in the boreholes and trial pits. We have therefore recommended the use of earthworks and raft foundations.

9.1 Preparation of Site

Areas of vegetation including all roots should be stripped and removed from beneath the proposed development 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

Due to extensive filling of the site from past adjacent developments, it is recommended that a reinforced concrete raft type foundation, founded upon 1.0m below foundation level, of recompacted site won or imported suitable materials be employed.

The re-compaction should comprise the excavation of 1.0m of made ground to at least 1.0m outside the plan areas of the buildings, the removal of any deleterious materials (i.e. timber, plastic, etc), and the re-compaction in layers of suitable site won or imported soil to Series 600 of the Specification for Highway Works. The materials should be compacted to within 95% of their optimum moisture content. To this end samples of the materials should be taken and tested in the laboratory in order to determine their optimum moisture content/maximum dry density relationship together with grading analysis. A Compaction Specification can then be prepared.

Should the natural moisture content of the materials be +or- 5% of the optimum moisture content then measures should be taken to either reduce or increase the moisture content as appropriate.

Earthworks should be built up from a level platform and, if changes in level are necessary, built upon steps. Earthworks should be validated with in-situ Plate Load Testing.

If this is not feasible or after the removal of deleterious materials, there is a shortfall of fill then an appropriate clean source of mainly granular materials should be sought.

Following the above earthworks an allowable bearing pressure of 50kN/m^2 can be used for design purposes. For the given foundation and allowable bearing pressure following the above earthworks maximum settlements should not exceed 25mm with angular distortions of less than 1:750 will results.

The raft/reinforced strips should be designed to span a crown hole of 3m with a 1.5m cantilever capacity on corners.

In order to protect the formations, from the effect of frost heave and or thermal shrinkage the foundations should be a minimum depth below the finished ground level of 0.9m.

We understand that the properties may be built as split level. If significant cut excavations are to be carried out for the buildings, it may be economical to construct a box type structure with integral reinforced concrete raft and reinforced concrete walls.

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.

Shallow groundwater flows were 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.

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 C1/C2 of BRE Digest 1:2005, it indicates that buried concrete should generally conform to Class AC-1.

9.5 Access Roads and Car Parking Areas

For car parking and road areas, formations within the made ground a CBR value of 2% may be used 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 falling head permeability soakaway test was undertaken in in the boreholes. No movement was observed during the test periods.

It is considered that soakaway storm water draining is unsuitable at the site.

9.7 Retaining Walls

Due to the sloping nature of the site, retaining walls may be required. The existing steepness of any embankments should not be increased. Any cuts should be undertaken in small sections and in such a way so as not to induce any instability to the ground.

Effective shear parameters for retaining wall design are presented in **Table 9.1**.

Table 9.1 Effective Shear Stress Parameters

Stratum Description	Bulk Unit Weight (γ) kN/m^3	Effective Cohesion (c') kN/m^2	Effective Angle of Shearing Resistance (ϕ') degrees
Made Ground and stiff clay	17-19	0	30
Hughes Member Bedrock	19	15	40-50

The parameters are based on experience in similar ground conditions.

The materials to be in-filled behind the retaining wall should be placed at or close to its optimum moisture content/maximum dry density and compacted in layers as per the requirements of the Specification for Highway Works. During the earthworks suitable in-situ testing should be carried out to ensure that the compaction process is achieving the required maximum dry density to achieve at least 95% compaction.

The acceptability of the filling works should be verified by appropriate on-site testing. A certification report should also be prepared on the earthworks by a suitably qualified Geotechnical Engineer.

Appropriate drainage should be incorporated in the design to prevent the build-up of hydrostatic pressure.

Appropriate cutting and benching of the existing slope should be conducted prior to the replacement of any imported fill to minimise the risk of any slip surfaces forming on the interface between the existing imported materials.

ANNEX A
Envirocheck Report

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
281040714_1_1

Customer Reference:
16819 - Pearson Way

National Grid Reference:
274640, 195700

Slice:
A

Site Area (Ha):
0.25

Search Buffer (m):
1000

Site Details:

1, Pearson Way
NEATH
SA11 2EJ

Client Details:

Mr I Brookes
Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

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Geotechnical & Geoenvironmental Specialists

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Introduction

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

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Summary

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 1			2	18
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 6				4
Integrated Pollution Prevention And Control	pg 7				1
Local Authority Integrated Pollution Prevention And Control	pg 7				1
Local Authority Pollution Prevention and Controls	pg 7				5
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 8			Yes	
Pollution Incidents to Controlled Waters	pg 8			11	10
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 11		7		
River Quality	pg 12				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 12			1	
Water Abstractions	pg 13				(*6)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 14	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 14	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 14			39	134

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 35				1
Historical Landfill Sites	pg 35				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 35				1
Licensed Waste Management Facilities (Locations)	pg 35		1		2
Local Authority Landfill Coverage	pg 36	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 36				1
Potentially Infilled Land (Non-Water)	pg 36		2	3	9
Potentially Infilled Land (Water)	pg 37			4	19
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 38		2		
Registered Waste Treatment or Disposal Sites	pg 39		1		1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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Summary

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 41	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 41	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 44		2	6	13
BGS Urban Soil Chemistry	pg 48		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 51	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 51	Yes	n/a	n/a	n/a
Mining Instability	pg 51	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 51	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 51		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 51	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 52		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 52		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 53		1	1	41
Fuel Station Entries	pg 56				2
Points of Interest - Commercial Services	pg 57		1	1	14
Points of Interest - Education and Health	pg 58		1		
Points of Interest - Manufacturing and Production	pg 58		1	3	21
Points of Interest - Public Infrastructure	pg 60		1	3	25
Points of Interest - Recreational and Environmental	pg 62				7
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 64			5	15
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 65				1
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (NW)	0	1	274637 195704
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	121	1	274600 195550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	232	1	274550 195450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	336	1	275000 195704
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (S)	344	1	274500 195350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (SE)	403	1	275000 195450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	423	1	274550 195250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SW)	436	1	274400 195300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	442	1	274200 195550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	470	1	274750 196200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	485	1	275150 195704
1	**Discharge Consents** Operator: Mr P Williams Property Type: Undefined Or Other Location: Eaglesbush Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4003001 Permit Version: 1 Effective Date: 2nd April 1973 Issued Date: 2nd April 1973 Revocation Date: 13th November 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Trib Of Crythan Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	371	2	274950 195940
2	**Discharge Consents** Operator: Mr P E Woodhouse Property Type: Domestic Property (Single) Location: 3 Eaglesbush Cottage Gardners Lane, Gardners Lane Neath* Authority: Natural Resources Wales Catchment Area: River Neath Reference: BM0049001 Permit Version: 1 Effective Date: 15th August 1985 Issued Date: 15th August 1985 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge Environment: Into Land Receiving Water: To Land **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	405	2	274900 196050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bo5110401 Permit Version: 2 Effective Date: 1st April 2006 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Canal Receiving Water: Neath Canal **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Penrhiwtyn Ps Eo Neath Npt, Penrhiwtyn, Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Given Reference: BO5110401 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 23rd March 2005 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Neath Canal **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	552	2	274200 196100
4	**Discharge Consents** Operator: M Davies Property Type: Domestic Property (Single) Location: The Grove Eaglesbush Neath Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: BP0045101 Permit Version: 2 Effective Date: 19th September 1995 Issued Date: 18th September 1995 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Stram At Eaglebush, Ne **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	618	2	275100 196150
4	**Discharge Consents** Operator: Mr M Davies Property Type: Domestic Property (Single) Location: The Grove Eaglesbush Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0045101 Permit Version: 1 Effective Date: 30th April 1987 Issued Date: 30th April 1987 Revocation Date: 18th September 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Unnamed Stram At Eaglebush, Ne **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	618	2	275100 196150
5	**Discharge Consents** Operator: Carnaud Metal Box Plc Property Type: Undefined Or Other Location: Factory At Canal Side (Cooling Wate, (Cooling Water) Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: BM0000703 Permit Version: 1 Effective Date: 1st June 1979 Issued Date: 1st June 1979 Revocation Date: 24th June 2005 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Not Supplied Receiving Water: Japan Brook **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	669	2	274500 196400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: Carnaud Metal Box Plc Property Type: Undefined Or Other Location: Boiler House (Cooling Water) Factor, Factory Site Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bm0000702 Permit Version: 1 Effective Date: 1st June 1979 Issued Date: 1st June 1979 Revocation Date: 18th November 1992 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Japan Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	791	2	274400 196500
7	**Discharge Consents** Operator: Neath Port Talbot Waste Management Co Ltd Property Type: Household, Commercial and Industrial Waste Landfills Location: D3 Ne Corner Giants Grave Landfill, De Ne Corner Giants Grave Lfill, Giants Grave Road, Briton Ferry Neath, Sa11 Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp027870101 Permit Version: 1 Effective Date: 9th November 1999 Issued Date: 9th November 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge Environment: Saline 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	A12NW (W)	815	2	273800 195850
7	**Discharge Consents** Operator: Neath Port Talbot Waste Management Co Ltd Property Type: Not Supplied Location: D3 Ne Corner Giants Grave Landfill, De Ne Corner Giants Grave Lfill, Giants Grave Road, Briton Ferry Neath, Sa11 Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0278701 Permit Version: 1 Effective Date: 9th November 1999 Issued Date: 9th November 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge Environment: Saline Estuary Receiving Water: Neath Estuary **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	815	2	273800 195850
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Saltings Ps Authority: Natural Resources Wales Catchment Area: Not Given Reference: BO5114701 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 31st March 2004 Discharge Type: Unspecified Discharge Environment: Not Supplied 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	A12SW (W)	837	2	273800 195500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works Location: Penrhiwtyn Sps Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0256001 Permit Version: 2 Effective Date: 31st March 2005 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Estuarial Waters Of The River **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	854	2	274024 196350
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works Location: Penrhiwtyn Sps Neath, Neath Port Talbot Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0256001 Permit Version: 2 Effective Date: 31st March 2005 Issued Date: 31st March 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Estuarial Waters Of The River **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	854	2	274024 196350
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Penrhiwtyn Sps, Opp 3 Pant Yr Heol, Penrhiwtyn, Neath, Sa11 2hn Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bp0256001 Permit Version: 3 Effective Date: 6th February 2020 Issued Date: 6th February 2020 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Neath Via Surface Water Sewer **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	860	2	274036 196370
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Penrhiwtyn Sps, Opp 3 Pant Yr Heol, Penrhiwtyn, Neath, Sa11 2hn Authority: Natural Resources Wales Catchment Area: NEATH ESTUARY Reference: Bp0256001 Permit Version: 3 Effective Date: 6th February 2020 Issued Date: 6th February 2020 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Neath Via Surface Water Sewer **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	860	2	274036 196370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: Carnaud Metal Box Plc Property Type: Trade (Unknown/Other) Location: Advance Factory Site Dafen Llanelli, Dafen, Carmarthenshire Authority: Natural Resources Wales Catchment Area: River Neath Reference: BM0000701 Permit Version: 1 Effective Date: 1st June 1979 Issued Date: 1st June 1979 Revocation Date: 30th May 2008 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Not Supplied Receiving Water: Japan Brook **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	918	2	274300 196600
11	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Milland Rd Est Milland Road Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0036001 Permit Version: 1 Effective Date: 16th March 1987 Issued Date: 16th March 1987 Revocation Date: 10th October 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Cryddan Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	956	2	274600 196700
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Millands Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: BD1377 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A18NW (N)	902	3	274620 196647
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Unit 16 And 17, Briton Ferry Industrial Estate, Milland Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: AM1020 Dated: 31st May 1994 Process Type: IPC new application Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A18NW (N)	902	3	274615 196647
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Unit 16 And 17, Briton Ferry Industrial Estate, Milland Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: AR1400 Dated: 13th April 1995 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A18NW (N)	907	3	274615 196652

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Integrated Pollution Controls** Name: Quasar Chemicals Ltd Location: Unit 16 And 17, Briton Ferry Industrial Estate, Milland Road, NEATH, West Glamorgan, SA11 1NJ Authority: Environment Agency, Welsh Region Permit Reference: BH3088 Dated: 3rd March 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status: Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	3	274615 196653
13	**Integrated Pollution Prevention And Control** Name: Baglan Operations Ltd Location: Old Road, Briton Ferry, PORT TALBOT, West Glamorgan, SA11 2S Authority: Environment Agency, Welsh Region Permit Reference: Bj7891 Original Permit Ref: Bj7891 Effective Date: 31st December 2001 **Status: Superseded By Variation** Application Type: PPC APPLICATION App. Sub Type: Not Supplied Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Not Supplied	A8NW (S)	594	3	274403 195119
14	**Local Authority Integrated Pollution Prevention And Control** Name: Crown Packaging Uk Plc Location: Neath Factory, Po Box 20, Canalside, Neath, SA11 1PQ Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/104 Dated: Not Supplied Process Type: Production and Processing of Metals Description: SG6 **Status: Permit Issued** Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	673	4	274329 196345
15	**Local Authority Pollution Prevention and Controls** Name: Mr H. J. G. SmithMile End Service Station Location: 188 Mile End Row, Neath, West Glamorgan, SA11 2ED Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/80 Dated: 26th February 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	637	4	274596 196381
16	**Local Authority Pollution Prevention and Controls** Name: Crown Packaging Uk Plc Location: Neath Factory, PO Box 20, Canalside, NEATH, West Glamorgan, SA11 1PQ Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/104 Dated: 14th September 1993 Process Type: Local Authority Air Pollution Control Description: PG4/1 Processes for the surface treatment of metals **Status: Transferred to LAIPPC** Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	673	4	274329 196345
17	**Local Authority Pollution Prevention and Controls** Name: Metal Processors Ltd Location: Griffiths Way, Melyn, NEATH, West Glamorgan, SA11 1BT Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG2/6 Aluminium and aluminium alloy processes **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	874	4	274714 196615
18	**Local Authority Pollution Prevention and Controls** Name: Deoxidant Ltd Location: D C Griffiths Way, Melyn, NEATH, West Glamorgan, SA11 1BT Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/31 Dated: 6th April 1993 Process Type: Local Authority Air Pollution Control Description: PG2/1Furnaces for the extraction of non-ferrous metal from scrap **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	922	4	274795 196652

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Local Authority Pollution Prevention and Controls** Name: Ds Smith Packaging Ltd Location: D C Griffiths Way, PO Box 14, Melyn, NEATH, West Glamorgan, SA11 1BT Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/39 Dated: 6th April 1993 Process Type: Local Authority Air Pollution Control Description: PG6/16 Printworks **Status: Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	924	4	274788 196656
	Nearest Surface Water Feature	A13NE (E)	269	-	274933 195720
19	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Bt Manhole In Authority: Environment Agency, Welsh Region Pollutant: Cesspit Contents Note: Not Supplied Incident Date: 12th August 1994 Incident Reference: 20823 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 1 - Major Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	290	3	274400 195500
20	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Farm Road And, Grandison Pub Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Not Supplied Incident Date: 13th July 1995 Incident Reference: 25165 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	A13SW (W)	307	3	274300 195700
21	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Garage Tended, Fire Service, Has Been Closed Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blocked Sewer Incident Date: 30th October 1994 Incident Reference: 21651 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	A13NW (W)	315	3	274300 195800
22	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Opposite Neath Hospital, By Footbridge Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 1st December 1994 Incident Reference: 21948 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	A13SW (SW)	377	3	274300 195500
22	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Grandison Park, NEATH Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 7th September 1994 Incident Reference: 21052 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	A13SW (SW)	379	3	274300 195495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**Pollution Incidents to Controlled Waters** Property Type: Cess Pit Location: Adjacent To, Slurry Lagoon Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Neglect Incident Date: 15th January 1996 Incident Reference: 27134 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	378	3	275001 195501
23	**Pollution Incidents to Controlled Waters** Property Type: Cess Pit Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Cesspit Contents Note: Neglect Incident Date: 12th January 1996 Incident Reference: 27135 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	381	3	275001 195496
23	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Cesspit Contents Note: Neglect Incident Date: 12th January 1996 Incident Reference: 27135 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	383	3	275006 195501
23	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Neglect Incident Date: 15th January 1996 Incident Reference: 27134 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	385	3	275006 195496
24	**Pollution Incidents to Controlled Waters** Property Type: Road (Lost Load) Location: Maternity, Unit At Neath, General Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Accidental Spillage/Leakage Incident Date: 8th November 1994 Incident Reference: 21770 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	413	3	274200 195800
25	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Grandison Point Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 21st October 1994 Incident Reference: 21647 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	425	3	274200 195600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Pant Howel Ddu, Ynysmaerdy Road, Briton Authority: Environment Agency, Welsh Region Pollutant: Agricultural: Carcasses Note: Not Supplied Incident Date: 27th February 1995 Incident Reference: 23516 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	586	3	274800 195100
27	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: 100 Yards Upstream Tip Road, Between Mellon And, Briton Ferry Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Tip Leachate Note: Neath Canal Overflow; Run-Off Incident Date: 19th November 1997 Incident Reference: 34266 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Inadequate Design/Capacity Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	727	3	273900 195900
28	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Rear Of Factory Cottage, Former Siliconics Site, NEATH Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Deliberate Act Incident Date: 16th July 1996 Incident Reference: 29179 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	727	3	275200 196200
29	**Pollution Incidents to Controlled Waters** Property Type: Road (Lost Load) Location: Pond Up Stream Of, Waterfall Near, Builders Pub Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Deliberate Act Incident Date: 1st December 1994 Incident Reference: 21885 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	794	3	275200 196300
30	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Lane Behind Giants Grave Road, BRITON FERRY Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Blockage Incident Date: 6th April 1997 Incident Reference: 31775 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	816	3	273800 195600
31	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Millands Road Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Poor Operational Practise Incident Date: 30th April 1992 Incident Reference: 4643 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	854	3	274350 196550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Dy-Oxydent Co D, C Griffiths Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Accidental Spillage/Leakage Incident Date: 7th October 1991 Incident Reference: 4023 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	855	3	274650 196600
33	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Milland Road, NEATH Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Fire water / Foam Note: Nant Crythan (Tributary Of River Neath); Direct Introduction Incident Date: 30th July 1997 Incident Reference: 33189 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	951	3	274600 196695
33	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Milland Industrial Estate, NEATH Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Vandalism Incident Date: 21st August 1994 Incident Reference: 20744 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	A18NW (N)	956	3	274600 196700
34	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: D C Griffith Way, Melin Y Wig Corwen, NEATH Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 19th February 1996 Incident Reference: 27414 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	A18NE (N)	958	3	274700 196700
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, Penrhiwtyn, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AQ6813 Dated: 4th April 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	159	2	274450 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, Penrhiwtyn, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AT7545 Dated: 3rd January 1996 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	160	2	274450 195759

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Penrhiwtyn, Neath, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: BI0987 Dated: 31st July 2001 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	2	274445 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: Bh9957 Dated: 16th March 2000 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	2	274445 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, Penrhiwtyn, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AH7704 Dated: 14th July 1993 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	163	2	274445 195754
35	**Registered Radioactive Substances** Name: Bro Morgannwg Nhs Trust Location: Penrhiwtyn, Neath, West Glamorgan, SA11 2LQ Authority: Environment Agency, Welsh Region Permit Reference: Bt1797 Dated: Not Supplied Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Application has met the requirements for authorisation (but not yet authorised)** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	3	274445 195754
35	**Registered Radioactive Substances** Name: Abertawe Bro Morgannwg University Nhs Trust Location: Neath General Hospital, NEATH, West Glamorgan, SA11 2LQ Authority: Natural Resources Wales Permit Reference: AY1072 Dated: 28th February 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A13NW (W)	168	2	274440 195754
	River Quality Name: Neath Canal GQA Grade: River Quality D Reach: Conf.Neath - Aberdulais Aqueduct Estimated Distance (km): 8 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A17NE (NW)	932	3	274199 196569
36	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 28th October 2001 Incident Reference: 39936 Water Impact: Category 2 - Significant Incident Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural)	A12NE (W)	395	2	274213 195770

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	A1SE (SW)	1989	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	A1SE (SW)	1989	2	273419 194094
	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	A1SE (SW)	1997	2	273410 194090
	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	A1SE (SW)	1997	2	273410 194090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A1SE (SW)	1997	3	273410 194090
	Water Abstractions Operator: Hope Construction Materials Limited Licence Number: 21/58/72/0036 Permit Version: Not Supplied Location: Neath Canal - General Use 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	A1SE (SW)	1997	2	273410 194090
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13SE (NW)	0	2	274637 195704
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (NW)	0	2	274637 195704
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 221.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (E)	269	5	274929 195746

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	282	5	274946 195657
39	**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	A13SE (E)	286	5	274950 195655
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	288	5	274952 195653
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	294	5	274948 195594
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	294	5	274948 195595
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	295	5	274948 195591
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 142.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	298	5	274949 195584
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	298	5	274953 195597
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 91.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (E)	302	5	274958 195603

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 201.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (NE)	303	5	274917 195867
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 674.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SW (SW)	330	5	274426 195411
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (SE)	347	5	274972 195513
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 86.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SW (SE)	348	5	274973 195513
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A14SW (SE)	348	5	274973 195513
52	**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: 2	A13SE (SE)	349	5	274972 195509
53	**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: 1	A12SE (SW)	386	5	274283 195514
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (SW)	395	5	274271 195516
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 147.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (SW)	400	5	274262 195521

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 400.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (W)	414	5	274192 195738
57	**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	A12SE (W)	425	5	274190 195637
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	429	5	274186 195637
59	**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	A12SE (W)	440	5	274175 195638
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	449	5	274271 196024
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A9NW (SE)	464	5	274997 195350
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	471	5	274187 195939
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	476	5	274262 196054
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	477	5	274138 195635

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 162.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	477	5	274998 196052
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 87.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	484	5	274131 195635
67	**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: 2	A9NW (SE)	491	5	274997 195313
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 189.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	492	5	274168 195950
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 146.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	492	5	274168 195950
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	492	5	274298 196109
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 123.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	492	5	274298 196109
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 60.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (SE)	495	5	274963 195279
73	**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: 2	A9NW (SE)	495	5	274995 195306

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 39.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (SE)	496	5	274939 195261
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SE (NW)	498	5	274287 196107
76	**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	A8NE (SE)	506	5	274968 195269
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (SE)	511	5	274966 195261
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 121.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (SE)	522	5	274944 195234
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 121.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (NW)	524	5	274378 196202
80	**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	A18SW (NW)	538	5	274345 196200
81	**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	A17SE (NW)	557	5	274183 196088
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	571	5	274044 195627

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A8NE (S)	571	5	274867 195140
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (S)	576	5	274834 195122
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (S)	576	5	274834 195122
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 284.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NE (NW)	577	5	274118 196033
87	**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)	591	5	274025 195835
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (S)	605	5	274857 195099
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 125.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8NE (SE)	605	5	274943 195137
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	606	5	274008 195625
91	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12SE (W)	609	5	274005 195625

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**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	A12SE (W)	613	5	274002 195624
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	630	5	274987 195133
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	631	5	275079 196190
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 55.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	634	5	275006 195141
96	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 56.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	645	5	275092 196198
97	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Crythan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	668	5	275209 196089
98	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 278.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Crythan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	671	5	275224 196072
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 173.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	673	5	275058 195128
100	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	673	5	275170 196152

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	673	5	275170 196152
102	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 64.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	695	5	275232 196103
103	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	695	5	275146 196213
104	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 190.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19SW (NE)	697	5	275149 196214
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SW (NE)	715	5	275213 196163
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 202.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	722	5	274421 196435
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 151.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	736	5	274723 194933
108	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 93.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	736	5	274723 194933
109	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	750	5	274816 194935

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 124.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	751	5	274724 194918
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 171.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	752	5	273871 195883
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	758	5	274818 194928
113	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 144.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	763	5	274750 196498
114	**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	A8SW (S)	764	5	274579 194902
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	764	5	274579 194902
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	775	5	274597 194890
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	779	5	274859 194917
118	**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	A8SW (S)	781	5	274541 194889

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.7 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	786	5	274717 196526
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	791	5	274532 194880
121	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.9 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	799	5	275106 196389
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	799	5	275085 196404
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.3 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	801	5	275074 196413
124	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 130.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	802	5	274706 196543
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	802	5	274896 194904
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	811	5	275060 196434
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	816	5	274531 194856

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 496.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Crythan Brook Catchment Name: Neath Primacy: 1	A14NE (E)	818	5	275446 195928
129	**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: 1	A9NW (SE)	819	5	275207 195061
130	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	822	5	274914 194890
131	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.4 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	822	5	274836 196542
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	831	5	274881 196537
133	**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	A12NW (W)	834	5	273777 195811
134	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	837	5	274512 194837
135	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.6 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A19NW (NE)	848	5	274988 196515
136	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	852	5	275223 195031

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**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	A9NW (SE)	852	5	275223 195031
138	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 77.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	854	5	274495 194822
139	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 167.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	860	5	275237 195032
140	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 27.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	860	5	275237 195032
141	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 54.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	879	5	274051 196407
142	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 215.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	890	5	273955 196331
143	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	891	5	274097 196457
144	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 65.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	892	5	273946 196327
145	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	894	5	274061 196434

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 74.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	896	5	274041 196421
147	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	897	5	274093 196461
148	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	897	5	274093 196461
149	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.9 Watercourse Level: Underground Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	900	5	274700 196643
150	**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	A17NE (NW)	905	5	274149 196509
151	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	907	5	274159 196518
152	**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: Neath Primacy: 1	A17SW (NW)	908	5	273847 196223
153	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A12NW (W)	908	5	273738 195992
154	**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	A17NE (NW)	909	5	274097 196479

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	910	5	274955 194811
156	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	910	5	274955 194811
157	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 184.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	914	5	273871 196268
158	**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	A17NE (NW)	917	5	274186 196545
159	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 90.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	918	5	275255 194971
160	**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	A9SW (SE)	918	5	275258 194974
161	**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: Neath Primacy: 1	A17SW (NW)	919	5	273837 196229
162	**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	A18NW (N)	919	5	274323 196610
163	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	919	5	274442 194767

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	920	5	274111 196502
165	**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	A8SE (S)	922	5	274969 194803
166	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	922	5	274969 194803
167	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	923	5	274089 196490
168	**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	A17NE (NW)	925	5	274074 196482
169	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	925	5	274075 196482
170	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	925	5	274074 196482
171	**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	A17NE (NW)	926	5	274050 196466
172	**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	A17NE (NW)	927	5	274176 196551

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
173	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	928	5	274194 196562
174	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 101.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (W)	929	5	273733 196043
175	**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	A9SW (SE)	932	5	275264 194961
176	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	932	5	275264 194961
177	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	932	5	274437 194755
178	**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	A18NW (N)	933	5	274318 196623
179	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 215.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SE (S)	942	5	274954 194776
180	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	946	5	273898 196353
181	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	947	5	274315 196636

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	952	5	273917 196383
183	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 45.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (S)	957	5	275013 194783
184	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 310.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A17SW (NW)	958	5	273769 196191
185	**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	A18NW (N)	958	5	274310 196646
186	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	959	5	274022 196485
187	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 18.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	960	5	275381 195035
188	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	964	5	274019 196490
189	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	965	5	274310 196654
190	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	967	5	275397 195043

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 175.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cryddan Brook Catchment Name: Neath Primacy: 1	A18NE (N)	969	5	274690 196712
192	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 590.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A8SW (S)	970	5	274412 194721
193	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 98.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	970	5	275463 195122
194	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	974	5	274303 196661
195	**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	A9NE (SE)	975	5	275453 195100
196	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 47.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18NW (N)	977	5	274302 196663
197	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 62.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	978	5	273891 196392
198	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	981	5	273893 196399
199	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 16.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	986	5	275279 194903

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
200	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	987	5	273893 196407
201	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 148.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	987	5	273893 196407
202	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 14.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	989	5	273716 196156
203	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	989	5	273716 196159
204	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NE (NW)	991	5	274007 196515
205	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 36.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17NW (NW)	992	5	273888 196411
206	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A17SW (NW)	993	5	273736 196205
207	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A17SW (NW)	998	5	273844 196370
208	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (S)	999	5	275027 194743

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 31.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (S)	999	5	275027 194743

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
210	**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	A12NW (W)	796	-	273816 195827
211	**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 Type: Deposited Waste included Inert, Industrial, Commercial, Household and Special Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6930/0006 BGS Ref: 2676 Other Ref: SWW-68-L	A12NW (W)	796	2	273816 195827
212	**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	A12NW (W)	800	2	273812 195831
213	**Licensed Waste Management Facilities (Locations)** Licence Number: 34102 Location: Pant Yr Heol, Neath, N P T, SA11 2LQ Operator Name: Glan Y Mor NHS Trust Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Clinical Waste Transfer Stations **Licence Status: Surrendered** Issued: 8th July 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 7th December 2001 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (W)	109	2	274500 195700
214	**Licensed Waste Management Facilities (Locations)** Licence Number: PP3098FS Location: Fordpad Scrap, Neath, N P T, Neath Port Talbot, SA11 1AU Operator Name: Fordpad Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) **Licence Status: Effective** Issued: 2nd January 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	A18NE (N)	885	2	274765 196620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
214	**Licensed Waste Management Facilities (Locations)** Licence Number: 34035 Location: Foundry Works, D C Griffiths Way, Neath, SA11 1AU Operator Name: Fordpad Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) **Licence Status: Modified** Issued: 2nd February 1992 Last Modified: 22nd February 2002 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	885	2	274765 196620
	Local Authority Landfill Coverage Name: Neath Port Talbot County Borough Council - Has supplied landfill data		0	4	274637 195704
215	**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	A12NW (W)	794	4	273819 195832
216	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A13SE (S)	162	-	274693 195511
217	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A13NW (NW)	163	-	274556 195888
218	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A14SW (SE)	395	-	275011 195484
219	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SE (N)	399	-	274797 196108
220	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SE (N)	488	-	274824 196193
221	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SE (N)	534	-	274722 196271
222	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18SW (NW)	557	-	274397 196249
223	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A9NW (SE)	561	-	275085 195302
224	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A19SW (NE)	591	-	275134 196062
225	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A9NW (SE)	678	-	274986 195077

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
226	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A17SE (NW)	741	-	274223 196361
227	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A9NW (SE)	786	-	275238 195136
228	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NE (N)	912	-	274806 196640
229	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A18NE (N)	955	-	274686 196698
230	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A13SW (SW)	290	-	274385 195525
231	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A13SW (SW)	306	-	274381 195499
232	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A8NW (S)	449	-	274533 195228
233	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12NE (NW)	484	-	274174 195944
234	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A12SE (W)	509	-	274117 195584
235	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SE (W)	528	-	274091 195606
236	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A18SW (NW)	559	-	274384 196245
237	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A12NE (W)	567	-	274046 195820
238	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SE (W)	608	-	274008 195617
239	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SW (N)	662	-	274395 196362
240	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A18NW (N)	717	-	274392 196420
241	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SW (W)	753	-	273860 195625
242	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A12SW (W)	768	-	273845 195621
243	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A17NE (NW)	776	-	274187 196379
244	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18NW (N)	822	-	274311 196501
245	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1935	A18NE (N)	833	-	274898 196535

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
246	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8SE (S)	837	-	274897 194868
247	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A18NW (N)	853	-	274381 196560
248	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12NW (W)	857	-	273759 195859
249	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12SW (W)	865	-	273757 195562
250	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A18NW (N)	923	-	274496 196657
251	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1940	A12SW (W)	923	-	273692 195596
252	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A18NW (N)	969	-	274437 196694
253	**Registered Waste Transfer Sites** Licence Holder: Glan-Y-Mor Nhs Trust Licence Reference: NBWD 3 Site Location: Neath General Hospital, Pant Yr Heol, NEATH, West Glamorgan, SA11 2LQ Operator Location: 21 Orchard Street, SWANSEA, West Glamorgan, SA1 5AQ Authority: Environment Agency Wales, South West Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Licence Status: Operational as far as is knownOperational Dated: 24th September 1996 Preceded By Licence: NBWD 3 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Clinical Waste Max.Stor; Food Waste Max.Stor; Household Waste Max.Stor; Pharmaceuticals Max.Stor Prohibited Waste: Highly Flam./Lpg Regs'72 Subs Percussive/Explosive/Similar Waste Special Wastes (As In '96 Regs) N.O.S Sub'S Control. Radioactive Subs Act'60 Waste N.O.S.	A13SW (SW)	221	3	274450 195550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
253	**Registered Waste Transfer Sites** Licence Holder: West Glamorgan Health Authority Licence Reference: NBWD 3 Site Location: Neath General Hospital, Pant Yr Heol, NEATH, West Glamorgan, SA11 2LQ Operator Location: 36 Orchard Street, SWANSEA, West Glamorgan, SA1 5AQ Authority: Environment Agency Wales, South West Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 8th July 1994 Preceded By Licence: 12/88 Superseded By Licence: NBWD 3 Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Clinical Wastes; Food Waste; Gen.Hosp'Waste/Bottle/Aerosol Max.Stor; Pharmaceuticals; Radioactive Cont.Glassware/Syringe/Etc; Sharps Prohibited Waste: Highly Flam./Lpg Regs'72 Subs; Percussive/Explosive/Similar Waste; Special Wastes N.O.S.; Sub'S Control. Radioactive Subs Act'60; Waste N.O.S.	A13SW (SW)	221	3	274450 195550
254	**Registered Waste Treatment or Disposal Sites** Licence Holder: West Glamorgan Area Health Authority Licence Reference: 12/88 Site Location: Adj Outpatient Dept, Main Hospital Site, Neath, West Glamorgan Operator Location: 36 Orchard Street, SWANSEA, West Glamorgan, SA1 5AQ Authority: Environment Agency Wales, South West Area Site Category: Incineration Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st June 1988 Preceded By Licence: Not Given Superseded By Licence: NBWD 3 Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Hospital Wastes; Pathology Wastes Suitable For Inc'N; Sharps (Med./Surg./Vet); Soiled Surgical Dress./Swaps/Cont.Wast; Solid Medicines & Injectables Prohibited Waste: Broken Thermometers Contain. Mercury; Pharmaceutical Aerosols	A13SW (SW)	221	3	274450 195550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
255	**Registered Waste Treatment or Disposal Sites** Licence Holder: Fordpad Ltd Licence Reference: NBSC 1 Site Location: Foundry Works, D C Griffiths Way, NEATH, West Glamorgan, SA11 1AU Operator Location: Abernant House, Altygraban Road, Pontarddulais, SWANSEA, West Glamorgan, SA4 1DS Authority: Environment Agency Wales, South West Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 19th December 1991 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Batteries Max.Stor Electrical Scrap Max.Stor Ferrous Metal Scrap Max.Stor Non-Ferrous Metal Scrap Max.Stor Prohibited Waste: Elemental Sodium/Potassium Metal In Fine Powder Form Percussive/Explosive/Similar Waste Special Wastes N.O.S. Sub'S Control. Radioactive Subs Act'60 Waste Cont. Flam.Solvent (Exc.Petrol) Waste N.O.S.	A18NE (N)	888	3	274780 196620

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	274637 195704
	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 (NW)	0	1	274637 195704
	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	A13SW (SW)	218	1	274471 195523
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 45 - 60 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	223	1	274830 195854
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 45 - 60 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (N)	255	1	274637 196000
	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	A13SW (SW)	262	1	274517 195432
	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: 30 - 45 mg/kg	A13NE (E)	298	1	274960 195727

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 Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8NW (S)	360	1	274517 195326
	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: 30 - 45 mg/kg	A8NE (S)	424	1	274695 195244
	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: 30 - 45 mg/kg	A14NW (E)	428	1	275088 195741
	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: 30 - 45 mg/kg	A8NW (SW)	448	1	274306 195365
	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: 30 - 45 mg/kg	A18SE (NE)	449	1	274917 196094
	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	A14NW (E)	478	1	275137 195747

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 Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8NE (S)	545	1	274844 195159
	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: 30 - 45 mg/kg	A9NW (SE)	612	1	274996 195160
	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	A12NE (NW)	665	1	274000 196000
	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	A9SW (SE)	753	1	275000 195000
	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 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	755	1	274637 196500
	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 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18NE (N)	774	1	274804 196500

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 Concentration: 45 - 60 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	A18NE (N)	781	1	274833 196500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 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	A18NE (N)	799	1	274827 196520
	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	A7SE (SW)	893	1	274274 194849
	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 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A9SE (SE)	937	1	275315 195000
256	**BGS Recorded Mineral Sites** Site Name: Garth-Mor Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154446 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13SE (S)	146	1	274696 195529
257	**BGS Recorded Mineral Sites** Site Name: Pen-Rhiw-Tyn Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154429 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13NW (N)	172	1	274562 195901

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
258	**BGS Recorded Mineral Sites** Site Name: Park Terrace Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154428 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	334	1	274471 196036
259	**BGS Recorded Mineral Sites** Site Name: Eaglebush Cottage Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154444 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NW (E)	370	1	275021 195778
260	**BGS Recorded Mineral Sites** Site Name: Garth-Mor Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154430 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	405	1	275028 195496
261	**BGS Recorded Mineral Sites** Site Name: Eaglesbush House Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154427 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (N)	425	1	274807 196133
262	**BGS Recorded Mineral Sites** Site Name: Garth-Mor Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154431 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SW (E)	444	1	275103 195605
263	**BGS Recorded Mineral Sites** Site Name: Tyla Morris Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156549 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	491	1	274971 195290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
264	**BGS Recorded Mineral Sites** Site Name: Eaglebush House Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154445 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	513	1	274847 196211
265	**BGS Recorded Mineral Sites** Site Name: Tyla Morris Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156550 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	540	1	274890 195184
266	**BGS Recorded Mineral Sites** Site Name: Ty-Nef Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156577 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	611	1	275131 195279
267	**BGS Recorded Mineral Sites** Site Name: Eaglesbush Grove Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154426 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	629	1	275095 196171
268	**BGS Recorded Mineral Sites** Site Name: Tyla Morris Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156551 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	641	1	275030 195148
269	**BGS Recorded Mineral Sites** Site Name: Eagle Tin Plate Works Clay Pit Location: Neath, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154109 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	A18SW (N)	645	1	274416 196352

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
270	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156578 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	646	1	275126 195222
271	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156579 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	694	1	275034 195087
272	**BGS Recorded Mineral Sites** Site Name: Pont Y Lady Clay Pit Location: Neath, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154126 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	A17SE (NW)	749	1	274216 196367
273	**BGS Recorded Mineral Sites** Site Name: Eagle Tin Plate Works Clay Pit Location: Neath, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154108 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	A18NW (N)	819	1	274419 196535
274	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156552 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	A9SW (SE)	956	1	275180 194869
275	**BGS Recorded Mineral Sites** Site Name: Esgyrn Colliery Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156614 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	981	1	275428 195058

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
276	**BGS Recorded Mineral Sites** Site Name: Mount Pleasant Location: Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 154442 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	989	1	275175 196572
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274760, 195770 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 34.50 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 56.40 mg/kg Lead Measured Concentration: 99.70 mg/kg Nickel Measured Concentration: 28.00 mg/kg	A13NE (NE)	118	1	274760 195770
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274250, 195740 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 84.60 mg/kg Cadmium Measured Concentration: 2.00 mg/kg Chromium Measured Concentration: 87.50 mg/kg Lead Measured Concentration: 784.20 mg/kg Nickel Measured Concentration: 115.50 mg/kg	A12NE (W)	356	1	274250 195740
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274750, 195250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 93.00 mg/kg Cadmium Measured Concentration: 5.70 mg/kg Chromium Measured Concentration: 84.90 mg/kg Lead Measured Concentration: 1072.30 mg/kg Nickel Measured Concentration: 96.50 mg/kg	A8NE (S)	428	1	274750 195250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274750, 196240 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 73.90 mg/kg Cadmium Measured Concentration: 1.20 mg/kg Chromium Measured Concentration: 57.40 mg/kg Lead Measured Concentration: 188.00 mg/kg Nickel Measured Concentration: 33.20 mg/kg	A18SE (N)	509	1	274750 196240

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: 274230, 195250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 23.50 mg/kg Cadmium Measured Concentration: 2.60 mg/kg Chromium Measured Concentration: 80.20 mg/kg Lead Measured Concentration: 596.20 mg/kg Nickel Measured Concentration: 45.30 mg/kg	A7NE (SW)	582	1	274230 195250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 275250, 195740 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 75.90 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 63.10 mg/kg Lead Measured Concentration: 90.50 mg/kg Nickel Measured Concentration: 28.70 mg/kg	A14NW (E)	589	1	275250 195740
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274150, 196140 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 25.80 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 77.50 mg/kg Lead Measured Concentration: 146.60 mg/kg Nickel Measured Concentration: 51.70 mg/kg	A17SE (NW)	616	1	274150 196140
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 275250, 196250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 60.20 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 65.30 mg/kg Lead Measured Concentration: 188.70 mg/kg Nickel Measured Concentration: 36.40 mg/kg	A19SW (NE)	797	1	275250 196250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273760, 195770 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 43.80 mg/kg Cadmium Measured Concentration: 5.10 mg/kg Chromium Measured Concentration: 60.00 mg/kg Lead Measured Concentration: 93.60 mg/kg Nickel Measured Concentration: 71.60 mg/kg	A12NW (W)	847	1	273760 195770

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: 274750, 194780 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 139.50 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 57.70 mg/kg Lead Measured Concentration: 216.80 mg/kg Nickel Measured Concentration: 38.10 mg/kg	A8SE (S)	891	1	274750 194780
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274330, 196660 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 33.00 mg/kg Cadmium Measured Concentration: 1.50 mg/kg Chromium Measured Concentration: 115.70 mg/kg Lead Measured Concentration: 157.40 mg/kg Nickel Measured Concentration: 64.20 mg/kg	A18NW (N)	964	1	274330 196660
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273750, 195230 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 78.80 mg/kg Cadmium Measured Concentration: 3.10 mg/kg Chromium Measured Concentration: 68.40 mg/kg Lead Measured Concentration: 146.80 mg/kg Nickel Measured Concentration: 39.00 mg/kg	A7NW (SW)	989	1	273750 195230
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274190, 194780 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 27.90 mg/kg Cadmium Measured Concentration: 1.10 mg/kg Chromium Measured Concentration: 95.60 mg/kg Lead Measured Concentration: 387.70 mg/kg Nickel Measured Concentration: 53.70 mg/kg	A7SE (SW)	992	1	274190 194780
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273750, 196240 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured Concentration: 165.50 mg/kg Cadmium Measured Concentration: 0.80 mg/kg Chromium Measured Concentration: 89.50 mg/kg Lead Measured Concentration: 280.50 mg/kg Nickel Measured Concentration: 71.50 mg/kg	A17SW (NW)	999	1	273750 196240

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: 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	274637 195704
	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	6	274637 195704
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SE (NW)	0	-	274637 195704
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	203	1	274463 195564
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	241	1	274560 195436
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	204	1	274460 195567

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	241	1	274560 195437
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	241	1	274560 195436
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	274637 195704
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	37	1	274575 195692
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	229	1	274831 195862
	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	274637 195704
	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	274637 195704

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
277	**Contemporary Trade Directory Entries** Name: Neath General Hospital Location: Penrhiwtyn, Neath, West Glamorgan, SA11 2LQ Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	163	-	274445 195754
278	**Contemporary Trade Directory Entries** Name: Tarmac Location: Briton Ferry, Neath, West Glamorgan, SA11 2HZ Classification: Sand, Gravel & Other Aggregates **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SE (W)	371	-	274252 195614
279	**Contemporary Trade Directory Entries** Name: J F Coals Location: 8, Herbert Road, Neath, West Glamorgan, SA11 2DN Classification: Coal & Smokeless Fuel Merchants & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	522	-	274513 196253
280	**Contemporary Trade Directory Entries** Name: A & S Tyre Services Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Tyre Repairs & Retreading **Status: Active** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	539	-	274229 195315
280	**Contemporary Trade Directory Entries** Name: Longlife Swansea Location: Station Road,Station Yard, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Exhaust & Shock Absorber Centres **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A7NE (SW)	539	-	274229 195315
280	**Contemporary Trade Directory Entries** Name: West Coastal White Line Co Ltd Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Road Marking & Surfacing Equipment & Material Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	547	-	274226 195305
280	**Contemporary Trade Directory Entries** Name: A & S Tyre Services Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	547	-	274226 195305
280	**Contemporary Trade Directory Entries** Name: A & S Tyres Ltd Location: Unit 1-5 Station Yard,Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7NE (SW)	562	-	274234 195275
281	**Contemporary Trade Directory Entries** Name: Genie'S Cleaners Location: Meadow Road, Neath, West Glamorgan, SA11 2AB Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18SE (NE)	567	-	274902 196244
282	**Contemporary Trade Directory Entries** Name: Double P Motors Ltd Location: Station Road, Briton Ferry, Neath, SA11 2SU Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	587	-	274239 195235
282	**Contemporary Trade Directory Entries** Name: Station Sprayers Location: Station Road, Briton Ferry, Neath, West Glamorgan, SA11 2SU Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	591	-	274240 195229

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
283	**Contemporary Trade Directory Entries** Name: Mile End Service Station Location: Mile End Row, NEATH, West Glamorgan, SA11 2ED Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	637	-	274596 196381
283	**Contemporary Trade Directory Entries** Name: Esso Location: Mile End Row, Neath, SA11 2ED Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	647	-	274606 196391
283	**Contemporary Trade Directory Entries** Name: Mile End Service Station Location: Neath, West Glamorgan, Sa11 2ed Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	647	-	274606 196391
284	**Contemporary Trade Directory Entries** Name: Car Tec Location: 1, Ormond Street, Neath, West Glamorgan, SA11 2TG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	640	-	274461 195050
285	**Contemporary Trade Directory Entries** Name: Crown Food Uk Location: Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Can Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	657	-	274339 196331
286	**Contemporary Trade Directory Entries** Name: Crynant Plant & Transport Ltd Location: Eaglebush Works, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	816	-	274568 196558
287	**Contemporary Trade Directory Entries** Name: Kingfisher Mobile Tyre Services Location: 53, Olive Branch Crescent, Neath, West Glamorgan, SA11 2UH Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	836	-	273872 195324
287	**Contemporary Trade Directory Entries** Name: Kingfisher Mobile Tyre Services Location: 53, Olive Branch Crescent, Neath, SA11 2UH Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	837	-	273872 195324
288	**Contemporary Trade Directory Entries** Name: Lodge Garage Location: The Yard, Shelone Road, Neath, West Glamorgan, SA11 2NS Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	871	-	274195 194915
289	**Contemporary Trade Directory Entries** Name: Melanies Cleaning Service Ltd Location: 12, Exchange Road, Neath, West Glamorgan, SA11 1TD Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	878	-	274960 196559
290	**Contemporary Trade Directory Entries** Name: Fordpad Ltd Location: Foundry Works, Dc Griffiths Way, Neath, SA11 1AU Classification: Scrap Metal Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	891	-	274779 196624

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
291	**Contemporary Trade Directory Entries** Name: South Wales Transport Location: Unit 19, Milland Road Industrial Estate, Neath, SA11 1NJ Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	902	-	274560 196644
291	**Contemporary Trade Directory Entries** Name: Milland Tyre & Auto Location: Unit 18, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Exhaust & Shock Absorber Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	903	-	274560 196644
291	**Contemporary Trade Directory Entries** Name: Precision Sealing Ltd Location: Unit 19, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Pumps - Sales, Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	903	-	274560 196644
291	**Contemporary Trade Directory Entries** Name: C J E N T Uk Ltd Location: UNIT 17, MILLAND ROAD INDUSTRIAL ESTATE, NEATH, SA11 1NJ Classification: Kitchen Furniture Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	904	-	274608 196648
292	**Contemporary Trade Directory Entries** Name: Acorn Chemical Services Location: Unit 16, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196653
292	**Contemporary Trade Directory Entries** Name: Acorn Chemical Services Ltd Location: Unit 16, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196652
292	**Contemporary Trade Directory Entries** Name: Acorn Chemical Services Location: Unit 16, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196653
292	**Contemporary Trade Directory Entries** Name: Equilibrium Chemical Services Ltd Location: 16 Milland Rd Ind Est, Neath, West Glamorgan, SA11 1NJ Classification: Chemical Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	908	-	274614 196652
292	**Contemporary Trade Directory Entries** Name: C I S Contract Packaging Ltd Location: Unit 17, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	908	-	274615 196653
292	**Contemporary Trade Directory Entries** Name: Lase Ltd Location: Unit 15, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Coating Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	274632 196683
292	**Contemporary Trade Directory Entries** Name: L Pugh & Son Location: 15, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	274632 196683
292	**Contemporary Trade Directory Entries** Name: Equipment Supply Services Location: Unit 15, Milland Road Industrial Estate, Neath, West Glamorgan, SA11 1NJ Classification: Agricultural Machinery - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	274632 196683

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
293	**Contemporary Trade Directory Entries** Name: Lafarge Readymix Location: Old Iron Works,Briton Ferry, Neath, West Glamorgan, SA11 2LD Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	915	-	274007 195003
294	**Contemporary Trade Directory Entries** Name: Alter Kennys Location: Neath Road, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	923	-	274356 194786
295	**Contemporary Trade Directory Entries** Name: Camps Transport Location: 33, Bryn Teg, Neath, SA11 2YH Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	929	-	273746 195373
295	**Contemporary Trade Directory Entries** Name: J & J Skip Hire Location: 33, Bryn Teg, Neath, West Glamorgan, SA11 2YH Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	929	-	273745 195374
296	**Contemporary Trade Directory Entries** Name: F & T Refrigeration Ltd Location: Dc Griffiths Way, Neath, West Glamorgan, SA11 1BT Classification: Refrigeration Equipment - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	962	-	274783 196695
296	**Contemporary Trade Directory Entries** Name: F & T Refrigeration Ltd Location: Dc Griffiths Way, Neath, West Glamorgan, SA11 1BT Classification: Refrigeration Equipment - Commercial **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	962	-	274783 196695
297	**Contemporary Trade Directory Entries** Name: Autocare Neath Location: Neath Road, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	274391 194710
297	**Contemporary Trade Directory Entries** Name: Neath Car Sales Ltd Location: Neath Road, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	274391 194710
298	**Contemporary Trade Directory Entries** Name: Neath Road Filling Station Location: Neath Rd, Briton Ferry, Neath, West Glamorgan, SA11 2AX Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (S)	998	-	274333 194714
299	**Fuel Station Entries** Name: Mile End Service Station Location: 188, Mile End Row , Melyn , Neath, Neath Port Talbot, SA11 2ED Brand: ESSO Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	647	-	274607 196391
300	**Fuel Station Entries** Name: Neath Road Filling Station Location: Neath Road , Briton Ferry , Neath, Neath Port Talbot, SA11 2AX Brand: Total Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	274391 194710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
301	**Points of Interest - Commercial Services** Name: Dai-agnostics Mobile Motor Repairs Location: 8 Clos Warren, Neath, SA11 2FF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (E)	181	7	274834 195746
302	**Points of Interest - Commercial Services** Name: I M O Car Wash Location: 117 Pant yr Heol, Neath, SA11 2HB Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12SE (W)	335	7	274279 195653
303	**Points of Interest - Commercial Services** Name: Station Sprayers Location: Station House, Station Road, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	510	7	274264 195319
303	**Points of Interest - Commercial Services** Name: Longlife Swansea Location: Station Road, Station Yard, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	550	7	274229 195298
303	**Points of Interest - Commercial Services** Name: A & S Tyre Services Location: Unit 6 West Coastal White Line Company, Station Road, Briton Ferry, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	554	7	274231 195290
303	**Points of Interest - Commercial Services** Name: Double P Motors Ltd Location: Station Road, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	587	7	274239 195235
304	**Points of Interest - Commercial Services** Name: Station Sprayers Location: Station Road, Briton Ferry, Neath, SA11 2SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	605	7	274240 195210
305	**Points of Interest - Commercial Services** Name: Car Tec Location: 1 Ormond Street, Neath, SA11 2TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (S)	640	7	274461 195050
305	**Points of Interest - Commercial Services** Name: Car Tec Location: 1 Ormond Street, Neath, SA11 2TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (S)	640	7	274461 195050
306	**Points of Interest - Commercial Services** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274607 196391
306	**Points of Interest - Commercial Services** Name: Car Wash Location: Mile End Row, Neath, SA11 2ED Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274607 196391
307	**Points of Interest - Commercial Services** Name: UK Flooring Distribution Location: Unit 4, Milland Road Industrial Estate, Neath, SA11 1NJ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NW (N)	685	7	274379 196381

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
308	**Points of Interest - Commercial Services** Name: Fordpad Ltd Location: Foundry Works, Dc Griffiths Way, Neath, SA11 1AU Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A18NE (N)	891	7	274779 196624
308	**Points of Interest - Commercial Services** Name: Fordpad Ltd Location: Foundry Works, Dc Griffiths Way, Neath, SA11 1AU Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A18NE (N)	891	7	274779 196624
309	**Points of Interest - Commercial Services** Name: Milland Tyre & Auto Location: Unit 18, Milland Road Industrial Estate, Neath, SA11 1NJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NW (N)	903	7	274560 196644
310	**Points of Interest - Commercial Services** Name: Camps Transport Location: 33 Bryn Teg, Neath, SA11 2YH Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	929	7	273746 195373
311	**Points of Interest - Education and Health** Name: Neath General Hospital Location: Penrhiwtyn, Neath, SA11 2LQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A13NW (W)	163	7	274445 195754
312	**Points of Interest - Manufacturing and Production** Name: Tanks Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	189	7	274421 195687
313	**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	A13NW (NW)	304	7	274487 196011
313	**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	A13NW (NW)	326	7	274470 196027
314	**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	A8NE (S)	436	7	274796 195257
315	**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	A7NE (SW)	541	7	274248 195290
316	**Points of Interest - Manufacturing and Production** Name: Workings (Dis) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	548	7	275072 195307
317	**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	A18SW (NW)	670	7	274346 196350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
317	**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	A18SW (NW)	671	7	274346 196351
318	**Points of Interest - Manufacturing and Production** Name: Eaglesbush Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	728	7	274563 196469
318	**Points of Interest - Manufacturing and Production** Name: Eaglesbush Works Location: SA11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	808	7	274569 196550
318	**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	A18NW (N)	811	7	274578 196554
319	**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)	799	7	273850 195984
320	**Points of Interest - Manufacturing and Production** Name: L Williams Location: Cimla, Neath, SA11 2HS Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A9NE (SE)	815	7	275336 195212
321	**Points of Interest - Manufacturing and Production** Name: Air Shafts (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	829	7	275256 195093
322	**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	A18NW (N)	830	7	274318 196512
323	**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	A17NE (NW)	870	7	274204 196501
323	**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	A17NE (NW)	882	7	274189 196506
324	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	873	7	274770 196607
324	**Points of Interest - Manufacturing and Production** Name: Factory Location: SA11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	883	7	274775 196616

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
325	**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	A7SE (SW)	877	7	274268 194870
325	**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	A7SE (SW)	880	7	274263 194869
326	**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	A19SE (NE)	907	7	275465 196124
327	**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	A18NE (N)	977	7	274741 196716
328	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	983	7	275424 195050
328	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: SA11 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	984	7	275424 195048
329	**Points of Interest - Public Infrastructure** Name: Mortuary Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	180	7	274456 195826
330	**Points of Interest - Public Infrastructure** Name: Chapel of Rest Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	432	7	274285 195417
331	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	475	7	274141 195630
331	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	479	7	274136 195631
332	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	602	7	274475 196325
333	**Points of Interest - Public Infrastructure** Name: Ynysymaerdy Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	633	7	274729 195037

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
333	**Points of Interest - Public Infrastructure** Name: Ynysymaerdy Cemetery Location: SA11 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	633	7	274729 195037
333	**Points of Interest - Public Infrastructure** Name: Chapel of Rest Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	665	7	274788 195016
333	**Points of Interest - Public Infrastructure** Name: Chapel of Rest Location: SA11 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to address or location	A8SE (S)	666	7	274788 195015
333	**Points of Interest - Public Infrastructure** Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	687	7	274679 194978
334	**Points of Interest - Public Infrastructure** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	637	7	274596 196381
334	**Points of Interest - Public Infrastructure** Name: Esso Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274606 196391
334	**Points of Interest - Public Infrastructure** Name: Esso Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274606 196391
334	**Points of Interest - Public Infrastructure** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274606 196391
334	**Points of Interest - Public Infrastructure** Name: Mile End Service Station Location: Mile End Row, Neath, SA11 2ED Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NW (N)	647	7	274607 196391
335	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	695	7	275150 196210
335	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	697	7	275149 196213
336	**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	A12SW (W)	791	7	273836 195544

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
337	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	798	7	275116 196380
337	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	825	7	275055 196454
337	**Points of Interest - Public Infrastructure** Name: Weir Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	826	7	275055 196455
338	**Points of Interest - Public Infrastructure** Name: Filter Beds Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	880	7	274225 196524
338	**Points of Interest - Public Infrastructure** Name: Filter Beds Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	884	7	274215 196523
339	**Points of Interest - Public Infrastructure** Name: South Wales Transport Location: Unit 19, Milland Road Industrial Estate, Neath, SA11 1NJ Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A18NW (N)	903	7	274560 196644
340	**Points of Interest - Public Infrastructure** Name: J & J Skip Hire Location: 33 Bryn Teg, Neath, SA11 2YH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SW (W)	929	7	273745 195374
340	**Points of Interest - Public Infrastructure** Name: J & J Skip Hire Location: 33 Bryn Teg, Neath, SA11 2YH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SW (W)	929	7	273745 195374
341	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (S)	964	7	274992 194767
341	**Points of Interest - Public Infrastructure** Name: Sluice Location: SA11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (S)	967	7	274995 194765
342	**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	A12NW (W)	985	7	273625 195817
343	**Points of Interest - Recreational and Environmental** Name: Play Area Location: SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	535	7	274735 196270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
344	**Points of Interest - Recreational and Environmental** Name: Playground Location: Nr Ynysymaerdy Road, SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	742	7	274573 194925
345	**Points of Interest - Recreational and Environmental** Name: Playground Location: Nr Neath Road, SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	813	7	274496 194864
345	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	832	7	274460 194852
346	**Points of Interest - Recreational and Environmental** Name: Play Area Location: SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	922	7	273725 195452
347	**Points of Interest - Recreational and Environmental** Name: Playground Location: Bryn Road, SA11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A19NW (NE)	933	7	275247 196448
347	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	938	7	275249 196452

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
348	**Ancient Woodland** Name: Not Supplied Reference: 18281 Area(m²): 2902.32 Type: Ancient and Semi-Natural Woodland	A13NE (E)	300	2	274943 195801
349	**Ancient Woodland** Name: Not Supplied Reference: 11352 Area(m²): 20063.95 Type: Restored Ancient Woodland Site	A14NW (E)	351	2	275005 195765
350	**Ancient Woodland** Name: Not Supplied Reference: 7496 Area(m²): 1097.17 Type: Ancient and Semi-Natural Woodland	A14SW (E)	410	2	275074 195657
351	**Ancient Woodland** Name: Not Supplied Reference: 23143 Area(m²): 2723.57 Type: Restored Ancient Woodland Site	A14NW (E)	413	2	275064 195777
352	**Ancient Woodland** Name: Not Supplied Reference: 7495 Area(m²): 24539.37 Type: Ancient and Semi-Natural Woodland	A14SW (E)	429	2	275084 195582
353	**Ancient Woodland** Name: Not Supplied Reference: 23144 Area(m²): 5257.17 Type: Restored Ancient Woodland Site	A18SE (NE)	515	2	274970 196134
354	**Ancient Woodland** Name: Not Supplied Reference: 18279 Area(m²): 5962.42 Type: Ancient and Semi-Natural Woodland	A9NW (SE)	616	2	275027 195176
355	**Ancient Woodland** Name: Not Supplied Reference: 8058 Area(m²): 87385.89 Type: Ancient and Semi-Natural Woodland	A14NW (E)	626	2	275282 195776
356	**Ancient Woodland** Name: Not Supplied Reference: 12254 Area(m²): 9319.44 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	630	2	275162 196090
357	**Ancient Woodland** Name: Not Supplied Reference: 7497 Area(m²): 1939.69 Type: Ancient and Semi-Natural Woodland	A14NW (E)	653	2	275281 195903
358	**Ancient Woodland** Name: Not Supplied Reference: 7766 Area(m²): 4327.93 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	665	2	275071 196245
359	**Ancient Woodland** Name: Not Supplied Reference: 12255 Area(m²): 5217.98 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	700	2	275156 196210
360	**Ancient Woodland** Name: Not Supplied Reference: 7498 Area(m²): 19059.96 Type: Ancient and Semi-Natural Woodland	A14NE (NE)	748	2	275329 196042
361	**Ancient Woodland** Name: Not Supplied Reference: 18278 Area(m²): 2474.75 Type: Ancient and Semi-Natural Woodland	A9NW (SE)	801	2	275275 195155

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
362	**Ancient Woodland** Name: Not Supplied Reference: 18275 Area(m²): 22753.28 Type: Ancient and Semi-Natural Woodland	A8SE (S)	803	2	274838 194886
363	**Ancient Woodland** Name: Not Supplied Reference: 11351 Area(m²): 143855.64 Type: Restored Ancient Woodland Site	A8SE (S)	826	2	274788 194852
364	**Ancient Woodland** Name: Not Supplied Reference: 18274 Area(m²): 8554.76 Type: Ancient and Semi-Natural Woodland	A8SW (S)	870	2	274491 194806
365	**Ancient Woodland** Name: Not Supplied Reference: 10085 Area(m²): 16885.9 Type: Ancient and Semi-Natural Woodland	A9SW (SE)	900	2	275277 195015
366	**Ancient Woodland** Name: Not Supplied Reference: 8869 Area(m²): 8745.87 Type: Ancient and Semi-Natural Woodland	A9SW (SE)	949	2	275237 194917
367	**Ancient Woodland** Name: Not Supplied Reference: 18283 Area(m²): 10328.45 Type: Ancient and Semi-Natural Woodland	A15SW (E)	1000	2	275659 195573
368	**Local Nature Reserves** Name: Eaglesbush Valley Multiple Area: N Area (m2): 79888.24 Source: Neath Port Talbot County Borough Council Designation Date: 31st December 2008	A19SW (NE)	594	8	275143 196055

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
City and County of Swansea - Environmental Health Department	January 2015	Annual Rolling Update
Natural Resources Wales	June 2020	Annually
Neath Port Talbot County Borough Council - Environmental Health Department	March 2015	Annual Rolling Update
Discharge Consents		
Natural Resources Wales	April 2021	Quarterly
Environment Agency - Welsh Region	August 2014	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Welsh Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Welsh Region	October 2008	
Integrated Pollution Prevention And Control		
Natural Resources Wales	April 2021	Quarterly
Environment Agency - Welsh Region	January 2021	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Swansea Bay Port Health Authority	April 2014	Variable
Neath Port Talbot County Borough Council - Environmental Health Department	August 2012	Variable
City and County of Swansea - Environmental Health Department	June 2014	Variable
Local Authority Pollution Prevention and Controls		
Swansea Bay Port Health Authority	April 2014	Annually
City and County of Swansea - Environmental Health Department	June 2014	Annual Rolling Update
Neath Port Talbot County Borough Council - Environmental Health Department	March 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Swansea Bay Port Health Authority	April 2014	Variable
City and County of Swansea - Environmental Health Department	June 2014	Variable
Neath Port Talbot County Borough Council - Environmental Health Department	March 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2021	
Pollution Incidents to Controlled Waters		
Environment Agency - Welsh Region	December 1998	
Prosecutions Relating to Authorised Processes		
Environment Agency - Welsh Region	March 2013	
Natural Resources Wales	March 2013	
Prosecutions Relating to Controlled Waters		
Environment Agency - Welsh Region	March 2013	
Natural Resources Wales	March 2013	
Registered Radioactive Substances		
Natural Resources Wales	January 2015	Annually
Environment Agency - Welsh Region	June 2016	Annually
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
Substantiated Pollution Incident Register		
Natural Resources Wales	April 2021	Quarterly
Environment Agency Wales - South West Area	January 2021	Quarterly
Water Abstractions		
Environment Agency - Welsh Region	April 2021	Quarterly
Natural Resources Wales	April 2021	Quarterly
Water Industry Act Referrals		
Natural Resources Wales	April 2021	Quarterly
Environment Agency - Welsh Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Natural Resources Wales	June 2018	As notified

Agency & Hydrological	Version	Update Cycle
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	June 2021	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	January 2021	Quarterly
Natural Resources Wales	January 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency Wales - South West Area	April 2021	Quarterly
Natural Resources Wales	April 2021	Quarterly
Local Authority Landfill Coverage		
City and County of Swansea - Environmental Health Department	May 2000	Not Applicable
Neath Port Talbot County Borough Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
City and County of Swansea - Environmental Health Department	May 2000	
Neath Port Talbot County Borough Council - Environmental Health Department	September 2003	
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	
Registered Waste Treatment or Disposal Sites		
Environment Agency Wales - South West Area	March 2003	
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	
Planning Hazardous Substance Enforcements		
City and County of Swansea - Planning Department	January 2016	Variable
Neath Port Talbot County Borough Council - Planning Department	October 2015	Variable
Planning Hazardous Substance Consents		
City and County of Swansea - Planning Department	January 2016	Variable
Neath Port Talbot County Borough Council - Planning Department	October 2015	Variable

Data Currency

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	May 2021	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	As notified
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

Data Currency

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

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	June 2020	Quarterly
Neath Port Talbot County Borough Council - Planning Services	June 2020	Quarterly
Areas of Unadopted Green Belt		
City and County of Swansea	June 2020	Quarterly
Neath Port Talbot County Borough Council - Planning Services	June 2020	Quarterly
Areas of Outstanding Natural Beauty		
Natural Resources Wales	June 2019	Bi-Annually
Environmentally Sensitive Areas		
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
City and County of Swansea	August 2018	Bi-Annually
Neath Port Talbot County Borough Council	August 2018	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	July 2019	Bi-Annually
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	October 2005	
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

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	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	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	Stantec

Useful Contacts

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	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	**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.

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
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	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
	GFSDD	Glaciofluvial Sheet Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	GFICD	Glaciofluvial Ice Contact Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	PEAT	Peat	Peat	Not Supplied - Quaternary
	BSA	Blown Sand	Sand	Not Supplied - Quaternary

Bedrock and Faults

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

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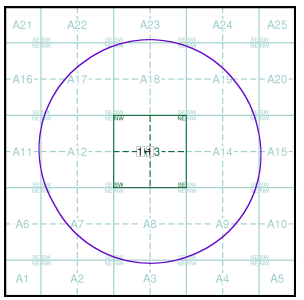
Geology 1:50,000 Maps

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

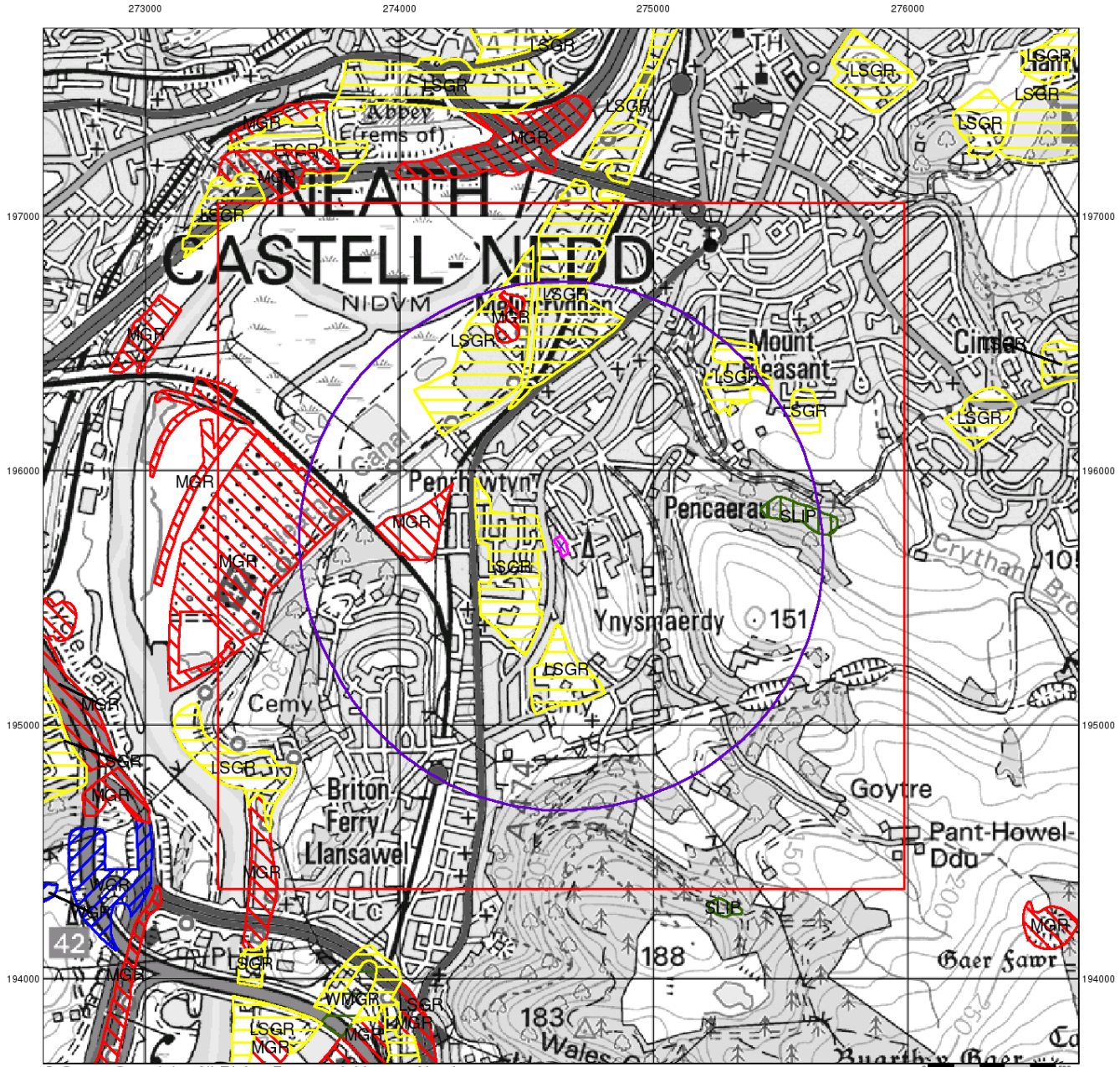


Order Details:

Order Number:	281040714_1_1
Customer Reference:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

Site Details:

1, Pearson Way, NEATH, SA11 2EJ



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Artificial Ground and Landslip

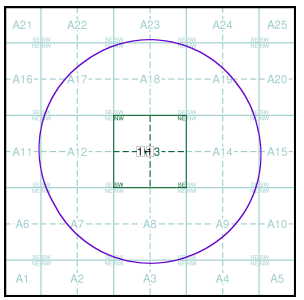
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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



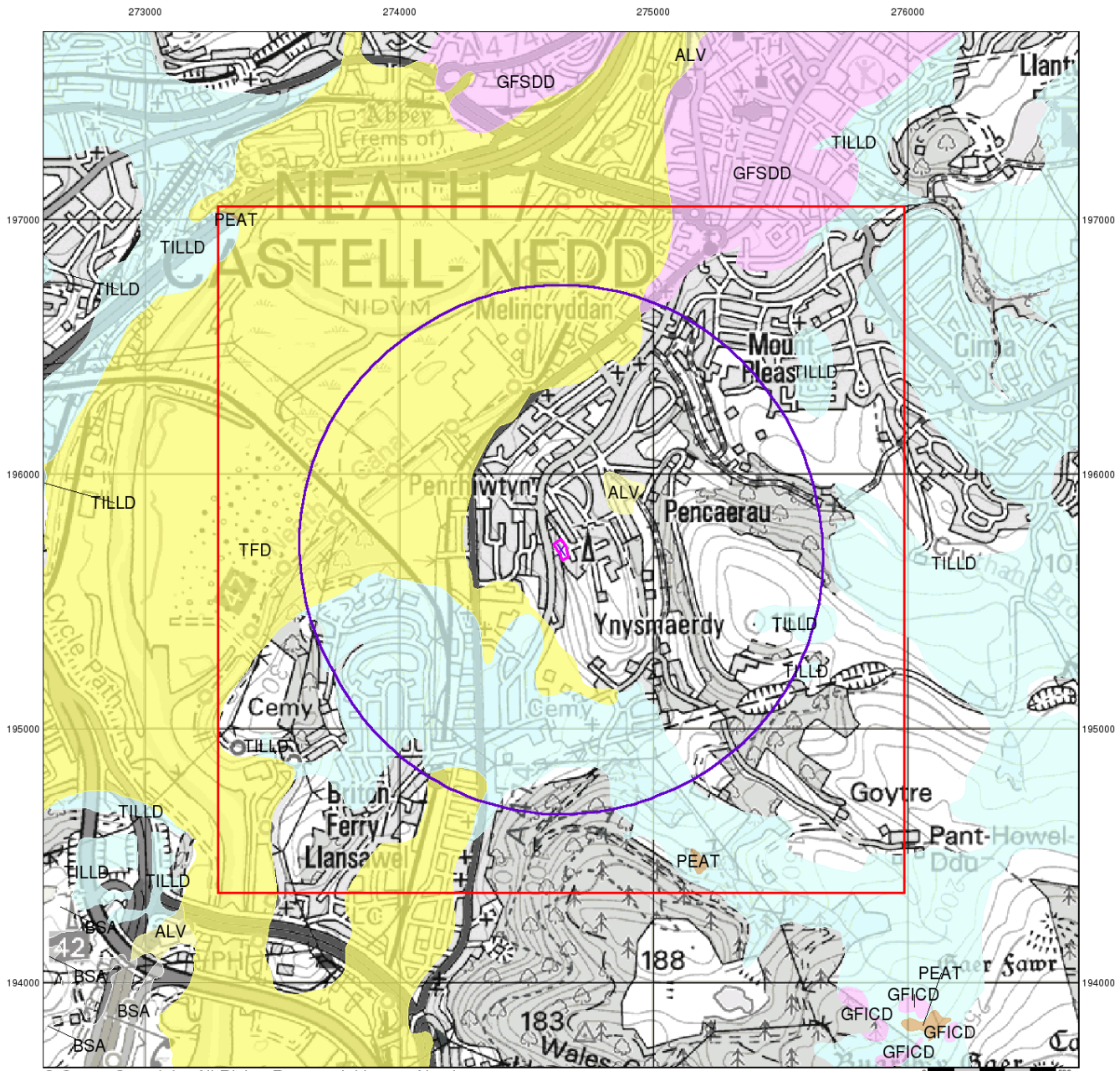
Order Details:

Order Number:	281040714_1_1
Customer Reference:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

Site Details:

1, Pearson Way, NEATH, SA11 2EJ

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



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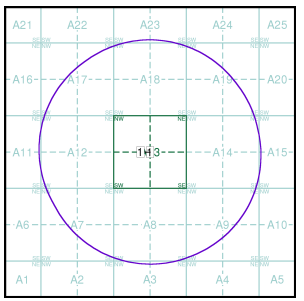
Superficial Geology

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



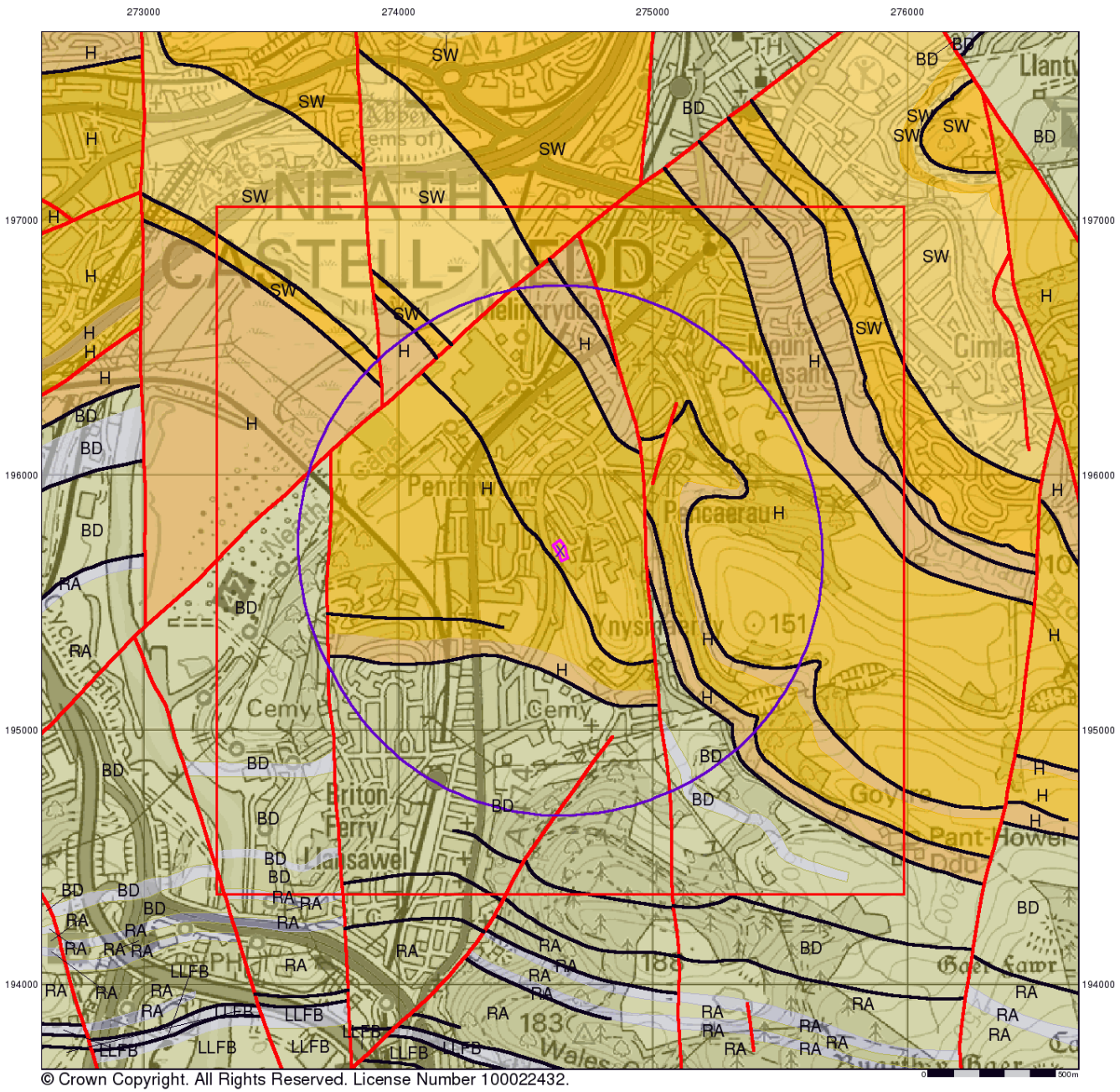
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Order Number:	281040714_1_1
Customer Reference:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

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Bedrock and Faults

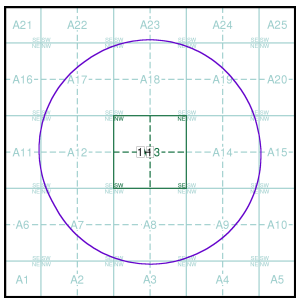
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



Order Details:

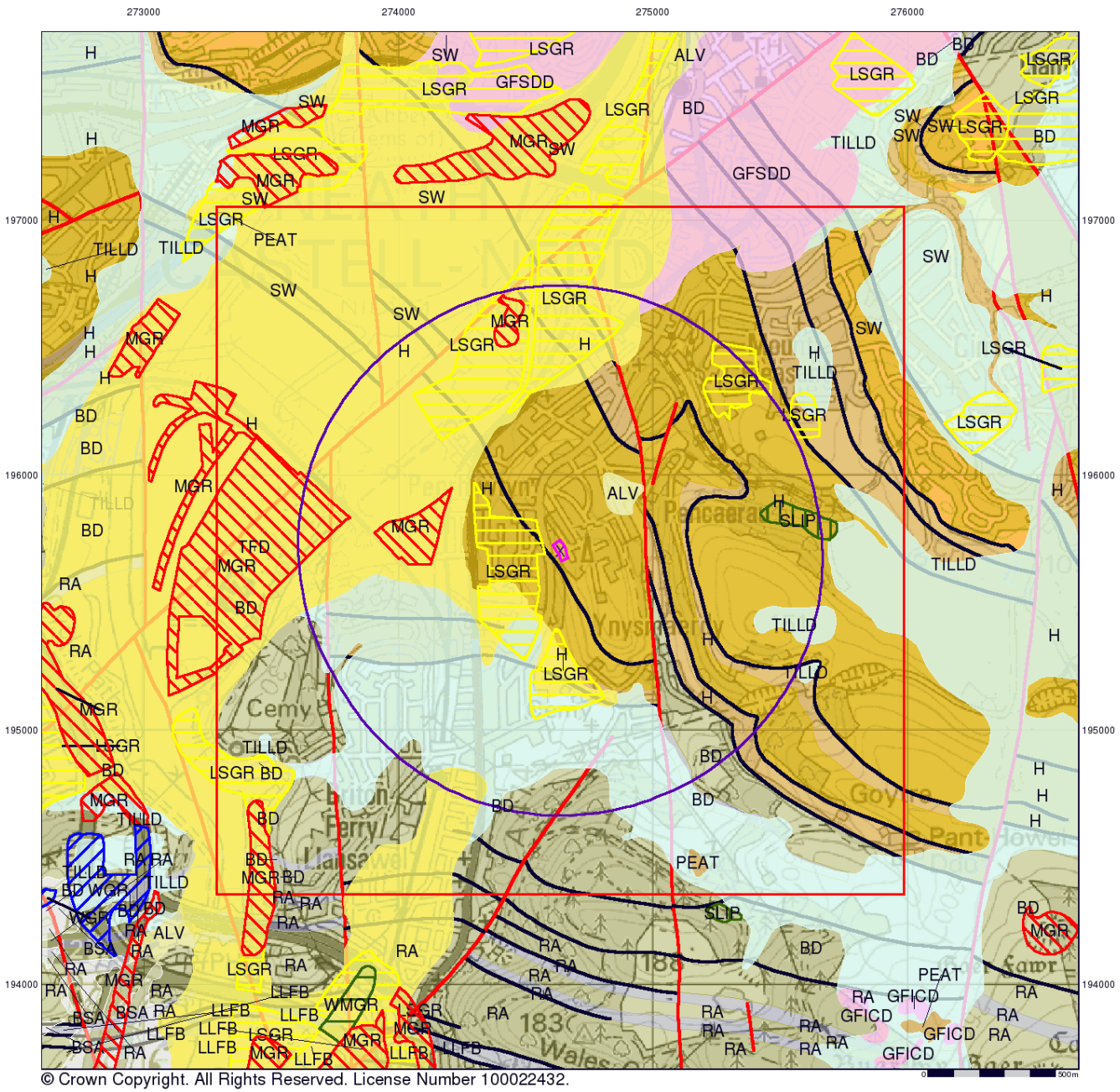
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Combined Surface Geology

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

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

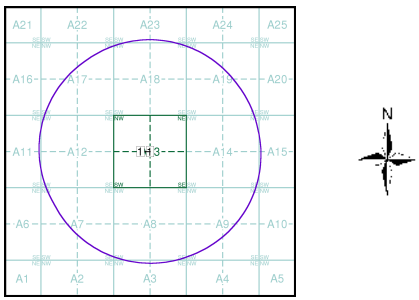
Additional Information

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

Contact

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

Combined Geology Map - Slice A



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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
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
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
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. 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
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
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
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

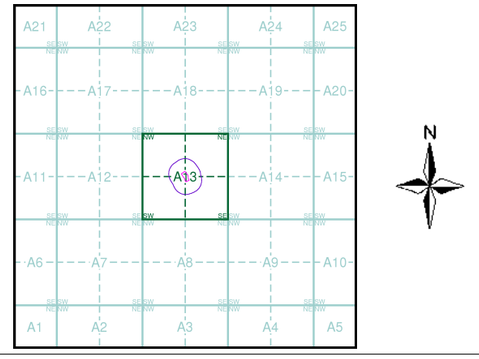
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or 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
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m 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

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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	1936	7
Glamorganshire	1:10,560	1938 - 1951	8
Historical Aerial Photography	1:10,560	1945 - 1949	9
Glamorganshire	1:10,560	1951 - 1952	10
Ordnance Survey Plan	1:10,000	1964 - 1965	11
Ordnance Survey Plan	1:10,000	1970 - 1974	12
Swansea	1:10,000	1976	13
Ordnance Survey Plan	1:10,000	1980 - 1983	14
Ordnance Survey Plan	1:10,000	1992 - 1996	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2021	18

Historical Map - Slice A



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Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

- 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
- 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

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

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

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

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Partly Demolished Buildings
- Demolished Buildings
- Built-Up Area with Fireproof Buildings Predominant
- Built-Up Area with Non-Fireproof Buildings Predominant
- Individual Fireproof Building
- Prominent Industrial Building
- Individual Dwelling, Fireproof
- Ruins of an Individual Dwelling
- Factory or Mill Chimney
- Factory or Mill with Chimney
- Factory or Mill without Chimney
- Mine or Open Pit Mine
- Operating Shaft or Mine
- Non-Operating Shaft or Mine
- Salt Mine
- Tailings Pile
- Pit
- Stone Quarry
- Gas Pump or Service Station
- Fuel Storage or Natural Gas Tank
- Oil or Natural Gas Derrick
- Small Hydroelectric Power Station
- Power Station
- Transformer Station
- Cemetery
- Burial Mound (height in metres)
- Triangulation Point on Burial Mound
- Triangulation Point
- Bench Mark
- Bench Mark (monumented)
- Telegraph Office
- Telephone Station
- Radio Station
- Radio Tower
- Airfield or Seaplane Base
- Landing Strip
- 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
- 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

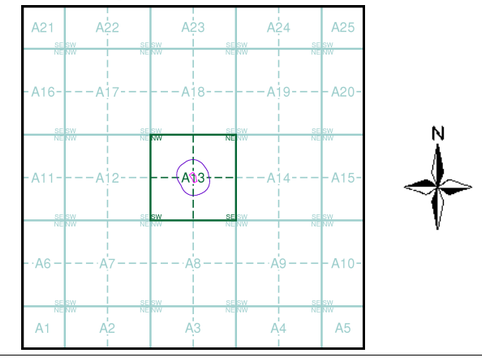
Key to Numbers on Mapping

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Mapping Type	Scale	Date	Pg
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Glamorganshire	1:10,560	1900	4
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Glamorganshire	1:10,560	1936	7
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10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2021	18

Russian Map - Slice A



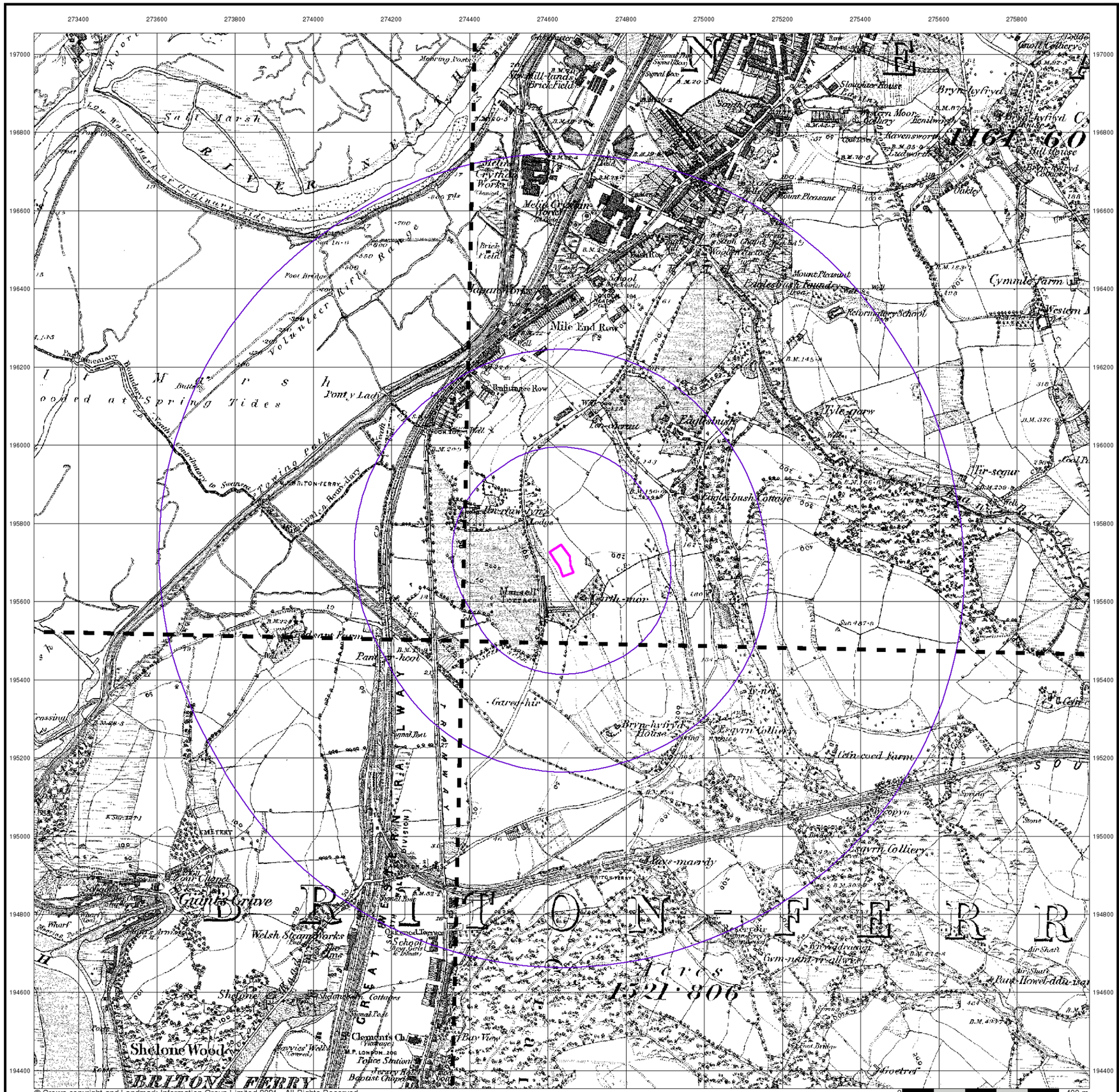
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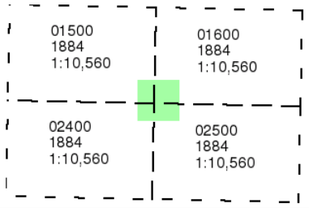
Glamorganshire

Published 1884

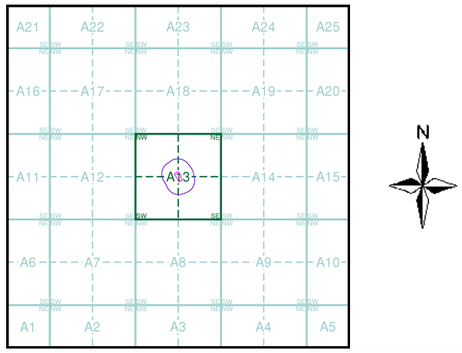
Source map scale - 1:10,560

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)



Historical Map - Slice A



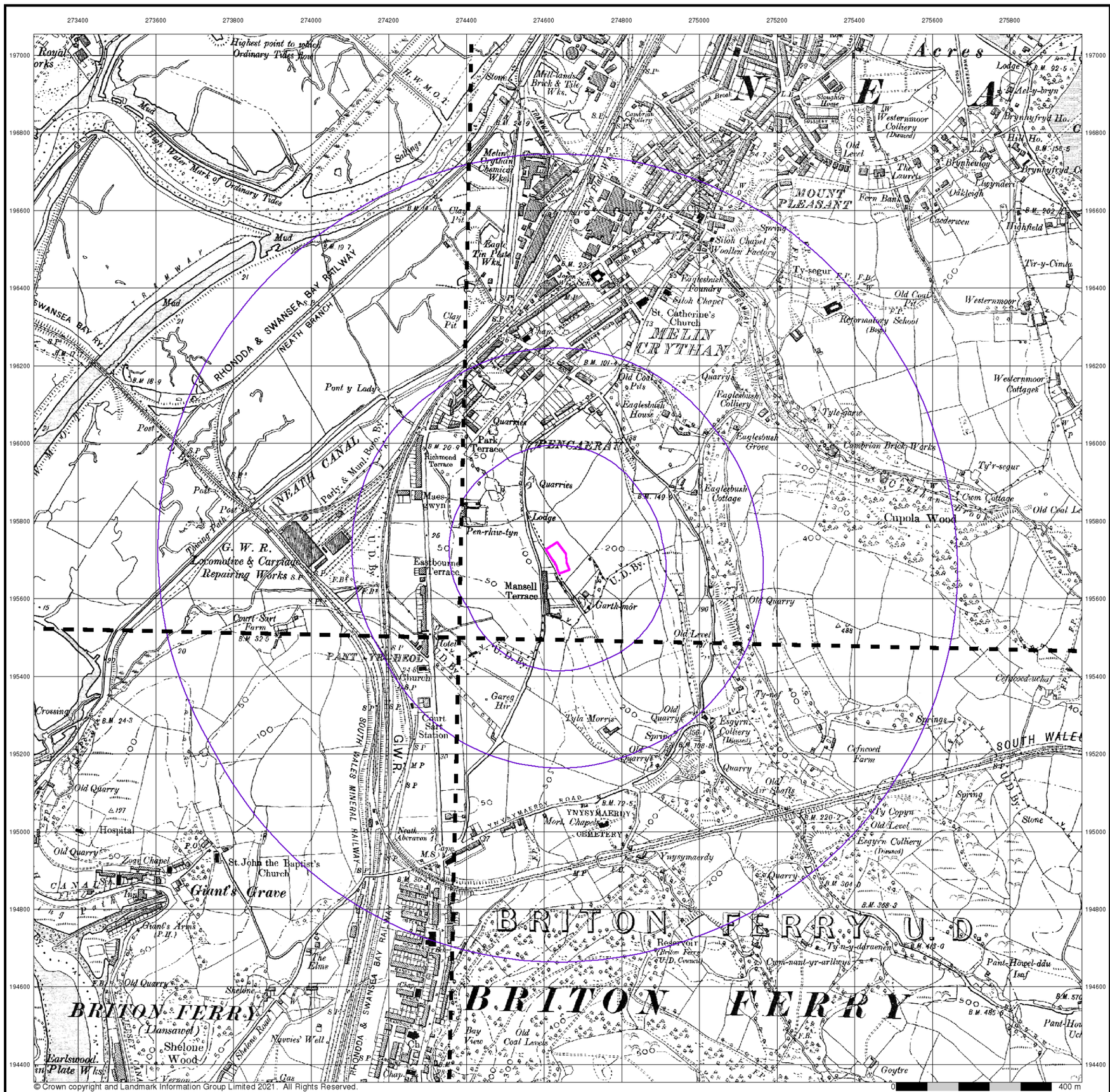
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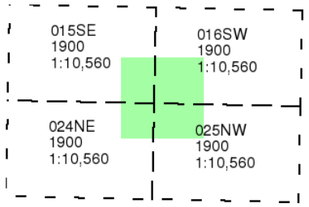
Glamorganshire

Published 1900

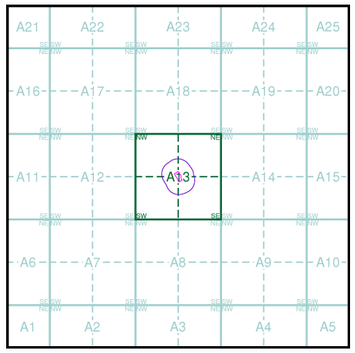
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Map Name(s) and Date(s)



Historical Map - Slice A



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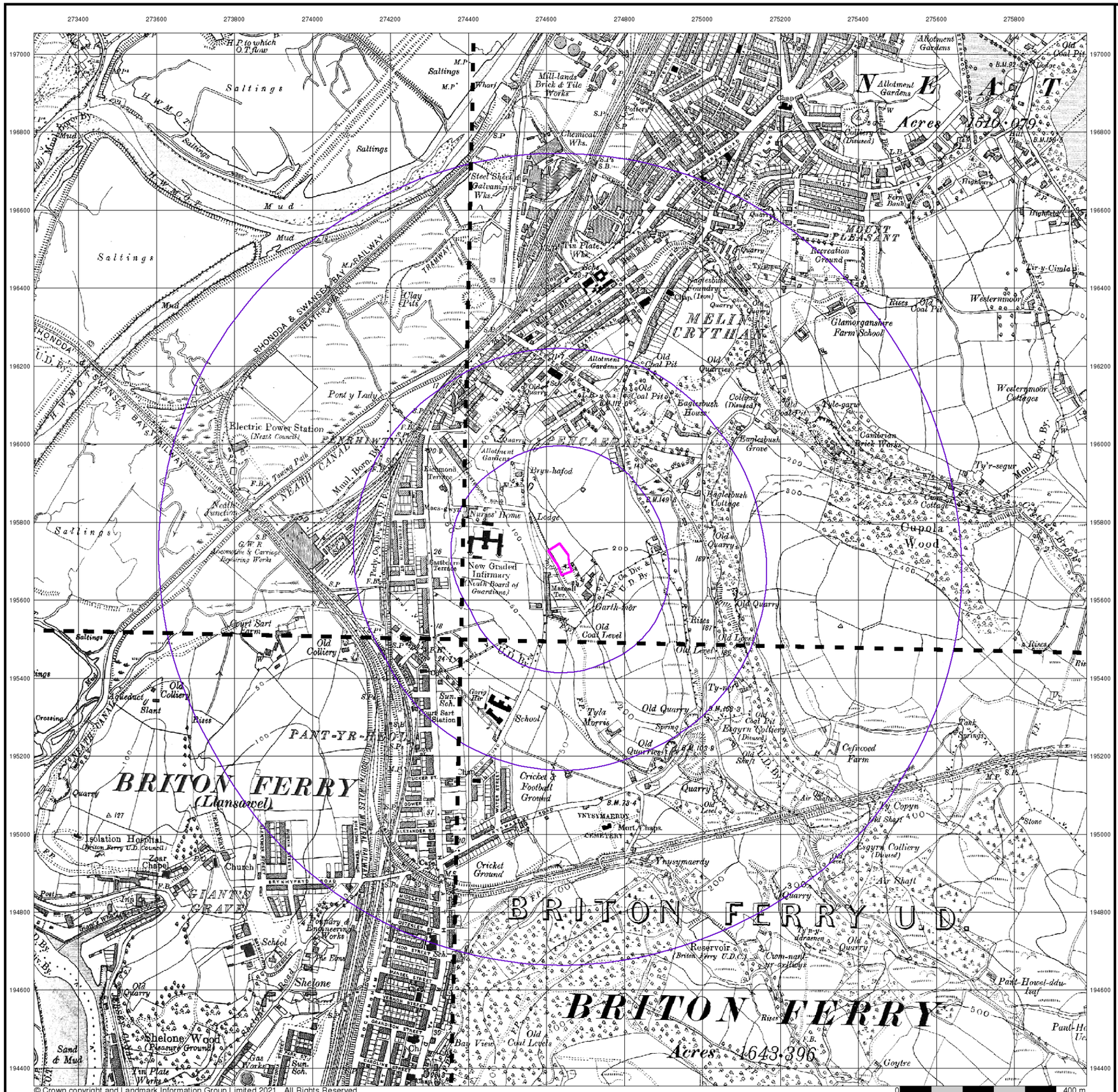
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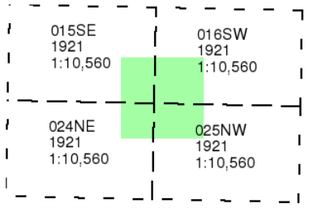
Glamorganshire

Published 1921

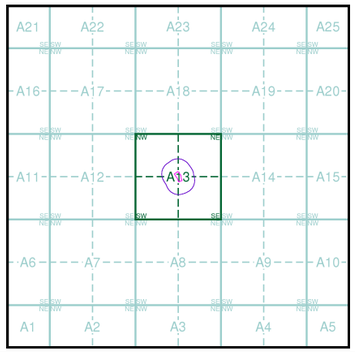
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



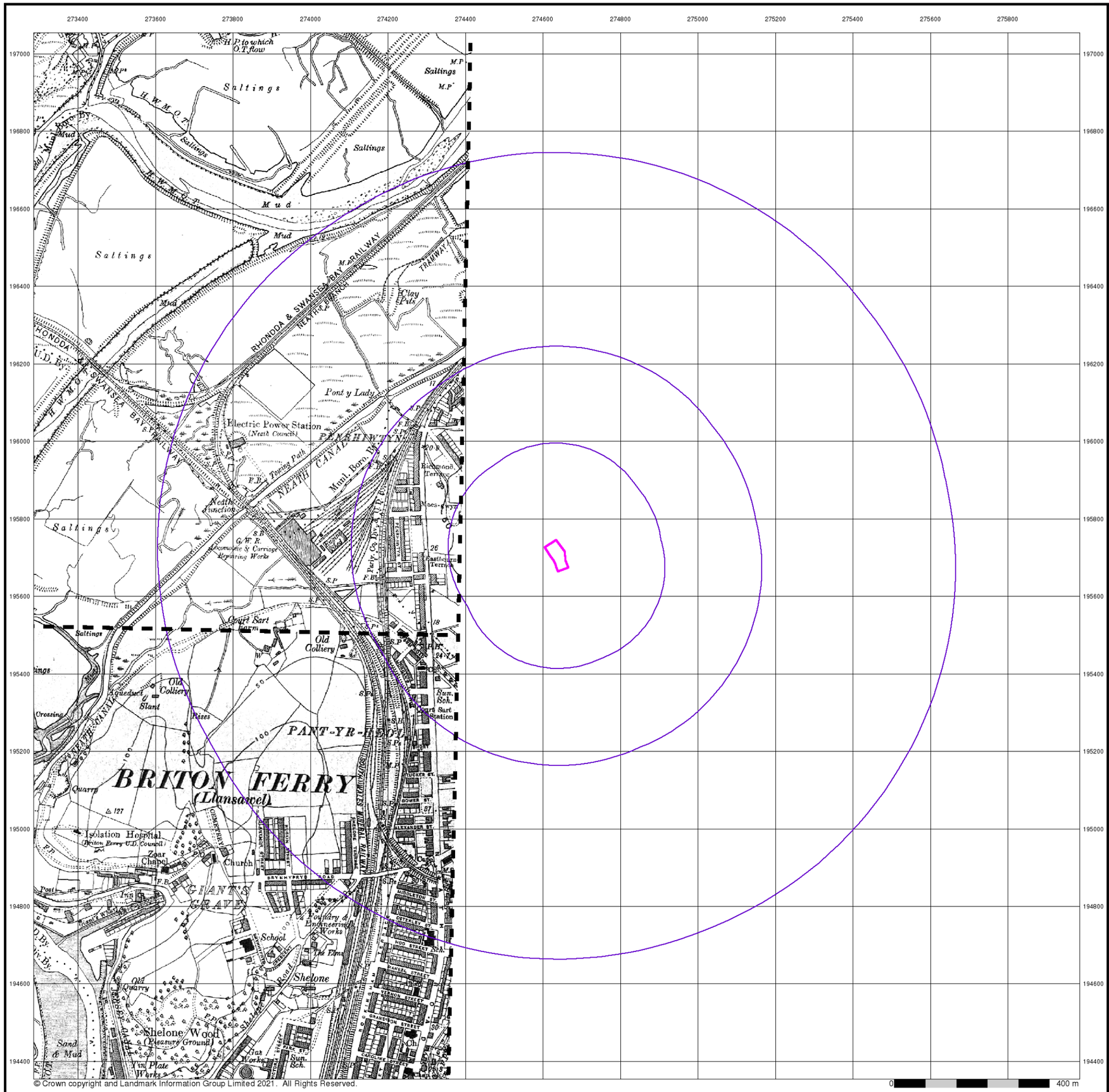
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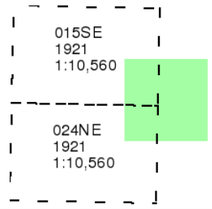
Glamorganshire

Published 1921

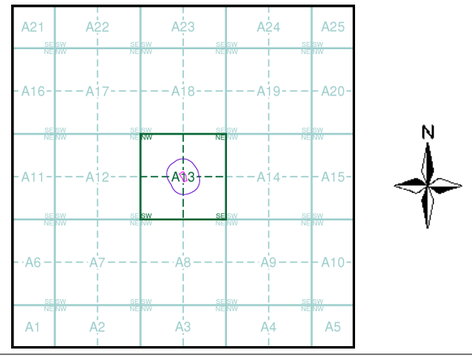
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Map Name(s) and Date(s)



Historical Map - Slice A



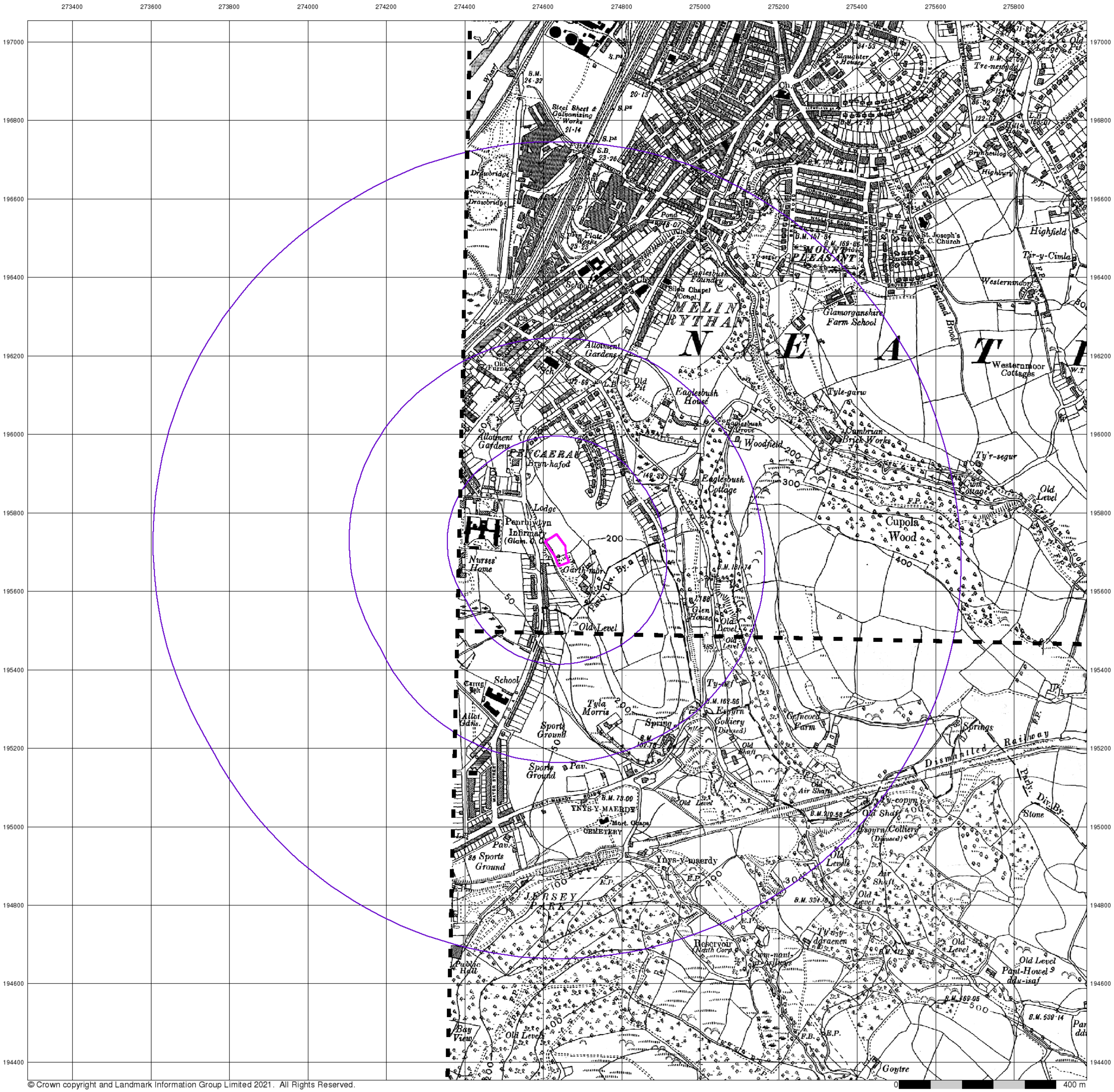
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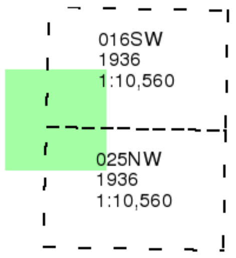
Glamorganshire

Published 1936

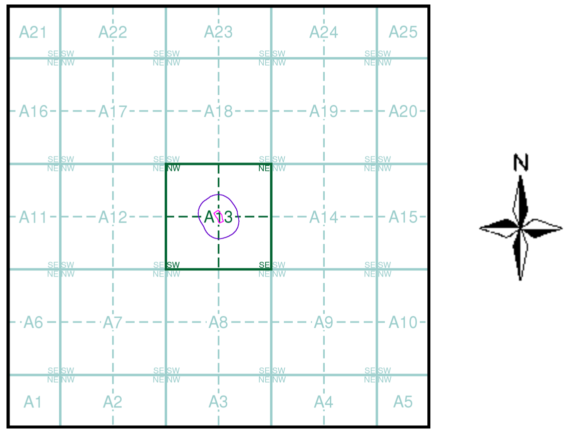
Source map scale - 1:10,560

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

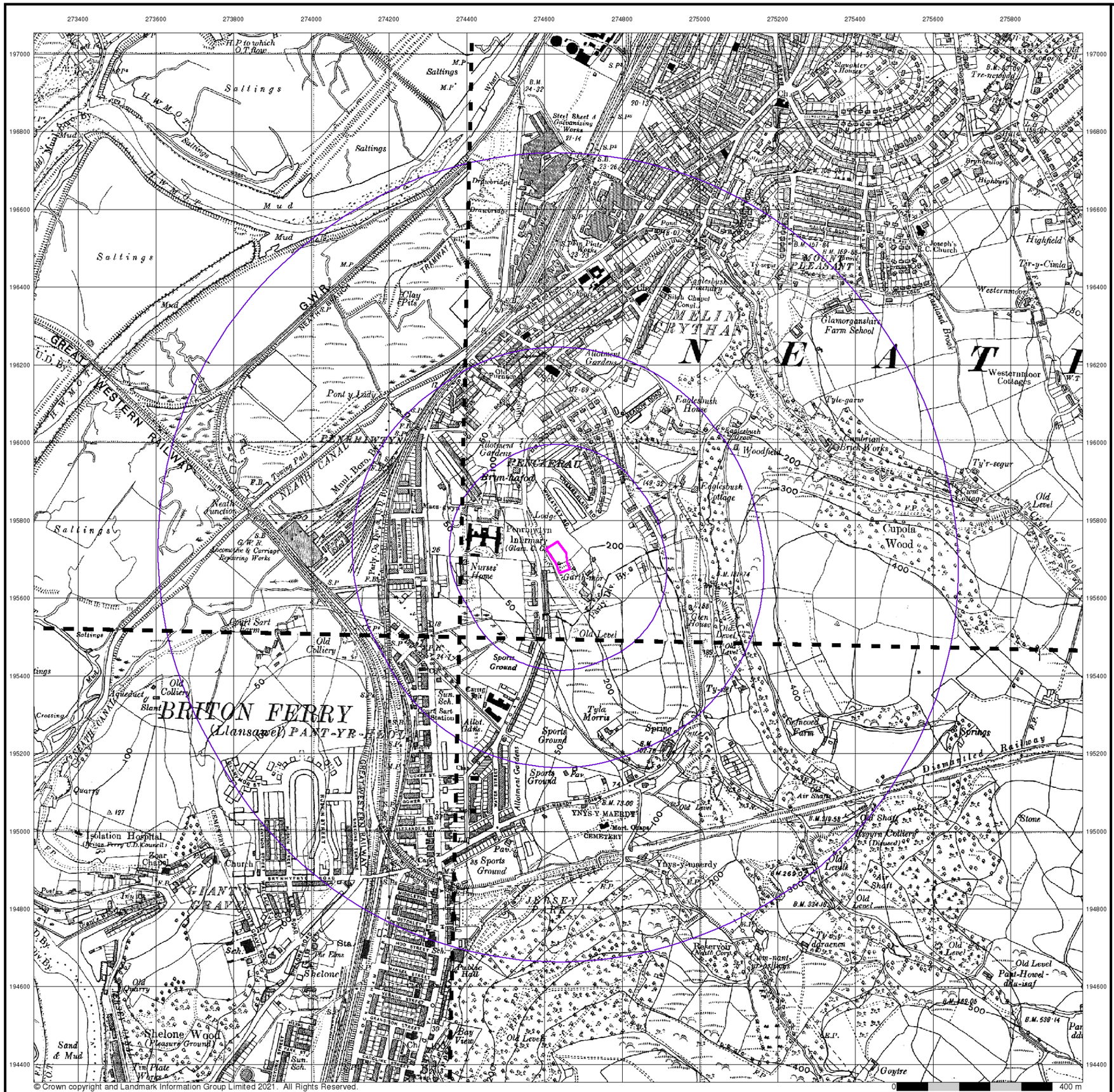
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Search Buffer (m): 1000

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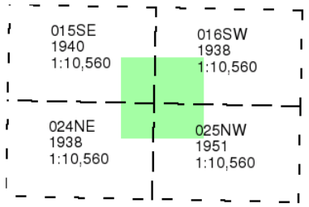
Glamorganshire

Published 1938 - 1951

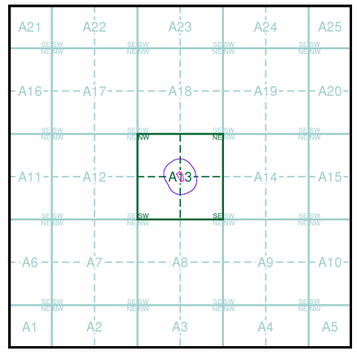
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

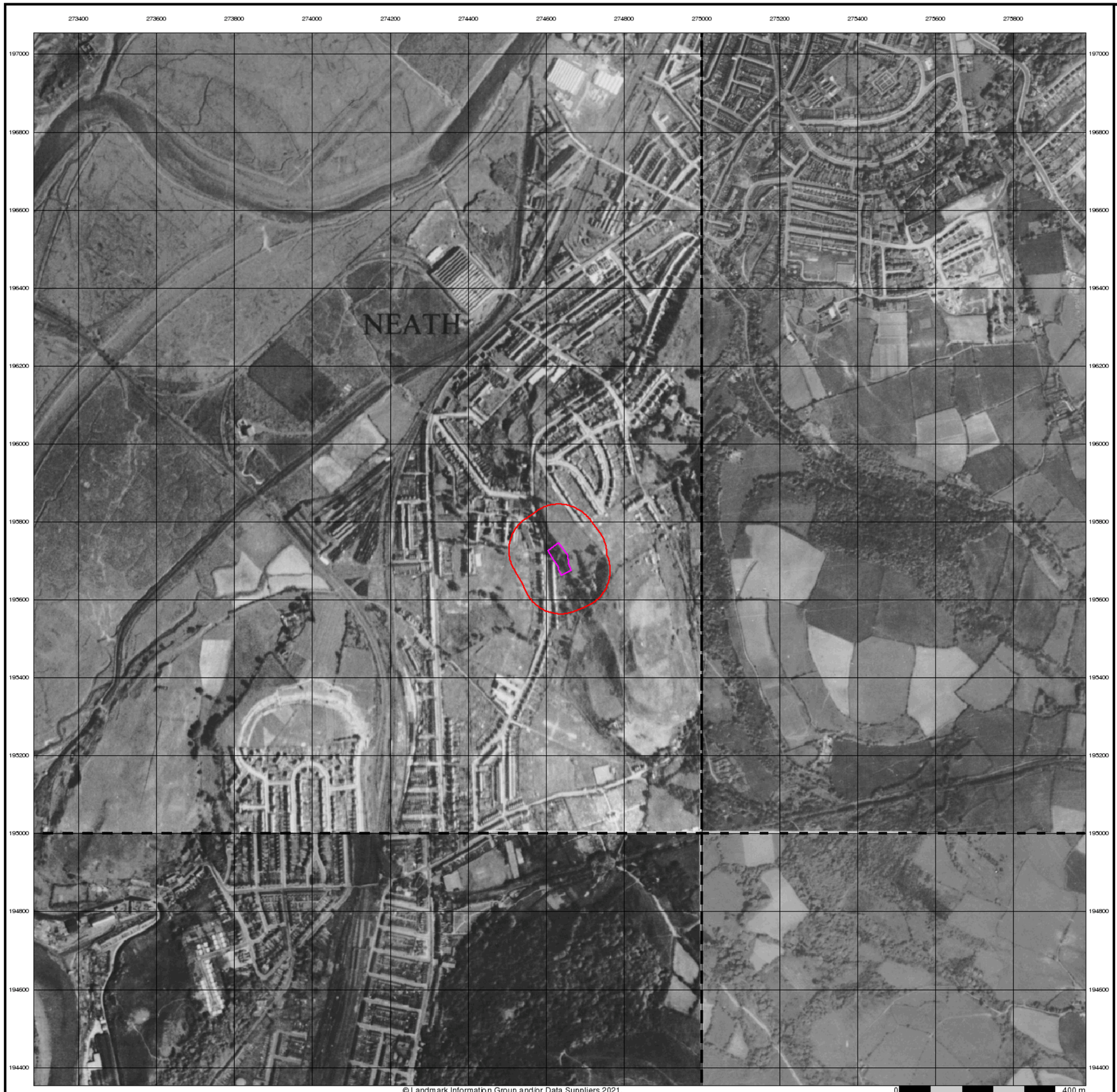
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Historical Aerial Photography

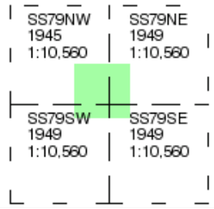
Published 1945 - 1949

Source map scale - 1:10,560

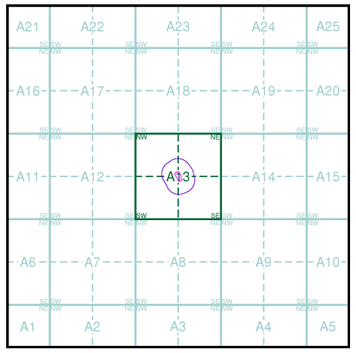
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 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.

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Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



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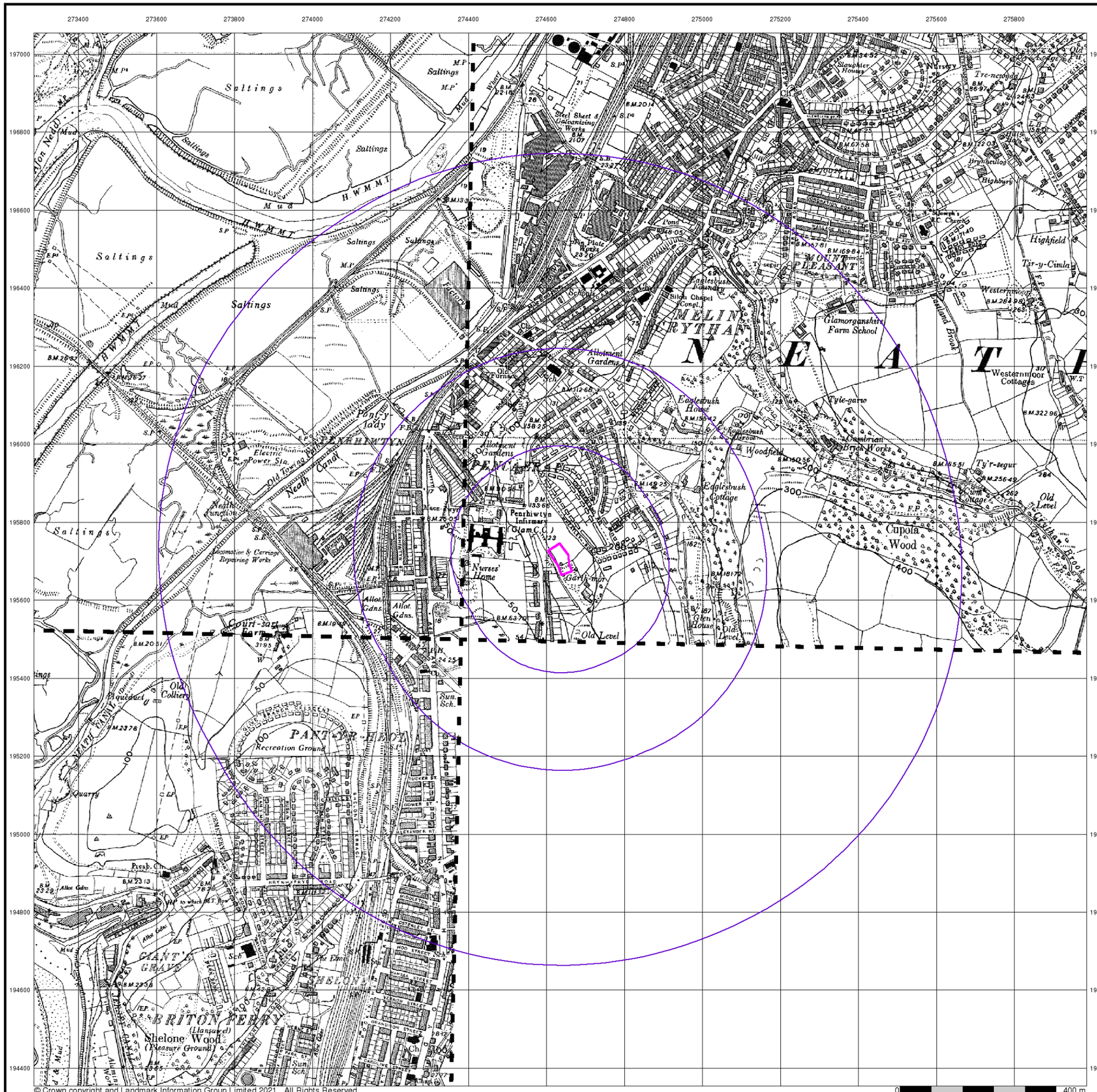
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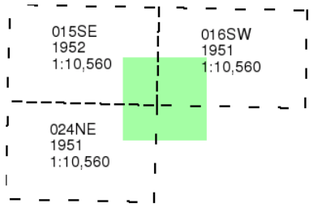
Glamorganshire

Published 1951 - 1952

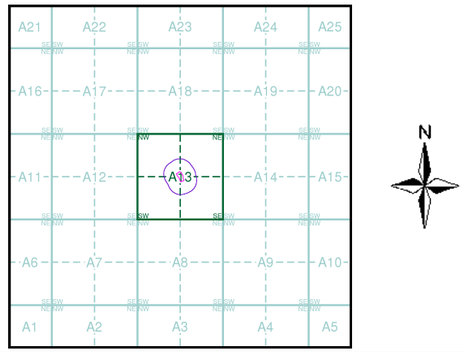
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	281040714_1_1
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Ordnance Survey Plan

Published 1964 - 1965

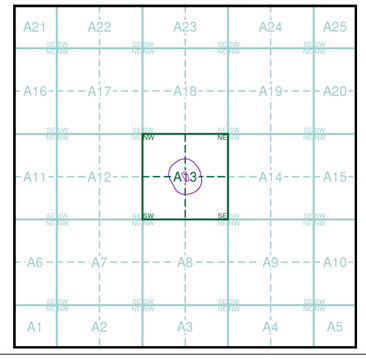
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Map Name(s) and Date(s)

SS79NW 1965 1:10,560	SS79NE 1964 1:10,560
SS79SW 1964 1:10,560	SS79SE 1964 1:10,560

Historical Map - Slice A





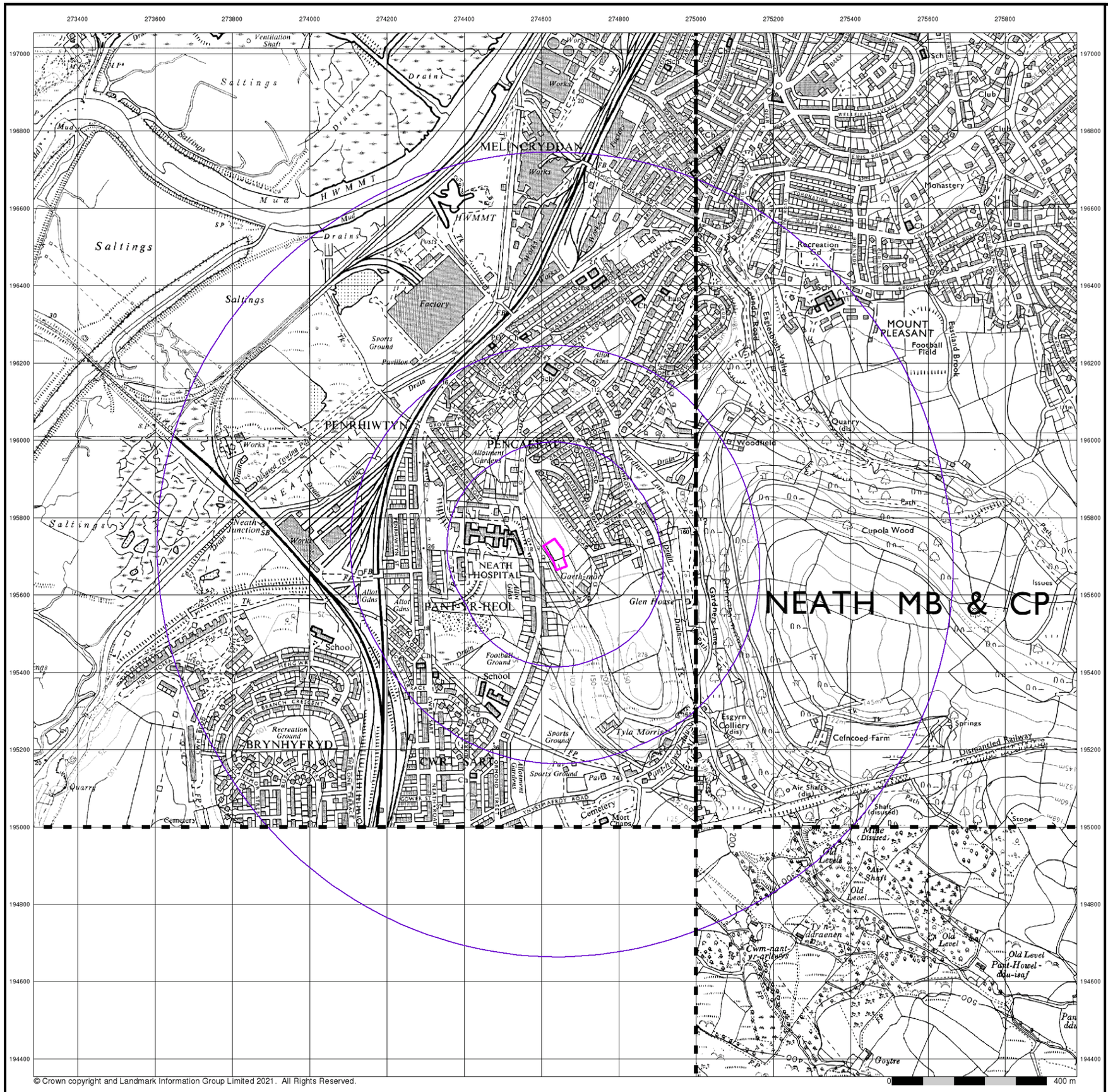
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Ordnance Survey Plan

Published 1970 - 1974

Source map scale - 1:10,000

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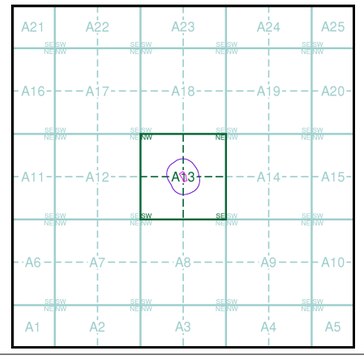
Map Name(s) and Date(s)

SS79NW 1970 1:10,560

SS79NE 1973 1:10,000

SS79SE 1974 1:10,560

Historical Map - Slice A



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Order Details

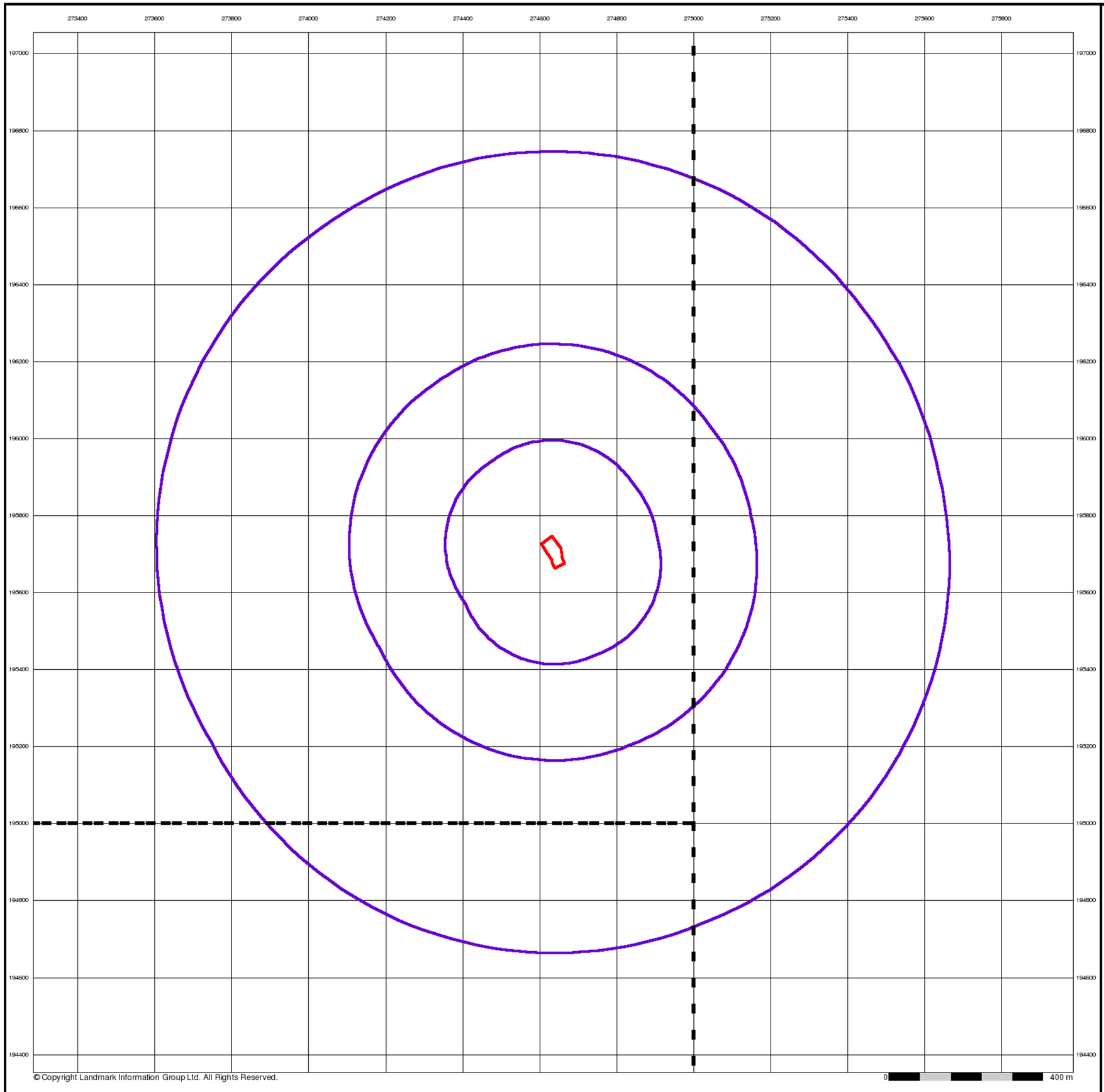
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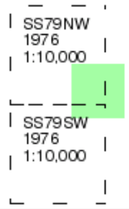
Swansea

Published 1976

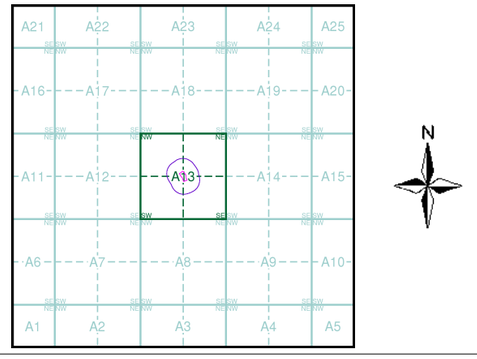
Source map scale - 1:10,000

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)



Russian Map - Slice A



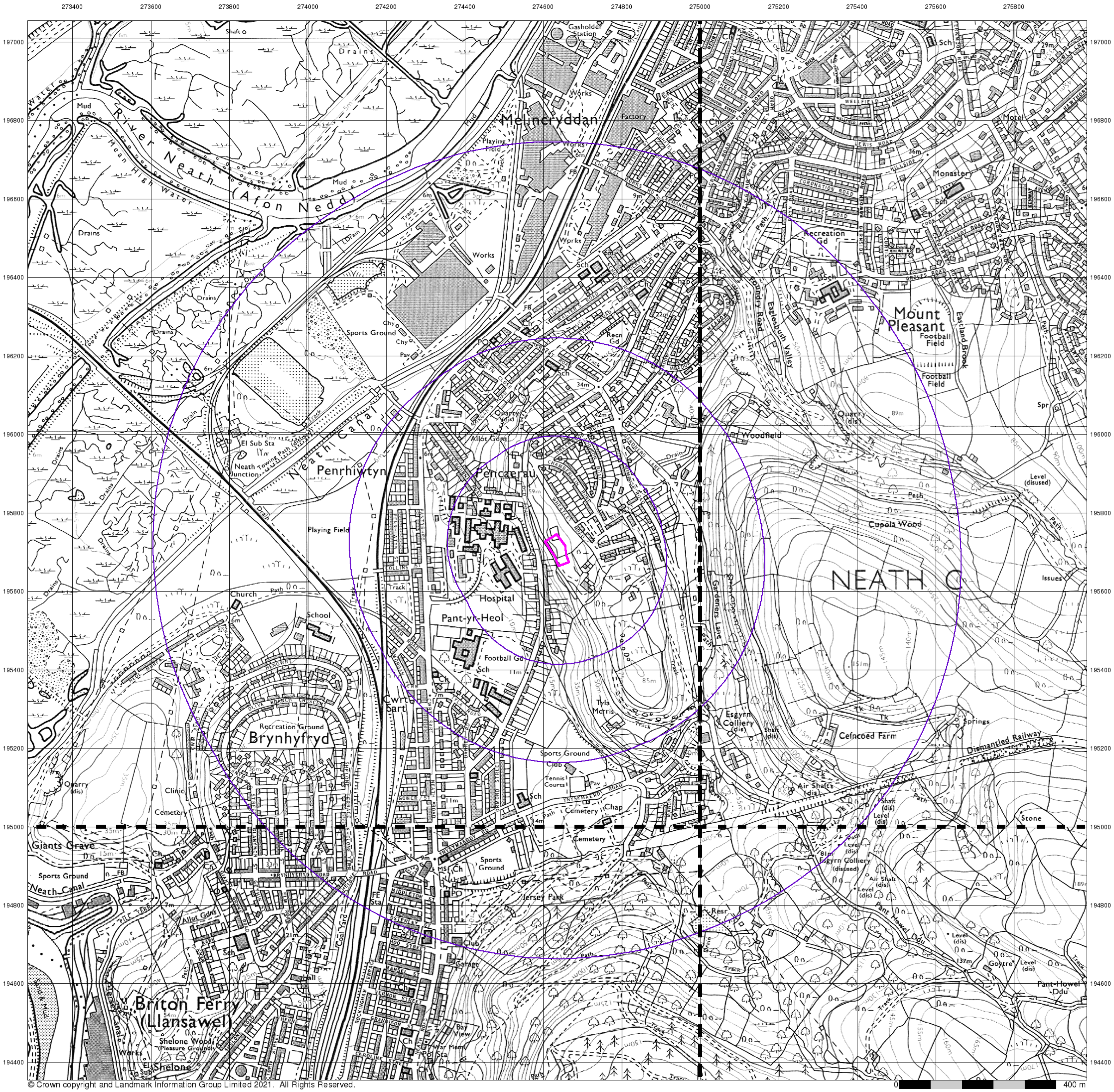
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Ordnance Survey Plan

Published 1980 - 1983

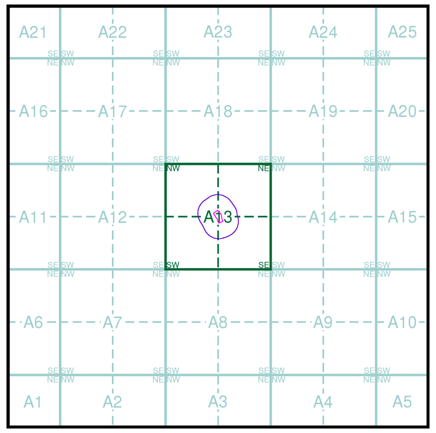
Source map scale - 1:10,000

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Map Name(s) and Date(s)

SS79NW 1980 1:10,000	SS79NE 1983 1:10,000
SS79SW 1980 1:10,000	SS79SE 1980 1:10,000

Historical Map - Slice A



Order Details

Order Number: 281040714_1_1
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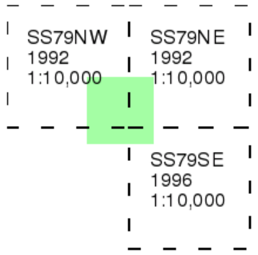
Ordnance Survey Plan

Published 1992 - 1996

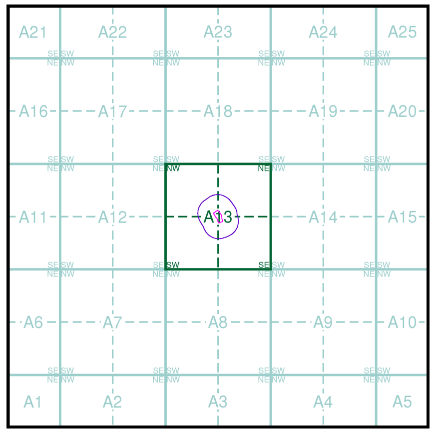
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A





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10k Raster Mapping

Published 1999

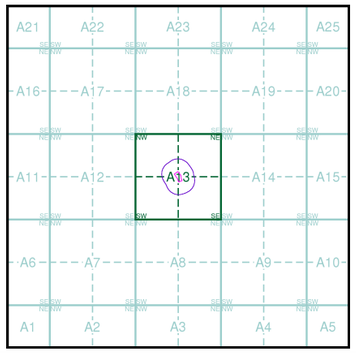
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SS79NW 1999 1:10,000	SS79NE 1999 1:10,000
SS79SW 1999 1:10,000	SS79SE 1999 1:10,000

Historical Map - Slice A



Order Details

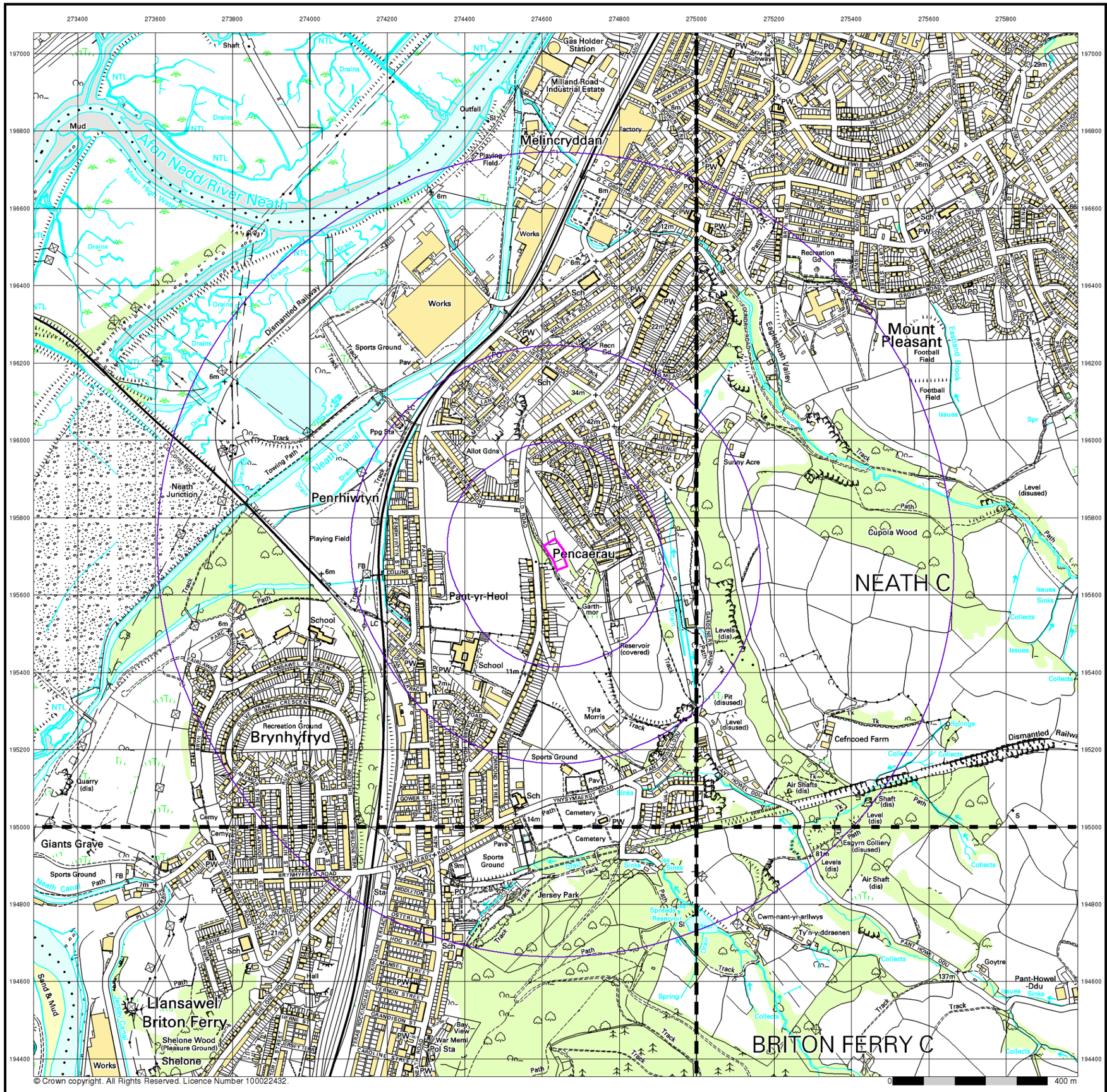
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10k Raster Mapping

Published 2006

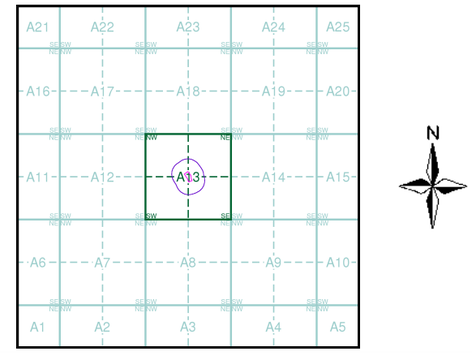
Source map scale - 1:10,000

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Map Name(s) and Date(s)

SS79NW 2006 1:10,000	SS79NE 2006 1:10,000
SS79SW 2006 1:10,000	SS79SE 2006 1:10,000

Historical Map - Slice A



Order Details

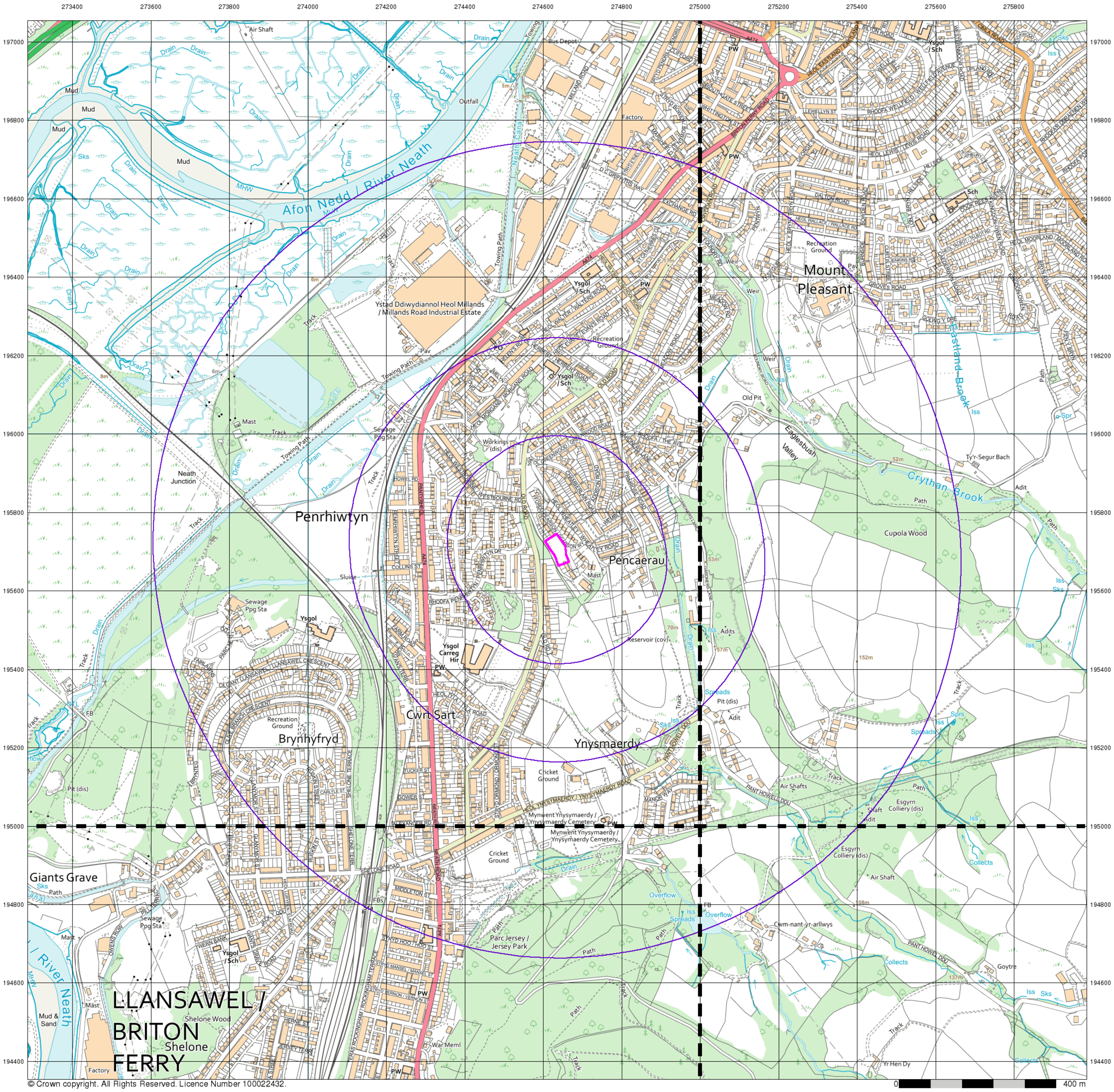
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VectorMap Local

Published 2021

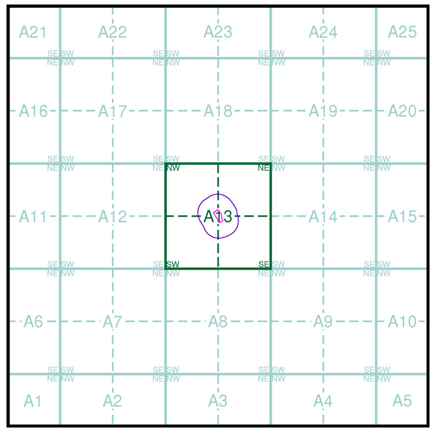
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SS79NW 2021 Variable	SS79NE 2021 Variable
SS79SW 2021 Variable	SS79SE 2021 Variable

Historical Map - Slice A





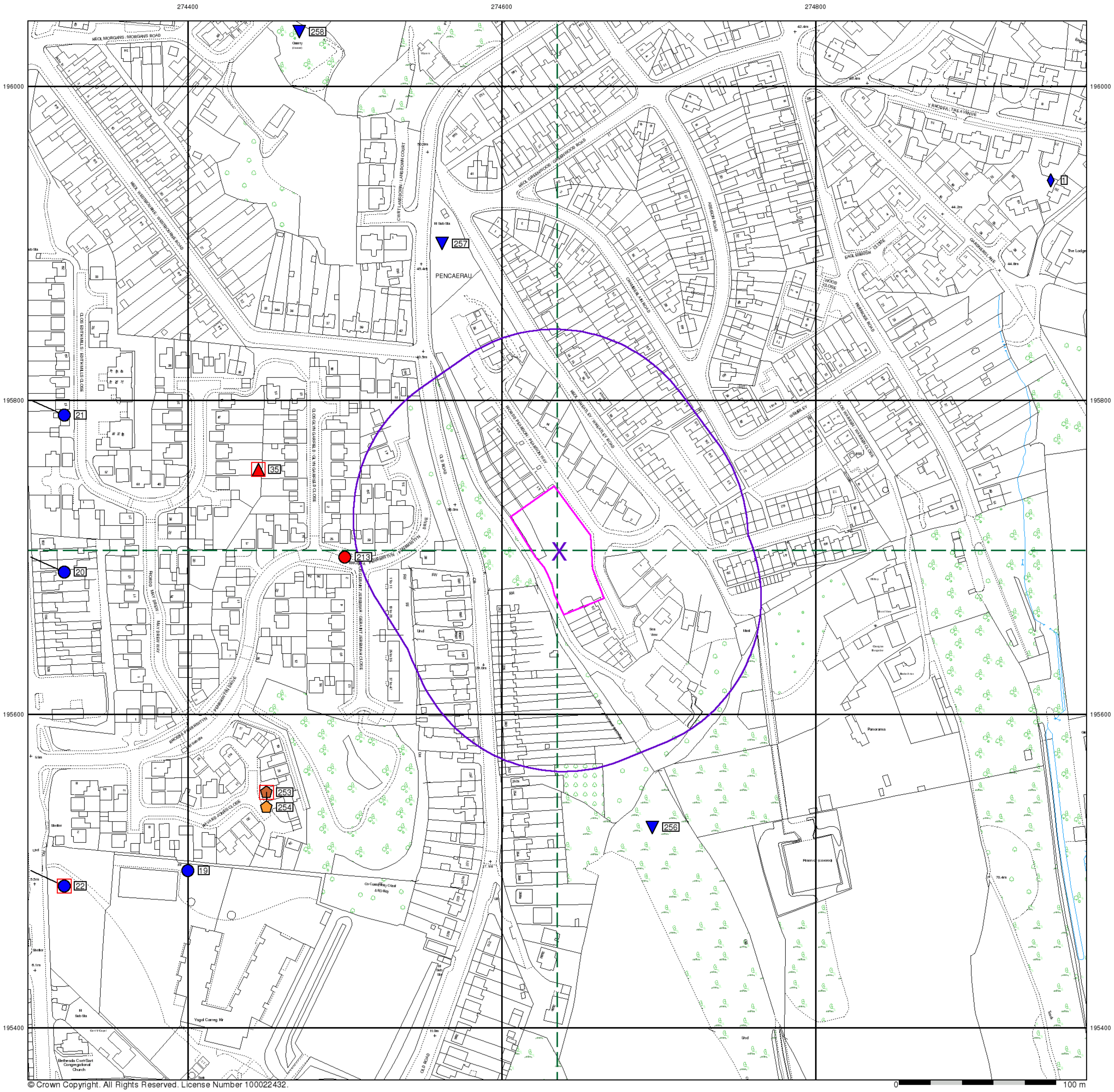
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General

- ⬠ Specified Site
- ⬠ Specified Buffer(s)
- X Bearing Reference Point
- 8 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
- ▼ Local Authority Pollution Prevention and Control Enforcement
- ● Pollution Incident to Controlled Waters
- ▼ Prosecution Relating to Authorised Processes
- ◆ Prosecution Relating to Controlled Waters
- ▲ Registered Radioactive Substance
- River Network or Water Feature
- ✚ River Quality Sampling Point
- ⬟ Substantiated Pollution Incident Register
- ◆ Water Abstraction
- ◆ Water Industry Act Referral

Hazardous Substances

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

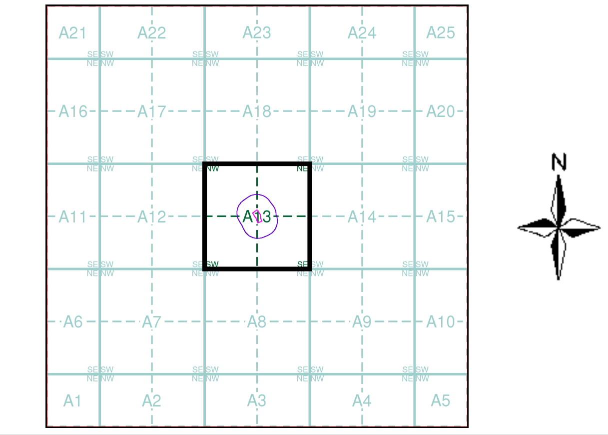
Geological

- ▼ BGS Recorded Mineral Site

Waste

- ▼ BGS Recorded Landfill Site (Location)
- ▨ BGS Recorded Landfill Site
- ● EA Historic Landfill (Buffered Point)
- 🟥 EA Historic Landfill (Polygon)
- ▲ Integrated Pollution Control Registered Waste Site
- ▨ Licensed Waste Management Facility (Landfill Boundary)
- ● Licensed Waste Management Facility (Location)
- 🟥 Local Authority Recorded Landfill Site (Location)
- ▥ Local Authority Recorded Landfill Site
- ● Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- ▨ Potentially Infilled Land (Non-water)
- ▶ Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- ▨ Potentially Infilled Land (Water)
- ▨ Registered Landfill Site
- ▶ Registered Landfill Site (Location)
- ▤ Registered Landfill Site (Point Buffered to 100m)
- ▤ Registered Landfill Site (Point Buffered to 250m)
- ⬟ Registered Waste Transfer Site (Location)
- ▥ Registered Waste Transfer Site
- ⬟ Registered Waste Treatment or Disposal Site (Location)
- ▤ Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



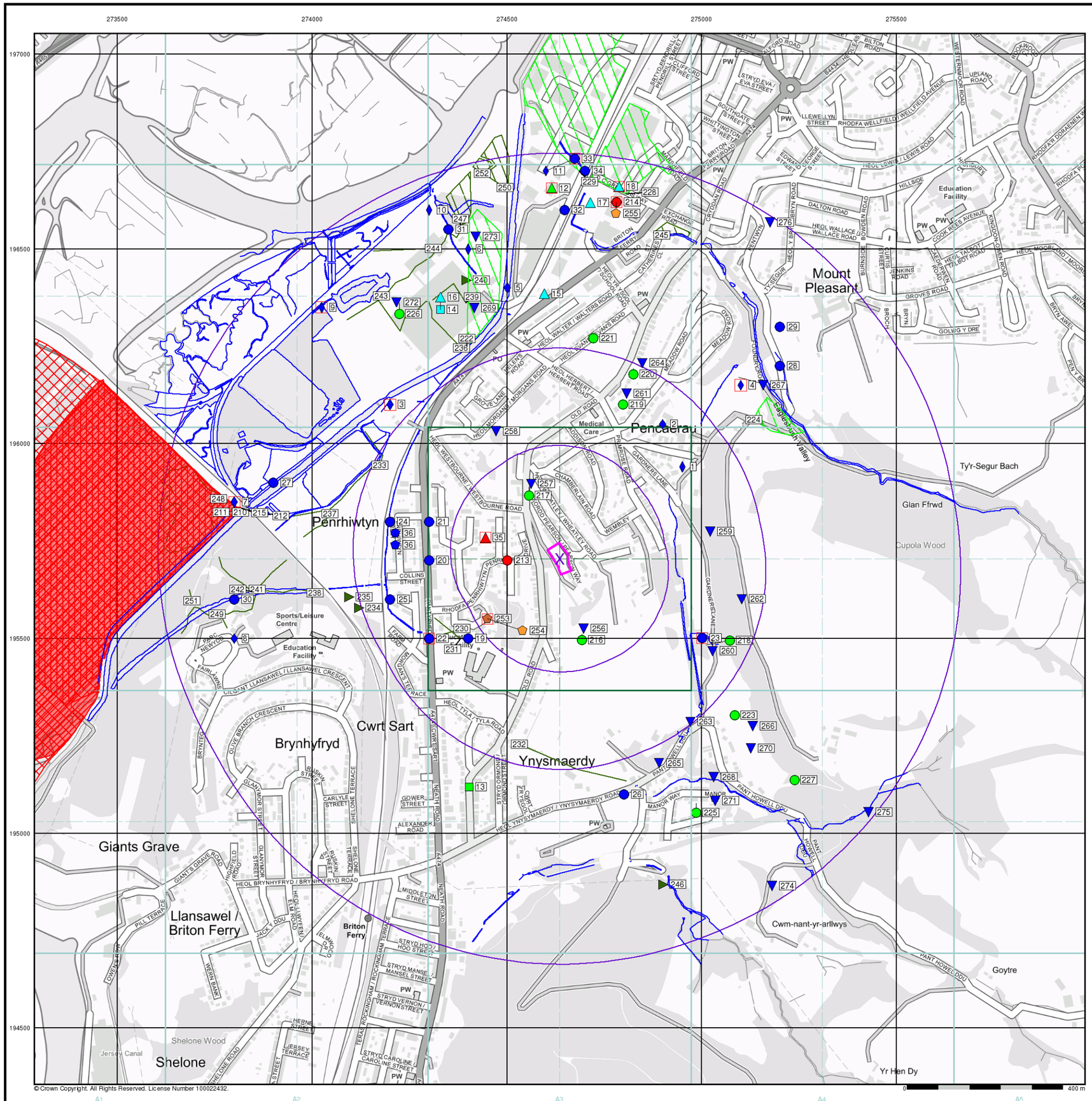
Order Details

Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Plot Buffer (m):	100

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

- 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)
- 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

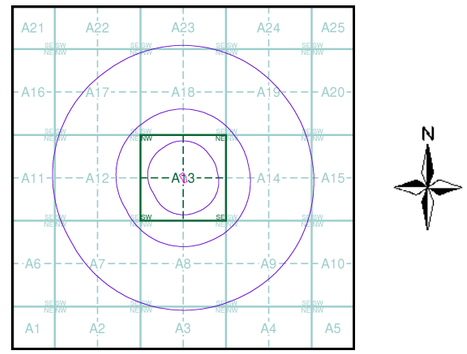
Hazardous Substances

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

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A



Order Details

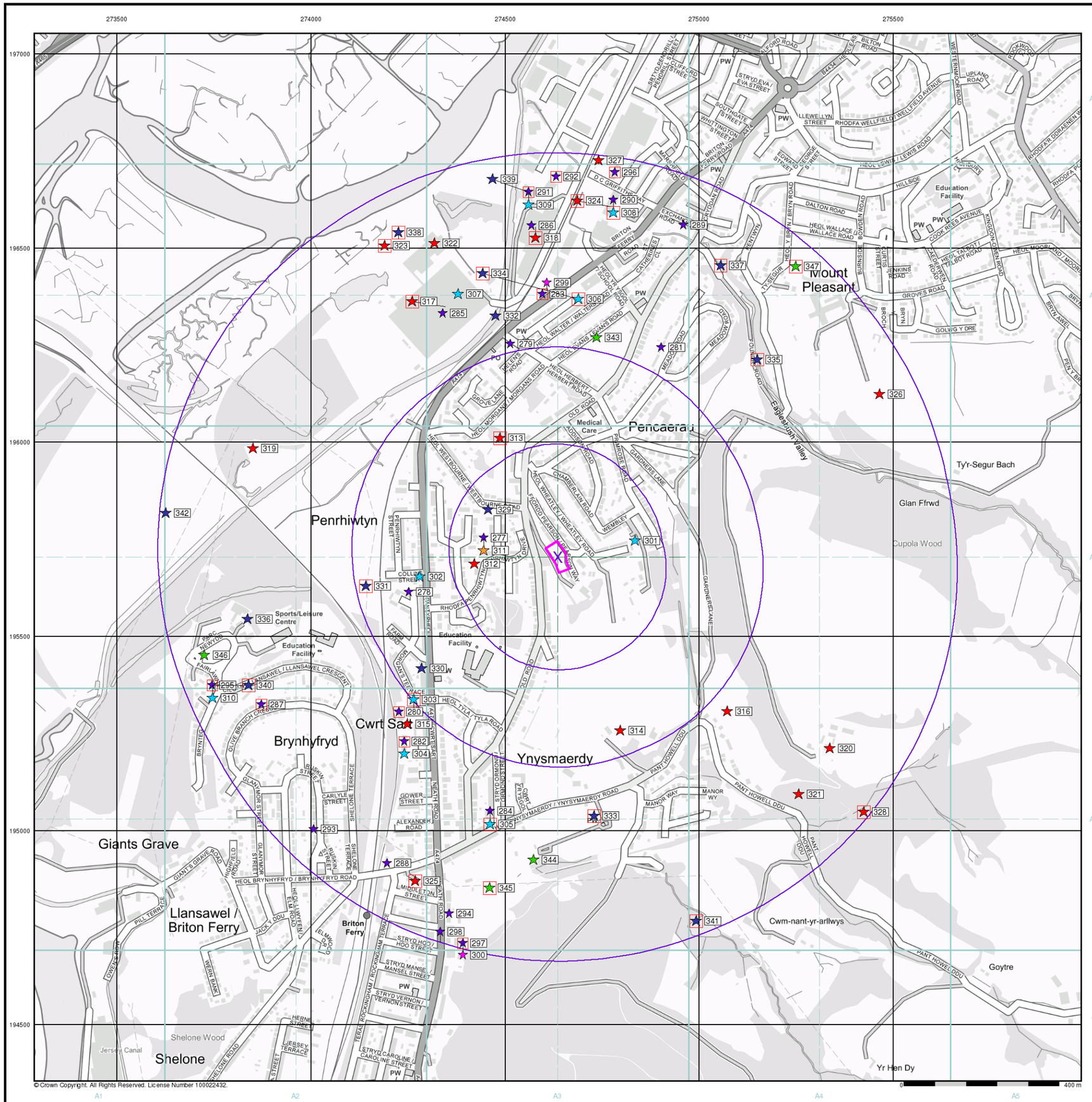
Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

Site Details

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Industrial Land Use Map

General

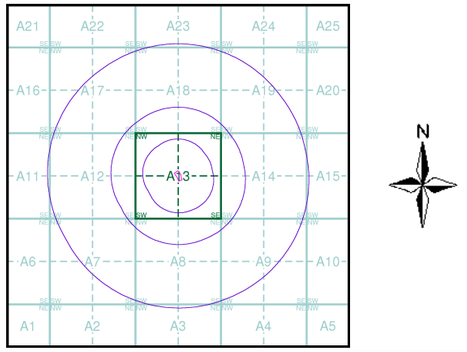
Specified Site | Specified Buffer(s) | Bearing Reference Point

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:	281040714_1_1
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National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

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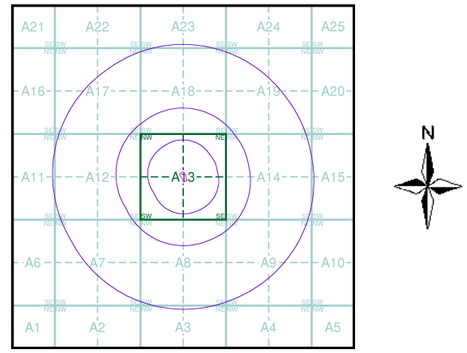
General

- 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

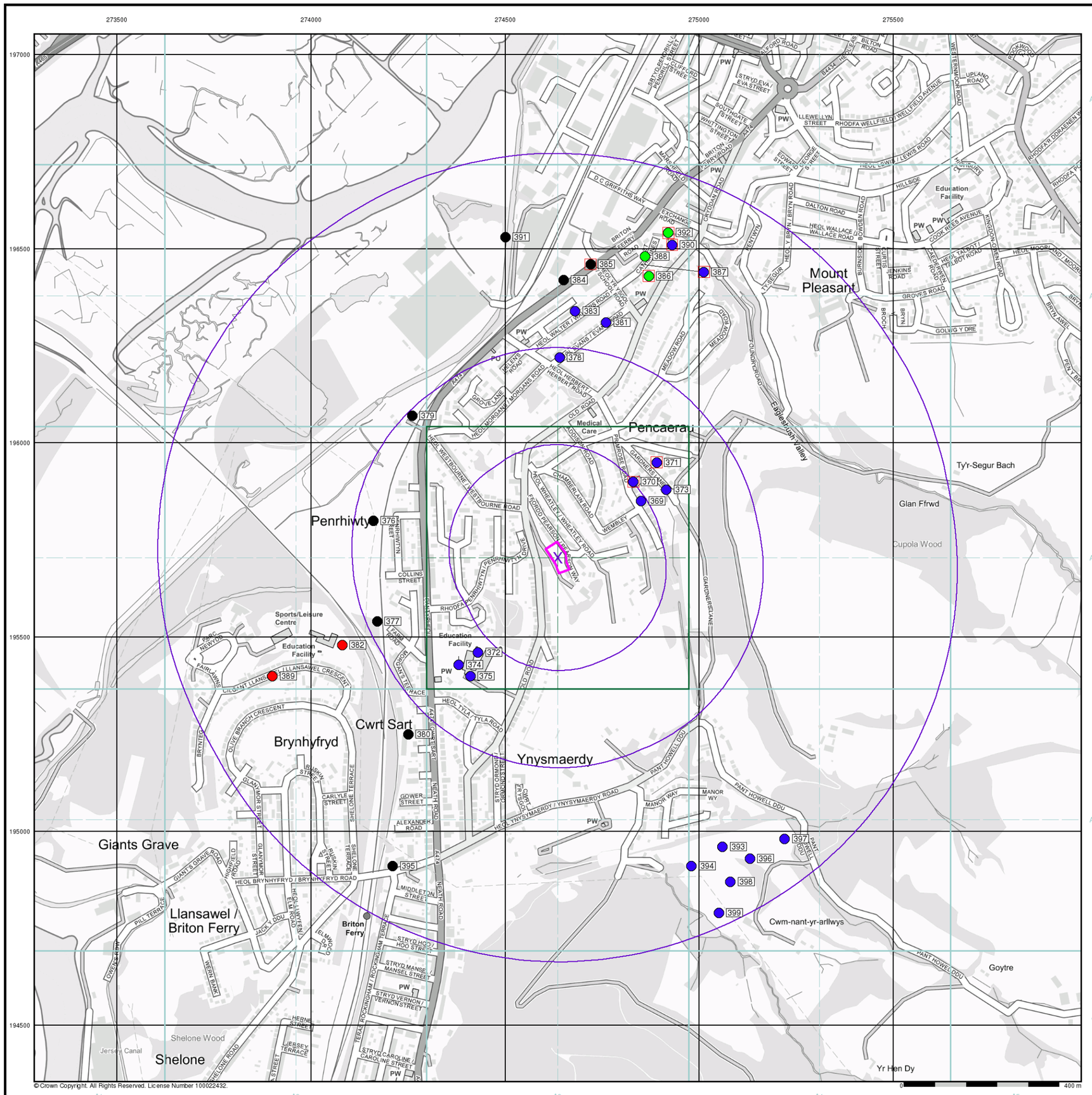
Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

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

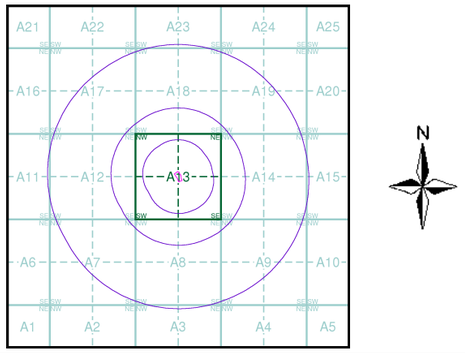
Agency and Hydrological (Boreholes)

- 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

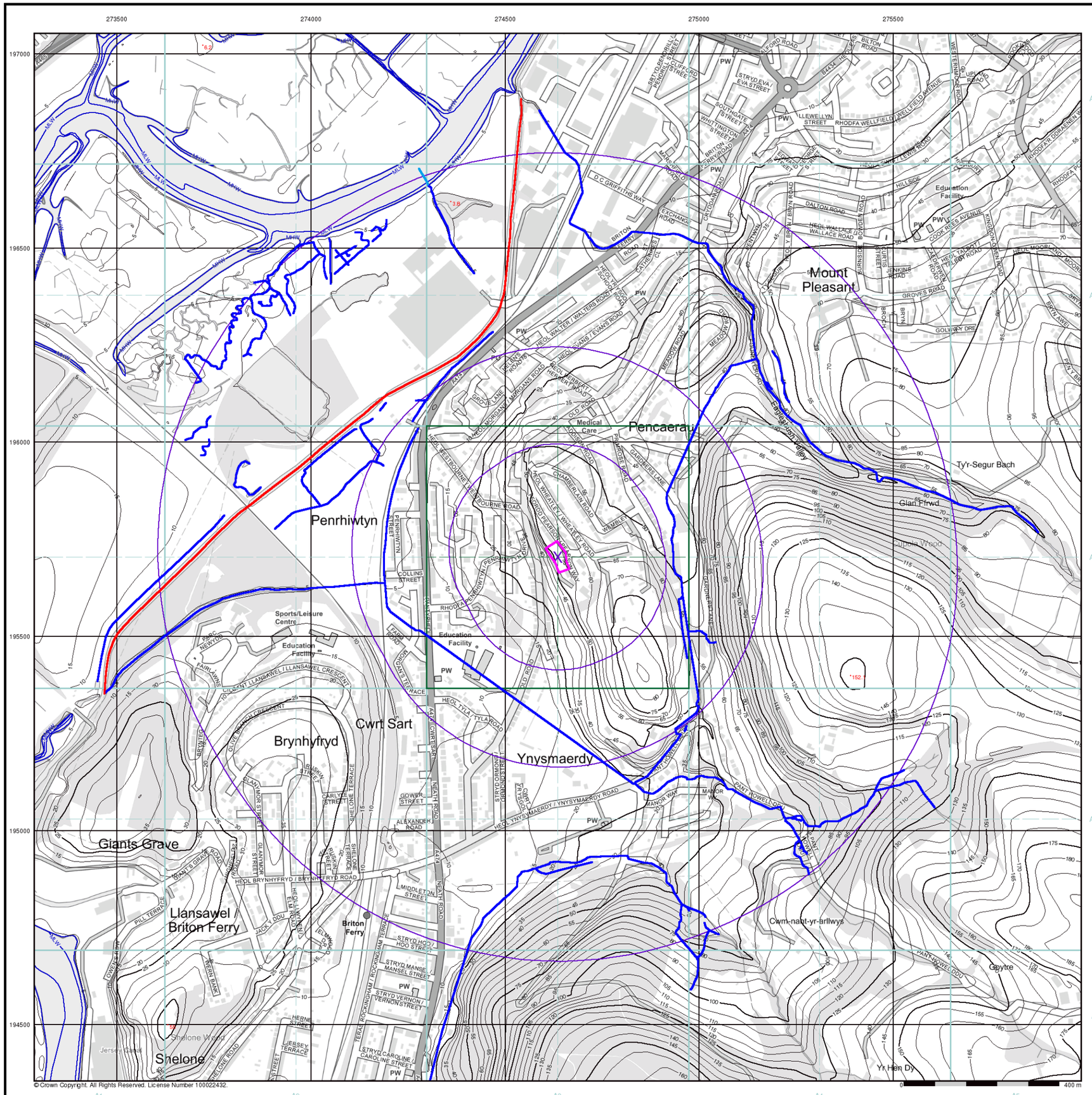
Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

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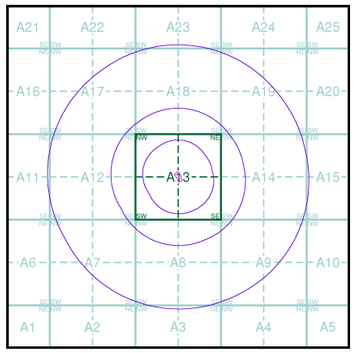
OS Water Network Data

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

Contours (height in meters)

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

OS Water Network Map - Slice A



Order Details

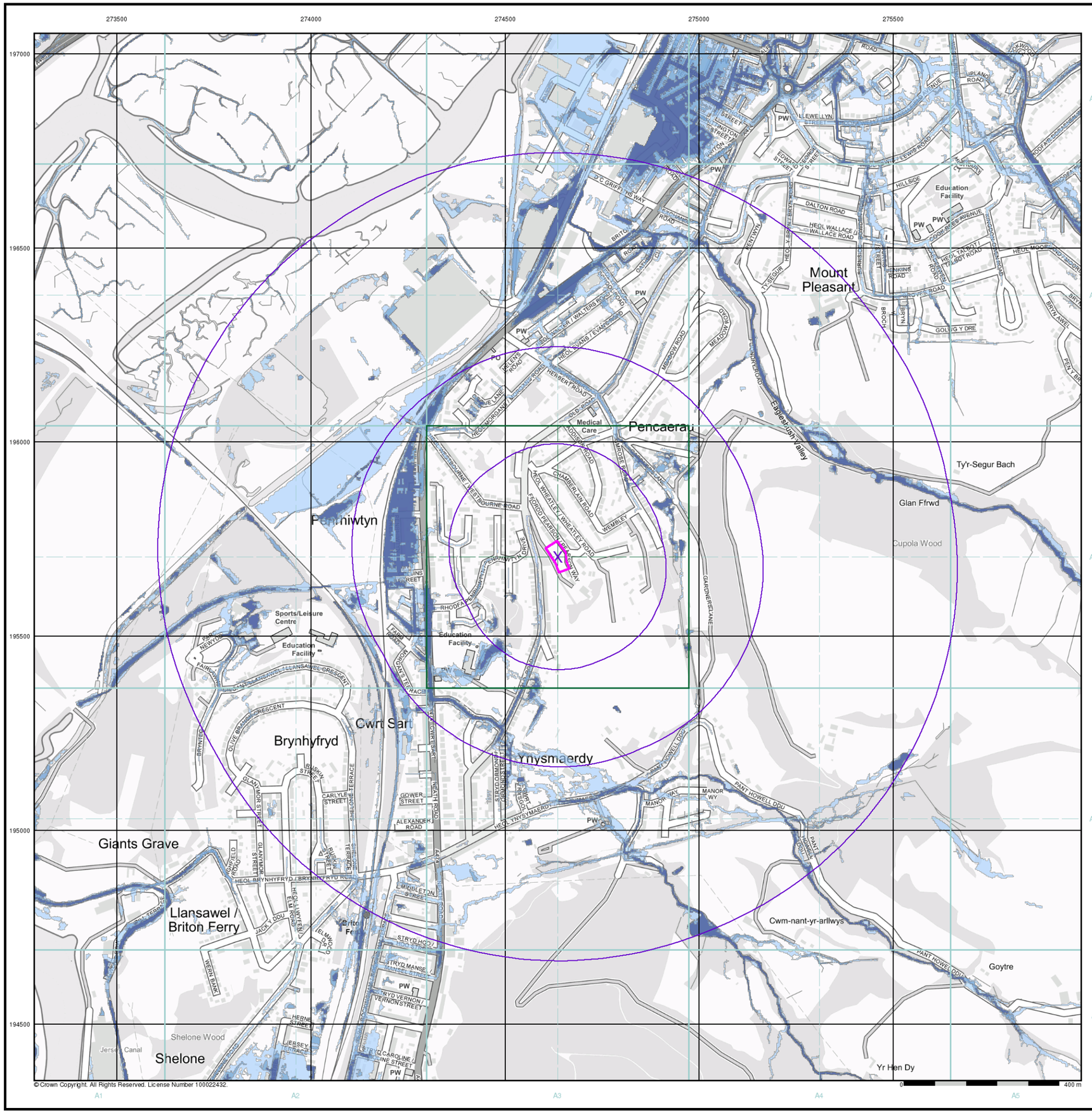
Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	1000

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General

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

Risk of Flooding from Surface Water

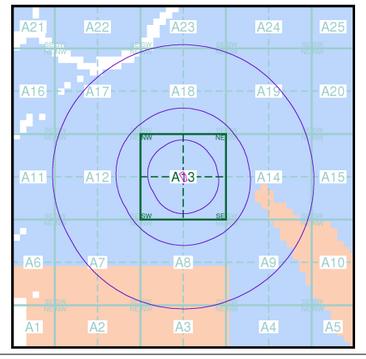
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice A



Order Details

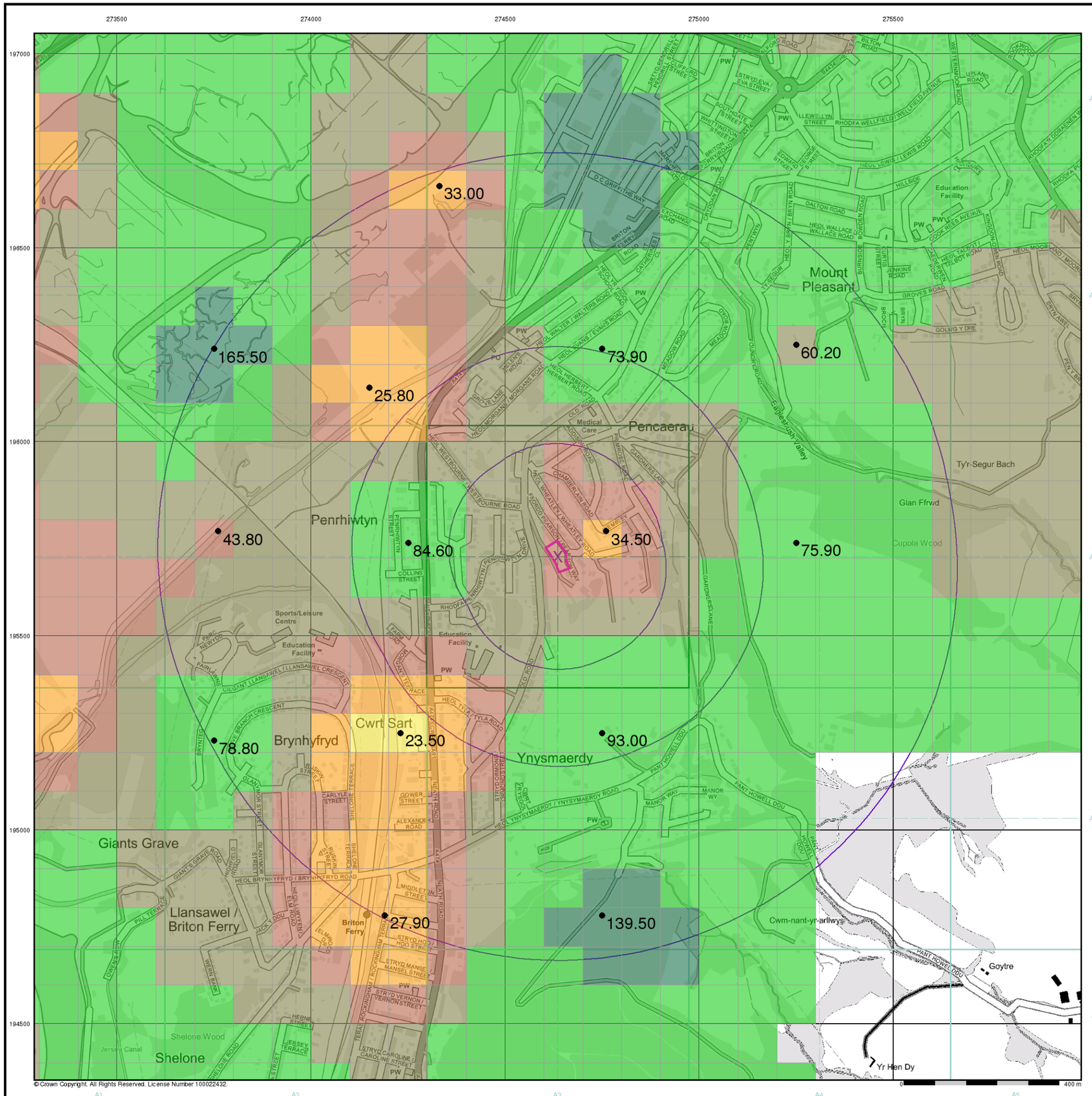
Order Number:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
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Specified Site | Specified Buffer(s) | X Bearing Reference Point

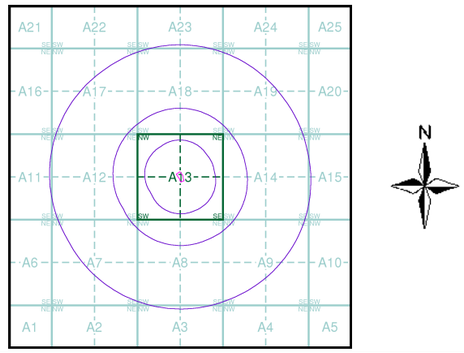
Urban Soil Chemistry Arsenic

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

Arsenic Concentrations mg/kg

< 15
15 - 25
25 - 35
35 - 45
45 - 60
60 - 120
> 120

Urban Soil Chemistry Arsenic - Slice A



Order Details

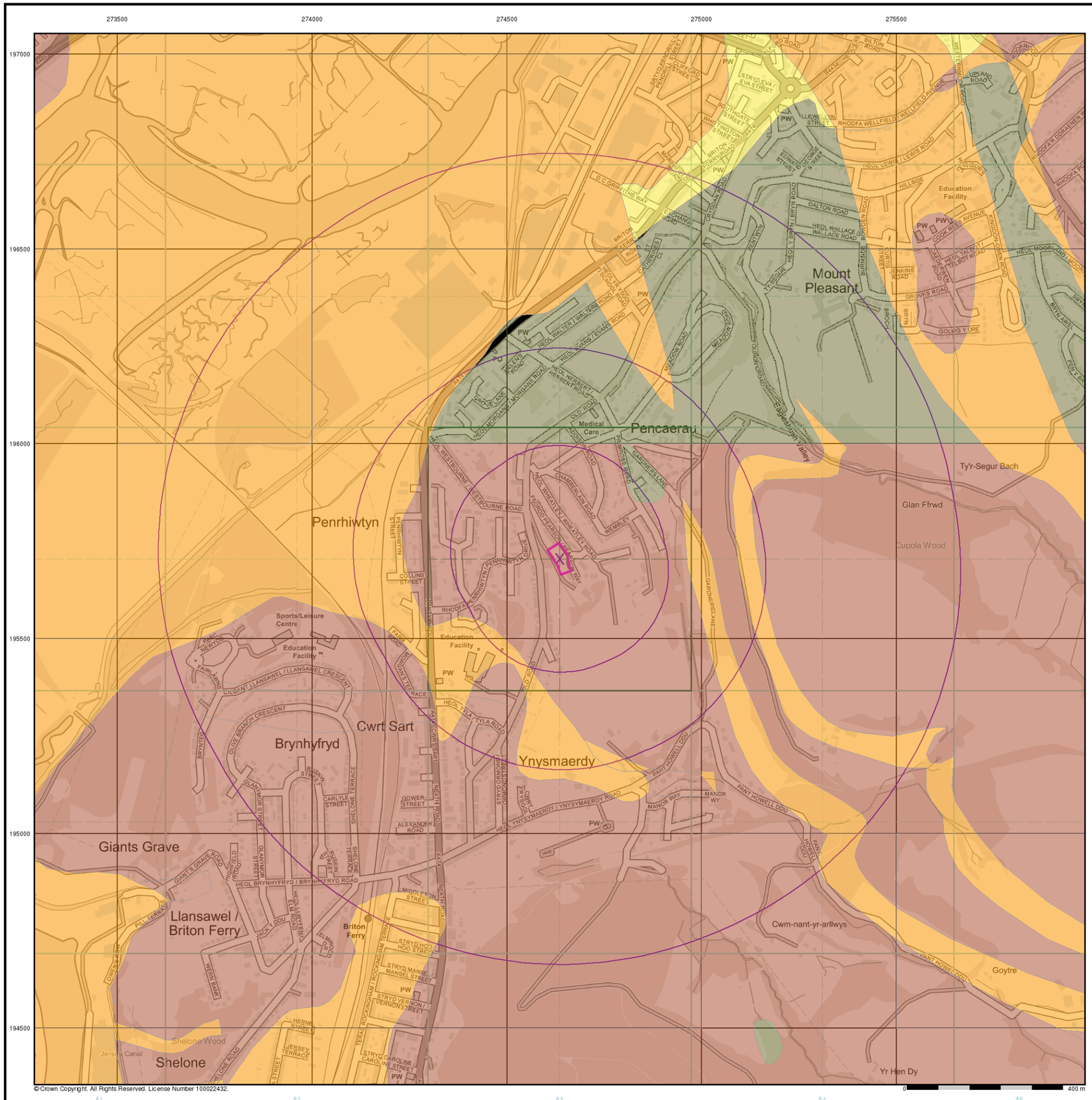
Order Details:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search buffer (m):	1000

Site Details

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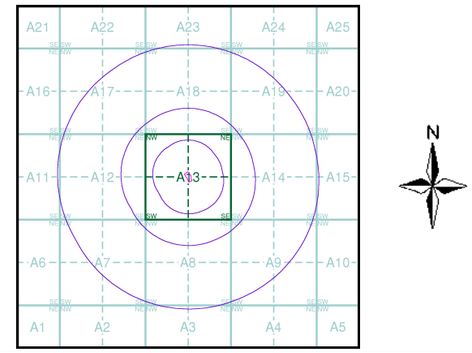
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



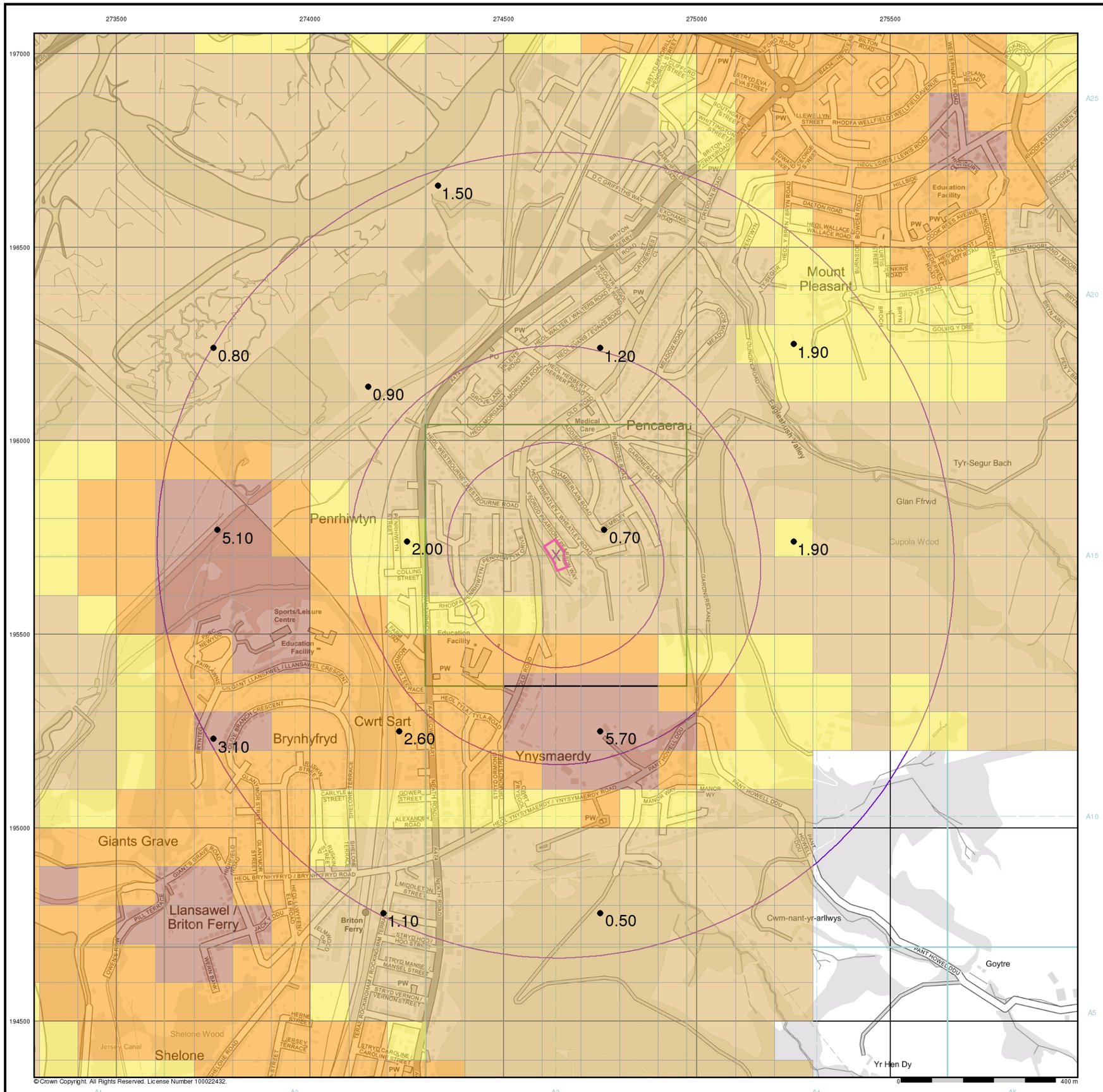
Order Details

Order Details:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search buffer (m):	1000

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General

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

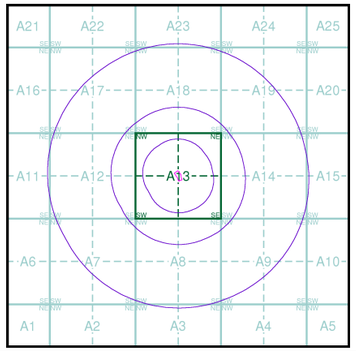
Urban Soil Chemistry Cadmium

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

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Urban Soil Chemistry Cadmium - Slice A



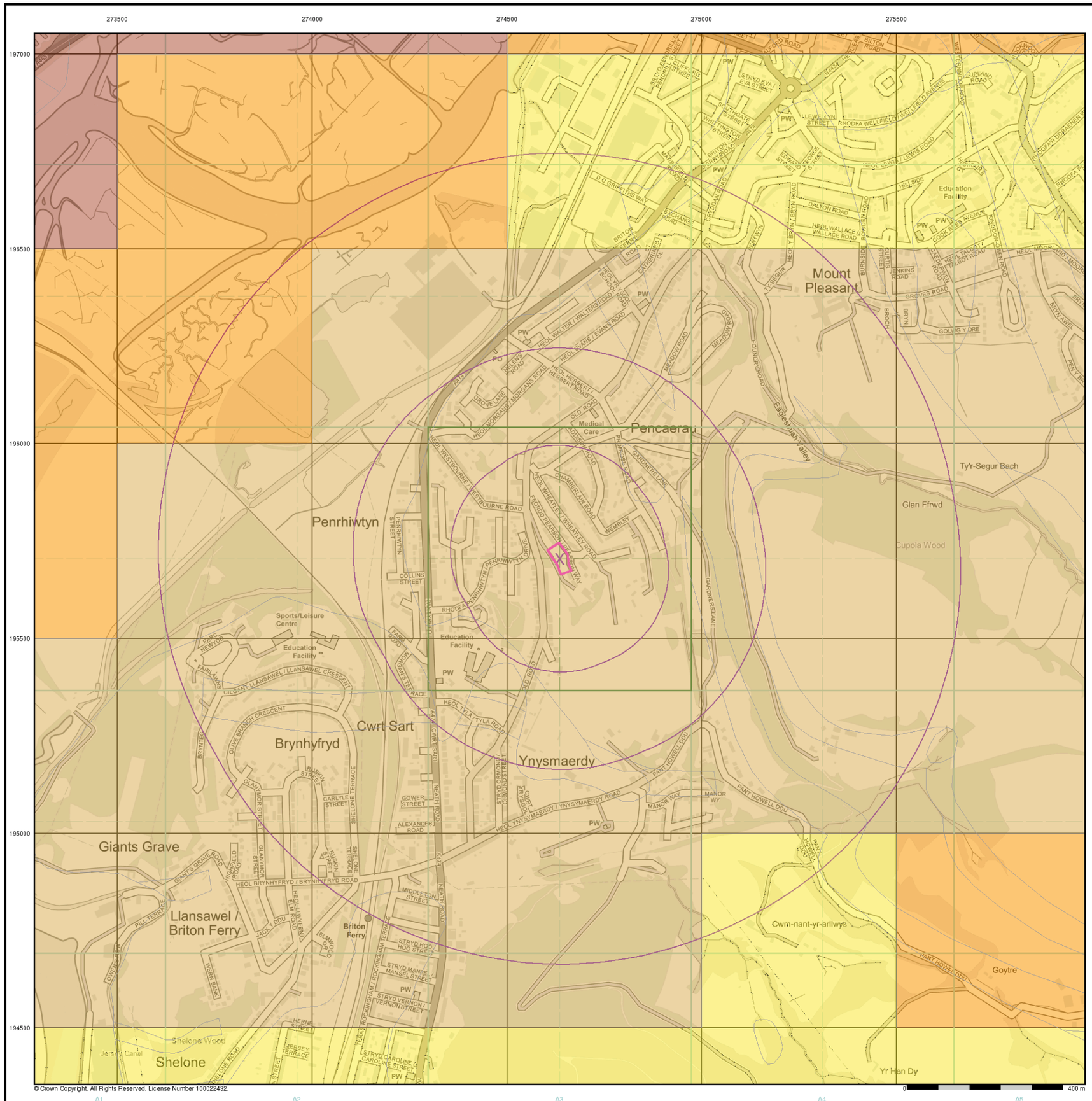
Order Details

Order Details:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
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Site Details

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General

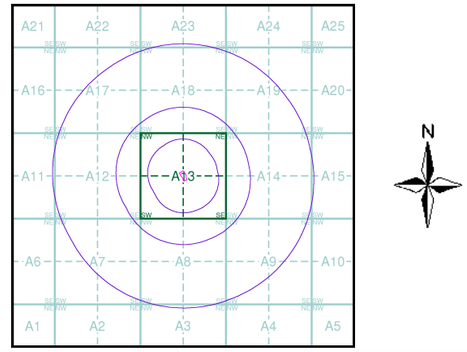
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



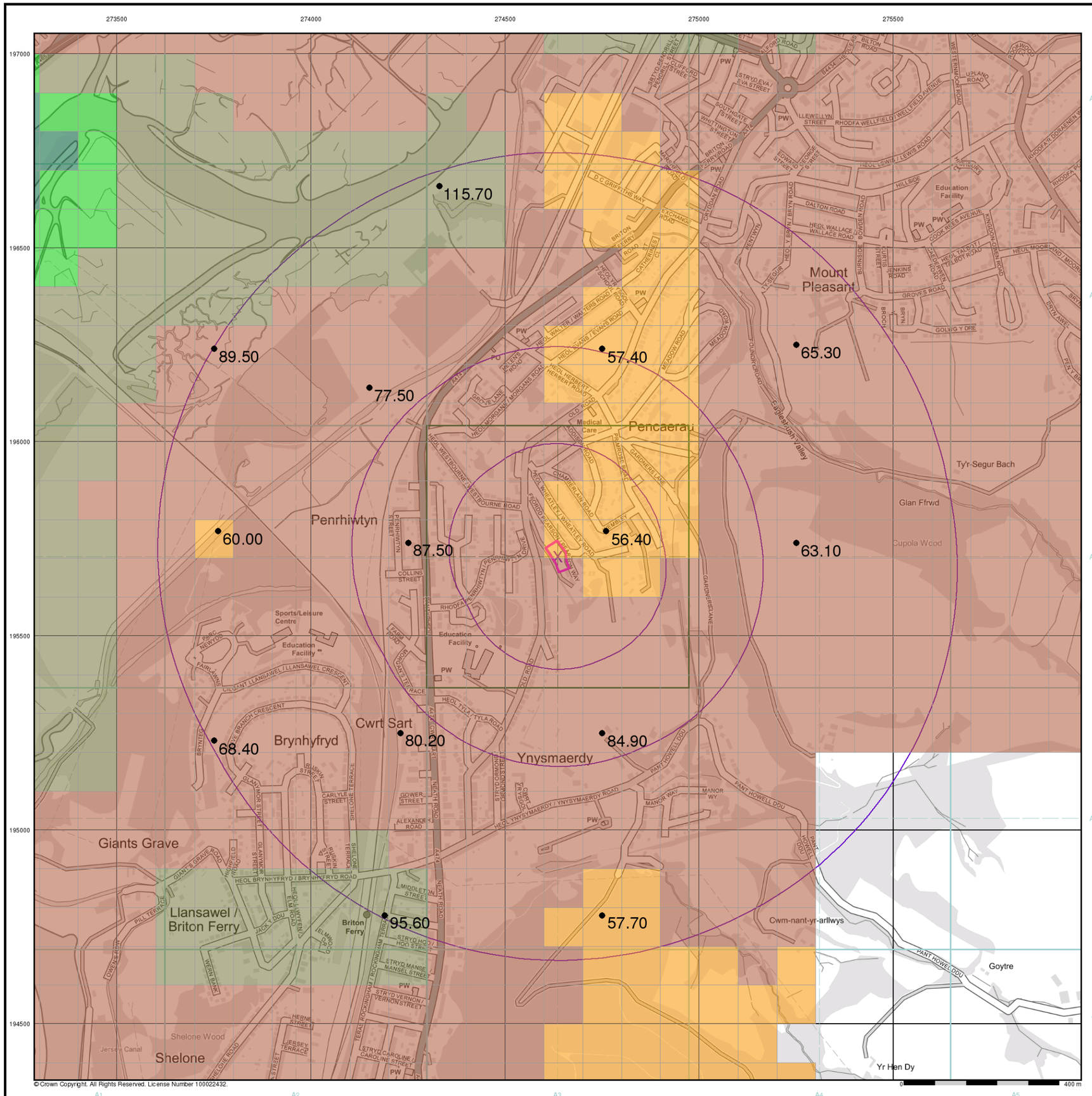
Order Details

Order Details:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
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General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

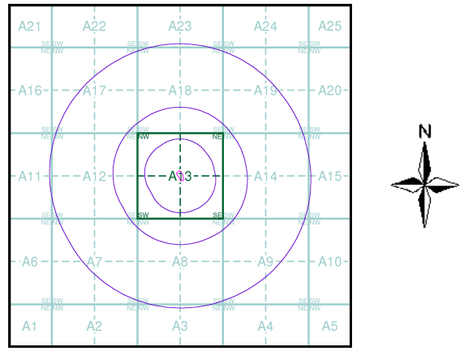
Urban Soil Chemistry Chromium

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

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Urban Soil Chemistry Chromium - Slice A



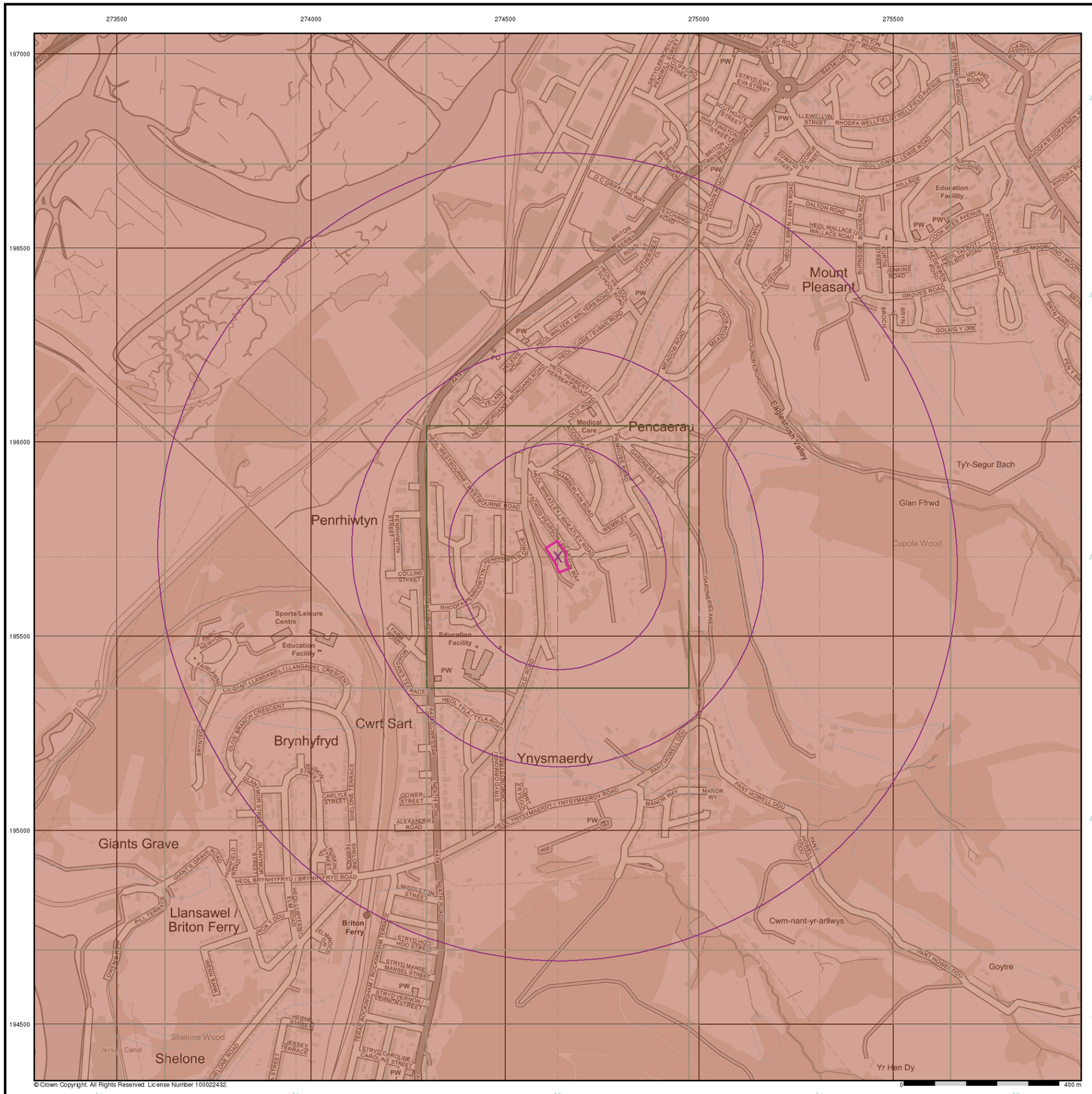
Order Details

Order Details:	281040714_1_1
Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
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General

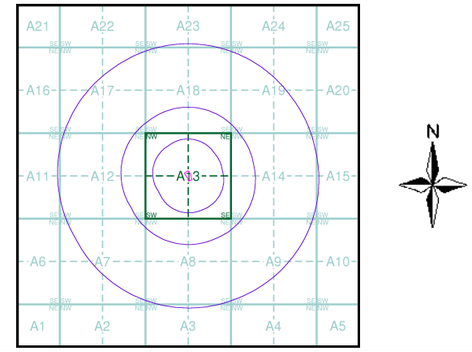
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



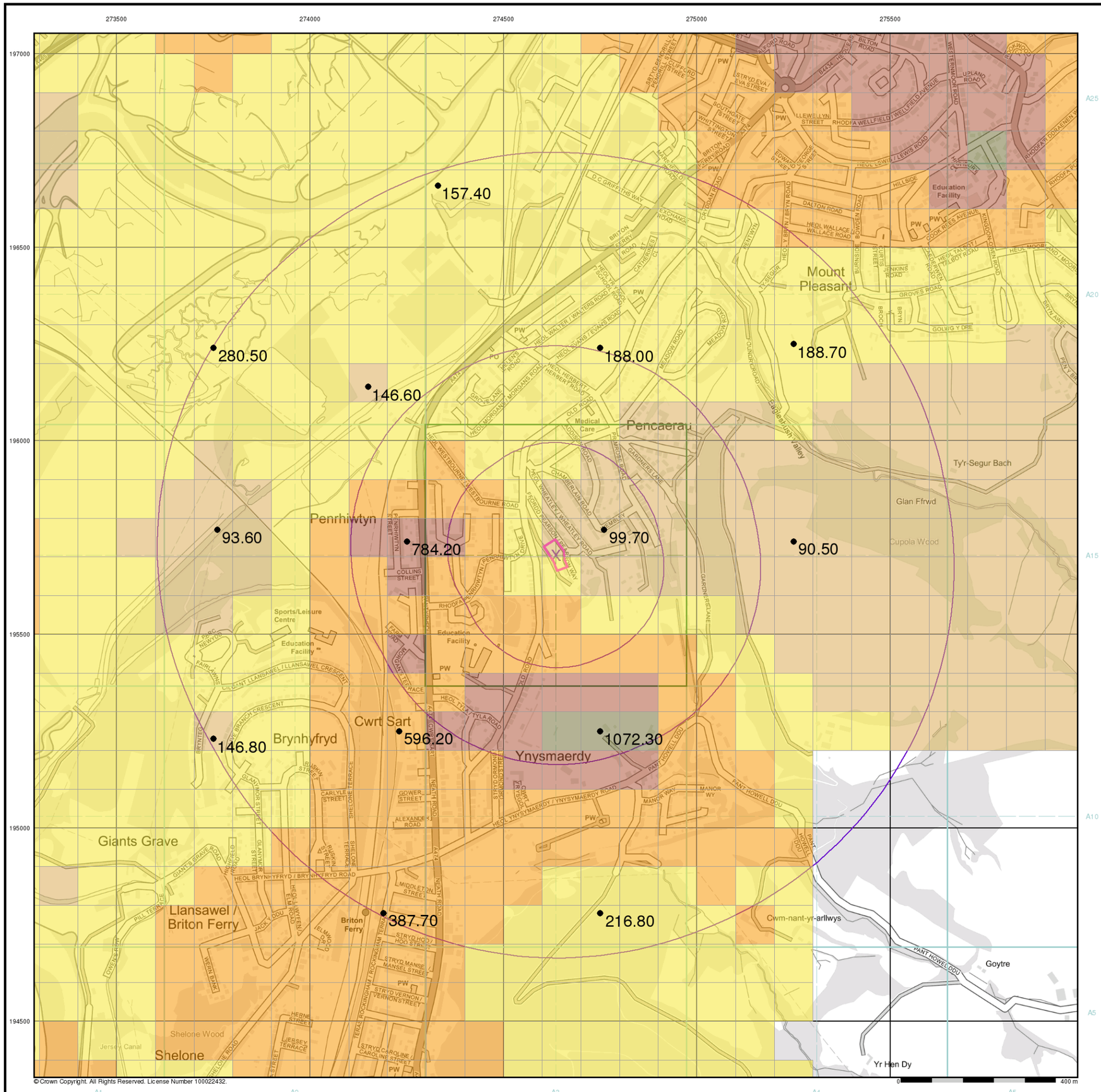
Order Details

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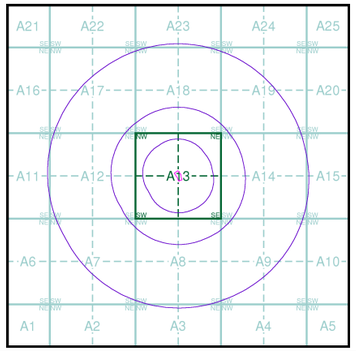
Urban Soil Chemistry Lead

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

Lead Concentrations mg/kg

< 150
150 - 300
300 - 600
600 - 900
> 900

Urban Soil Chemistry Lead - Slice A



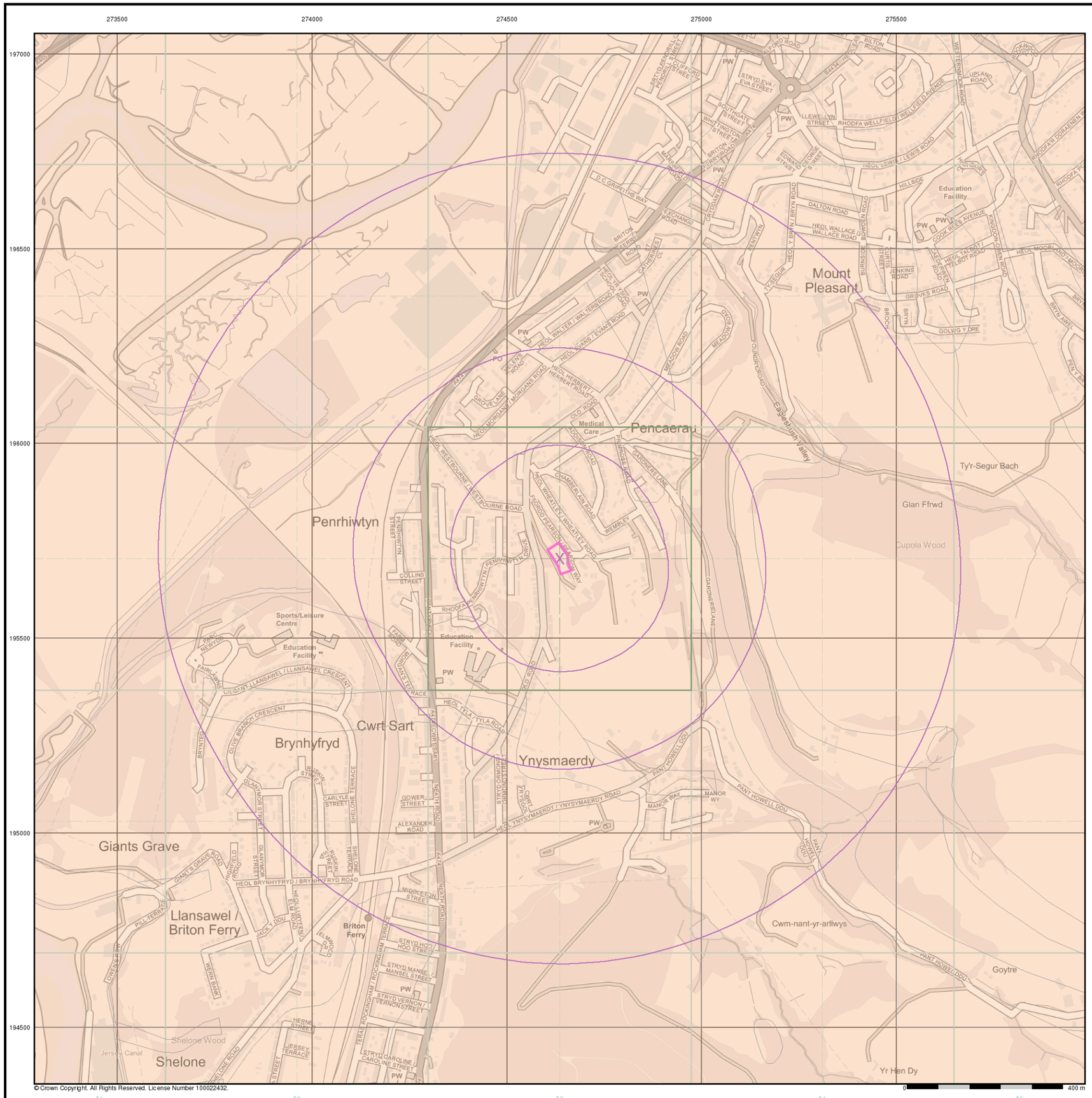
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Customer Ref:	16819 - Pearson Way
National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search buffer (m):	1000

Site Details

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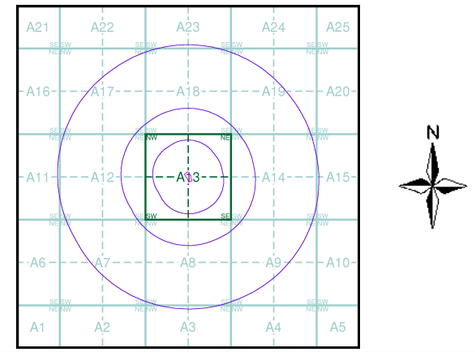
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



Order Details

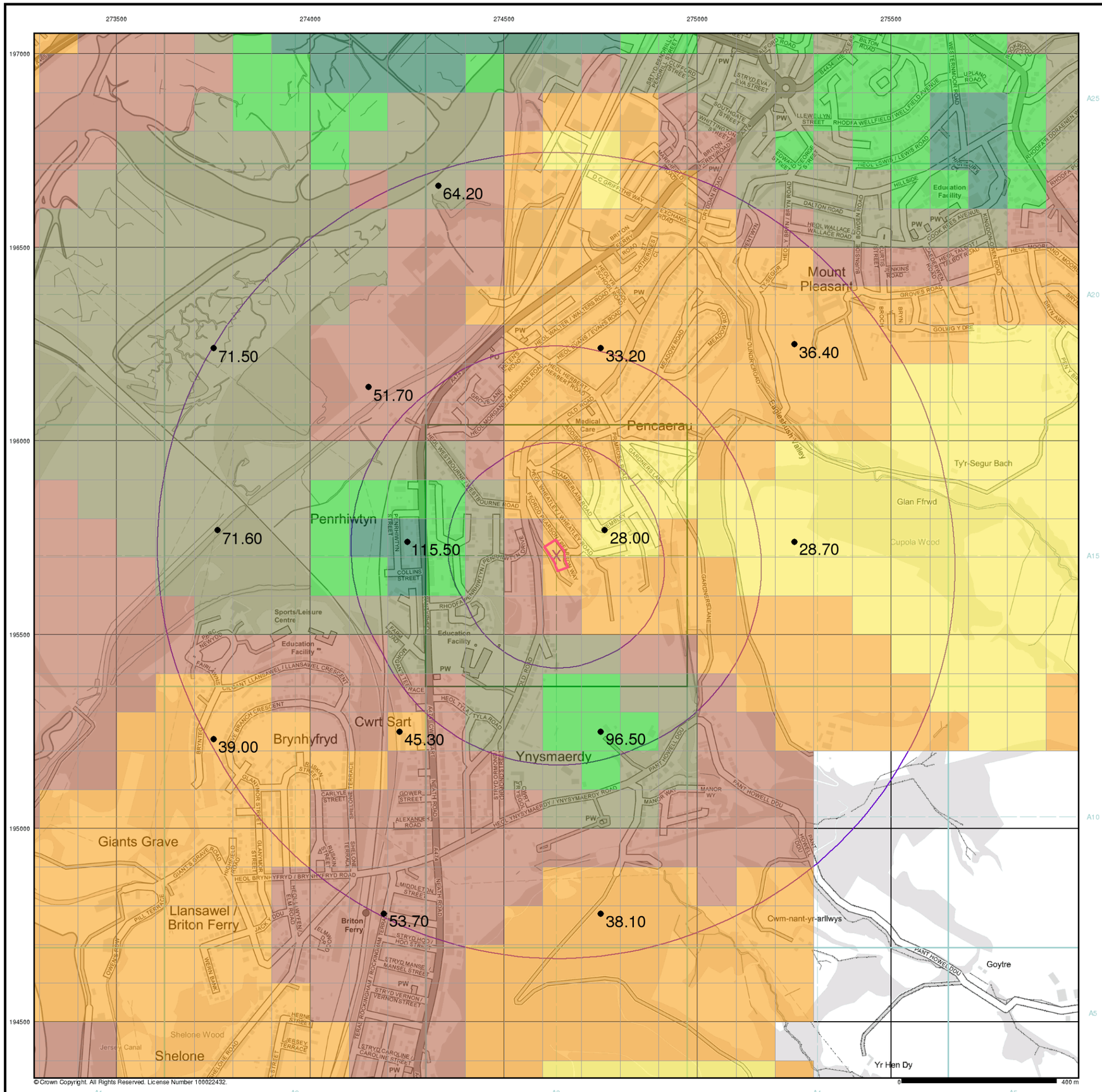
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Specified Site | Specified Buffer(s) | X Bearing Reference Point

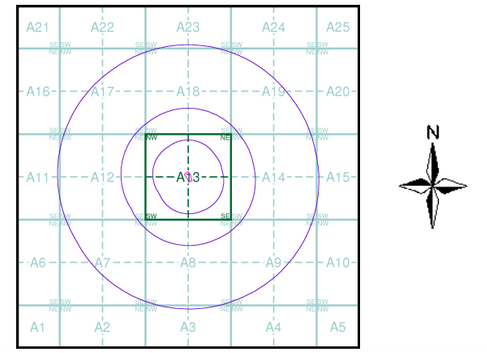
Urban Soil Chemistry Nickel

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

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Urban Soil Chemistry Nickel - Slice A



Order Details

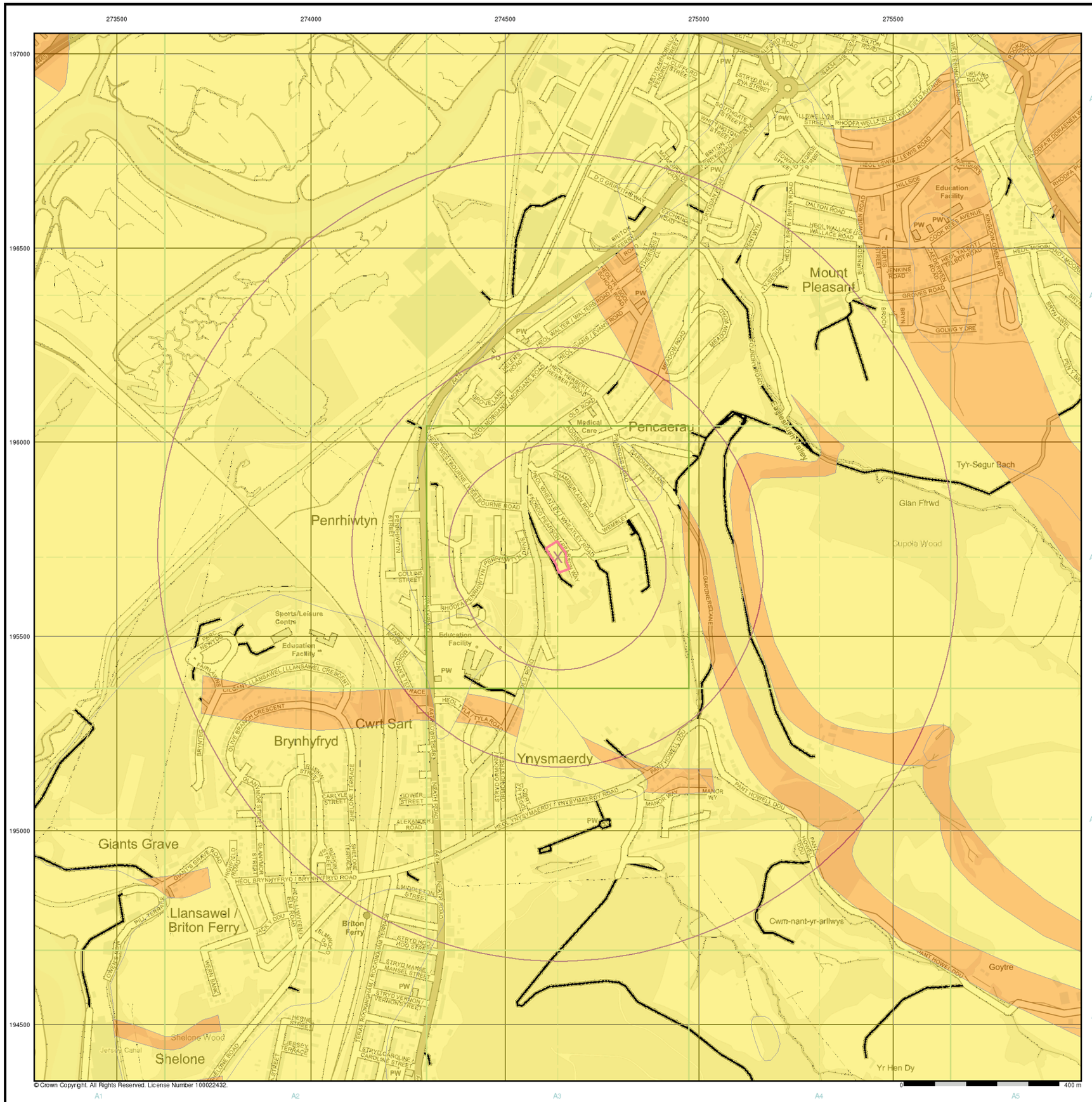
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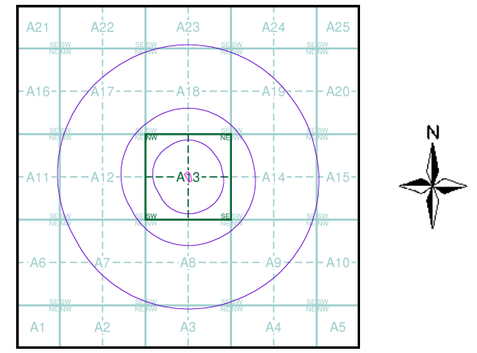
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



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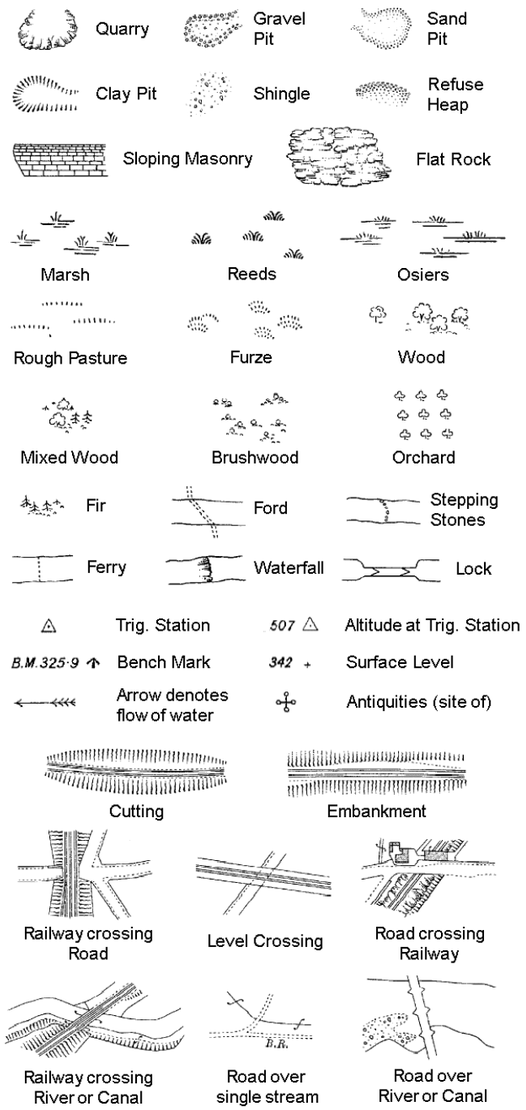
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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

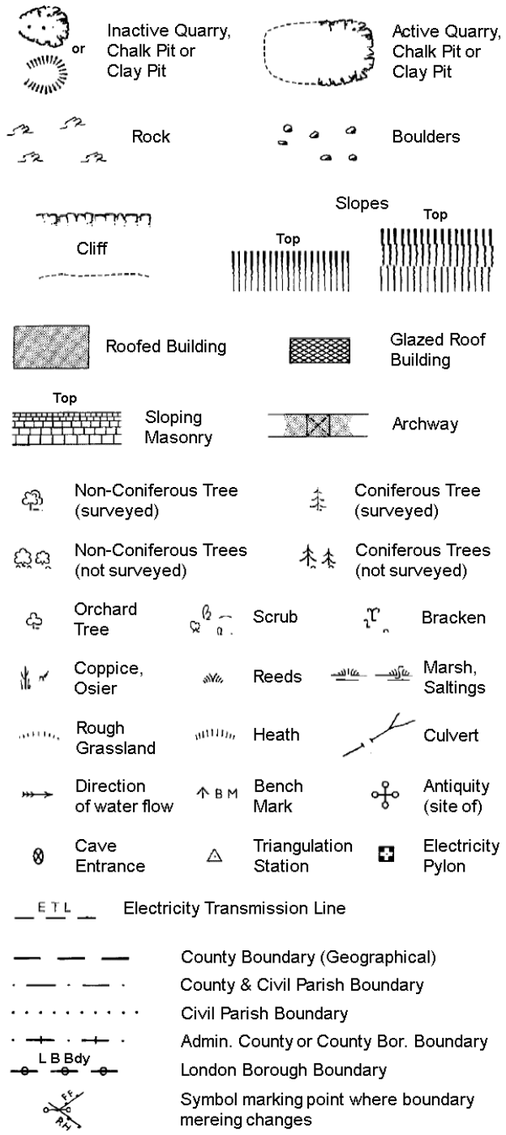
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

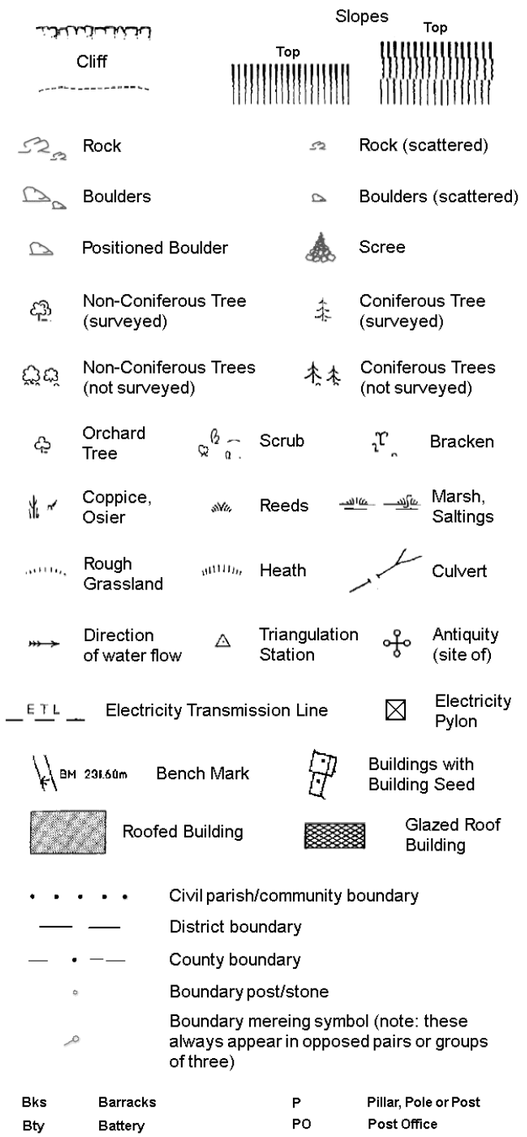
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

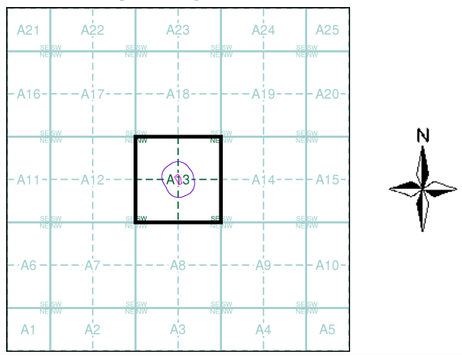
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1878 - 1882	2
Glamorganshire	1:2,500	1899	3
Glamorganshire	1:2,500	1918 - 1919	4
Glamorganshire	1:2,500	1935 - 1941	5
Ordnance Survey Plan	1:1,250	1951	6
Ordnance Survey Plan	1:2,500	1952	7
Ordnance Survey Plan	1:1,250	1958 - 1967	8
Ordnance Survey Plan	1:2,500	1964 - 1970	9
Ordnance Survey Plan	1:1,250	1967	10
Ordnance Survey Plan	1:1,250	1971	11
Additional SIMs	1:1,250	1979 - 1989	12
Additional SIMs	1:1,250	1987 - 1989	13
Additional SIMs	1:1,250	1989	14
Large-Scale National Grid Data	1:1,250	1993	15
Large-Scale National Grid Data	1:1,250	1995	16
Historical Aerial Photography	1:2,500	2000	17

Historical Map - Segment A13



Order Details

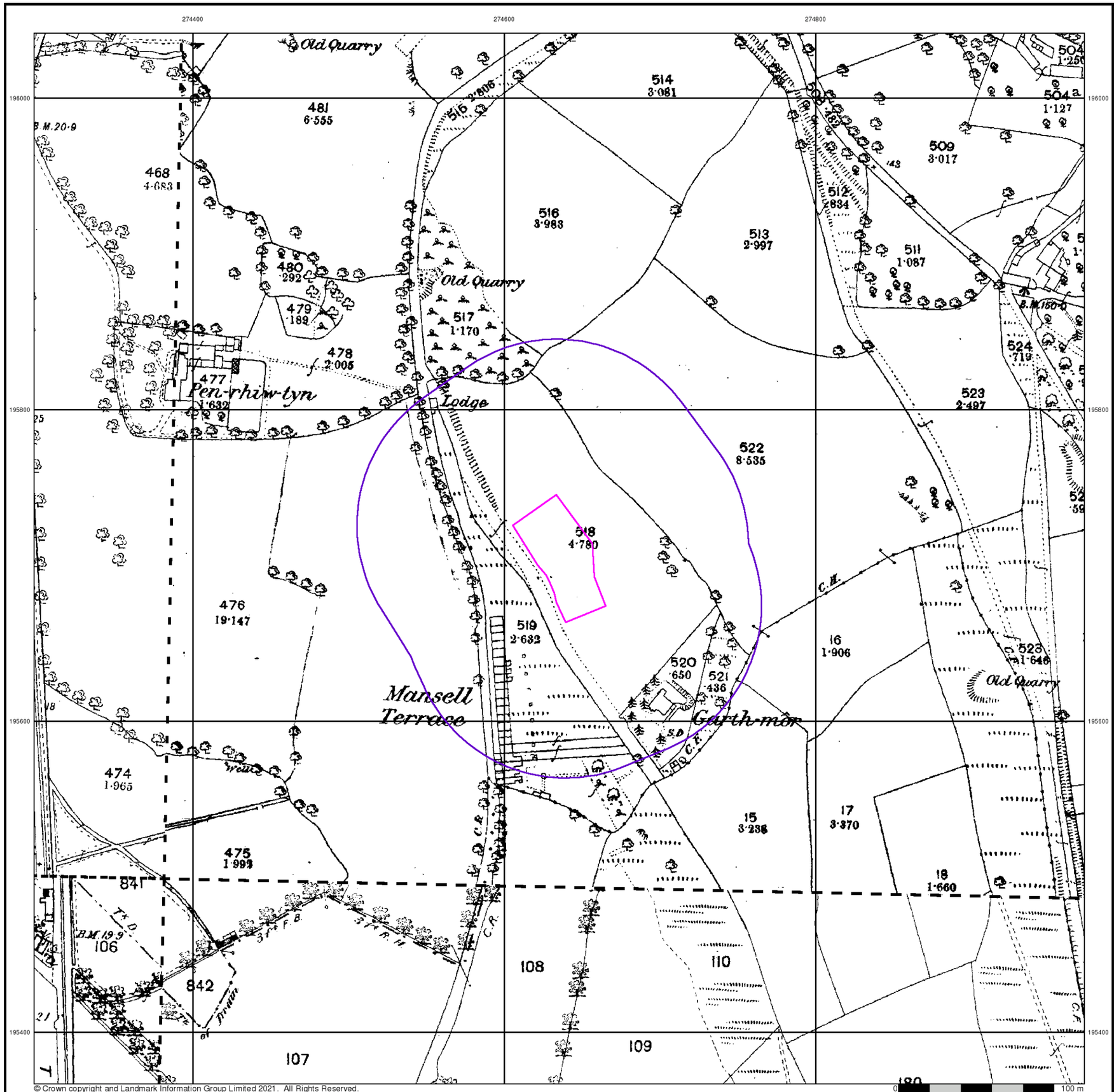
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National Grid Reference:	274640, 195700
Slice:	A
Site Area (Ha):	0.25
Search Buffer (m):	100

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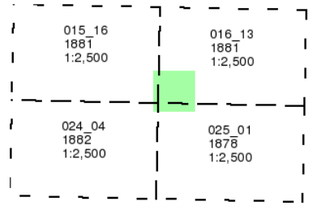
Glamorganshire

Published 1878 - 1882

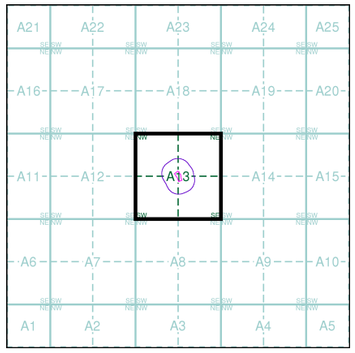
Source map scale - 1:2,500

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



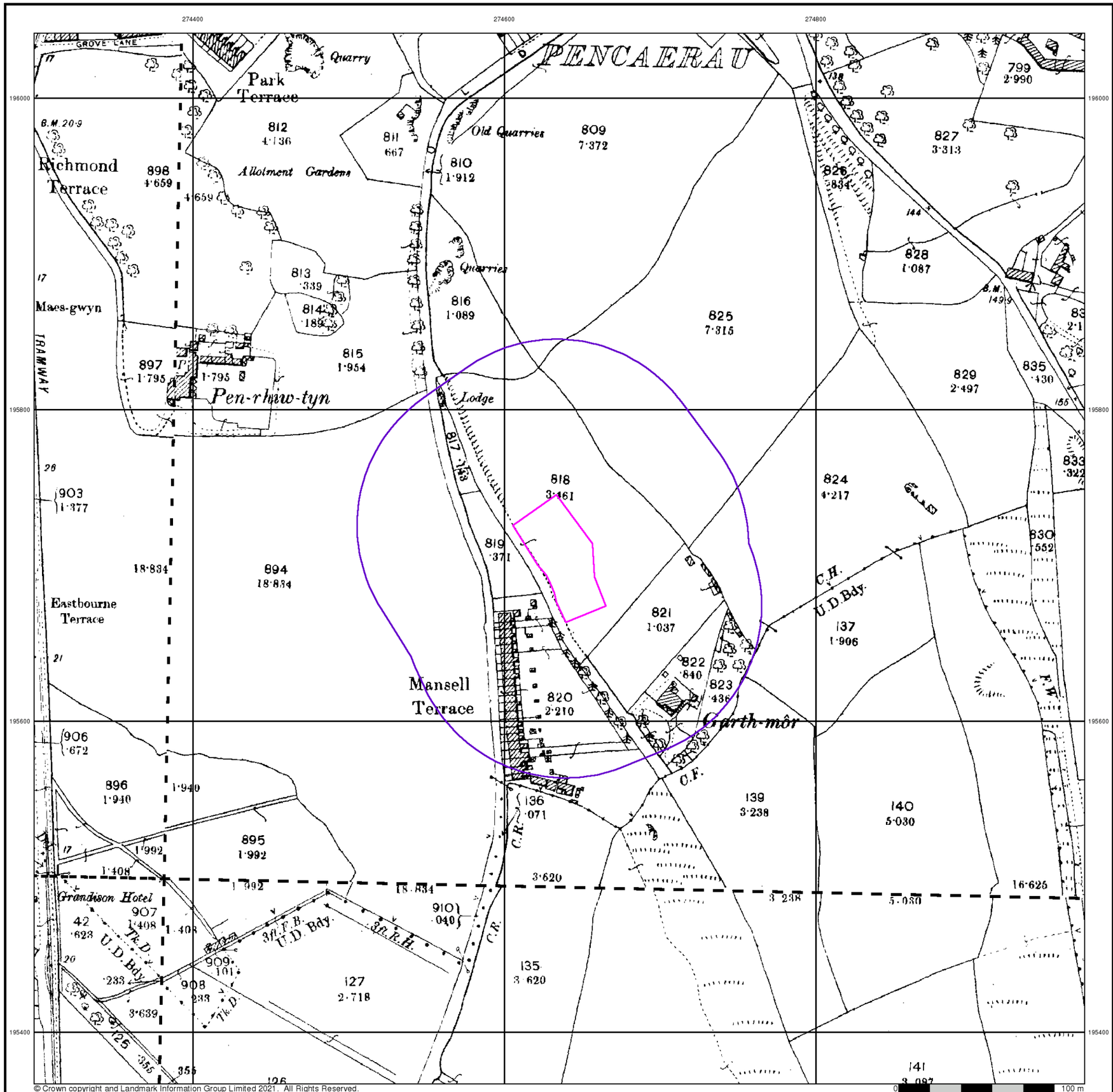
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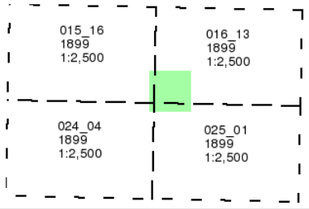
Glamorganshire

Published 1899

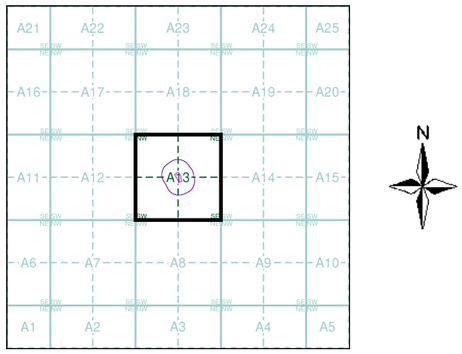
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered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



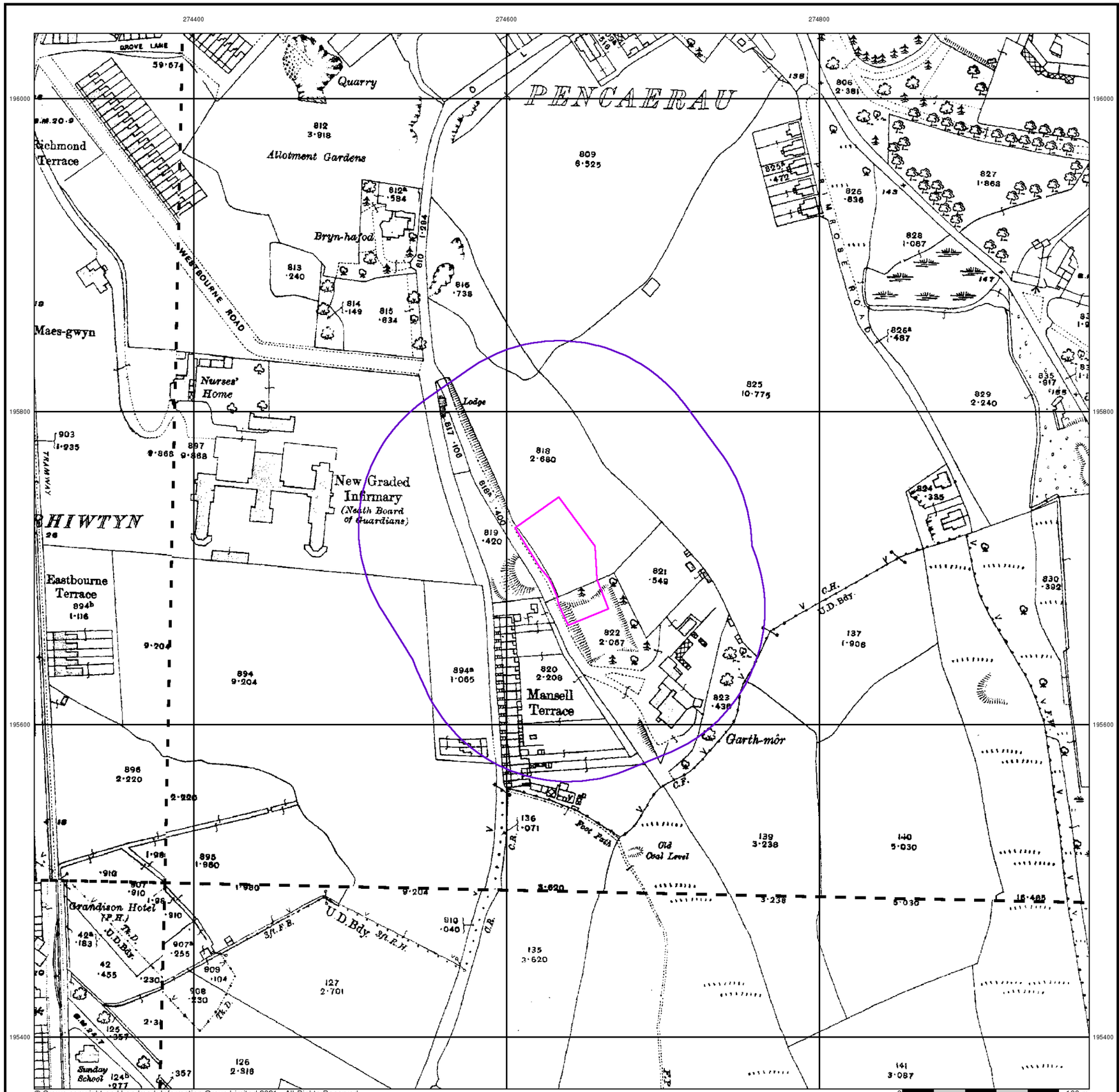
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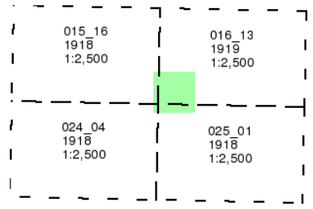
Glamorganshire

Published 1918 - 1919

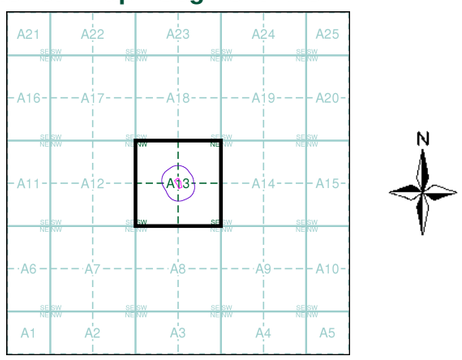
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Map Name(s) and Date(s)



Historical Map - Segment A13



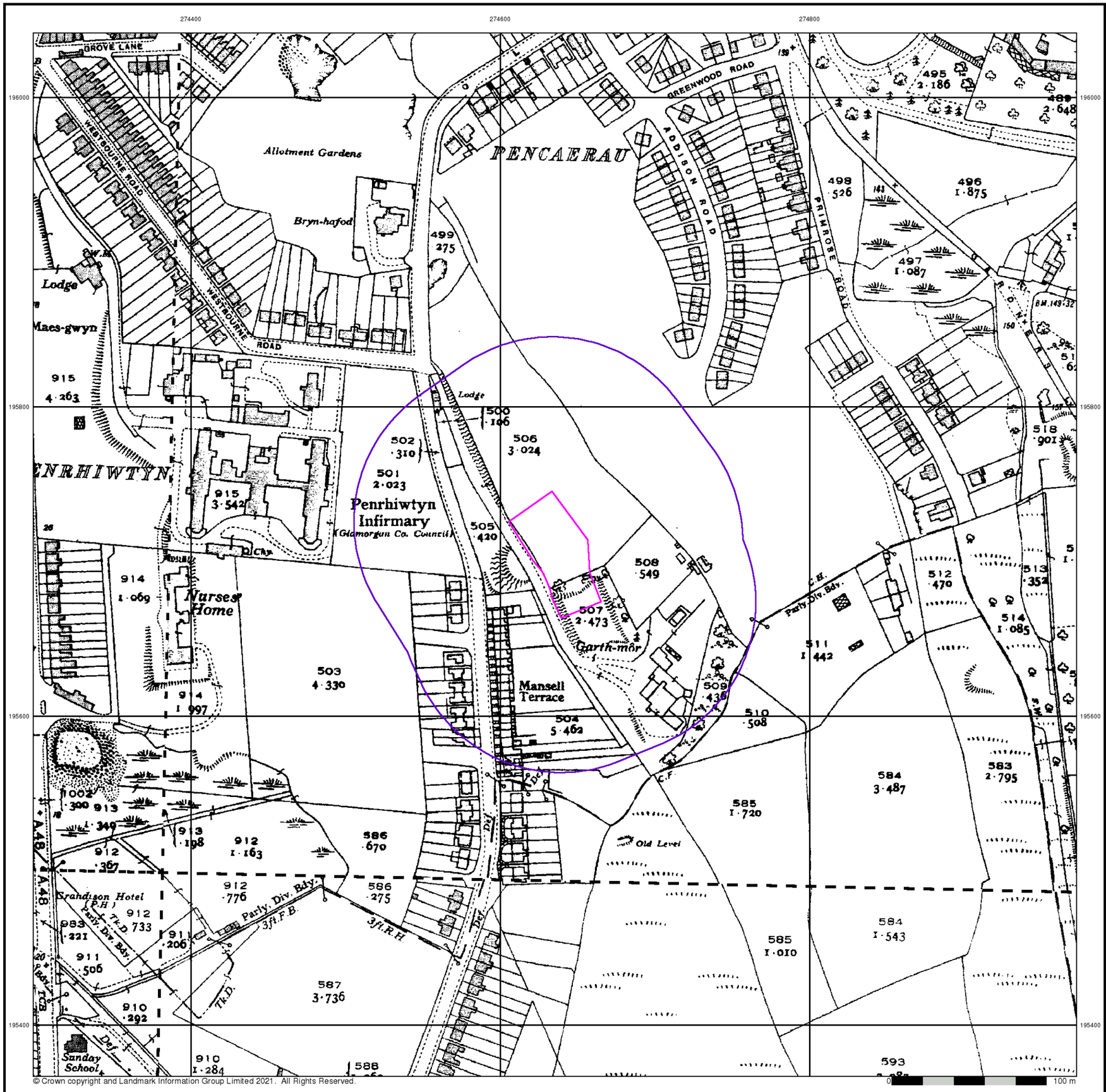
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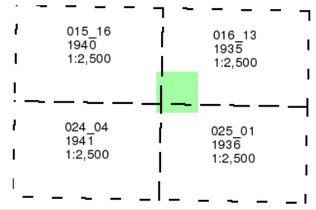
Glamorganshire

Published 1935 - 1941

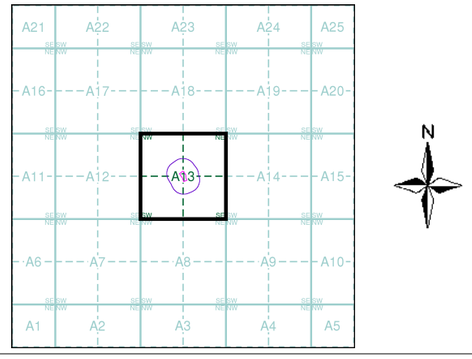
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



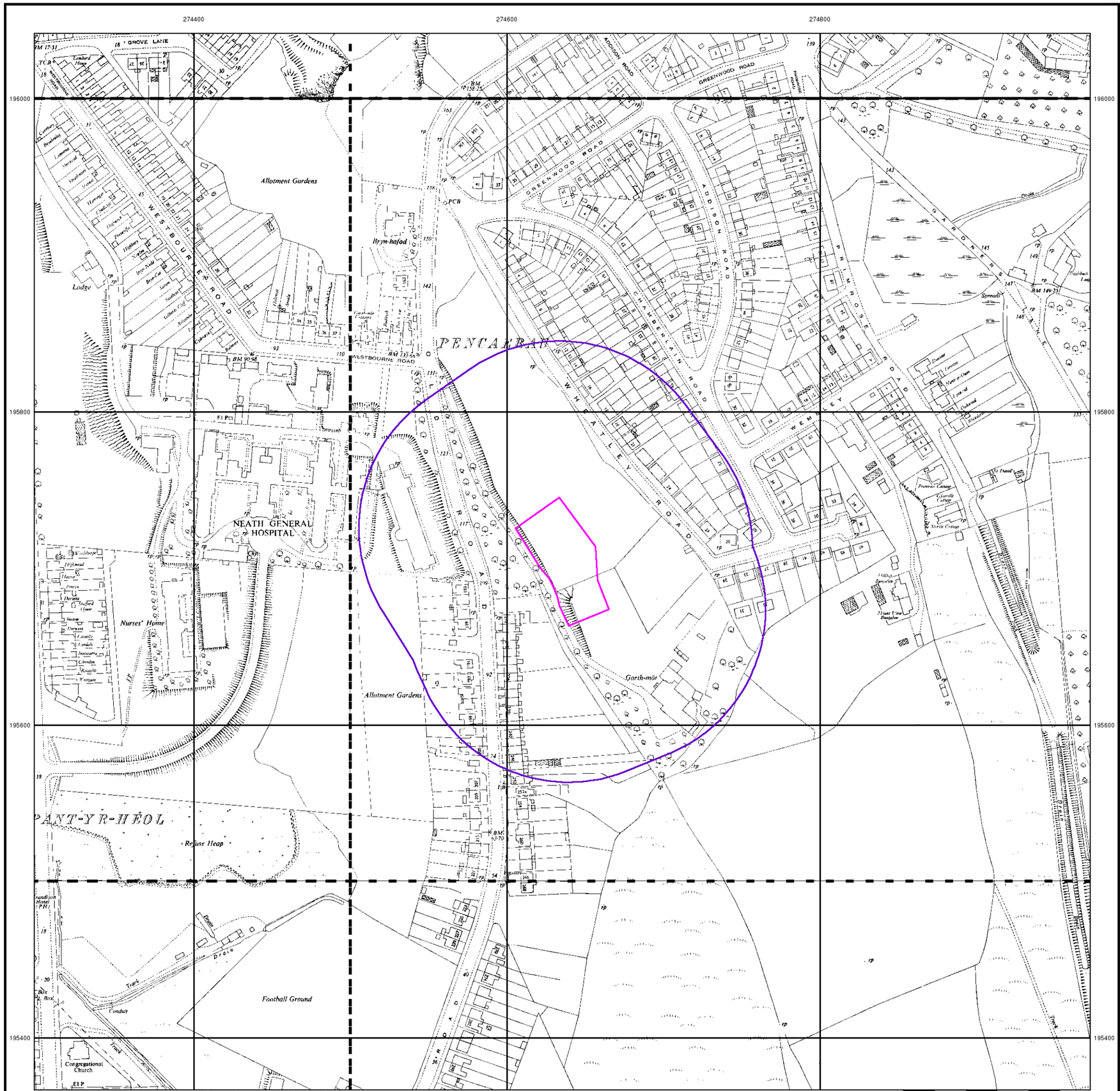
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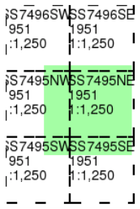
Ordnance Survey Plan

Published 1951

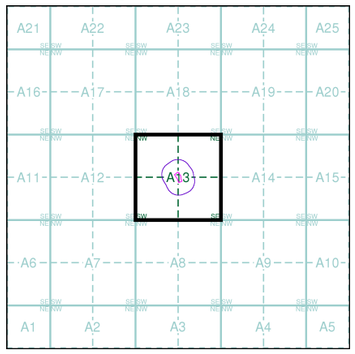
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



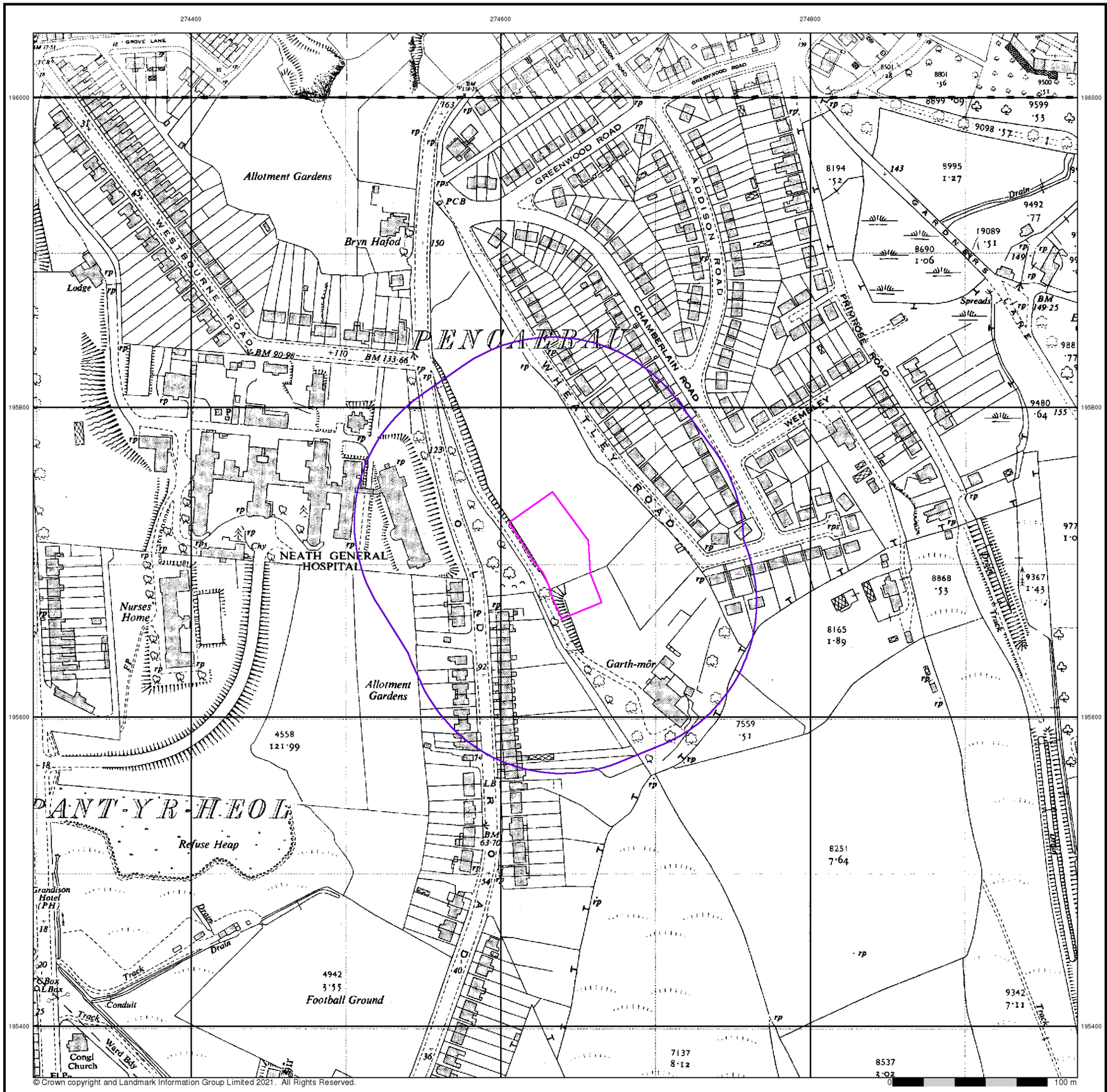
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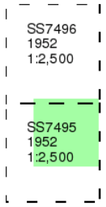
Ordnance Survey Plan

Published 1952

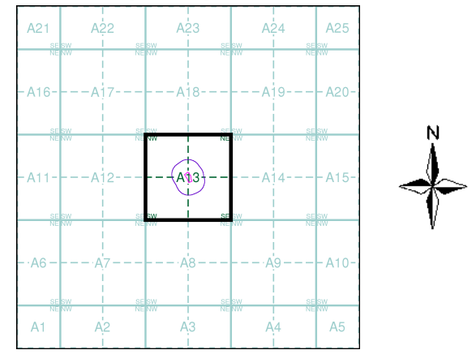
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

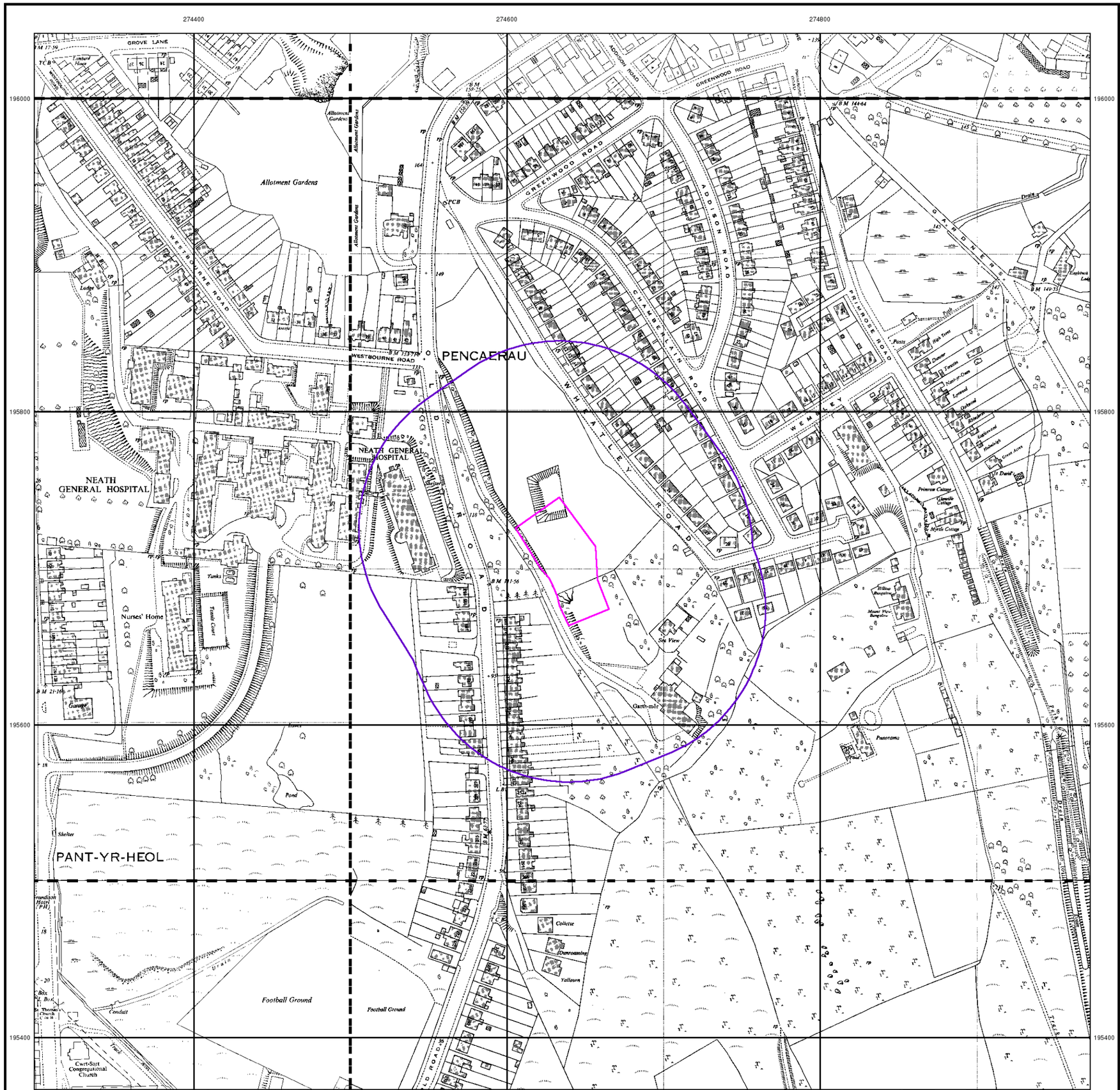
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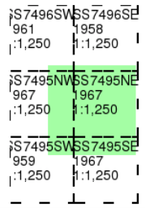
Ordnance Survey Plan

Published 1958 - 1967

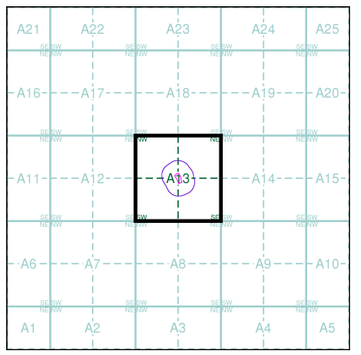
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13

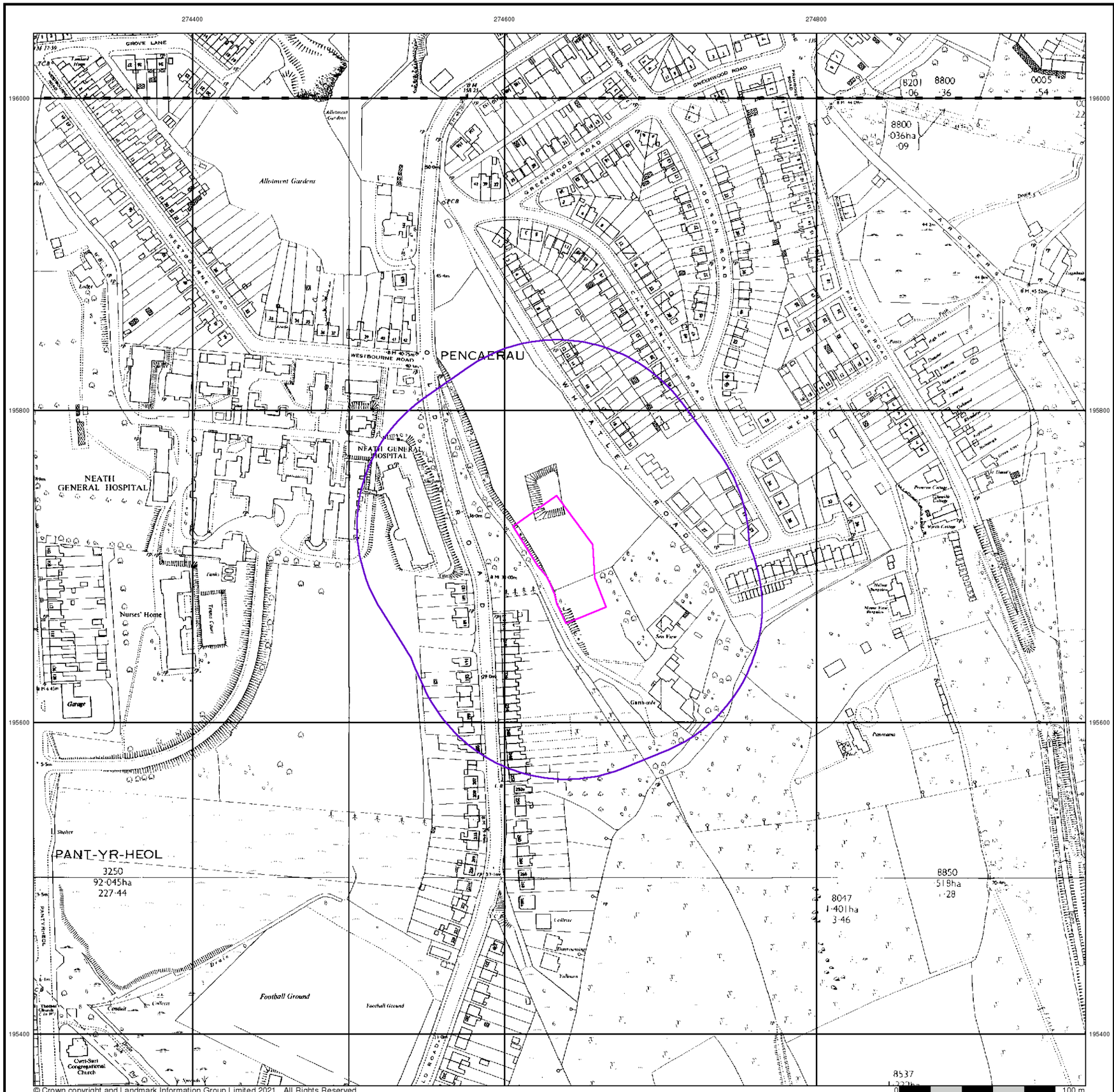


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Search Buffer (m):	100

Site Details

1, Pearson Way, NEATH, SA11 2EJ



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Ordnance Survey Plan

Published 1964 - 1970

Source map scale - 1:2,500

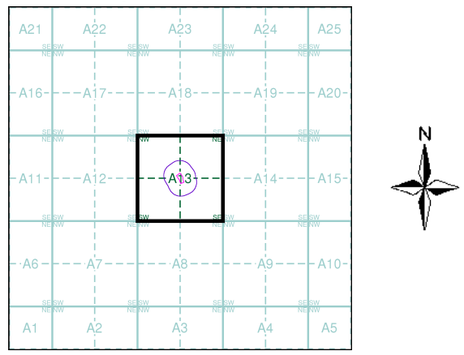
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Map Name(s) and Date(s)

SS7496
1964
1:2,500

SS7495
1970
1:2,500

Historical Map - Segment A13



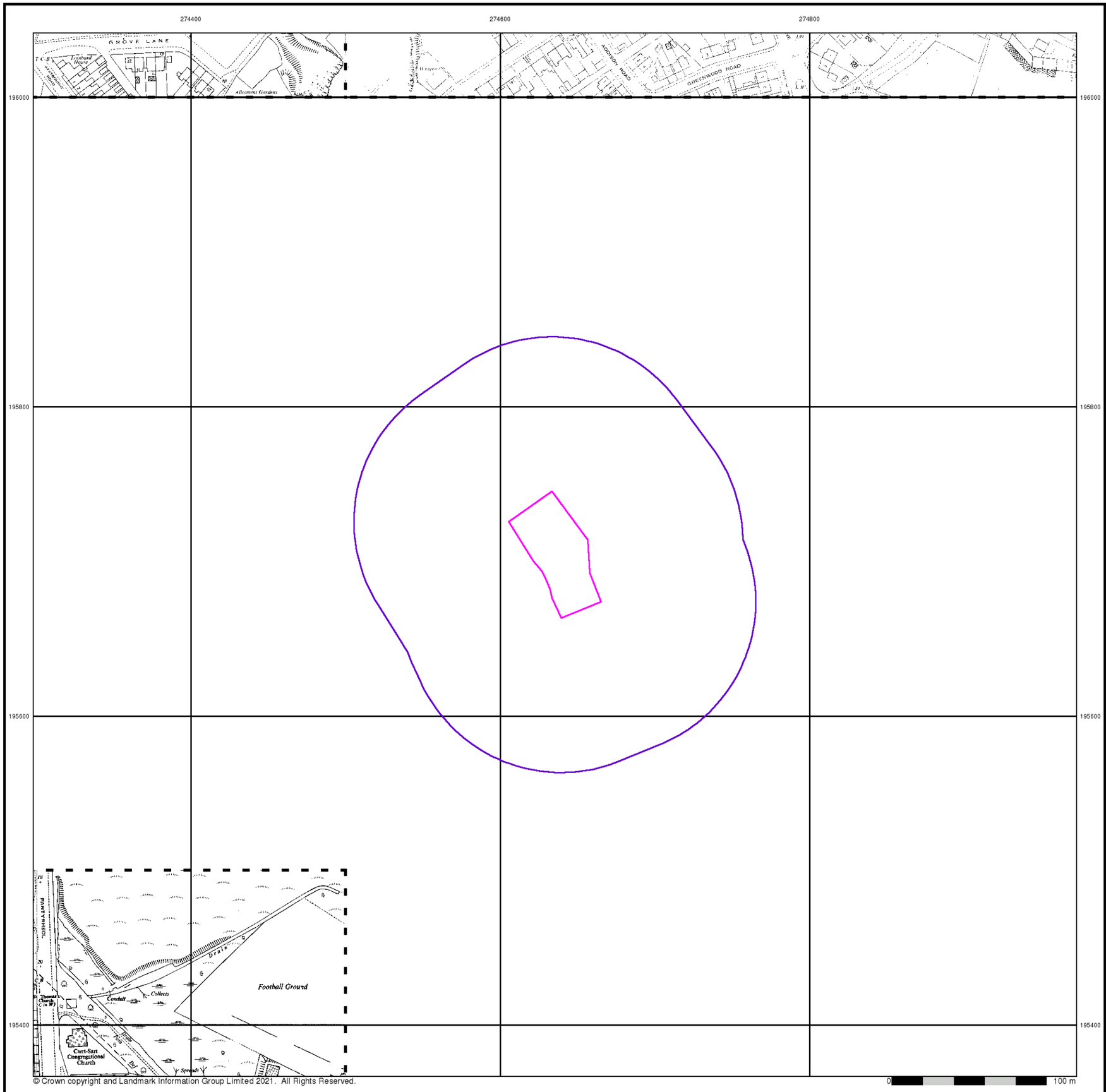
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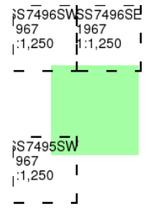
Ordnance Survey Plan

Published 1967

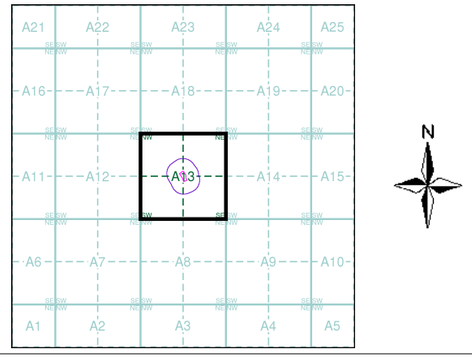
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Historical Map - Segment A13



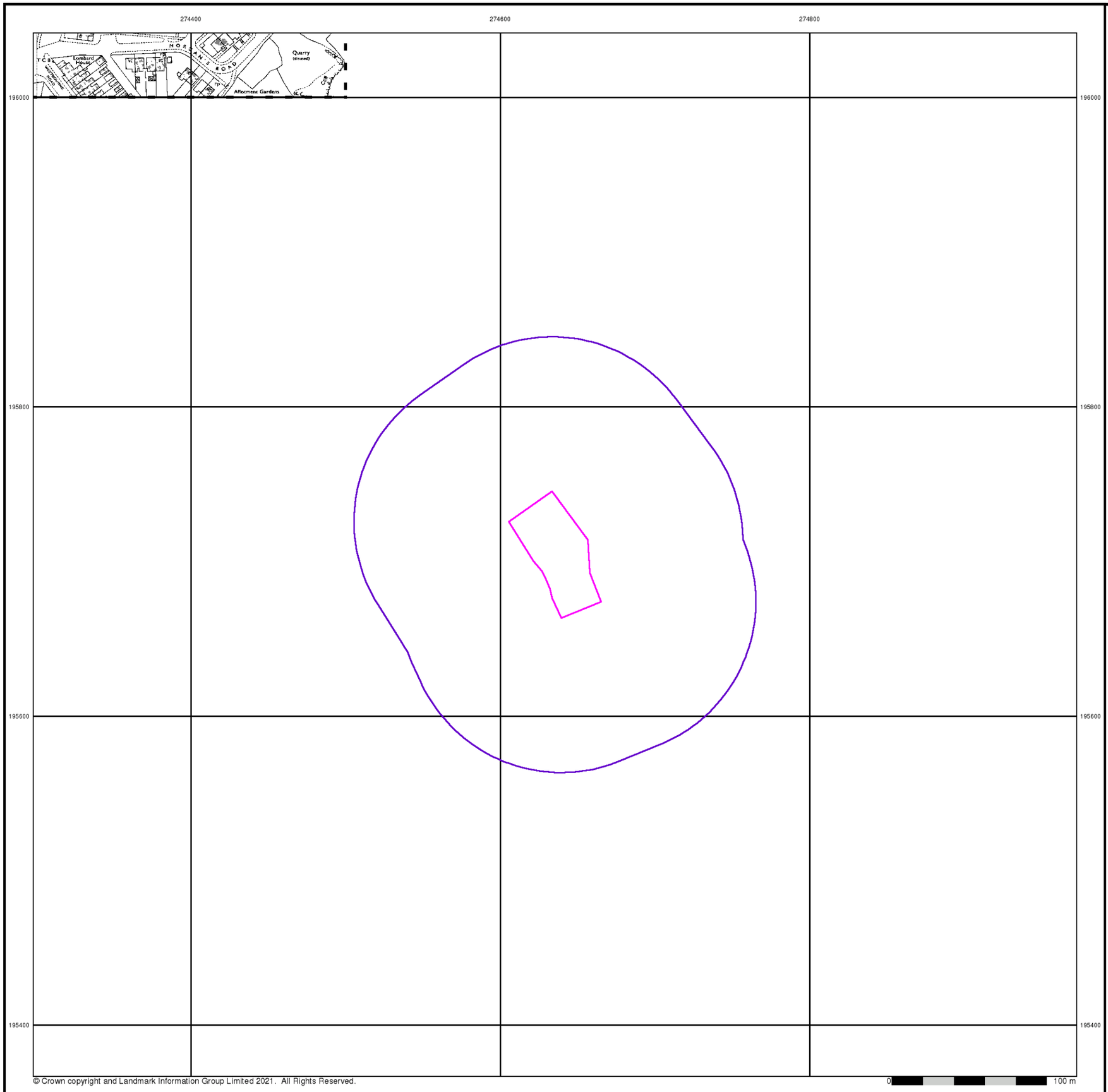
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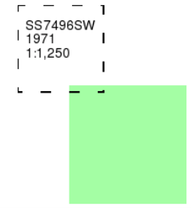
Ordnance Survey Plan

Published 1971

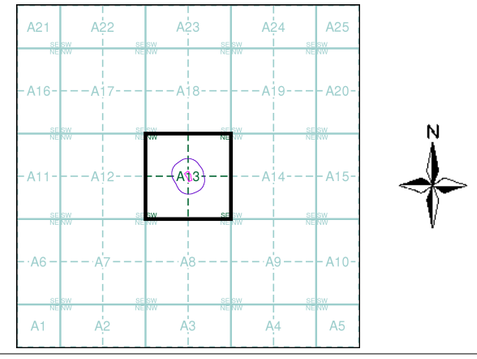
Source map scale - 1:1,250

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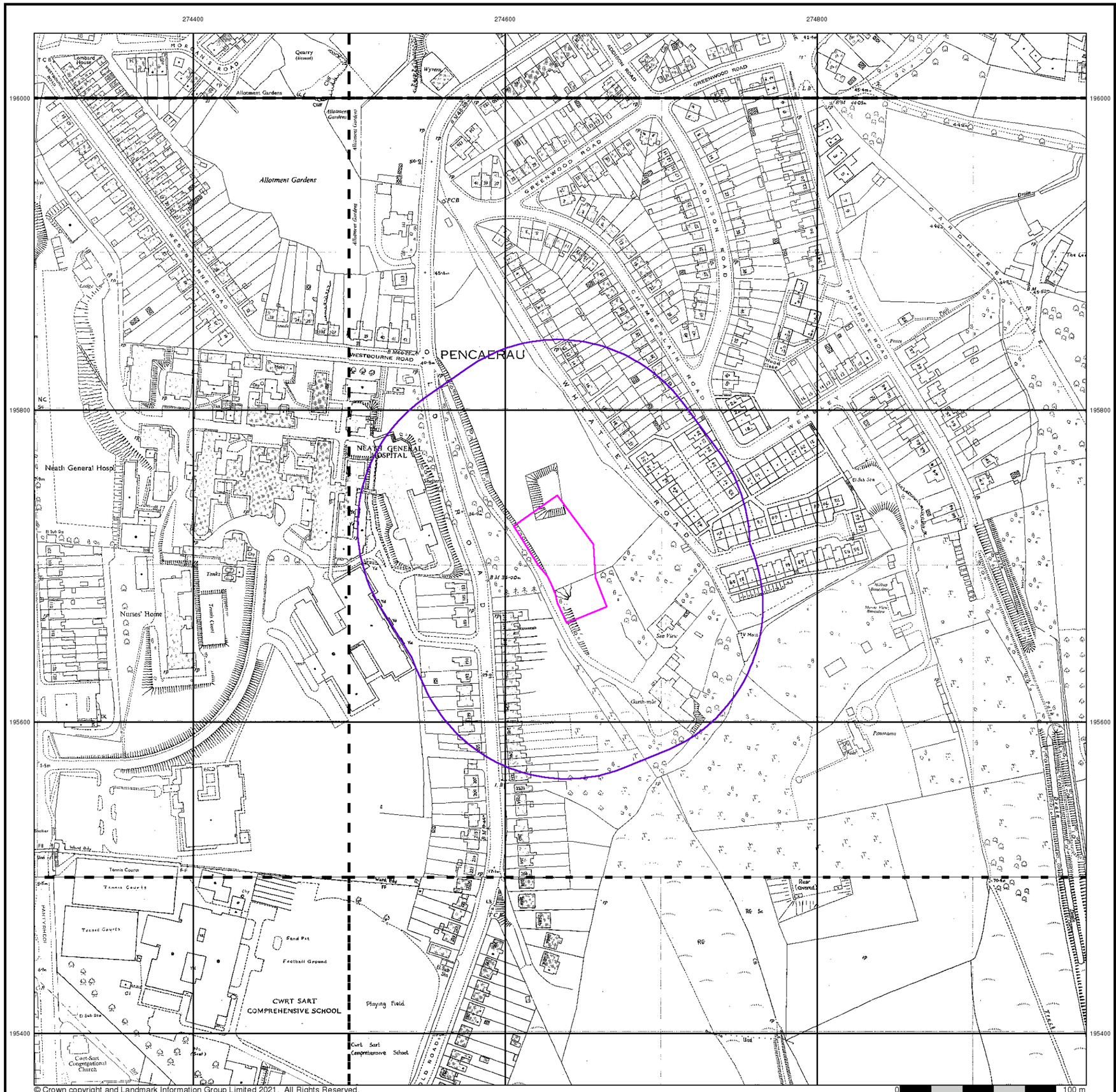
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Additional SIMs

Published 1979 - 1989

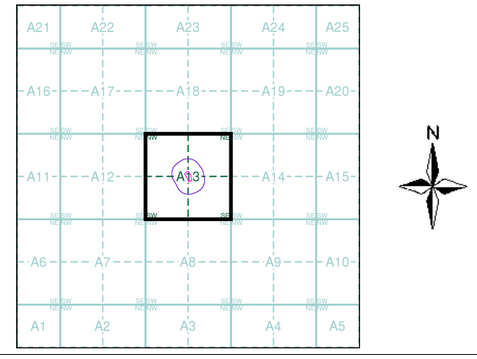
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SS7496SW 989 1:1,250
SS7496SE 987 1:1,250
SS7495NW 985 1:1,250
SS7495NE 979 1:1,250
SS7495SW 979 1:1,250
SS7495SE 987 1:1,250

Historical Map - Segment A13



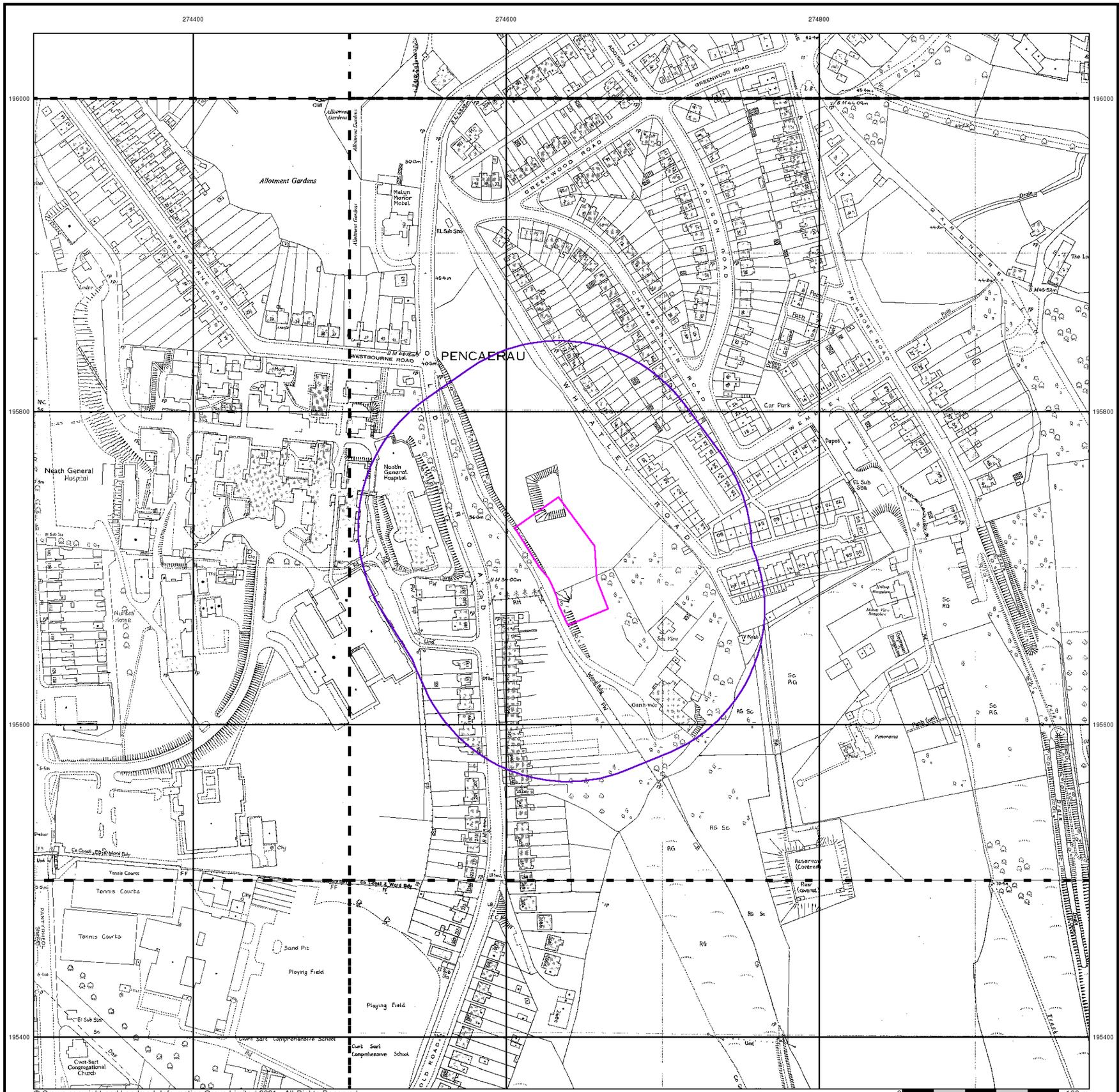
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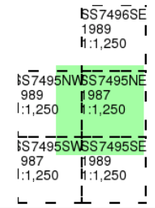
Additional SIMs

Published 1987 - 1989

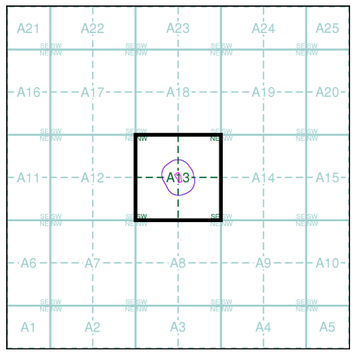
Source map scale - 1:1,250

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Historical Map - Segment A13



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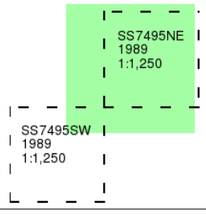
Additional SIMs

Published 1989

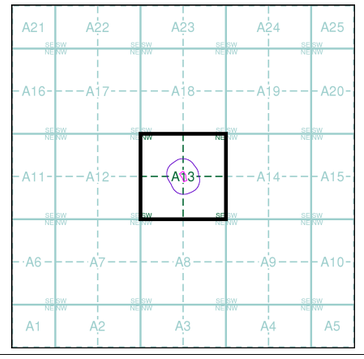
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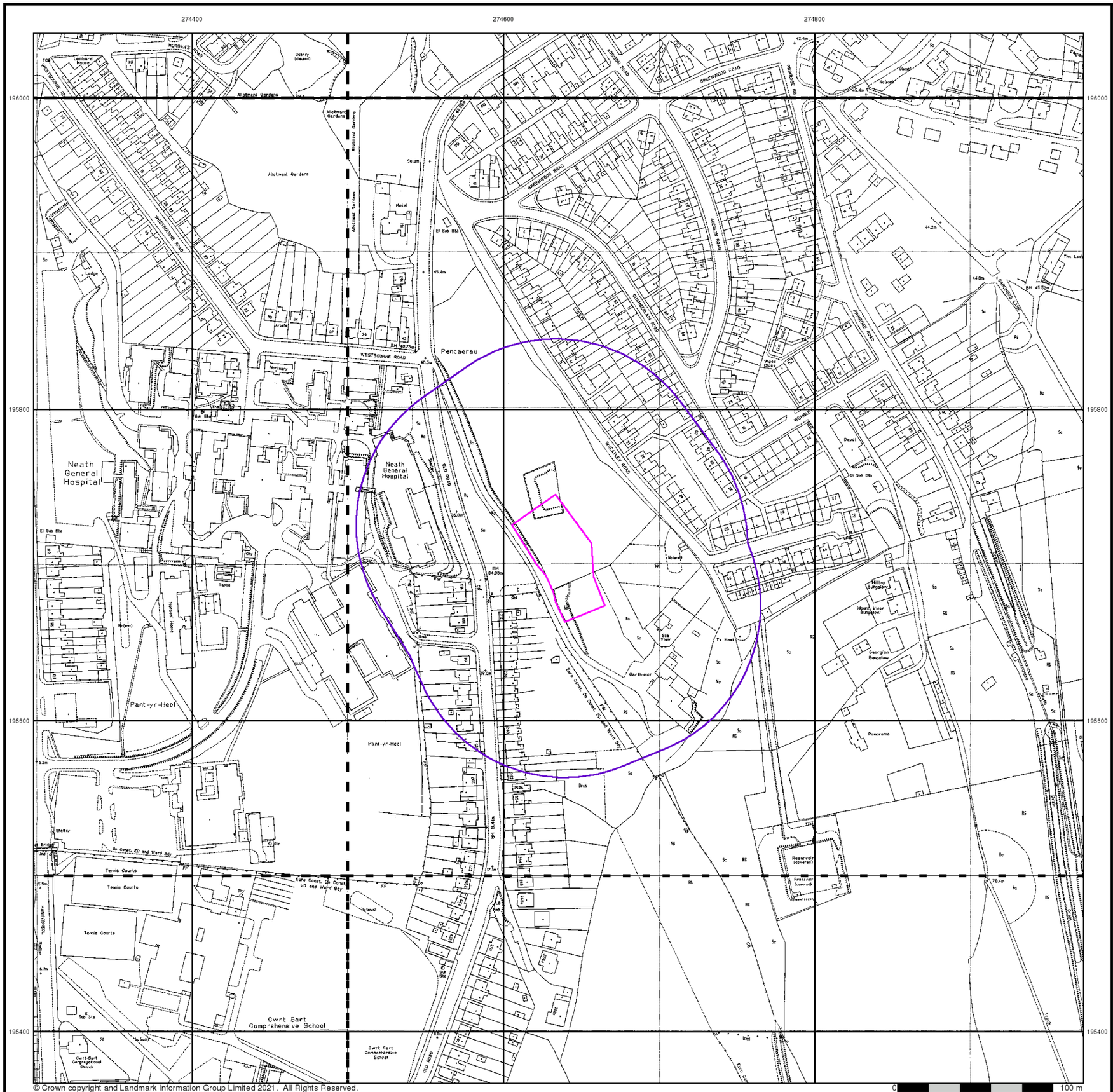
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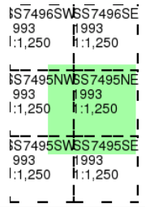
Large-Scale National Grid Data

Published 1993

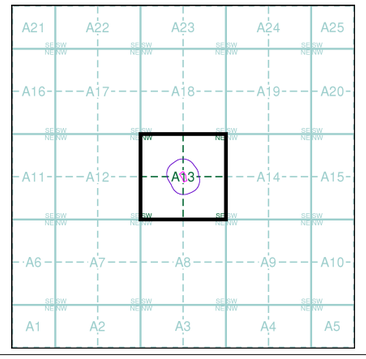
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

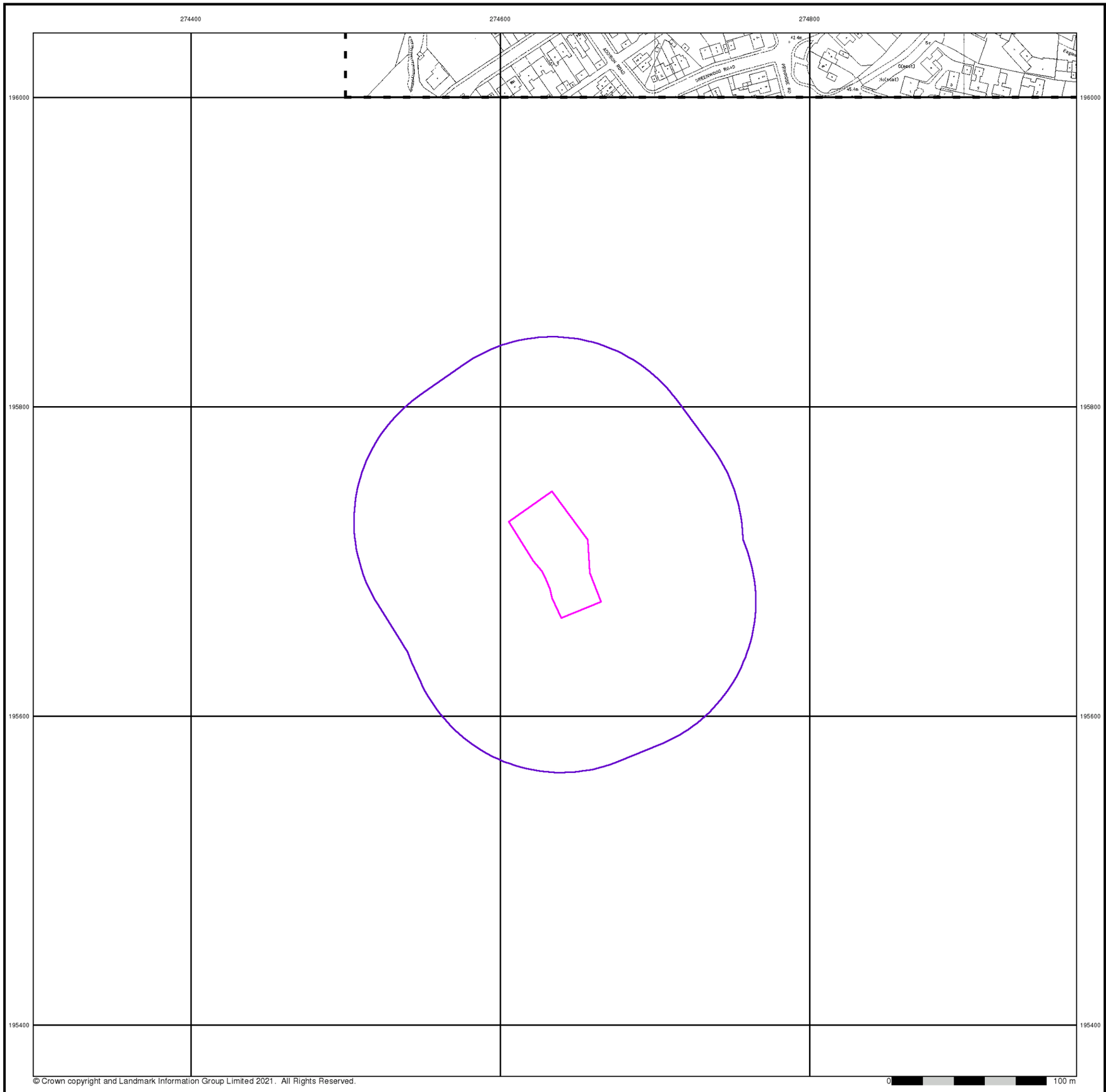
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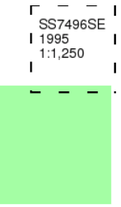
Large-Scale National Grid Data

Published 1995

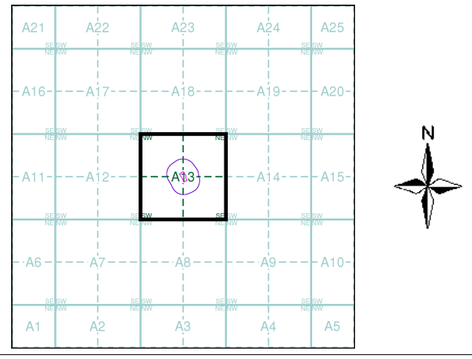
Source map scale - 1:1,250

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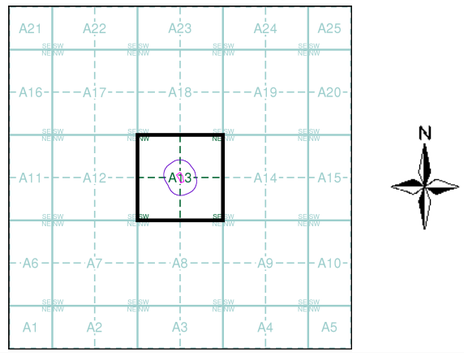
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Historical Aerial Photography

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



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ANNEX B
Coal Authority Mining Report

The Coal Authority

CON29M
coal mining report

1, PEARSON WAY, NEATH, NEATH PORT TALBOT, SA11 2EJ

Known or potential coal mining risks

Past underground coal mining	Page 4
Future underground coal mining	Page 4
Mine entries	Page 5

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

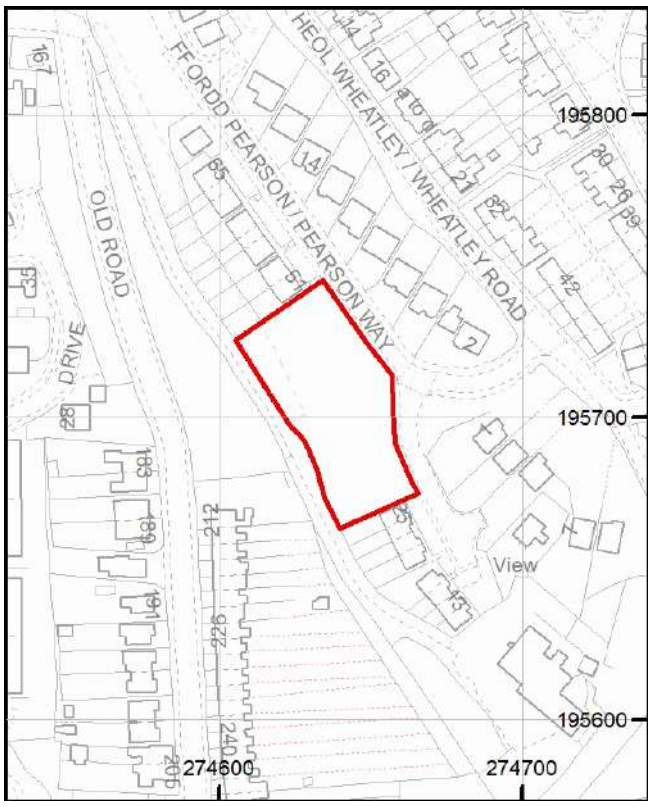
Professional opinion

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. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see page 3 for further details on Future development.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is **on the coalfield**

Map data

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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.

Professional opinion

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on 0345 762 6848 or email cmra@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.

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

1 Past underground coal mining

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

However the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

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.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

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 overreaching 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 is it 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
Windowless Sampling Borehole and Trial Pit Logs

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole Log

Borehole No. **WS01**
Sheet 1 of 1

Project Name:	Pearson Way	Project No: 16819	Co-ords:
Location:	Pearson Way, Neath, SA11 2EJ		Level:
Client:	PHG Consulting Engineers Ltd		Dates: 28/07/2020 -

Hole Type: WLS
Scale: 1:50
Logged By: IB

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description
	Depth (m)	Type	Results					
				0.20				Grass over soft brown very sandy CLAY
	1.00	SPT	N=44 (3,5/7,11,12,14)					Very stiff grey, brown, orange and blue mottled very gravelly CLAY. Gravel is fine to coarse angular weak Mudstone. (Suspected Fill) *With bands of very snady clayey fine to coarse angular GRAVELS of SANDSTONE*
	2.00	SPT	N=16 (7,7/4,4,4,4)	2.00				Medium dense very clayey sandy fine to coarse sub angular to angular GRAVEL of sandstone. (Suspected Fill)
	3.00	SPT	N=8 (2,2/2,2,2,2)					
	4.00	SPT	50 (1,0/50 for 225mm)	4.00				End of Borehole at 4.000m

1 2 3 4 5 6 7 8 9 10

Remarks: Gas Monitoring Well Installed.

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole Log

Borehole No. **WS02**

Sheet 1 of 1

Project Name: Pearson Way	Project No: 16819	Co-ords:	Hole Type WLS
Location: Pearson Way, Neath, SA11 2EJ		Level:	Scale 1:50
Client: PHG Consulting Engineers Ltd		Dates: 28/07/2020 -	Logged By IB

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description
	Depth (m)	Type	Results					
				0.20				Grass over soft brown very sandy gravelly CLAY with fine rootlets
	1.00	SPT	N=10 (2,2/4,2,2,2)					Firm grey, brown, orange and blue mottled very gravelly CLAY. Gravel is fine to coarse angular weak Mudstone. With rare cobble (Suspected Fill)
				1.80				Firm brown very gravelly sandy CLAY. Gravel is fine to coarse subangular to angular sandstone and mudstone. (Suspected Fill)
	2.00	SPT	N=15 (2,2/2,2,4,7)					*very Wet 2 - 2.3*
	3.00	SPT	N=18 (6,7/7,5,3,3)					*Stiff Below 3m*
	3.80	SPT	50 (25 for 30mm/50 for 15mm)					*Wet and soft.*
				4.00				End of Borehole at 4.000m

Remarks: Gas Monitoring Well Installed.

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole Log

Borehole No. **WS03**
Sheet 1 of 1

Project Name:	Pearson Way	Project No: 16819	Co-ords:
Location:	Pearson Way, Neath, SA11 2EJ		Level:
Client:	PHG Consulting Engineers Ltd		Dates: 28/07/2020 -

Hole Type: WLS
Scale: 1:50
Logged By: IB

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description
	Depth (m)	Type	Results					
				0.10				Grass over soft brown very sandy gravelly CLAY with fine rootlets
	1.00	SPT	N=20 (5,5/4,5,5,6)					Very stiff grey, brown, orange and blue mottled very gravelly CLAY. Gravel is fine to coarse angular weak mudstone. With rare cobbles (Suspected Fill)
				1.70				Stiff brown very gravelly sandy CLAY. Gravel is fine to coarse subangular to angular sandstone and mudstone. (Suspected Fill) (Wet)
	2.00	SPT	N=10 (1,0/1,3,3,3)					
	3.00	SPT	N=27 (3,5/4,11,5,7)					*Firm/Soft Below 3m*
				3.70				Very stiff brown gravelly CLAY. Gravel is fine to coarse subrounded to subangular sandstone.
	4.00	SPT	50 (10,12/50 for 190mm)	4.00				End of Borehole at 4.000m

Remarks: Gas Monitoring Well Installed.

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Trial Pit Log

Trial Pit No: TP03
Sheet 1 of 1

Project Name: Pearson Way	Project No: 16819	Co-ords: -	Date: 13/04/2022
Location: Pearson Way, Neath, SA11 2EJ		Dimensions: Depth 2.30	Scale: 1:25
Client: PHG Consulting Engineers Ltd			Logged:

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Soft, brown, sandy SILT/CLAY
							MADE GROUND: Stiff, grey, very gravelly SILT/CLAY including brick and plastic.
				0.90			MADE GROUND: Medium dense, brown to grey, silty sandy GRAVEL to COBBLE of sandstone. Includes occasional brick and plastic.
				2.00			Stiff, grey, sandy gravelly SILT/CLAY
				2.30			End of Pit at 2.300m

Stability:

Remarks: Minor Groundwater Ingress 2.0m

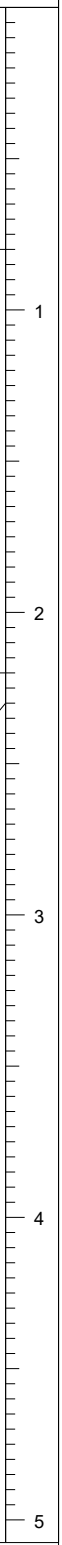
terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Trial Pit Log

Trial Pit No: TP02
Sheet 1 of 1

Project Name: Pearson Way	Project No: 16819	Co-ords: - Level:	Date: 13/04/2022
Location: Pearson Way, Neath, SA11 2EJ		Dimensions: Depth 2.30	Scale: 1:25
Client: PHG Consulting Engineers Ltd			Logged:

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
							MADE GROUND: Soft, dark-brown, sandy gravelly SILT/ CLAY including roots.
				0.80			MADE GROUND: Stiff/Medium dense, brown to grey, sandy gravelly SILT/CLAY to sandy silty clayey GRAVEL including cobblees and boulders of sandstone. Includes brick and plastic.
				2.20			Stiff, dark-grey, sandy gravelly SILT/CLAY. Cobles in base of hole.
				2.30			End of Pit at 2.300m



Stability:

Remarks: Trial Pit Dry.Obstruction at 0.8m in south of pit.

terra firma
Geotechnical & Geoenvironmental Specialists
Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Trial Pit Log

Trial Pit No: TP01
Sheet 1 of 1

Project Name: Pearson Way	Project No: 16819	Co-ords: - Level:	Date: 13/04/2022
Location: Pearson Way, Neath, SA11 2EJ		Dimensions: Depth 2.20	Scale: 1:25
Client: PHG Consulting Engineers Ltd			Logged:

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Soft, brown, sandy gravelly SILT/CLAY including brick and sandstone cobbles.
				0.70			MADE GROUND: Stiff/Medium dense, brown to grey, sandy gravelly SILT/CLAY to sandy silty clayey GRAVEL including cobblees and boulders of sandstone. Includes brick and plastic.
				1.80			MADE GROUND: Stiff, grey-brown, sandy gravelly SILT/ CLAY including cobbles. Includes brick and plastic.
				2.10			End of Pit at 2.200m

Stability:

Remarks: Trial Pit Dry

ANNEX E
Soil Laboratory Chemical Test Results

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	21-22305-1		
Initial Date of Issue:	06-Jul-2021		
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	ieuan@terrafirmawales.co.uk		
Project	16819 - Pearsons Way		
Quotation No.:	Q19-16176	**Date Received:**	30-Jun-2021
Order No.:	16819 IB	**Date Instructed:**	30-Jun-2021
No. of Samples:	5		
Turnaround (Wkdays):	5	**Results Due:**	06-Jul-2021
Date Approved:	06-Jul-2021		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Soil

Project: 16819 - Pearsons Way

Client: Terra Firma (Wales) Ltd				**Chemtest Job No.:**	21-22305	21-22305	21-22305	21-22305	21-22305
Quotation No.: Q19-16176				**Chemtest Sample ID.:**	1231144	1231145	1231146	1231147	1231148
Order No.: 16819 IB				Client Sample Ref.:	WS01	WS01	WS02	WS03	WS03
				Client Sample ID.:	WS01	WS01	WS02	WS03	WS03
				Sample Location:	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL
				Bottom Depth (m):	0.45	1.5	03	0.5	2.5
				Date Sampled:	28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021
				Time Sampled:	0:00	0:00	0:00	0:00	0:00
				Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
ACM Type	U	2192		N/A	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	-	-
Moisture	N	2030	%	0.020	6.7	8.4	11	8.7	11
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones and Roots	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Clay	Clay	Clay	Clay
pH	M	2010		4.0	8.2	8.1	8.1	8.2	8.1
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40	< 0.40	0.42	< 0.40	< 0.40
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.010	0.014	0.014	0.040	0.047	< 0.010
Arsenic	M	2450	mg/kg	1.0	12	12	19	6.3	7.9
Cadmium	M	2450	mg/kg	0.10	0.21	0.28	0.40	0.12	0.18
Chromium	M	2450	mg/kg	1.0	20	21	21	12	14
Mercury Low Level	M	2450	mg/kg	0.05	0.13	0.09	0.13	0.09	0.07
Copper	M	2450	mg/kg	0.50	43	28	43	27	22
Nickel	M	2450	mg/kg	0.50	50	44	40	33	30
Lead	M	2450	mg/kg	0.50	26	25	59	18	17
Selenium	M	2450	mg/kg	0.20	0.70	0.34	0.81	0.31	0.27
Zinc	M	2450	mg/kg	0.50	110	100	160	66	74
Chromium (Trivalent)	N	2490	mg/kg	1.0	20	21	21	12	14
Chromium (Hexavalent)	N	2490	mg/kg	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
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	8.1	9.1	9.1	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	2.2	2.0	3.7	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	2.6	3.9	2.1	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	17	26	18	< 1.0	1.8
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	30	41	33	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 16819 - Pearsons Way

Client: Terra Firma (Wales) Ltd			**Chemtest Job No.:**		21-22305	21-22305	21-22305	21-22305	21-22305
Quotation No.: Q19-16176			**Chemtest Sample ID.:**		1231144	1231145	1231146	1231147	1231148
Order No.: 16819 IB			Client Sample Ref.:		WS01	WS01	WS02	WS03	WS03
			Client Sample ID.:		WS01	WS01	WS02	WS03	WS03
			Sample Location:		16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way	16819 - Pearsons Way
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
			Bottom Depth (m):		0.45	1.5	03	0.5	2.5
			Date Sampled:		28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021	28-Jun-2021
			Time Sampled:		0:00	0:00	0:00	0:00	0:00
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	13	13	13	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	7.5	7.9	7.1	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	15	14	15	4.4	4.3
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	13	15	15	< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	33	38	37	24	25
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	82	88	87	29	29
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	110	130	120	29	31
Naphthalene	M	2700	mg/kg	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
Acenaphthene	M	2700	mg/kg	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
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	< 0.10	0.20	< 0.10	< 0.10	< 0.10
Pyrene	M	2700	mg/kg	0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 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	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 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	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Organic Matter BS1377	N	2930	%	0.10	< 0.10	1.5	3.4	1.4	1.1

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline 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
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
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
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I/S	Insufficient Sample
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<	"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

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-14578-1
Initial Date of Issue:	26-Apr-2022
Client	Terra Firma (Wales) Ltd
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA
Contact(s):	Dave Emanuel
Project	16819 Neath

Quotation No.:		**Date Received:**	20-Apr-2022
Order No.:		**Date Instructed:**	20-Apr-2022
No. of Samples:	3		
Turnaround (Wkdays):	5	**Results Due:**	26-Apr-2022
Date Approved:	26-Apr-2022		

Approved By:



Details: Stuart Henderson, Technical Manager

Results - Soil

Project: 16819 Neath

Client: Terra Firma (Wales) Ltd		**Chemtest Job No.:**			22-14578	22-14578	22-14578
Quotation No.:		**Chemtest Sample ID.:**			1413919	1413920	1413921
		Sample Location:			TP01	TP02	TP03
		Sample Type:			SOIL	SOIL	SOIL
		Top Depth (m):			0.50	0.10	0.10
		Asbestos Lab:			DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
ACM Type	U	2192		N/A	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	35	22	24
Soil Colour	N	2040		N/A	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones and Roots	Roots and Stones	Stones and Roots
Soil Texture	N	2040		N/A	Sand	Sand	Sand
pH	M	2010		4.0	[A] 8.4	[A] 8.2	[A] 8.2
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	[A] < 0.40	[A] 0.61	[A] 0.90
Cyanide (Complex)	M	2300	mg/kg	0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50
Sulphate (Acid Soluble)	U	2430	%	0.010	[A] 0.015	[A] < 0.010	[A] 0.026
Arsenic	M	2455	mg/kg	1.0	11	11	6.3
Beryllium	U	2455	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Cadmium	M	2455	mg/kg	0.10	0.24	0.31	0.19
Chromium	M	2455	mg/kg	1.0	8.1	6.6	7.8
Mercury Low Level	M	2450	mg/kg	0.05	0.07	0.06	0.05
Manganese	M	2455	mg/kg	5.0	450	380	530
Molybdenum	M	2455	mg/kg	2.0	< 2.0	< 2.0	< 2.0
Antimony	N	2455	mg/kg	2.0	< 2.0	< 2.0	< 2.0
Copper	M	2455	mg/kg	0.50	29	31	22
Nickel	M	2455	mg/kg	0.50	12	10	11
Lead	M	2455	mg/kg	0.50	40	37	31
Selenium	M	2455	mg/kg	0.20	0.27	0.33	0.25
Zinc	M	2455	mg/kg	0.50	78	74	75
Chromium (Trivalent)	N	2490	mg/kg	1.0	8.1	6.6	7.8
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0

Results - Soil

Project: 16819 Neath

Client: Terra Firma (Wales) Ltd		**Chemtest Job No.:**			22-14578	22-14578	22-14578
Quotation No.:		**Chemtest Sample ID.:**			1413919	1413920	1413921
		Sample Location:			TP01	TP02	TP03
		Sample Type:			SOIL	SOIL	SOIL
		Top Depth (m):			0.50	0.10	0.10
		Asbestos Lab:			DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	[A] < 10	[A] < 10	[A] < 10
Naphthalene	M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10	[A] < 0.10
Acenaphthylene	M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10	[A] < 0.10
Acenaphthene	M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10	[A] < 0.10
Fluorene	M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10	[A] < 0.10
Phenanthrene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 0.64	[A] < 0.10
Anthracene	M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10	[A] < 0.10
Fluoranthene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 3.0	[A] 0.85
Pyrene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 3.0	[A] 1.0
Benzo[a]anthracene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 2.1	[A] 0.30
Chrysene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 2.8	[A] 0.60
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 2.3	[A] < 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 0.96	[A] < 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 2.1	[A] < 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 1.3	[A] < 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 0.27	[A] < 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	[A] < 0.10	[A] 1.4	[A] < 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	[A] < 2.0	[A] 20	[A] 2.8
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Organic Matter BS1377	N	2930	%	0.10	[A] 2.9	[A] 4.8	[A] 4.1

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1413919			TP01		A	Amber Glass 250ml
1413919			TP01		A	Plastic Tub 1000g
1413920			TP02		A	Amber Glass 250ml
1413920			TP02		A	Plastic Tub 1000g
1413921			TP03		A	Amber Glass 250ml
1413921			TP03		A	Plastic Tub 1000g

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline 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
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
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

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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

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

ANNEX F
Gas Monitoring Results

SITE : Pearson Road, Neath

DATE	20/07/2021					
AP	984	mb				
BOREHOLE	O_2 (%)	CO_2 (%)	CH_4 (%)	CO (ppm)	H_2S (ppm)	FLOW (l/hr)
1	6.9	10.5	0.0	2	0	0
3	19.0	1.5	0.0	1	0	0

DATE	27/07/2021					
AP	1023	mb				
BOREHOLE	O2 (%)	CO_2 (%)	CH_4 (%)	CO (ppm)	H_2S (ppm)	FLOW (l/hr)
1	3.0	8.9	0.0	0	0	0
3	18.5	1.1	0.0	0	0	0

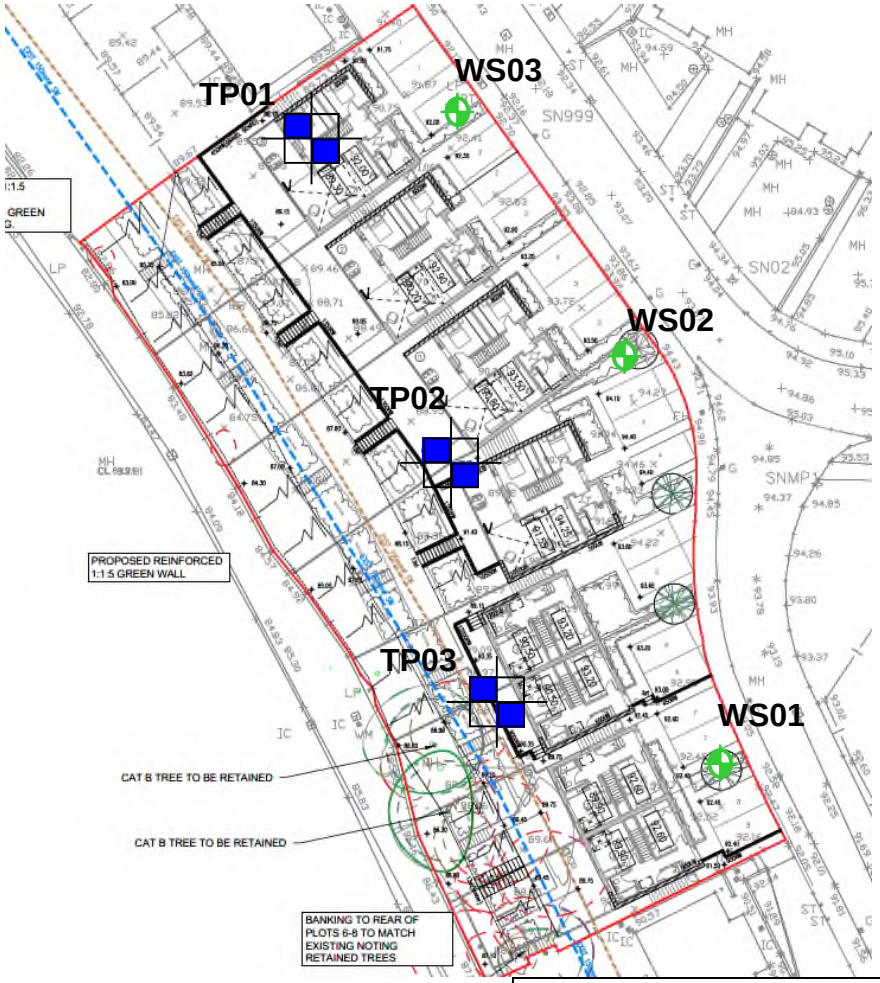
DATE	09/08/2021					
AP	1007	mb				
BOREHOLE	O2 (%)	CO_2 (%)	CH_4 (%)	CO (ppm)	H_2S (ppm)	FLOW (l/hr)
1	3.1	9.4	0.0	0	0	0
3	18.1	1.8	0.0	0	0	0

DATE	18/08/2021					
AP	1014	mb				
BOREHOLE	O2 (%)	CO_2 (%)	CH_4 (%)	CO (ppm)	H_2S (ppm)	FLOW (l/hr)
1	1.9	12.6	0.0	0	0	0
3	18.6	1.5	0.0	0	0	0

DATE	25/08/2021					
AP	1025	mb				
BOREHOLE	O2 (%)	CO_2 (%)	CH_4 (%)	CO (ppm)	H_2S (ppm)	FLOW (l/hr)
1	3.2	11.1	0.0	0	0	0
3	19.7	1.6	0.0	0	0	0

DATE	08/09/2021					
AP	1009	mb				
BOREHOLE	O2 (%)	CO_2 (%)	CH_4 (%)	CO (ppm)	H_2S (ppm)	FLOW (l/hr)
1	3.4	9.8	0.0	0	0	0
3	19.0	1.4	0.0	0	0	0

DRAWINGS



Site Name: Pearson Way

Project Number: 16819

Drawing Title: Investigation Locations

Drawing Number: 01

Scale: Not to scale

KEY

Window Sample Locations

Trial Pit



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**

APPENIDX 3: OCTOBER 2022 REMEDIATION STRATEGY

terra firma

Geotechnical & Geoenvironmental Specialists



Remediation Strategy Report

Site: Pearson Way, Neath

Prepared For: Wellspring Property and Investments Ltd

Issue Date: October 2022

Job No: 16819/RS

info@terrafirmawales.co.uk

www.terrafirmawales.co.uk

REPORT TITLE : **Remediation Strategy Report: Pearson Way, Neath**

JOB NUMBER : **16819/RS**

DATE : **October 2022**

REPORT REFERENCE : **211022-16819/RS**

Document Revision Record

Issue Number	Date	Revision Details
1	19th October 2022	Draft
2	21st October 2022	Final

	Name	Signature
Prepared	**David Emanuel** BSc (Hons), MSc, FGS, Dip.Chem, M Phil, CGeol	
Checked	**Gwyn Lake** BSc (Hons). PhD, CGeol, FGS	
Approved	**Gwyn Lake** BSc (Hons). PhD, CGeol, FGS	

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Drawings

Drawing 01 Site Investigation Locations

SECTION 1 Introduction and Proposed Development

1.1 Introduction

Wellspring Property and Investments Limited (the Client), is proposing the construction of residential properties at Pearson Way, Neath.

TFW Group Limited have been commissioned by Wellspring Property and Investments Limited, to prepare a Remediation Strategy Report for the site.

Previous investigations and assessments have identified that remedial measures are required for the development. This report presents a Remediation Strategy for the site based on these previous investigations and assessments.

1.2 Objectives

The objective of the Remediation Strategy is to detail the remedial steps that are required to render the site fit for its intended use.

In summary, the following remediation requirements have been identified and are covered in this report.

1. Design of Gas Protective Measures required for the site (GCS 2);
2. Chemical Analysis of any material imported for use in Landscaped Areas;
3. Potable Water Supply Pipe Material Assessment;
4. Soils, if disposed to landfill, should be classified in accordance with Environment Agency Guidance WM3 to derive a European Waste Code, and disposed in accordance with this code.
5. Any soil import or export should be performed under an appropriate permit, exemption, or Material Management Plan.

1.3 Previous Investigations and Assessments

The Remediation Strategy is based on the findings of previous investigations and assessments. This report shall be read in conjunction with the following documents.

- TFW Group Limited Geotechnical and Geoenvironmental Report, Report Ref: 16819 (April 2022)

1.4 Limitations and Exceptions of Investigation

This report has been prepared for the sole internal reliance of the Client and the project 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 Limited. 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 geo-environmental and geotechnical consultants. TFW Group Limited does not provide legal advice and the advice of lawyers may be required.

It is not within the scope of TFW Group Limited to:

- Provide Method Statements and Risk Assessments for the site remediation, preparation and development.
- Design, assess or install utility service trench fill and pipes for potable water supply beneath the site.
- Provide specific design for Gas Protection barriers. A specialist approved installer should be engaged for this aspect of the works.

1.5 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 Site Characteristics

The following subsection information has been summarised from previous investigations and assessments listed in **Section 1.3**.

2.1 Site Location and Description

The development site is rectangular in shape and locates at Pearson Way, Neath, SA11 2EJ. The site centres on an approximate National Grid Reference of 274640 195700, occupying a plan area of approximately 0.25 Hectares.

The site is currently empty brownfield space. Vegetation covers the whole of the site. The site is a steep slope inclining towards the west. The northern and southern boundaries of the site are defined by residential housing and their gardens. The eastern boundary of the site is defined by Pearson Way Road. A public footpath is located adjacent to the east of the site. The wider surrounding area is predominantly residential housing with empty greenfield space.

The site elevation is approximately 55 to 45m AOD steeply sloping down to the west. A steep drop off is situated in the northwest of the site.

The site location can be seen on **Figure 2.1**.

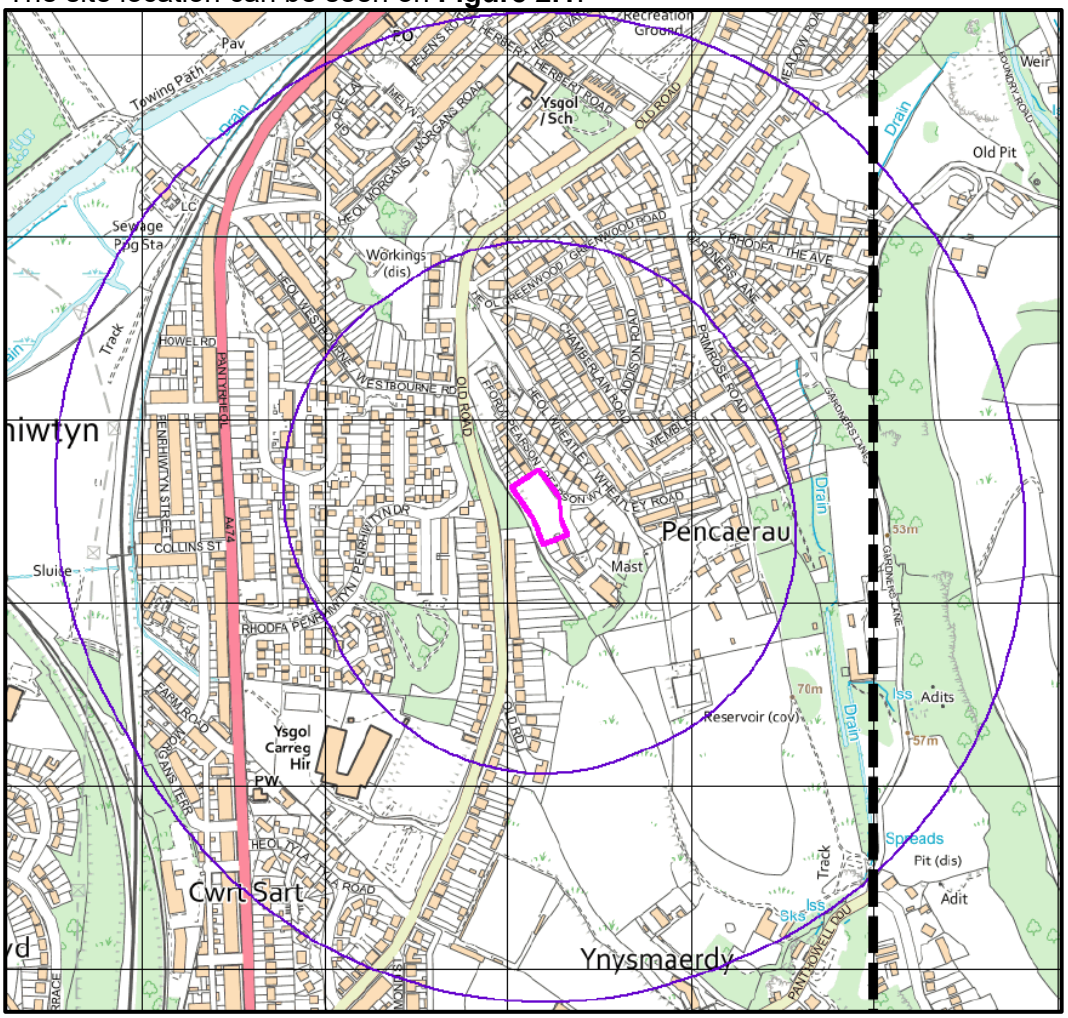


Figure 2.1 Site Location (not to scale)

2.2 Site History Summary

A historical map review revealed that the site has remained undeveloped although it has been reprofiled historically and residential development has occurred around the site in recent times.

It was concluded that the overall risk to the surface stability of the site from possible unrecorded workings is considered low.

No historical landfills are recorded within 250m of the site.

2.3 Geology and Ground Conditions

The site is underlain by the Hughes Member of the Carboniferous South Wales Coal Measures. Superficial deposits were not recorded on the Geology Map and Made Ground is known to be present from reprofiling of the site.

The shallow ground conditions encountered during the recent TFW site investigation can in general be summarised as shown in **Table 2.1**.

Table 2.1 Summary of Typical Ground Conditions

Depth (m)			Thickness (m)	Stratum
0.00	-	0.1-0.8	0.1-0.8	Grass over soft brown very sandy locally gravelly, **CLAY** with fine rootlets.
0.1-0.8	-	1.7-2.2	1.1-1.4	Stiff to Very stiff occasionally firm brown, orange and blue mottled very Gravelly **CLAY** to medium dense clayey **GRAVEL**. (Made Ground Fill)
1.7-2.0	-	3.7-4.0	2.0-2.2	(Boreholes Only) Firm locally stiff brown very gravelly **CLAY** or Medium Dense very Clayey sandy **GRAVEL**. Very wet in places. (Made Ground) (Suspected Fill)
3.7	-	4.0	NA	(BH03 and TP02 and TP03 Only). Stiff to very stiff brown gravelly **CLAY**.
Gravels comprised typically angular sandstone with some weak angular mudstone.				

2.4 Groundwater

Groundwater was encountered as follows;

WS02 2.0 – 2.3 Wet Strata
WS02 3.8 – 4.0 Wet Strata
WS03 1.7 – 3.7 Wet Strata
TP03 2.0 Minor Water Ingress

2.5 Radon

The Envirocheck Report details that **NO** radon protective measures are required for new developments on the investigation site.

2.6 Hydrogeology and Hydrology

The bedrock deposits beneath the site have an aquifer designation of secondary aquifer – A. The site does not locate within a groundwater source protection zone.

2.7 Identified Contamination

2.7.1 Soil Contamination

Soil Chemical Testing did not detect any determinants in excess of the Generic Assessment Criteria (GAC) for a Residential Setting with Plant Uptake.

2.7.2 Ground Gas

Gas Monitoring placed the site within Gas Characteristic Situation 2 (GCS 2).

SECTION 3 Sources of Contamination Requiring Remediation

The summary of the refined conceptual site model is presented in **Table 3.1**. and based on findings of previous investigations and assessments, detail significant pollutant linkages requiring remediation or mitigation.

Table 3.1 Refined Conceptual Site Model

Source	Pathway	Receptor
S3 – Soil Gas	P7 – Horizontal and vertical migration and inhalation of ground gas	R2 – Future site users (residents)
S1 – Made Ground	P9 – Absorption of contaminants into potable water pipes	R2 – Future site users (residents)

SECTION 4 Proposed Remedial and Mitigating Measures

4.1 General

Based on the finding of previous investigations and assessments and the identified pollutant linkages the following remedial measures have been devised for the site.

Specific validation requirements for the proposed remedial measures are discussed in the following section.

4.1.1 Protection of Construction & Maintenance Workers and Passers-by or Neighbouring Site Users

Whilst no specific contamination in excess of GACs were detected, dust can be managed by good site management.

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.

If, during earthworks, ground conditions are encountered that are markedly different to those found during the investigation, the ground should be subject to additional sampling and testing and any necessary remedial measures designed and implemented before continuing with the works.

These measures should be detailed in the contractor's Risk Assessment and Method Statements as well as the contractor's Construction Management Plan.

4.1.2 Protection of Future Site Users (Residents and Visits)

Soils

Any soils imported for use in landscaped areas or for construction fill should be subject to chemical analysis prior to import and should, as a minimum, achieve the Generic Assessment Criteria (GAC) for a Residential Setting with Plant Uptake.

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 properties prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties.

Soil Imports and Exports should be performed under an appropriate Permit, Exemption or Material Management Plan.

Clean material should also be placed along service runs.

Gas Protection

To mitigate against the risk to future site users from ground gas full protection measures will be required in all structures. Reference should be made to guidance publication BR 211:2015 for further details on required protection elements. Verification of the installed protection measures is highly recommended. Terra Firma Group Ltd. offer a comprehensive ground gas protection system verification service.

To protect the future site users from identified ground gas, proposed structures will need to incorporate within its construction a suitable ground gas protection system. The ground gas protection system should be designed, verified, installed and validated in accordance with the British Standard 8485:2015+A1:2019 and CIRIA guidance C735:2014. In addition, NHBC

guidance may also need to be adopted depending on the requirements of the proposed development guarantor.

It is recommended that a specialist consultant is retained to prepare a risk assessed ground gas protection system Verification Plan for the proposed development. The Verification Plan will detail the required protection measures based on the perceived risk associated with the complexity of design, experience of the installer, size of the site and gas characteristic situation. The Verification Plan also details the step-by-step process and requirements to allow for the completion of a Validation Report. Terra Firma Group Ltd offer Verification and Validation services.

Potable Water Supply

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. Evidence of this assessment, and the pipe material used, should be retained for inclusion in the Verification Report.

SECTION 5 Validation of Remedial and Mitigating Measures

The following remedial measure will require validation and inclusion within a Validation Report:

- Validation of Imported Soils
- Records of Off-Site Disposal (transfer/Consignment Notes)
- Design, Installation and Verification of Gas Barrier
- Potable water supply pipe (assessment and installation)

5.1.1 Imported Soil Validation

All imported soils, aggregate or stone that are not virgin quarry stone should be validated as suitable for use. Imported materials exempt from validation testing should be accompanied by a delivery/transfer note. Notes should be retained and submitted for inclusion within the Validation Report upon completion of the works.

The provider should supply a laboratory analysis report to confirm that the soil/aggregate/stone is suitable for use. Depending on the source and available test data, it may be prudent to independently sample and analyse the materials prior to being brought to site.

Sampling and analysis of the soil/aggregate/stone once imported will be required in addition to any taken at source.

All samples should, as a minimum, be analysed for the determinants listed in **Table 5.1**.

Table 5.1 Validation Criteria

Determinant	Units	Guideline Value (Residential)	Source
Inorganic			
Arsenic	mg/kg	37	1
Boron	mg/kg	290	1
Cadmium	mg/kg	11	1
Chromium III	mg/kg	910	1
Chromium VI	mg/kg	6	1
Copper	mg/kg	2400	1
Lead	mg/kg	200	2
Mercury	mg/kg	40	1
Nickel	mg/kg	130	1
Selenium	mg/kg	250	1
Zinc	mg/kg	3700	1
Cyanide	mg/kg	8	3
Asbestos	%	Non Detected	-
Organics – Phenol & PAH			
Phenol	mg/kg	120	1
Naphthalene	mg/kg	2.3	4
Acenaphthylene	mg/kg	170	4
Acenaphthene	mg/kg	210	4
Flourene	mg/kg	170	4
Phenanthene	mg/kg	95	4
Anthracene	mg/kg	2400	4
Fluoranthene	mg/kg	280	4
Pyrene	mg/kg	620	4
Benzo(a)anthracene	mg/kg	7.2	4
Chrysene	mg/kg	15	4
Benzo(b)fluoranthene	mg/kg	2.6	4
Benzo(k)fluoranthene	mg/kg	77	4
Benzo(a)pyrene	mg/kg	2.2	4
Indeno(123cd)pyrene	mg/kg	27	4
Dibenzo(ah)anthracene	mg/kg	0.24	4
Benzo(ghi)perylene	mg/kg	320	4
Organics – TPH			
PH C5 – C6 Aliphatic	mg/kg	42	4
PH C6 – C8 Aliphatic	mg/kg	100	4
PH C8 – C10 Aliphatic	mg/kg	27	4
PH C10 – C12 Aliphatic	mg/kg	130	4
PH C12 – C16 Aliphatic	mg/kg	1100	4
PH C16 – C21 Aliphatic	mg/kg	65000	4
PH C21 – C35 Aliphatic	mg/kg	65000	4
PH C5 – C7 Aromatic	mg/kg	70	4
PH C7 – C8 Aromatic	mg/kg	130	4
PH C8 – C10 Aromatic	mg/kg	34	4
PH C10 – C12 Aromatic	mg/kg	74	4
PH C12 – C16 Aromatic	mg/kg	140	4
PH C16 – C21 Aromatic	mg/kg	260	4
PH C21 – C35 Aromatic	mg/kg	1100	4

1 - LQM/CIEH Suitable For Use Level (S4UL) 2015
2 - Defra Category 4 Screening Level (Provisional value)
3 - Environment Agency CLEA v1.06 Derived Value (Now withdrawn)
4 - S4UL threshold based on 1% soil organic matter

5.2 Off-Site Disposal

Soils should be classified in accordance with WM3 and disposed to an appropriate facility based on their classification. Paperwork pertaining to the haulage and disposal of soils and demolition rubble should be retained for inclusion in the Validation Report.

A surface tank locates in the east of the site, marked as 'WASTE INK'. The content of the tank should be assessed and disposed on the basis of its chemistry.

5.3 Gas Protection

Validation of installed ground gas protection systems by an independent third party will be required upon completion of the development. Validation may only be achieved if processes prescribed in the Verification Plan are undertaken.

5.4 Potable Water Supply Pipes

A copy of the potable water supply pipe assessment, along with evidence of the water supply pipe installation, should be retained for inclusion in the Validation Report.

Photographic evidence of the installation shall be provided by the **groundworker** for inclusion in the Validation Report.

5.5 Validation Report

Following completion of the works a verification report should be compiled demonstrating the completion and effectiveness of the works set out in the Remediation Strategy.

The Verification Report should include, but not limited to, the following:

1. A record of any areas where made ground is removed (service runs, under roads etc).
2. For soils disposed of off-site, a record of the volume removed, from which areas and details of the receiving landfill. Transfer tickets should be retained.
3. A record of the number of imported soil sources and their respective volumes
4. Details of the source and supplier of all imported soils and appropriate permits, exemptions of MMPs for the imports
5. Chemical test certificates for imported soils where available from the provider
6. Chemical test data for all imported soils as sampled at source (if possible) and on site
7. Details of the source and volume of any imported stone/aggregate

It is beyond the responsibilities of Terra Firma to source these documents and they should be provided by the appropriate person as and when they become available.

SECTION 6 Working Practices

6.1 Protection of Construction Workers

In order that construction workers are protected during site works across the site the following should be adhered to:

1. Compliance with health and safety regulations
2. Provision of Method Statements and Risk Assessments
3. Compliance with Control of Substances Hazardous to Health (COSHH) Assessment
4. Good level of Personal Protection Equipment (PPE)
5. Specific advice from Asbestos Consultant
6. Good level of hygiene by site workers
7. Dust suppression measures
8. Emergency contingencies should be defined prior to commencement of site works

6.2 Protection of the Environment

During the remediation and construction periods, there is a risk to the environment and adjacent sites from de-watering, excavations, moving contaminated soil, drainage misconnections, discharges of perched groundwater to local surface waters or the ground, runoff from construction materials and/or exposed ground, wheel washing and oil or chemical spills.

A drainage plan should be devised, identifying manholes to prevent pollutants accidentally reaching surface water sewers. Temporary drainage measures may need to be put in place.

The contractor(s) must also strictly adhere to the Pollution Prevention Guidelines for Working at Construction and Demolition Sites (PPG6). This publication gives both advice and guidelines which should be followed with regards to the planning and preparation of site works, site drainage, delivery and storage of construction materials, the management of waste, good housekeeping in particular to prevent runoff of silt and other fines into nearby water courses, refuelling, concrete and what to do in the event of an emergency.

Within the documentation prepared by the contractor(s), the following information should be provided, but not limited to:

- Project Description
- Key participants/contractor(s)
- Technical procedures
- Phasing of works and approximate timescales
- Site plans to scale
- Details of consents or license needed
- Health and Safety, COSHH Assessment, Method Statements and Risk Assessments
- Emergency contingencies

In addition, the following precautions should also be taken.

- All potential chemicals and associated risks and emergency procedures for spills/leaks should be considered in the site risk assessment and the details provided to all site employees.
- Any potential pollutant materials or chemicals/detergents used on site should be adequately stored in suitable containers, with clear labelling.
- Any oil or hazardous substance containers and associated pipe works should be enclosed within a bund.
- Care taken during delivery of materials, with correct supervision and labelling detailing the substance and its quantities.

- All delivery drivers should be informed of procedures and restrictions.
- Any materials on delivery should be covered to ensure there is no spillage.
- Any detergents, paints, chemicals etc should not be allowed to be discharged into surface drains or water courses.
- Washing out and cleaning of concrete/cement plant should be carried out in a contained area with adequate measures to collect all run-off water.
- Security and prevention of vandalism, especially of oil drums/containers.

6.3 Material Management & Disposal of Soils

Any imports or exports of soil should be performed under an appropriate Permit/Exemption or Material Management Plan. Paperwork should be in place prior to the proposed movement.

Excavated made ground may be disposed of at landfill. Prior to disposal classification of the material will need to be completed in accordance with Environment Agency protocol detailed in 'Technical Guidance WM3 – Waste Classification - Guidance on the Classification and Assessment of Waste'.

Waste transfer and disposal must be undertaken by an authorised person. A waste transfer notes/consignment notes must accompany each load and records should be maintained for inspection if required

terra firma

Geotechnical & Geoenvironmental Specialists

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**

terra firma

Geotechnical & Geoenvironmental Specialists



Ground Gas Protection System Verification Plan

Site: Pearson Way, Neath

Prepared For: Wellspring Property and Investment Ltd

Issue Date: October 2022

Job No: 16819

info@terrafirmawales.co.uk

www.terrafirmawales.co.uk

V3

REPORT TITLE : **Ground Gas Protection System Verification Plan, Pearson Way, Neath**

JOB NUMBER : **16819**

ISSUE DATE : **October 2022**

REPORT REFERENCE : **GGVP-201022-16819-1**

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	Name	Signature
Prepared	**James Rhys-Williams** BSc. (Geol) FGS	
Checked	**Mathew Lake** MEng FGS Tech IOSH	
Approved	**Gwyn Lake** BSc (Hons). PhD, CGeol, FGS	

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SECTION 1 Introduction and Proposed Development

1.1 Introduction

Wellspring Property and Investments Ltd (the Client) is proposing the construction of residential properties at Pearson Way, Neath.

TFW Group Ltd (Terra Firma) have been commissioned by the Client to prepare a ground gas protection system verification plan (Verification Plan) for the site.

Previous investigations and assessments undertaken in the location of Plots 129-132 have identified that ground gas presents a significant risk to the health of future site users. The incorporation of a ground gas protection system will be required for the identified plots.

This report presents a detailed Verification Plan for the proposed development based on available previous investigations and assessments.

1.2 Objectives

The objective of the Verification Plan is to detail the remedial steps that are required to render the proposed development fit for its intended use and to provide a detailed methodology to facilitate the validation of the ground gas protection system installation.

1.3 Previous Investigations and Assessments

The Verification Plan is based on the findings of previous investigations and assessments. This report shall be read in conjunction with the following documents.

- TFW Group Ltd. Geotechnical and Geoenvironmental Report, Reference 28042022-16819-2, Dated April 2022
- TFW Group Ltd. Remediation Strategy. October 2022. 191022-16819/RS

1.4 Roles and Responsibilities

Table 1.1 Roles and Responsibilities

Roles	Organisations
Client/ Project Manager/ Principal Contractor/ Groundworker	Wellspring Property and Investments Ltd
Gas Protection Measures Designer	Atal UK
Architect	Pentan Architects
Structural Engineer	PHG Consulting Engineers
Local Authority	Neath Port Talbot
Membrane Installer	Wellspring Property and Investments Ltd (Groundworker)
Validator	TFW Group Ltd

1.5 Limitations and Exceptions

This report has been prepared for the sole internal reliance of the Client and its 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.

It is not within the scope of Terra Firma to:

- Provide Method Statements and Risk Assessments for the installation of ground gas protection systems.

1.6 Verifier Competency

The principal Verification Officer at Terra Firma is Mr James Rhys-Williams.

Mr Rhys-Williams is suitably qualified holding a Level 4 NVQ Diploma in Verification of Ground Gas Protection Systems. Furthermore, he is an accredited Specialist in Gas Protection Verification (SGPV) by CL:AIRE (SGPV0009) and is a full member of the British Verification Council (BVC) with instant access to industry peers.

Mr Rhys-Williams has extensive experience in brownfield land investigation, risk assessment and site remediation gained while working for various geotechnical and geoenvironmental contractors and consultants since 2014.

Mr Rhys-Williams holds a bachelor honours degree in Geology obtained from the University of Bristol in 2010 and is a fellow of the Geological Society of London, maintaining regular industry related continuous professional development.

1.7 Quality Assurance

The quality and environmental aspects of the assessment comply with Terra Firma business management system which is UKAS Accredited to ISO 9001:2015 and ISO 14001:2015 standards.

SECTION 2 Site Characteristics

The following subsection information has been summarised from previous investigation and assessments listed in **Section 1.3**.

2.1 Site Location & Description

The development site is rectangular in shape and locates at Pearson Way, Neath, SA11 2EJ. The site centres on an approximate National Grid Reference of 274640 195700, occupying a plan area of approximately 0.25 Hectares.

The site is currently under development.

The proposed site layout can be seen on **Figure 2.1**.

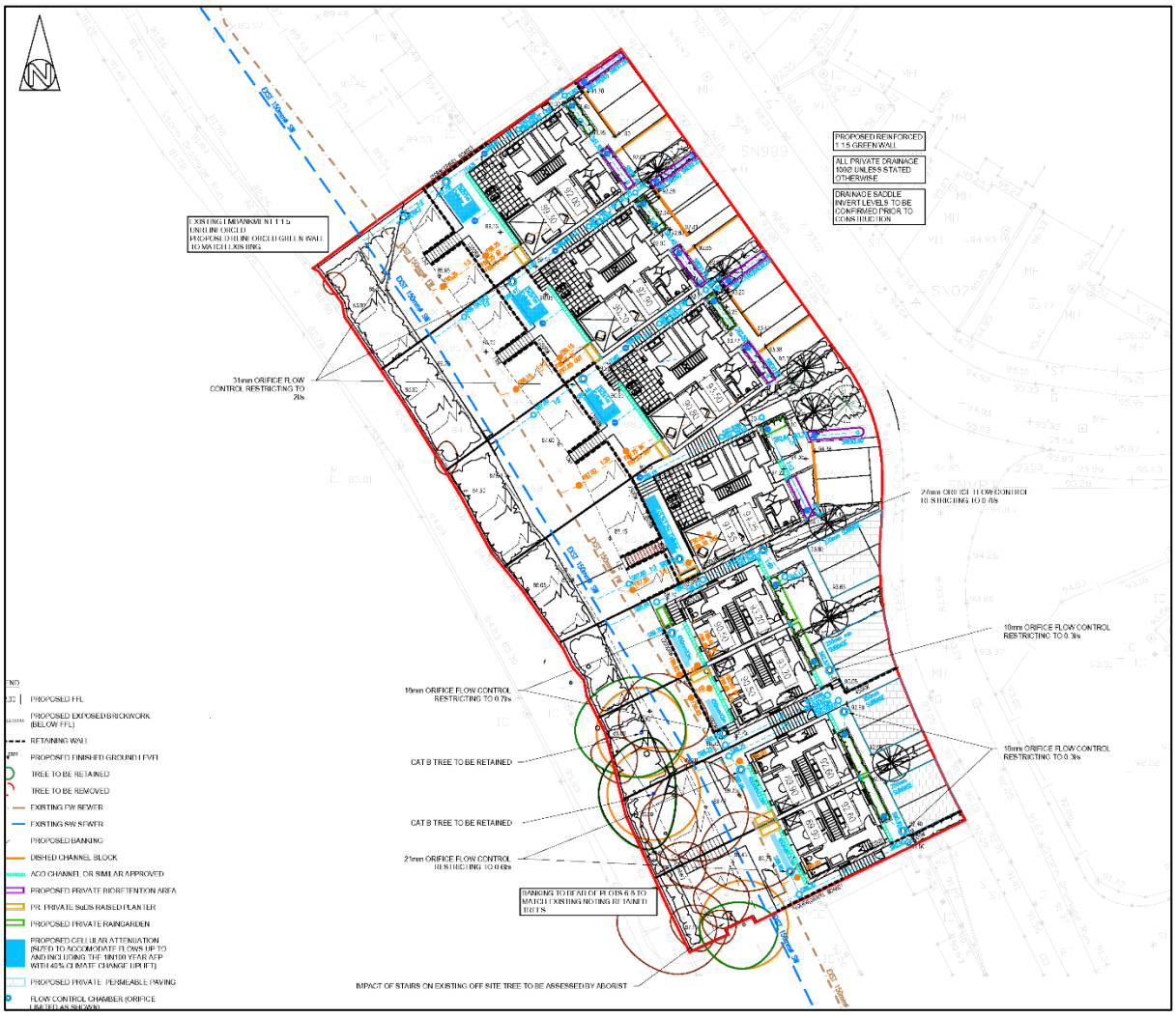


Figure 2.1 Proposed Layout

2.2 Site History Summary

A historical map review revealed that the site has remained undeveloped although it has been reprofiled historically and residential development has occurred around the site in recent times.

It was concluded that the overall risk to the surface stability of the site from possible unrecorded workings is considered low.

No historical landfills are recorded within 250m of the site.

2.3 Geology & Ground Conditions

The site is underlain by the Hughes Member of the Carboniferous South Wales Coal Measures. Superficial deposits were not recorded on the Geology Map and Made Ground is known to be present from reprofiling of the site.

The shallow ground conditions encountered during the recent TFW site investigation can in general be summarised as shown in **Table 2.1**.

Table 2.1 Summary of Ground Conditions

Depth (m)			Thickness (m)	Stratum
0.00	-	0.1-0.8	0.1-0.8	Grass over soft brown very sandy locally gravelly, **CLAY** with fine rootlets.
0.1-0.8	-	1.7-2.2	1.1-1.4	Stiff to Very stiff occasionally firm brown, orange and blue mottled very Gravelly **CLAY** to medium dense clayey **GRAVEL**. (Made Ground Fill)
1.7-2.0	-	3.7-4.0	2.0-2.2	(Boreholes Only) Firm locally stiff brown very gravelly **CLAY** or Medium Dense very Clayey sandy **GRAVEL**. Very wet in places. (Made Ground) (Suspected Fill)
3.7	-	4.0	NA	(BH03 and TP02 and TP03 Only). Stiff to very stiff brown gravelly **CLAY**.

2.4 Radon

Radon protection measures are not required for the development.

2.5 Groundwater

Groundwater seepages were frequently recorded below 1.70m.

2.6 Identified Gaseous Contamination

2.6.1 Carbon Dioxide

Gas monitoring results recorded elevated levels of Carbon Dioxide.

Maximum carbon dioxide levels recorded were 12.6% V/V.

The gas flow rate from the boreholes was also assessed. A maximum flow rate of 0.1l/hr was recorded.

Based on a flow rate of 0.1l/hr and the highest recorded carbon dioxide concentration of 12.6%, a gas screening value of 0.0058l/hr is calculated, as follows:

(12.6/100) x 0.1 = 0.0126l/hr

With reference to Table 8.5 of CIRIA report C665, the site is classified as ‘Gas Characteristic Situation 2’ (CS2) on account of the peak carbon dioxide concentration being above 5%.

SECTION 3 Sources of Contamination Requiring Remediation

The summary of the site conceptual model is presented in **Table 3.1** and based on findings of previous investigations and assessments, detailing significant pollutant linkages requiring remediation or mitigation.

Table 3.1 Summary of Pollutant Linkages

Source	Pathway	Receptor
Carbon dioxide – likely derived from made ground soils	Horizontal migration through near surface soil and indoor accumulation in confined spaces. Asphyxiation from depletion of oxygen	Future Site Users – Residents

SECTION 4 Proposed Ground Gas Remedial Measures

4.1 General

Based on the finding of previous investigations and assessments and the identified pollutant linkages the following ground gas remedial measures have been devised for the site.

Specific validation requirements for the proposed remedial measures are discussed in the following section.

4.2 Carbon Dioxide Gas

4.2.1 Protection of Site End Users

Site end users are at risk of inhalation and asphyxiation from the migration through strata and accumulation indoors of carbon dioxide gas.

Gas protection measures will be required at the site to effectively sever the link between the source and receptor.

CIRIA report C665:2007 Table 8.5 classifies the whole site as 'Gas Characteristic Situation 2' (GSC2).

In accordance with Table 4 of BS8485:2015+A1:2019 a minimum gas protection score of **3.5** is required for a '**Type A**' structure. 'Type A' structures are privately owned without central building management controls limiting internal alterations.

Building structure types are discussed in Section 7.1 of BS8485:2015+A1:2019, any variation to the above may require further assessment and the assignment of a new gas protection score.

To achieve a gas protection score of 3.5 the proposed gas protection measures are summarised in **Table 4.1**.

Table 4.1 Gas Protection Score

Cast in-situ monolithic reinforced ground bearing raft	Score (BS8485)
Cast in-situ monolithic reinforced ground bearing raft with minimal penetrations	1.5
Gas resistant membrane (satisfying BS8485:2015 Table 7 requirements)	2

Validation of gas protection measures will be required in accordance with CIRIA publication C735:2014.

SECTION 5 Validation of Remedial Measures

Ground gas protection system installation will require verification and inclusion within a Validation Report.

Verification of the ground gas protection system will be carried out in accordance with CIRIA publication C735:2014.

Verification of the gas protection system should be carried out by a suitably experienced, qualified, trained and independent verifier. Documents demonstrating the above shall be included in the Validation Report.

5.1 Risk Assessment

In general accordance with CIRIA C735:2014 risk based verification approach the proposed development is considered to be an **High Risk**. This assessment is based on the level of risk as summarised in **Table 5.1**.

Table 5.1 Perceived Risk Assessment

Risk Factors	Risk Level		
	1	2	3
Gas Regime – CS2	1	2	3
Design Complexity – Complex	1		3
Number of Buildings – Medium	1	2	3
Installation Workforce – Non Qualified Installer	1		3
VOC – No	1		3

Notes: Classification of Risk – Low risk 5; Intermediate Risk 6-7; High Risk 8-15

5.2 Gas Protection Measures Construction Details

The development comprises 6 no. 'Type A' residential structures. All of which are rectangular in shape, with a split level ground floor. All structures orientated northwest-southeast.

Technical drawings showing the proposed gas protection measures are presented in **Annex A**.

5.2.1 Structural Barrier

Each structure will incorporate a cast in-situ monolithic reinforced raft, with a 150mm reinforced concrete retaining wall between changes in ground floor levels.

Structural barriers of this nature provide very reliable ground gas protection.

A comprehensive waterproofing system (Type A Barrier Protection) has been designed to incorporate with the gas protection measures, suitable for grades 1 to 3.

5.2.2 Membrane

The membrane is to be installed by the Client/Groundworker.

The Client has specified that Atal GP1 gas barrier membrane and Atal Bentofix 5300 waterproofing membrane is to be used.

Initially Atal GP1 is to be laid on a 50mm layer of blinding sand or smooth cured concrete. On the external raft edge the membrane is to be wrapped up the outside face, and overlapped by 150mm with Atal Premsil GMA Membrane, which in turn will be secured to the primed raft face and lower blockwork of the internal leaf, then horizontally across the blockwork secured to the underside of the cavity tray.

Where the raft terminates significantly below ground level, on an external wall, Atal GP1 membrane will be taped using Atal Bentofix Tape to Atal Bentofix X2 5300 which is to extend 1m from the edge of the raft. On the external raft edge Atal Bentofix X2 5300 is to be wrapped up the outside face, and overlapped by 150mm with Atal Permsil GMA Membrane, which is to continue up the primed external face of the thickened sub-surface wall then wrapped around the blockwork in the external leaf, then horizontally across the blockwork secured to the underside of the cavity tray.

Between the split level ground floors Atal Bentofix X2 5300 is to be secured to the external face of the separating retaining wall, fixed with soft fixings (5/m2). The non-woven side should face the concrete unless otherwise instructed by Atal. Atal Bentofix X2 5300 is to be extended out at the lower and upper levels by 1m beneath the rafts over a 50mm sand blinding or smooth cured concrete layer and taped to the Atal GP1 membrane using Atal Bentofix Tape.

Detailed drawings showing the installation are shown in **Annex A**.

Table 5.2 Membrane Specification Compliancy GP1

Atal GP1 Membrane
Thickness – 0.4mm thick (between scrim) tested in accordance with BS EN 9863-1:2016. Overall thickness 0.6mm. **Suitably thick**, manufacture confirms material is suitable for heat welding by specialist installer.
Permeation Rates – Methane/Carbon Dioxide permeability rate of <0.09ml/m^2/d/atm tested in accordance with BS IS 15105-1. **Considered sufficiently impervious**.
Tensile Strength & Elongation – Mass per unit area of 370g/m^2 tested in accordance with BS EN 1849-2. Tensile strength MD 600 N/50mm, CMD 480 N/500mm, Tensile elongation MD/CMD 20%, tested in accordance with EN 12311-1, EN 12310-1. **Considered suitable strong**, membrane to be loosely laid to accommodate settlement.
Puncture/Impact Resistance – 1.25kN, tested in accordance with BS EN ISO 12236. **Protection required.**
Tear Strength – Resistance to tearing (nail shank) MD 330N, CMD 400N, tested in accordance with EN 12310-1. **Measures to be taken to avoid damage from wind and protected from follow on trades.**
Durability – Long exposure to UV light will likely reduce its effectiveness. It is considered suitably durable to remain serviceable for the anticipated life of the building.
Satisfies standards to be used as a damp protection. Building Regulation Part C.

It is considered that performance specification of Atal GP1 membrane complies with the performance specification in BS8485:2015+A1:2019 Table 7 and key performance properties reported in CIRIA C748:2014. However, additional measure are to be taken to protect the membrane from impact or puncture and tearing.

In addition, the membrane installation will need to be verified in accordance with CIRIA C735:2014 to fully satisfy the requirements of BS8485:2015+A1:2019 Table 7.

During storage membrane rolls must be stacked on a flat surface, no more than five rolls high, kept under cover and protected from sunlight and mechanical damage.

The membrane should not be installed in temperatures below 4°C.

Prior to installation the substrate should be free from debris, voids or other protrusions which may compromise the gas protection system.

The membrane should be rolled out with the printed side facing up.

It is recommended that all joints are secured using Atal DS Butyl Tape. The tape must be positioned at least 50mm away from the membrane edge and the overlapping membrane is to be lapped by at least 100mm. Laps are to be further sealed using Atal Single Sided Tape (Lap Tape). **Lap tape is only to be applied post Verification.** All tapes will prove to be ineffective when installed in damp or wet conditions. Alternatively, joints may be secured by heat welding if undertaken by a competent and qualified installer.

If the membrane is damaged a patch of the same material should be lapped at least 150mm beyond the limits of the damage, bonded with Atal DS Butyl Tape and lap sealed with Atal Single Sided Tape. Alternatively a patch may be heat welded by a competent and qualified installer. Where a puncture is minimal, a patch may be formed using Atal Premsil GMA lapped at least 150mm beyond the extents of the puncture. The suitability of either repair method will be determined during verification.

All direction changes (internal or external corner for example) should be detailed using Atal Premsil GMA lapped at least 150mm beyond the nearest membrane joint. The installer should be suitably experienced and competent to form these details in accordance with the manufacture guidance.

Table 5.3 Membrane Specification Compliancy Bentofix

Atal Bentofix X2 5300
BBA Certificate: 05/4256
Thickness – 6mm thick **Suitably thick**
Permeation Rates – Methane permeability rate of 460ml/m^2/d/atm tested in accordance with BS IS 15105-1. **Not sufficiently impervious in accordance with BS8485**.
Puncture/Impact Resistance – Very robust with the ability to selfheal one hydrated. **Considered suitable**
Tear Strength – Very robust with the ability to selfheal one hydrated. **Considered suitable**

Atal Bentofix X2 5300 membrane does not constitute a gas membrane, as defined in BS8485:2015+A1:2019, but when used as part of the structural barrier in basement floor and wall constructions conforming to BS 8102:2009, Grades 2 and 3 waterproofing, the system will contribute to restricting the ingress of radon, methane and carbon dioxide into a building from landfill and naturally occurring sources, with reference to BS8485:2015+A1:2019 Table 5.

All other performance specifications of Atal Bentofix X2 5300 comply with the performance specification in BS8485:2015+A1:2019 Table 7 and key performance properties reported in CIRIA C748:2014.

Atal Bentofix system components should be stored in dry conditions, under cover and away from the possibility of damage or premature contact with water.

The Bentofix system should only be installed in temperatures between 5-40°C.

The Bentofix system must be installed fully supported on flat, smooth surfaces, without wrinkles or folds in the membrane that could cause the membrane to sag during concrete placing. And all surfaces to which the membrane is applied must be sound and solid to ensure no movement occurs during the pouring of concrete.

The membrane is either installed with the nonwoven geotextile uppermost (horizontal) and to the inside of the structure (vertical) ensuring it will be in contact with the fresh concrete when it is poured, or fixed to existing soil retaining substrates (eg secant or contiguous piling), with the coated geotextile uppermost (horizontal) or to the inside of the structure (vertical), unless otherwise instructed by Atal.

It is recommended that all joints are achieved by overlapping the adjacent membranes by at least 100mm securing all laps using Atal Bentofix Tape .

Floor to wall joints must be overlapped by a minimum of 400mm and laps secured using Atal Bentofix Tape.

When post applied to the retaining concrete wall, the Atal Bentofix X2 5300 membrane is to be secured to the concrete using Atal soft Washer Fixings at 300mm centres around the perimeter and 500mm centres within the area of the membrane.

Membrane and accessory data and technical sheets, certificates and installation guides are presented in **Annex B.**

Upon completion of membrane installation workmanship should be verified by a suitably experienced, qualified, trained and independent verifier.

It is recommended that Installers prepare a daily log sheet during the works which can conveniently be used to recorded progress made, materials used (batch ID etc), repairs or defects. This log sheet should be submitted to the verifier to aid in the verification process. An example daily log sheet is presented in **Annex C**.

The membrane is to be covered by a protective fleece as soon as practicably possible post installation and post Verification (**Do not cover the membrane before inspection**). This protection fleece will act to protect the underlying membrane during the raft pour. Extreme care is still to be taken during pouring. The use of mechanical tools is strongly discouraged as the potential to cause damage to the membrane is very high.

Any rips, punctures or defects identified during the verification process will be recorded by the verifier, repaired by the installer and re-inspected at a later date to check for conformance.

5.2.3 Service Entries

All service penetrations should be detailed in accordance with the manufacturer specifications.

Service penetrations should be installed at least 50mm away from walls, obstructions and other penetrations to allow for the correct installation.

Ducting style service entries are considered a significant conduit for harmful gasses to enter properties. All service entry ducts are to be sealed in accordance with published guidance presented in BRE414:2001 Section 10. It is recommended that a product such as Filoform MD111 Expanding Resin is used for this purpose. The installation should follow manufacture guidelines.

Duct seals will need to be verified upon completion of the works.

Membrane and accessory data and technical sheets, certificates and installation guides are presented in **Annex B.**

5.3 Proposed Development Programme

The construction of all structure substructures is anticipated to commence in the autumn of 2022, to be completed in sequential order. Installation of the membranes is expected to be undertaken over at least **six** visits due to the complexity of the installation and construction programme.

5.4 Maintaining the Integrity of Gas Protection Measures

Membranes installed vertically along reinforced concrete retaining walls are to be protected from damage using Atal Flow Boards 4e Drain Board.

In the intervening period between installation of the membrane, placement of the protection fleece and pouring of concrete raft, membrane must be protected from high footfall traffic. To achieve this Site Management will put in place exclusions to limit access to plant and personnel to completed zones. A method statement to achieve this is provided in **Annex D**.

To protect the membrane from footfall and puncture during raft pouring and levelling, a protection fleece is to be installed above the membrane. Site Management is to strictly control the concrete pour process to avoid damage to the membrane and report to the Verifier any damage that may occur.

Follow on contractors should be made aware of the ground protection system in place. It is essential that the integrity of all gas protection measures is maintained post-verification and not damaged by any subsequent construction works.

Prior to the commencement of the membrane installation it is recommended a tool box talk on safeguard and upkeep measures should be undertaken. Site management along with membrane installers, ground workers the verifier and other subcontractors (if applicable) should be present.

Accidental damage to the membrane system should be reported to the verifier, rectified and re-inspected at a later date.

A final inspection may be required.

5.5 Required In-situ Integrity Testing & Evidence

With respect to the perceived risk assessment (**Table 5.1**) and in general accordance with CIRIA C735 Table A2 the level of verification and integrity testing to be included within the Validation Report for the construction are presented.

Before commencement of the works, the installer contractor should produce a detailed installation plan including a method statement, CQA procedures and any qualifications. On receipt of these documents' verification protocol could be increased or reduced.

Consideration will be given to the need for further integrity testing if concerns are raised by visual and air lance testing. If further integrity is carried out appropriate pro forma are to be produced by the Verifier.

It is recommended that the membrane Installer fill out a daily log sheet to be submitted to the Verifier on completion of the works.

5.5.1 Methodology

With reference to CIRIA C735 Table A2.

- **Groundworker (Membrane Installer)** to provide daily log sheets, or sign-off sheets to be submitted to the Independent Verifier for each plot/structure.

- **Independent Verifier** to conduct a thorough visual verification of the substrate and membrane prior to 100% of raft pours. Photographic evidence to be collected and inspection proforma to be prepared.

- **Independent Verifier** to air lance 100% of all joins, pipe penetrations etc. to ASTM D4437. Results to be recorded on the inspection proforma.

- **Groundworker (Membrane Installer)** to provide photographic evidence of waterproofing system installation if not observed by the Independent Verifier during inspection visits.

- **Groundworker (Membrane Installer)** to provide photographic evidence of membrane protection elements, post installation, if not observed by the Independent Verifier during inspection visits.

- **Independent Verifier** to consider further need for/scope of in-situ integrity testing based on inspection findings. Additional in-situ testing might include leak detection (i.e. smoke, tracer gas or dielectric). Testing to be undertaken initially on 25-50% of total area falling to 10-25% of total area if acceptable results obtained. Results to be recorded on inspection proforma.

- **Groundworker (Site Manager)** to provide Verifier photographic evidence of service entry sealing to BRE Report 414 standards upon completion. Suitable product datasheets supplied in **Annex B** for reference.

5.6 Validation Report

The Validation Report should present a detailed description of the ground gas protection measures applied and lines of evidence gathered during verification processes to confirm that protection measures have been install as per the Verification Plan and satisfy the remedial objectives, severing the pathway between the source and receptor.

As a minimum the Validation Report should include.

- Description of the as-built protection measures installed and any variation in design from the Verification Plan.
- Details of the Installer and relevant qualifications
- Details of the Verifier independency and relevant qualifications
- Verifier proformas and integrity testing results
- Visual inspection photographic evidence
- Installer daily log sheets
- Details of non-conformances and how they were rectified
- Statement based on the presentation of lines of evidences and review of the site conceptual model confirming that the discussed gas protection measures achieve the remedial objectives set out in the Verification Plan

References

BRE (2001) Protective measures for housing on gas-contaminated land, BRE Report 414

BRE (2015) Radon Guidance on protective measures for new buildings, BRE Report 211

BS 5925 (1991) Ventilation principles and designing for natural ventilation

BS 8485:2015+A1 (2019) Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings

BS 8576 (2013) Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs)

CIRIA C665 (2007) Assessing risks posed by hazardous ground gasses to buildings.

CIRIA C735 (2014) Good practice on the testing and verification of protection systems for building against hazardous ground gases

CIRIA C748 (2014) Guidance on the use of plastic membranes as VOC vapour barriers

CIRIA C795 (2020) Retrofitting hazardous ground gas protection measures in existing or refurbished buildings.

CIRIA R149 (1995) Protecting development from methane

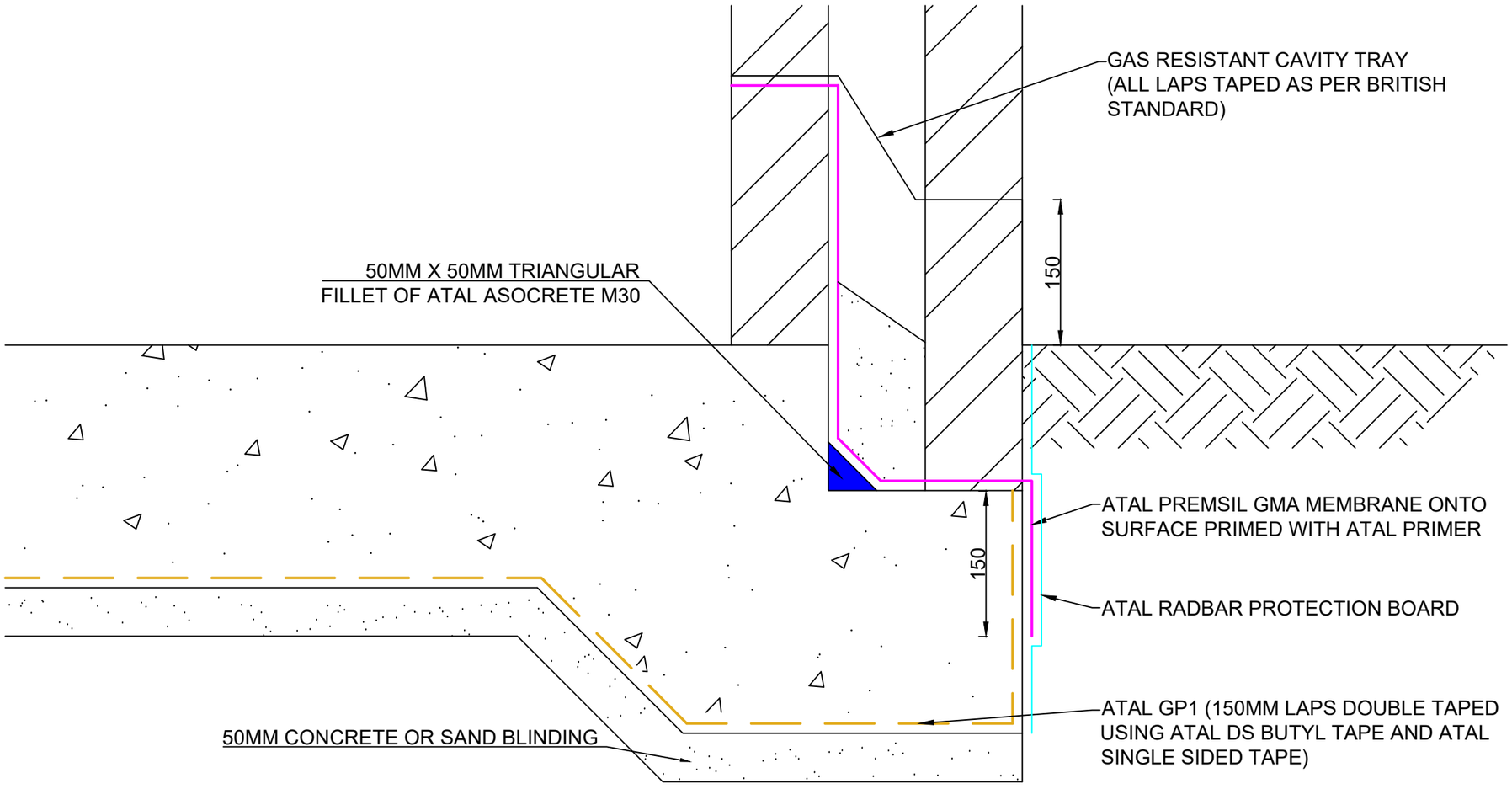
D4437-08 (2013) Standard practice for non-destructive testing (NDT) for determining the integrity of seams used in joining flexible polymeric sheet geomembranes

NHBC (2007) Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present, report edition no.4

OVE ARUP & PARTNERS (1997) Passive venting of soil gases beneath building. Research Report. Guide for design.

WILSON S, CARD G and HAINES S (2009) Ground Gas Handbook

ANNEX A
Technical Drawings



Installation Notes

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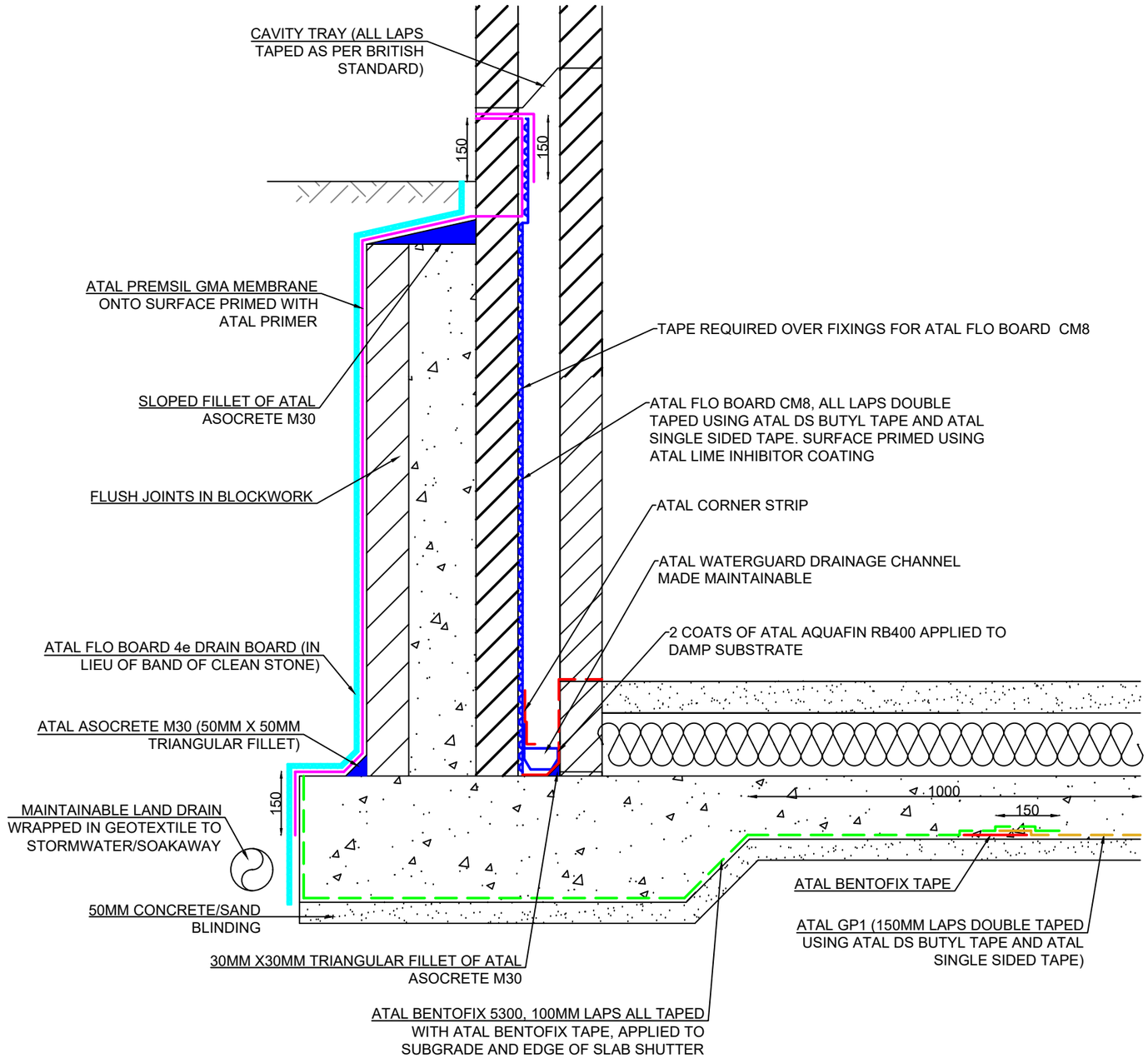
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Edge Of Slab Detail

atal uk
Unit 27, Tafarnaubach Industrial Estate,
Tafarnaubach, Tredegar NP22 3AA
+44 (0) 1495 717202
enquiries@ataluk.com

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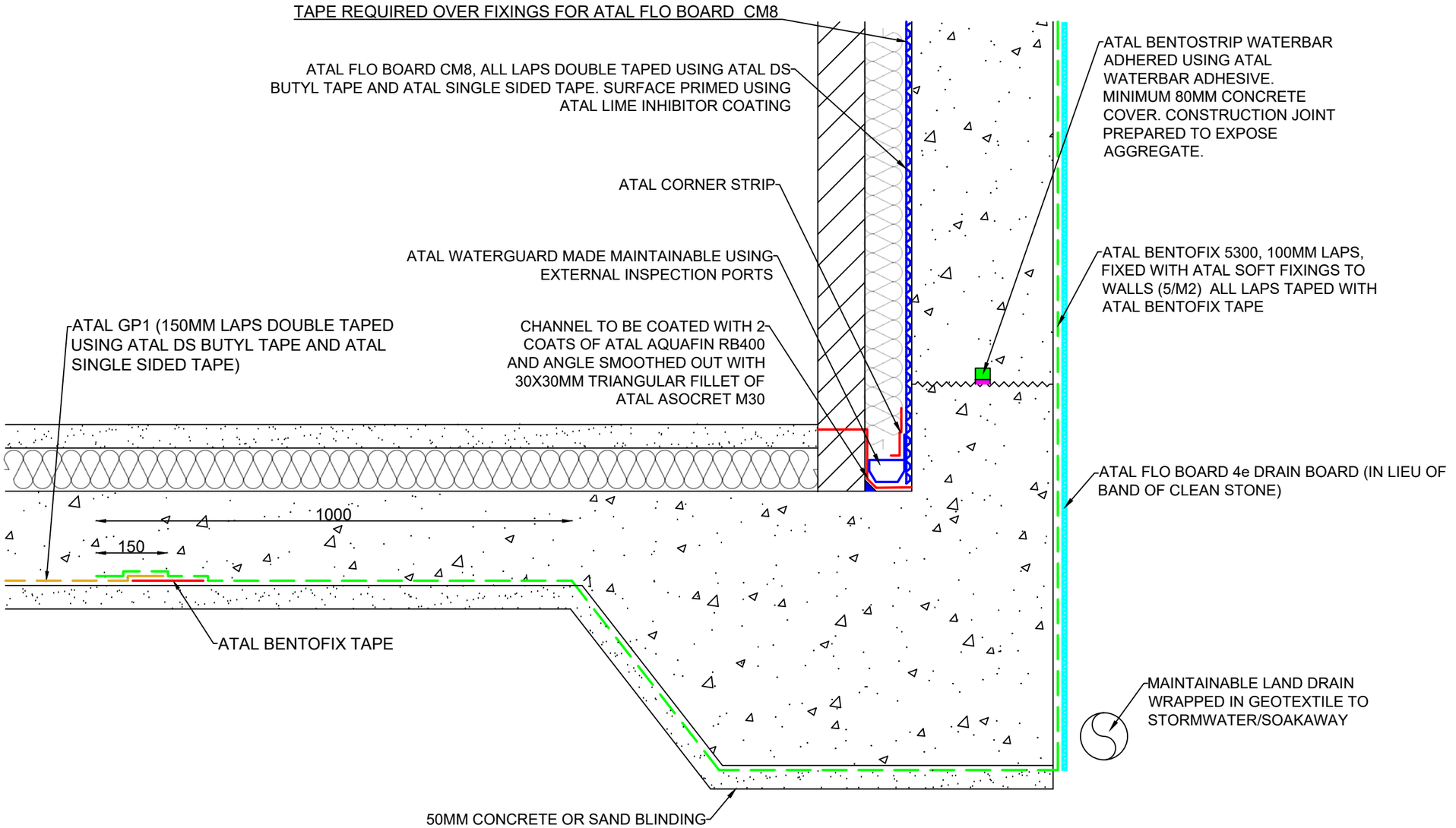
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Blockwork Retaining Wall Detail

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enquiries@ataluk.com
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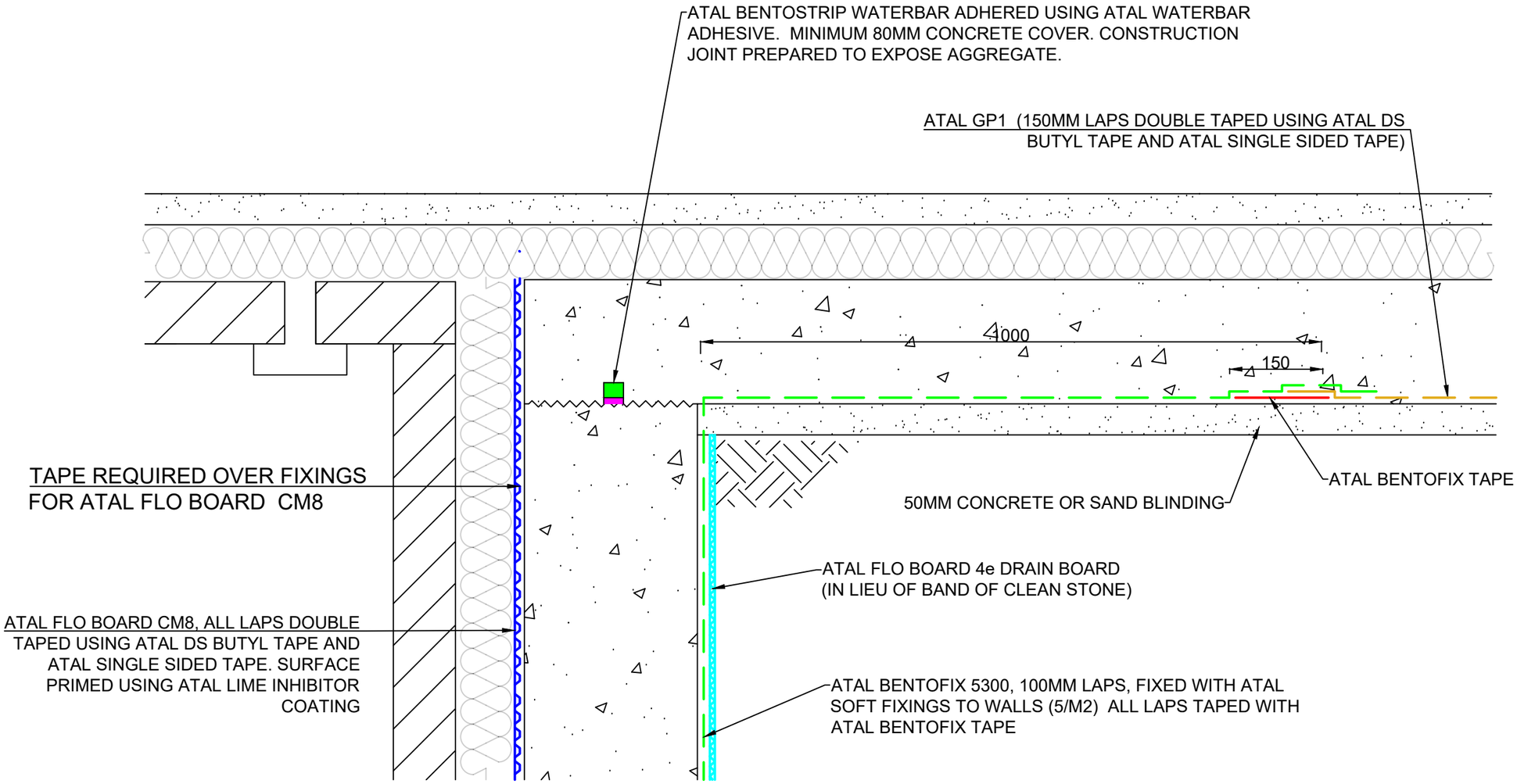
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Bottom Of RC Retaining Wall Detail

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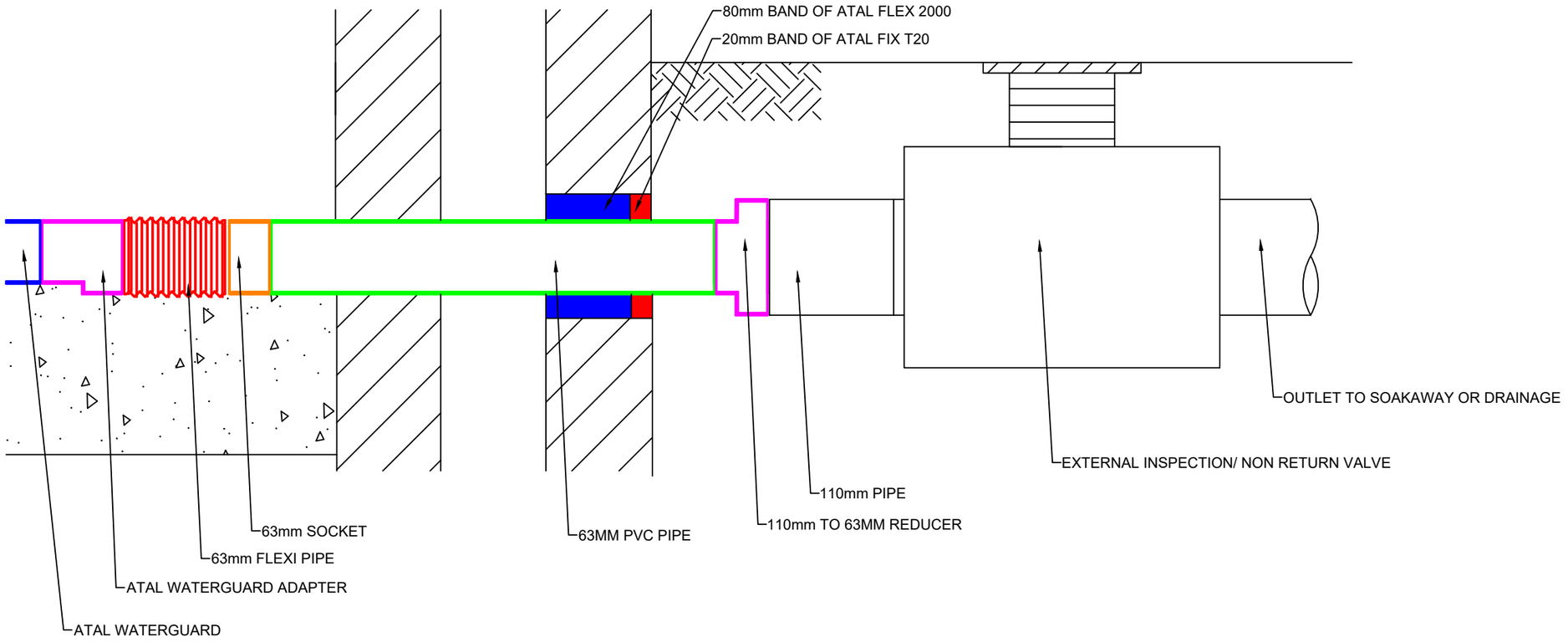
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Step in Level Detail

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INSTALL ATAL FLO BOARD 4E GEOTEXTILE FACING BACKFILL UNLESS INSTRUCTED OTHERWISE BY atal uk.

FOR PROJECTS THAT INCLUDE atal's TYPE B SYSTEM, atal BETOCRETE:

- atal SAFECURE SUPER IS REQUIRED TO PREVENT MOISTURE LOSS OF FRESHLY CAST CONCRETE TO ALLOW FULL HYDRATION OF CEMENT ALLOWING THE CONCRETE TO FULLY CURE.
- atal SAFETARD LIQUID AND atal SAFETARD GEL IS REQUIRED FOR THE PRODUCTION OF EXPOSED AGGREGATE FINISHES.

atal uk RESERVES THE RIGHT TO SUPPLY SUBSTITUTE PRODUCTS TO THOSE SHOWN ON atal DETAILS IF REQUIRED.

SOFT WASHER FIXINGS INSERTED USING HILTI DX460 OR DX5 (SINGLE SHOT HEAD) TO BE SOURCED BY THE PURCHASER.

Notes

atal uk ARE SUPPLIERS OF BUILDING AND CIVIL ENGINEERING PRODUCTS AND OFFER A DESIGN AID SERVICE ONLY.

ALL INFORMATION SHOWN ON THIS DRAWING IS PROVIDED IN GOOD FAITH AND IS BASED ON THIRD PARTY TECHNICAL LITERATURE AND BEST PRACTICE GUIDELINE.

THIS DRAWING SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS IT HAS BEEN SIGNED OFF BY A DESIGN TEAM MEMBER.

Date	Description	Revision

Project Title
ATAL4403
PEARSON WAY, NEATH, SA11 2EJ

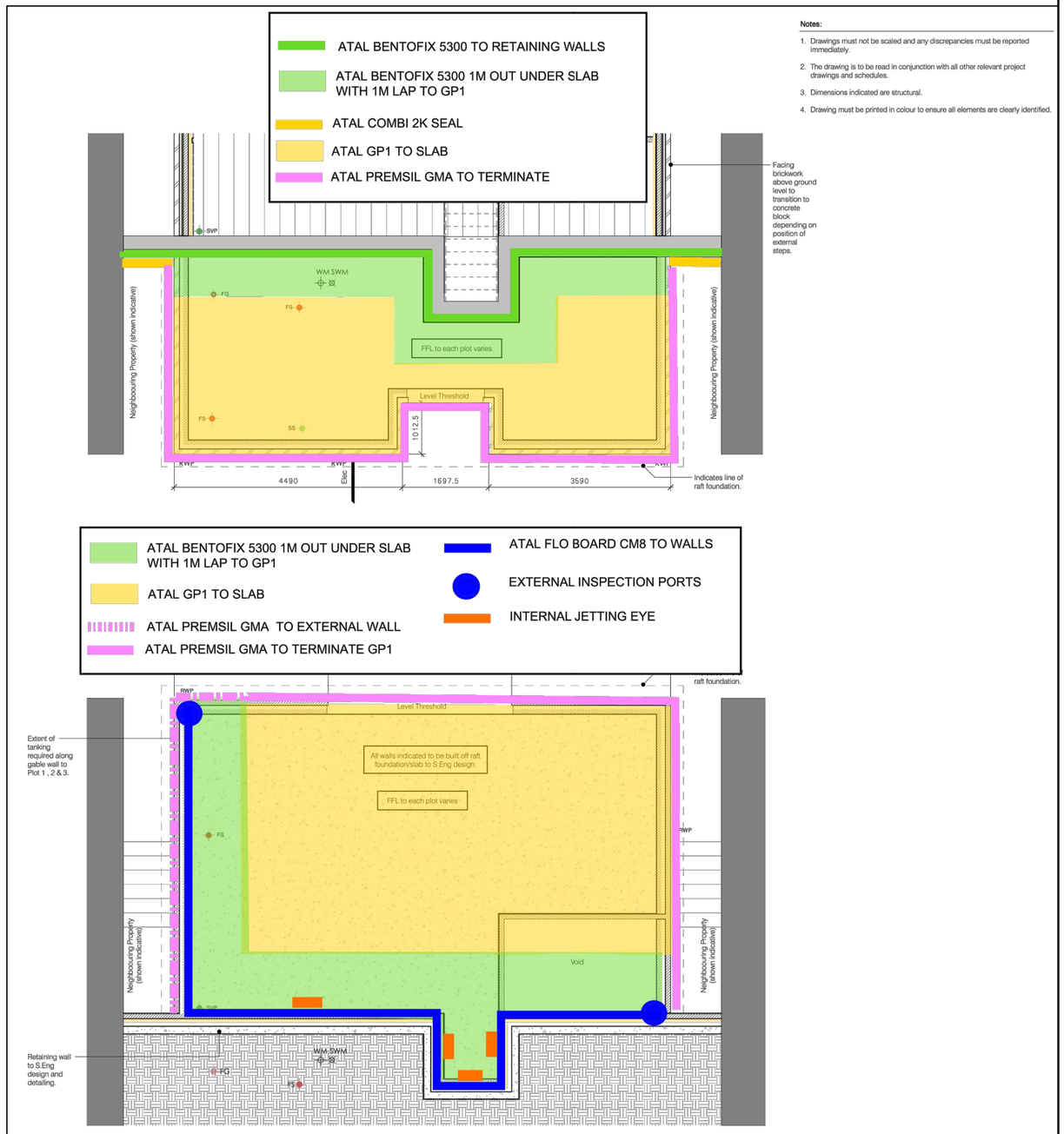
atal uk
Unit 27, Tafarnaubach Industrial Estate,
Tafarnaubach, Tredegar NP22 3AA
+44 (0) 1495 717202
enquiries@ataluk.com
Structural Waterproofing Systems

Drawing Title

Outlet Detail

Drawn By	Date	Checked by
SB	27/06/2022	IP
Drawing No.	**Rev**	**Checked Date**
005	A	27/06/2022

GROUNDFLOOR PLAN



Lower Ground Floor Sub-Structure Plan

LOWER GROUNDFLOOR PLAN

ISSUED FOR COMMENT ONLY

Installation Notes

DETAILS ISSUED BY atal uk ARE WORKING DRAWINGS FOR WATERPROOFING INSTALLER'S, FOR STRUCTURAL DETAILS AND FINISHES SEE ENGINEERING AND ARCHITECTURAL DRAWINGS RESPECTIVELY.

ATAL BENTOFIX 5000 AND ATAL BENTOFIX 5300 SHOULD BE APPLIED TO THE INSIDE OF SLAB SHUTTERING IN ALL INSTANCES TO CREATE A TENACIOUS BOND AT THE EDGE OF SLAB, UNLESS INSTRUCTED OTHERWISE BY atal uk.

PLASTIC SLEEVE IN TIE BOLT HOLES SHOULD BE REMOVED USING A DRILL TO DEPTH OF 50MM AND FILLED USING ATAL FIX T20 PRIOR TO MEMBRANE INSTALLATION (POST-APPLIED) OR BACKFILL (PRE-APPLIED).

SUBSTRATES NEED TO BE FREE FROM LOOSE MATERIAL AND DEBRIS. BEFORE APPLYING LIQUID MEMBRANE ENSURE DUST, OIL, GREASE, ORGANIC GROWTH , SOIL ARE REMOVED VIA JET WASHING AND SCABBLING IF REQUIRED.

INSTALL ATAL BENTOFIX WITH NON-WOVEN SIDE FACING CONCRETE UNLESS INSTRUCTED OTHERWISE BY atal uk.

INSTALL ATAL FLO BOARD 4E GEOTEXTILE FACING BACKFILL UNLESS INSTRUCTED OTHERWISE BY atal uk.

FOR PROJECTS THAT INCLUDE atal's TYPE B SYSTEM, atal BETOCRETE:

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Date	Description	Revision

Project Title
ATAL4403
PEARSON WAY, NEATH, SA11 2EJ

Drawing Title

Marked Up Plan

atal uk
Unit 27, Tafarnaubach Industrial Estate, Tafarnaubach, Tredegar NP22 3AA
+44 (0) 1495 717202
enquiries@ataluk.com
Structural Waterproofing Systems

Drawn By	Date	Checked by
SB	29/06/2022	IP
Drawing No.	**Rev**	**Checked Date**
100	A	29/06/2022

ANNEX B
Manufacturer Data Sheets

AQUAFIN RB400

Unit 27,
Tafarnaubach Industrial Estate
Tafarnaubach,
Tredegar,
NP22 3AA

WWW.ATALUK.COM

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

SCHOMBURG GmbH & Co. KG
Aquafinstrasse 2 – 8
D-32760 Detmold (Germany)
phone +49-5231-953-00
fax +49-5231-953-108
email export@schomburg.de
www.schomburg.com

SCHOMBURG

Technical Data Sheet

AQUAFIN®-RB400

Art. No. 2 04218

Rapid cementitious waterproofing

CE

SCHOMBURG GmbH & Co. KG
Aquafinstraße 2 – 8
D-32760 Detmold
19
2 04218

DIN EN 14891
AQUAFIN-RB400
Liquid-applied water impermeable cement-based product for use beneath ceramic tiling in external areas
DIN EN 14891: CM

Initial tensile adhesion strength	≥ 0,5 N/mm²
Tensile strength	
after water contact	≥ 0,5 N/mm²
after heat ageing	≥ 0,5 N/mm²
after freeze/thaw cycles	≥ 0,5 N/mm²
after contact with lime water	≥ 0,5 N/mm²
Water impermeability	no water penetration
Crack bridging	≥ 0,75 mm
Release of dangerous substances	NPD

NPD = „No Performance Determined"

RADON BARRIER

- Rapid reactive drying
- Multi-functional
- Good crack bridging
- Hydraulic, self-cross-linking setting
- Rainproof, can be walked on and coated already after just 3 hours
- Vapour-permeable, resistant to frost, UV-resistant and ageing-resistant
- radon barrier
- Sulphate resistant
- Resistant to de-icing salt
- Resistant to concrete-damaging water
- Resistant to negative pressure water
- Can be plastered an coated
- Bitumen-free

Areas of use:

- For the waterproofing in direct ground of walls and substrates of new and existing buildings on building components made of concrete or masonry work
- Waterproofing against internal pressure water in container constructions (e.g. service water tanks, waste water tanks)
- Waterproofing of window and door elements
- Horizontal waterproofing against capillary rising moisture in and underneath walls
- Application on old, firmly adhering bitumen coatings
- Bonding protective or perimeter insulation

If applied in containers or in case of water loads with aggressive water or soft water with a hardness < 30 mg CaO per l, a water analysis is always required. The degree of attack is evaluated in accordance with EN 1992-1-1 (Euro Code 2). AQUAFIN-RB400 is resistant up to exposure class XA2.

Technical data:

Drum size: 20 kg

	Liquid component	Powder component
Basis:	Polymer dispersion	Special cement, functional filling materials
Mix ratio:	1 part by weight	1.5 parts by weight
Packaging:	8 kg	12 kg
Colour:	white	grey

Combination product

Density:	approx. 1.1 kg/dm³
Grain size:	< 0.5 mm
Pot life*:	approx. 45 minutes
Substrate temperature/ processing temperature:	+5°C to +30°C
Adhesive strength, in accordance with DIN EN 1542:	> 0.5 N/mm²
Crack bridging ability referring to DIN 28052-6:	> 2.0 mm
Expansion, in accordance with ASTM D 412-06:	approx. 220 %
Crack bridging ability, in accordance with ASTM C836:	3.0 mm
Water-tightness:	2.5 bar
Sealing against negative pressing water:	1.5 bar

AQUAFIN®-RB400

Water vapour diffusion coefficient μ: approx. 670
s_d value at 2 mm dry film thickness: approx. 1.3 m
CO_2 coefficient of permeability, μ: > 96,000
s_d value, CO_2 at 3.0 mm dry film thickness: > 280 m
Full service conditions*):

- Rainproof on inclined surfaces after approx. 3 hours, standing water loading must be avoided
- Sealing against pressing water, (1 bar) after approx. 16 h

*) at +23°C and 50% relative humidity. The stated data may be extended or shortened as a consequence of weather conditions. Higher temperatures and lower humidity shorten the drying time, lower temperatures and higher humidity extend the drying time.

Storage:
Powder component: cool and dry, 9 months
Liquid component: Frost-free, 9 months in original unopened container, use the opened container promptly
Cleaning: Clean tools in fresh condition with water, loosen dried-on material with ASO-R001 and wash off

Substrate:
The substrate must be load-bearing, fully grouted and level to a large extent, open-pored, and have a closed surface. It must be free of gravel pockets, cavities, gaping cracks and ridges, dust and adhesion inhibiting substances such as oil, paint, laitance layers, and loose components.

Dense concrete, P II and P III plaster, fully grouted masonry, and cement-based screed are suitable as substrates.

Exposure	Dry film thickness, mm	Wet film thickness, mm	Consumption, kg/m²
Ground moisture, non-pressure water	> 2.0	approx. 2.2	2.4
Pressure water	> 3.0	approx. 3.3	3.6
Joint water proofing in conjunction with joint tape technology	> 2.5	2.75	3.0
Container waterproofing	> 2.0	approx. 2.2	2.4
Profile waterproofing beneath masonry	> 2.0	approx. 2.2	2.4
Non-pressure water on slab surfaces	> 3.0	approx. 3.3	3.6
Levelling layers	1 mm	1.1 mm	1.2
Possible additional consumption in case of uneven substrates and artisanal variations must be considered.			

AQUAFIN-RB400 can be used to renovate old, firmly adhering coatings containing bitumen **(not bitumen sheeting)**. The waterproofing must be covered with a scratch coat and double-coated after drying out completely. The base point area and the transition to the splashing water base must be stripped down to the cementitious substrate beforehand, because these connection and termination areas are frequently affected by moisture penetration from the rear during renovation.

Corners and edges such as those on base slabs, etc. must be cut or chamfered. Depressions >5 mm and damaged areas, large-pored substrates, or uneven masonry must be levelled out beforehand using a suitable cement-based mortar, e.g. ASOCRET-M30. Alternatively, levelling or filling coats <5 mm can be applied with a mixture of AQUAFIN-RB400/quartz sand 0.1–0.35 mm (approx. 5 kg on 20 kg of AQUAFIN-RB400).

The substrate must be pre-dampened so that it is matt

AQUAFIN®-RB400

damp when AQUAFIN-RB400 is applied. Extremely absorbent and slightly sandy substrates must be primed with ASO-Unigrund-GE or ASO-Unigrund-K, and the primer must be totally dry before the subsequent work steps are carried out.

Moisture penetration from the rear and intermittent moisture loading from the negative side must be avoided. We recommend pre-sealing with AQUAFIN-1K to prevent pushing off of the substrate. This requires min. 1.75 kg/m² AQUAFIN-1K. On uneven substrates, pre-sealing with ASOCRET-M30 can also be completed with consumption of 1.4 kg/m²/mm. Negative moisture loading can also be counteracted with ASODUR-SG2/-thix depending on the object. Consumption of 600–1,000 g/m² is required when using ASODUR-SG2/-thix.

Application:
Put approx. 50–60% of the liquid component into a clean mixing bucket and mix with the powder component to produce a homogeneous, lump-free compound. Finally, add the rest of the liquid component and mix sufficiently. A mixing time of approx. 2–3 min. is required with a powerful agitator (approx. 500–700 min^{-1}). After a settling period of approx. 2 minutes, thoroughly homogenise the compound again.

Due to the project or processing conditions, e.g. processing using the screening or spraying method, adding water up to a maximum of 1.0% (0.2 l/20 kg) AQUAFIN-RB400 is permitted. Water is added after mixing the powder and liquid component.

Pre-screen the base slab-wall transition with AQUAFIN-1K or ASOCRET-M30 featuring consistency able to be screened, and install a sealing groove of ASOCRET-M30 with an edge height of at least 4 cm while it is still wet. After drying, carry out the waterproofing with AQUAFIN-RB400.

AQUAFIN-RB400 is applied pore-free by trowelling, spraying or brushing for at least two application steps. The second and subsequent application steps may be completed once the first application step cannot be damaged (approx. 3 hrs., depending on the ambient conditions). An even layer thickness is achieved, e.g. using a coating thickness trowel or a 6 to 8 mm notched trowel and then smoothing. Apply as much material as needed to achieve the required dry film thickness.

If you apply using the spraying method with suitable spraying systems like HighPump M8 (peristaltic pump), HighPump Small, -Medium or -Pictor (screw pump), we recommend a nozzle size of 4.5 to 6.0 mm. For more information, contact Dittmann Sanierungstechnik GmbH, Hohen Neuendorf, www.saniertechnik.de.

For watertight formation of moving and connecting joints, use the system components of the ASO-joint tape method in accordance with the respective wear class.

Apply ASO-Dichtband-2000-S, or ADF-Dehnfugenband in the transition between the wall and floor and across connecting joints, and adhere ASO-Dichtband-2000-S-Ecken joint tape in the corner areas with AQUAFIN-RB400. Apply AQUAFIN-RB400 at least 2 cm wider than the width of joint tape you use. The joint tape is placed in the fresh layer and then pressed in without voids or wrinkles. Bonding must be carried out in such a way that water cannot migrate around the back. The joint tape to be used should be inserted in a loop over movement joints. The joint tape edges must be adhered overlapping at least 5 to 10 cm with AQUAFIN-RB400, free of wrinkles and covering the whole area. Finally, the bonded joint tapes must be coated over with AQUAFIN-RB400 and seamlessly integrated into the waterproofing. Proceed in the same way when inserting ASO joint tape pre-formed pieces.

Pipe penetrations:
Depending on the nominal diameter, the ASO-Dichtmanschette-Boden (ASO sealing sleeve base)

AQUAFIN®-RB400

or ASO-Dichtmanschette-Wand (ASO sealing sleeve wall) or ADF-Rohrmanschette (ADF pipe sleeve) are used for waterproofing pipe penetrations with non-pressing water and waterproofing is applied at least 5 cm onto the pipe penetration. In case of pressing water, use suitable loose fixed flange constructions. Apply the AQUAFIN-RB400 generously to the thin-bed flange and overlapping area, embed the sealing sleeve used free of voids and wrinkles and subsequently integrate in the waterproofing by means of complete over-coating.

Drainage and protection boards for components in direct ground:
The waterproofing must be protected against weathering influences and mechanical damage using suitable protective measures. Protective layers may only applied after drying is complete. Suitable protection and drainage boards can be fastened using heaps of COMBIDIC-1K, and the perimeter insulation must be bonded covering the whole area and butt jointed with COMBIDIC-2K-CLASSIC or COMBIDIC-2K-PREMIUM.

Alternatively, protective layers can be bonded covering the whole area with a mixture of AQUAFIN-RB400/ quartz sand 0.1–0.35 mm (approx. 5 kg on 20 kg AQUAFIN-RB400) and suitable notched trowel using the Buttering-Floating method.

Drainage is implemented in accordance with national regulations.

Notes:

- Protect surfaces that are not to be treated against the effects of AQUAFIN-RB400!
- The waterproofing must not be affected by water while it is setting. The effect of water from behind can lead to spalling in case of frost.
- In case of strong sunlight, work against the movement of the sun in shaded areas.
- In rooms with high humidity and/or insufficient ventilation (e.g. water containers), dew point undershooting (condensation formation) may occur on the surface. This must be avoided by taking suitable measures, e.g. by using condensation dryers. Direct heating or uncontrolled blowing warm air is not permitted.
- AQUAFIN-RB400 may not be subjected to punctuated or linear loads as the surface coating.
- AQUAFIN-RB400 may be plastered and coated with vapour permeable, solvent-free dispersion facade paints or dispersion silicate paints (not pure silicate paints). Silicon resin paints and acrylate-based paints may also be used.
- Direct contact with metals like copper, zinc, and aluminium must be avoided by means of pore-sealed priming. Pore-sealed priming is produced via 2 application steps using ASODUR-GBM. The first application step is generously applied to the degreased and cleaned substrate. Once this coat has reacted to the extent that it can no longer be scattered (approx. 3–6 hours), another coat of ASODUR-GBM is brushed on and sprinkled with quartz sand featuring a grain size of 0.2–0.7 mm. Consumption of ASODUR-GBM approx. 800–1,000 g/m².
- To waterproof PVC, gunmetal, and stainless steel flanges, abrade, clean, and degrease the flange, apply AQUAFIN-RB400 and ASO-Dichtmanschette (ASO-Joint-Sleeve) or alternatively embed the ADF-Rohrmanschette (ADF-Pipe-Sleeve) without cavities or wrinkles and connect seamlessly to the surface waterproofing.

The current applicable regulations must be observed!
Please observe valid safety data sheet!

The rights of the buyer with regard to the quality of our materials are based on our terms and conditions of sale and delivery. Our technical advice team will be happy to advise you in the case of requirements that exceed the scope of the application described here. In order to be binding, a legally binding written confirmation is required. The product description does not release the user from a duty of care. Lay a test area in the event of uncertainty. This version becomes invalid in the event of a new version being issued.

MSt/TET/LiB/KKa 10/20

ATAL BENTOFIX X2 5300
TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

atal uk.com
Structural Waterproofing Systems

ATAL BENTOFIX X2 5300

BBA Certified as Bentofix X2 BFG 5300 Waterproofing System Cert No. 05/4256

DESCRIPTION

Atal Bentofix X2 5300 is a needle punched GBR-C comprised of a uniform layer of powder sodium bentonite encapsulated between a slit-film woven and a staple-fibre nonwoven geotextile. The woven fabric is coated with a low-permeability polymer polyolefin coating to achieve an immediate gas and radon gas barrier before hydration. The coated woven geotextile side is, in general, not placed against the concrete structure. Seal all laps using Atal Bentofix Tape.

USES INCLUDE:

- Waterproofing protection to grades 1, 2 and 3 of BS8102:2009
- Protection from ground gases including methane, CO^2 and radon.
- Can be used in both post-applied or pre-applied situations and either horizontal or vertical application.

ADVANTAGES

- Unique impermeable lap joints derived from surface bentonite impregnation of the nonwoven geotextile layer during manufacture.
- Full surface contact between the bentonite impregnated cover layer and the concrete ensures that small cracks and surface imperfections are sealed.
- Self-healing bentonite properties
- Quick and easy installation in almost all weather conditions
- Forms a tenacious mechanical bond to poured concrete when cast in situ, remaining in place if settlement of the substrate occurs
- No requirement for priming systems or protection systems
- BBA Accredited, certificate no. 05/4256

TYPICAL PROPERTIES @ 20°C

- Tensile Strength - 20 kN/m / 11 kN/m
- Puncture Force - 2500N
- Peel Strength - >360N/m
- Water Permeability - <5 x10m/s-9
- Methane Permeability - 5.46 x 10m/s-9
- Radon Permeability - 1.3x10-11 m2/s
- Thickness - 6.0mm



SPECIFICATION OUTLINE

The product must be stored, handled and used strictly per the datasheets.

TESTING

ATAL NAUE BENTOFIX X2 BFG 5300 has been tested in

accordance with the appropriate parts of the

following standards:

ASTM D5887, CSN 73 0601, ISO 10913.

INSTALLATION INSTRUCTIONS

Installation advise in the BBA certificate must be followed at all times.

HORIZONTAL FLOOR SLAB APPLICATION

For installation of horizontal concrete slabs following the required groundwork preparation, a 50mm blinding layer of lean concrete or sand/gravel is placed, compacted and levelled. This layer should be free from debris and have a smooth surface. Remove all standing water before rolling out Atal Bentofix X2 5300 membrane. Alternatively, well-compacted hardcore or clay base may be suitable; please contact atal for more information.

The membrane edges must be overlapped a minimum of 100mm in the centre and edges. Avoid wrinkles, folds and uneven overlaps. Seal all laps using Atal Bentofix Tape.

Pour concrete following the direction of overlaps to minimise the chances of a break in the waterproofing. In all applications, the vibrating poker used to compact concrete mustn't come into contact with the Bentofix membrane.

VERTICAL CASTING APPLICATION

In most cases, install the Atal Bentofix X2 5300 membrane to the concrete with the bentonite impregnated nonwoven geotextile side facing towards the concrete. Should the Atal Bentofix X2 5300 membrane be used as a gas barrier and installed against a piled wall or sacrificial shutter then the membrane will need to be reversed with the bentonite impregnated nonwoven side facing the shutter or piled wall.

Floor to wall joints must be overlapped a minimum of 400mm. Avoid wrinkles, folds and uneven overlaps. The Bentofix Tape must be used in all laps, 75mm over each roll, on the laminated side. Ensure all overlaps are aligned not to let concrete into the lap during pouring.

PRE APPLIED APPLICATION

Apply the Atal Bentofix X2 5300 to timber formwork, 'tacking' by nail or staple either horizontally or vertically, following general application guidelines for lapping all adjacent edges 100mm, and staggering adjacent roll ends no less than 300mm, ensuring that laps face downwards.

The coated woven geotextile side should be against the formwork, and the nonwoven/spun geotextile side should face the concrete. Extend Bentofix the full depth of the formwork, so that the Bentofix laps 350mm over the Bentofix already cast into the slab edge and wall kicker, and allow no less than 300mm at the top of the formwork, to provide ground slab continuity later, if required. Position formwork and penetrate the Bentofix with tie bolts, as necessary.

The usual concrete practice is applied in terms of striking times for formwork, but due care should be taken to ensure that the Bentofix remains bonded to green concrete.

Where a slab 'toe' exists, and underslab Atal Bentofix has terminated at the top edge of slab, additional Bentofix may be required to ensure continuity and to link underslab/edge of slab Bentofix with the vertical Bentofix. Apply a 50x50mm fillet of Atal Bentonite Paste (powder & water) at the internal wall/slab corner, and place additional Bentofix over the slab 'toe' lapping 300mm over the edge of slab Bentofix, and continue over the 'toe' terminating under the unbonded wall Bentofix 'flap' at the back of the kicker.

Ensure all laps are taped with Atal Bentofix Tape.

POST APPLIED APPLICATION

When post applied to the concrete the Atal Bentofix X2 5300 membrane shall be secured to the concrete using Atal Soft Washer Fixings (30mm length min.) at 300mm centres along the 20mm outside edges, and at 500mm centres within the area of the membrane.

PRECAUTIONS

HEALTH AND SAFETY:

Atal Bentofix X2 5300 rolls are heavy and may need mechanical lifting to be moved. coated woven geotextile is available in 3 roll sizes:

- 1.20 x 4.5m = 28kg
- 2.42 x 15m Roll = 210kg
- 4.85 x 40m Roll = 1000kg

Full health and safety data are given in the Product Safety Data Sheet.

FIRE

Atal Bentofix X2 5300 is non-flammable

STORAGE AND SHELF LIFE

Atal Bentofix X2 5300 will have a shelf life of 12 months when kept in dry conditions at a temperature of 5°C to 45°C. Storage at higher temperatures and high humidity may reduce the shelf life.

Atal Cyf products are guaranteed against defective materials and manufacture. Products are sold subject to the Atal Cyf Terms and Conditions of Sale, copies of which are forwarded on invoice and are available on request. Atal Cyf endeavours to ensure that the above data and any further advice is correct, however, it cannot accept any direct or indirect liability for the use of its products as such usage is beyond its control.

ATAL FLO BOARD 4E
TECHNICAL DATASHEET

Unit 27,
Tafarnaubach Industrial Estate,
Tafarnaubach,
Tredegar,
NP22 3AA

FOR MORE DATASHEETS VISIT:
WWW.ATALUK.COM

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

ATAL FLO BOARD 4E

DESCRIPTION

Atal Flo Board 4e consists a high strength flexible polyethylene cuspated core with a non-woven geotextile bonded onto one or both sides.

The geotextile filters a wide range of materials allowing water to perculate into the core to be efficiently transported away to a discharge point. The geotextile is bonded to the core to ensure that it does not deform into the drainage passages under the load of the backfill material allowing continuity of the drainage void.

The single cuspated HDPE core forms a high-performance drainage layer with clear void to allow flow in all directions. The compressive strength and creep resistance properties of Atal Flo Board 4e ensures that the core maintains its drainage capacity, even when subjected to compressive loads.

Atal Flo Board 4e is durable and sufficiently robust to resist the mechanical stresses imposed during installation and throughout the design life.

Use of Atal Flo Board 4e will eliminate the need for further protection of the waterproofing.

ADVANTAGES

When compared with aggregate drainage layers Atal Flo Board 4e geocomposites are much thinner yet offer superior flow characteristics. This reduces dead loads associated with aggregate drainage layers and may reduce required thickness of the roof slab construction.

The wide roll Atal Flo Board 4e composites are especially suited for rapid installation on large block paving or roof drainage projects.

Atal Flo Board 4e enhances structural waterproofing performance by providing an additional barrier that prevents the majority of the water reaching the liner.

The high CBR puncture resistance of Atal Flo Board 4e provides protection and prolongs the life of the waterproofing.

INSTALLATION

Atal Flo Board 4e is easy to handle and is rapidly installed without the need for specialist plant.

Atal Flo Board 4e has a built in geotextile overlap that ensures integrity of the drainage layer across the entire installation area.

The site in which the Atal Flo board 4e is to be installed must be sufficiently excavated and prepared.

A perforated pipe is normally used at the base of the wall to collect water from the geocomposite and must be placed as closely as possible and surrounded with filter stone.

The geocomposite can either be unrolled across the wall structure with the flapped edge at the bottom, or lengthways down the wall structure and cut to length as required. The flat face of the core must be secured against the structure and the geotextile faced cuspated side towards the backfill to ensure efficient water filtration across the geotextile.

Where the geocomposite is laid on vertical structures in the vertical plane, it can be supported at the top of the wall with ballast (such as sand bags) and at the bottom with filter stone, prior to backfilling. In all situations, the geocomposite can also be supported temporarily using stick pins. Alternatively, pin shot fix or plug drill and fix plugs provide a permanent method of securing the geocomposite to the wall.

On wider or higher areas of walls, additional lengths of Flo board will be required. Jointing is carried out by butting the cores together ensuring the 100 mm geotextile overlapping piece is located over the joint. The lapped joint is then sealed and held in place using a continuous run of ABG Jointing Tape. Subsequent rows of geotextile can be installed in the same manner with the final row overlapped using a separate geotextile piece to seal the complete installation.

All cut edges must be sealed using ABG Jointing Tape. It is essential that during the lapping process no gaps are left in the installed Flo board System that could allow the soil to enter the core.

At corners, Flo board must be cut and re-sealed. For all Flo board Systems, the use of an angle profile will ensure a secure installation.

BACKFILLING

Prior to backfilling, the installed geocomposite must be inspected to ensure it has been securely fitted into position and that all joints are completely sealed.

Backfill material must not contain sharp or large stones that could tear or damage the geocomposite during compaction and is normally SHW class 6 or 7 backfill material. Care must be taken to avoid damaging the geocomposite during the backfilling process.

The permeability of the backfill material, when compacted, should be at least equal to that of the native soil.

Where the geocomposite is laid as transverse strips across a wall, backfilling is brought up progressively in layers as subsequent rolls are installed. Compacting equipment can operate close to the geocomposite without causing damage.

Where the geocomposite is laid vertically in upright lengths and adequately secured (see section 12.4), backfilling can proceed in one operation.

HEALTH SAFETY AND ENVIRONMENT

All components of Atal Flo Board 4e are inert and do not present a hazard to health.

SUPPLY

Atal Flo Board 4e is Manufactured in 4mm and 12mm and 1.1m wide rolls.

CHEMICAL RESISTANCE

Atal Flo Board 4e has excellent resistance to petrol, oils, acid, alkalis, leachate andall common chemicals.

ATAL FLO BOARD 4E APPLICATIONS

A strong, robust geocomposite layer

designed to:

• Relieve external water pressure from buried structures.

• Provide drainage behind retaining walls, potable water reservoir roofs and walls, tunnels, roof gardens

• Provide drainage under block paving.

• Relief of uplift pressure beneath tanks, slabs and culverts.

• Capillary break layer below base slabs.

• Atal Flo Board 4e can be applied horizontally on roofs and below base slabs or vertically against walls.

Atal Flo Board 4e geocomposite drainage layer is ideal for structural drainage applications; it provides sub-surface drainage with higher performance and lower cost than conventional granular filters layers. It has been specially designed to be compatible with structural waterproofing and to give the optimum performance over the whole life of the structure.

Atal Flo Board 4e enhances the performance of the waterproofing systems by providing an additional barrier, preventing the majority of the water reaching the waterproofing system.

Atal Flo Board 4e geocomposite drainage system has a proven record in structural drainage and offers a 120 year design life.

BURIED STRUCTURES

When installed on external faces of a buried structure Atal Flo Board 4e collects and drains percolated groundwater from the backfill material. Installed with the flat face of the core against the structure and dimpled face against the backfill, Atal Flo Board 4e also provides a high level of protection to the waterproofing system.

RETAINING STRUCTURES

Atal Flo Board 4e installed behind retaining structures acts as an efficient groundwater drainage system. Atal Flo Board 4e provides a high-level of protection to the structure offering drainage capacity 10 to 50 times better than filter stone.

ATAL GP1

TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

INTRODUCTION

Atal GP1 is a multi layer, low-density polyethylene membrane, reinforced with a polypropylene reinforcing grid with an integral aluminium foil. Atal GP1 is specifically designed and manufactured to perform as a Methane, Carbon Dioxide, Radon, air and Moisture protection system.

The membrane is manufactured by using a multi–layer extrusion/coating process and incorporate a tough polypropylene reinforcement grid. Atal GP1 is extremely flexible for ease of installation and is robust enough to cope with the site conditions. atal GP1 will also protect against damp and therefore will act as a DPM and satisfy Approved Document C.

USAGE

The product will restrict the ingress of radon, methane and carbon dioxide gases into buildings from landfill and naturally-occurring sources and meet the performance criteria for a gas resistant membrane as defined in BS 8485 : 2015.

INSTALLATION

Atal GP1 should be installed in accordance with the product installation guidelines and in accordance with BS8485:2015.

The membrane can be installed in all normal site conditions, provided that the air temperature is not below 4°C to prevent the risk of surface condensation.

The product must only be applied to surfaces that have a smooth finish, ie they should be free from voids, projections and mortar deposits. Surfaces should be dry and free from dust and frost.

Concrete surfaces should be dense. Vertical surfaces of brickwork and blockwork must be dry and rendered to provide an even surface. Brickwork or blockwork not rendered must be flush pointed to give a smooth surface without sudden changes in level.

The membrane is rolled out with the coloured surface uppermost (white side down), ensuring that it is properly aligned. All end and side overlaps should be a minimum of 150 mm and prepared in accordance with the Certificate holder's instructions.

When the membrane is laid below the concrete slab, it should be loose-laid to accommodate any small movements.

All surfaces must be dried thoroughly prior to joining. Roll edges can be welded, or taped. A strip of the tape is unrolled over the membrane with its nearest edge 50 mm from the membrane edge. The protective paper is removed from the butyl tape prior to rolling an adjacent run of the membrane, which must be carefully unrolled over the jointing tape, ensuring a 100 mm overlap.

All service penetrations and direction changes should be properly detailed in accordance with the Certificate holder's instructions. Service ducts should be vented to prevent the possibility of gas accumulating in confined spaces.

The continuity of the gas protection must extend over the footprint of the building, and the gas membrane must be sealed to a gas-resistant damp-proof course.

The membrane should be covered by a screed or other protective layer, such as Atal protection fleece, as soon as possible after installation. If blockwork protection is used, care must be taken to avoid damage to the membrane during construction.

The membrane installation should be subject to third-party independent validation, in accordance with the BS 8485 : 2015.

JOINTING AND SEALING

Atal GP1 is suited to sealing using atal DS Butyl Tape and atal Single Sided Tape or by means of welding. atal GP1 should be overlapped by at least 150mm. When taping the laps a silicon roller should be used to remove trapped air and ensure a good seal is achieved.

Welding should be carried out by competent personnel with suitable qualifications in accordance with best practice, and guidance contained within BS8485:2015. Atal Premsil GMA should be used to for sealing around pipe penetrations and termination into DPC.

INSTALLATION BELOW SLAB

A 50mm sand or concrete blinding should be laid when the membrane is installed below the slab. Atal GP1 should be protected after installation using atal Protection Board, insulation or a protective blinding to prevent puncture during the construction process.

INSTALLATION ABOVE SLAB AND TO SUSPENDED FLOORS

The substrate should be smooth and free from voids, projections, mortar deposits, dust and frost. Atal GP1 should be protected after installation using atal Protection Board, insulation or a protective blinding to prevent puncture during the construction process.

RESISTANCE TO PUNCTURE

The membrane can be punctured by sharp objects. Care should be taken during installation to not damage the membrane. If damage occurs the repair should be in accordance with atal guidance.

ANCILLARY PRODUCTS

- atal Termination Strap
- atal DS Butyl Tape
- atal Single Sided Tape
- atal Premsil GMA
- atal Premsil Primer
- atal Protection Board
- atal Gasflow 25S

HANDLING

Roll weights are in excess 20 kg and hence appropriate care and equipment is required for unloading and handling.

STORAGE

Rolls of atal GP1 should be stored on stable/level ground and stacked not more than five rolls high, with no other material stacked on top.

The rolls can be stored outdoors when packaged but should be protected from exposure to UV.

ADDITIONAL INFORMATION

For additional information or assistance please contact atal on 01495 717202.

Terms and Conditions of Sale, copies of which are forwarded on the invoice, are available on request. Atal Cyf endeavours to ensure that the above data and any further advice is correct, however, it cannot accept any direct or indirect liability for the use of its products as such usage is beyond its control.



CHARACTERISTIC	TEST METHOD	UNIT	ATAL GP1
PHYSICAL PROPERTIES			
Thickness	EN 1849 - 2	mm	0.6
Width	EN 1849 - 2	m	4
Length	EN 1849 - 2	m	25
Weight	EN 1849 - 2	g/m^2	370
HYDRAULIC PROPERTIES			
Water Column	EN 20811	-	>300
Resistance to Water Penetration	EN 13967, EN 1928	-	Pass
Water Tightness	EN 1296, EN 1367, EN 1928	-	Pass
MECHANICAL PROPERTIES			
Resistance to Static Load	EN 12730 - B	kg	20
Tensile Strength (MD)	EN 12311 - 1	N/50mm	600
Tensile Strength (CMD)	EN 12311 - 1	N/50mm	480
Tensile Elongation (MD)	EN 12311 - 1	%	20
Tensile Elongation (CMD)	EN 12311 - 1	%	20
Puncture Resistance	EN 12310 - 1	kN	1.25
Resistance to Tearing (Nail Shank) MD	EN 12310 - 1	N	330
Resistance to Tearing (Nail Shank) CMD	EN 12310 - 1	N	400
DURABILITY AND CHEMICAL RESISTANCE			
Transmission Rate of Volatile Liquids - Diesel	ISO 6179:2010 (B)	$g/m^2/h$	0.246
Transmission Rate of Volatile Liquids - Xylene	ISO 6179:2010 (B)	$g/m^2/h$	0.571
Transmission Rate of Volatile Liquids - Toluene	ISO 6179:2010 (B)	$g/m^2/h$	0.583
Transmission Rate of Volatile Liquids - Petrol	ISO 6179:2010 (B)	$g/m^2/h$	0.135
GAS PERMEABILITY			
Methane Permeability	BS EN ISO 15105 - 1	$ml/m^2/day/atm$	<0.09
Carbon Dioxide Permeability	BS EN ISO 15105 - 1	$ml/m^2/day/atm$	<0.09
Radon Permeability	K124/02/95	m^2/s	8.0×10^{-15}
COMPLIANCE AND CERTIFICATION			
NHBC Standards Compliant			
BS8485:2015 Compliant			

ATAL PREMSIL GMA
TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

ATAL PREMSIL GMA

EC Certificate of factory production control 0836-CPD-13/F032 accredited by the BBA.

DESCRIPTION

Atal Premsil GMA is an advanced waterproof membrane capable of resisting the passage of methane gas. The membrane is manufactured from an aluminium, and cross-orientated HDPE film laminated to a layer of rubber modified bitumen adhesive.

Independent tests show that this advanced backing film and adhesive layer provides excellent technical performance for the suppression of methane, radon and other common ground gases.

The membrane should be covered as soon as possible after installation with protective blinding or Atal Flo Board 4e.

Use Atal Premsil GMA for the following applications:

- External tanking of underground structures
- Car parks and Retaining Walls
- Subways and Lift Shafts

ADVANTAGES

- Independent certification for the suppression of methane and radon gas
- Excellent overlap integrity due to bitumen joint
- Factory controlled thickness
- Rapid and easy application
- Flexible and accommodating giving an excellent bond to the substrate
- Non-hazardous and resistant to dilute acids and alkalis
- High-performance protection against groundwater and soluble salts such as sulphates and chlorides
- Capable of resisting a 6 metre head of water when fully supported

STORAGE

The membrane rolls must be stacked on end and stored in dry, well-ventilated buildings, out of direct sunlight or other significant sources of heat. Storage conditions should be adjusted before application to bring the temperature of the rolls to within the relevant specified application range.

INSTRUCTIONS FOR USE

First, apply Atal Premsil Primer ensuring complete coverage and allow to dry. Only prime areas where Atal Premsil GMA is to be applied on the same day.

Atal Premsil GMA should be applied, allowing 50mm for edge laps and 100mm for end laps.

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ATAL PREMSIL GMA

Dimensions	Method	Units	Data
Backing Thickness	-	mm	0.1
Backing Type	-		Aluminium Polythene Laminate
Adhesive Thickness	-	mm	0.9
Total Thickness	-	mm	1
Width	-	mm	1050
Length	-	m	28.6
Area	-	m^2	30
Weight	-	kg/m^2	1.1
Carton Weight	-	kg	33

Mechanical Data	Method	Units	Data
Membrane Strength	ASTM D1000	N/mm	3
Elongation	ASTM D1000	%	40
Puncture Resistance	ASTM E154	N	250
Adhesion (180º Peel)	ASTM D1000	N/mm	2

Functional Data	Method	Units	Data
Water Vapour Transmission	ASTM E96	$g/m^2/24h$	<0.1
Methane Gas Permeability	-	$ml/m^2/24$ hrs	<0.03
Radon Diffusion	-	m^2/s	5.0×10^{-14}
Dimensional Stability	MOAT 27 5.1.6	%	
	(80ºC)		
Longitudinal			0
Lateral			0

ATAL FLO BOARD CM8 TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

DESCRIPTION

Cm8 cavity drain membrane is an 8 mm studded membrane, suitable for type c waterproofing and delivering a grade 3 environment to bs8102:2009 and nhbc chapter 5.4. Cm8 is available in both 500g or 700g densities. We recommend using the cm8 hd700 when a heavier, denser membrane is deemed necessary by the Atal technical department. Please always take advice from our technical experts when making product selections.

ADVANTAGES

• Creates dry, habitable living space in areas previously suffering from damp-wet conditions.

• waterproof, salt inhibiting, root and contaminate resistant.

• quick to install - minimal preparation needed to wall surfaces.

• easily cut down using a sharp blade. • no drying out process - redecoration can occur immediately.

• little or no damage to the existing structure.

• low and high temperature tolerance.

• part of a type c cavity drain membrane system in line with bs8102:2009.

• clear for easy application and fixing of Atal plugs.

typical uses

Walls, floors, vaults, tunnels, above and below ground level, waterproofing applications and damp-proofing applications.

SUBSTRATE PREPERATION

1.When used in new construction, the concrete slab must be laid in accordance with bs 8204-1:2003+a1:2009 to achieve a flat surface not deviating more than 5 mm from the underside of a 3000 mm straight edge.

2. Unsound plaster, render or screed should be removed and surfaces made level, with floors to the above tolerances. This can be achieved using Atal universal mortar, or a 3:1 sand:cement mix incorportating renderproof waterproofing additive. Leave all new works to dry thoroughly before cm8 membranes are fixed.

3. In case of walls suffering from mould or masonry fungi, prior to fixing the membrane, remove surface contamination by brushing, then apply microtech biocide in line with the relevant technical data sheet

4. If dry rot (serpula lacrymans) is present in the walls, this will require detailed assessment before proceeding. Contact the Atal technical department for further advice.

5. Above ground level it is recommended, that where possible, all sources of moisture are alleviated at the source using a dpc such as ultracure, before applying cm8 membrane. This reduces potential damage to masonry and timber etc.

CONDITIONS AND LIMITATIONS

Flat soffits below ground should never be lined with Atal cm8 membrane as it requires a minimum slope of 10%.

Take care when running cm8 membrane around internal and external corners to ensure the sheet is fixed tight to the angle, ensuring well defined edges for subsequent finishes.

APPLICATION

With studs facing the wall, fixing is carried out using Atal CM Brick Plugs.

1.we recommend an application of atal microsealer to the concrete walls and slab, before an application of cm8, to prevent lime efflorescence and dusting, which can block perimeter drainage channels.

2. Drill a hole through the centre of the stud. Take care mwhen drilling holes to avoid excessive masonry dust from falling into the cavity.

3. Place the chosen plug (with seal for all underground waterproofing applications) into the hole and drive the fixing home with a rubber mallet or club hammer.

4. We would suggest that spacing between plug fixings should be no greater than 600 mm, to ensure a tight fix to the wall. However, this may vary depending on the exact batten/board size and site conditions may dictate otherwise.

5. Seal the membrane at the flanges (a band of membrane running along the edge where no studs are present) with a tape.

6. Ensure flanges run vertically on walls and are positioned in front of the preceding width of membrane. In the case of horizontal joints, the lower sheet is positioned to the front.

7. Where there is or could be severe water ingress, joints may also be closed off with Atal Overseal Tape.

8. Seal the stud to stud joints with Atal Rope.

Vaulted Ceilings: These can be successfully lined using Atal CM8, taking care to seal all mitred joints with Atal Tape/ Rope/Overseal Tape/Corner Detail/Atal Fibre Tape

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.5 Kg/m²	N/A
Sheet Thickness	0.45 mm	EN 149-2
Stud Height	7 mm	N/A
Colour	Clear	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength	180 kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1:200-1
Type of Application	Type V	N/A

FINISHING

STUD FRAME:

When using this finishing method, Atal brick plugs should be applied in a vertical line, roughly corresponding to the stud locations and battens (minimum of 25 x 38mm). Fix the stud frame to the plugs using no. 10 screws (5 mm). If the plugs cannot be applied in a straight line, 'gyproc' brackets can be used to hold the battens in place. Ensure the screw depth does not perforate the cm8 membrane.

DOT AND DAB DRY LINING:

On reasonably flat walls, Atal cm brick plugs can be used to provide a key for board adhesives. Their unique serrated head allows for the dab to be applied directly to the head of the brick plug. For below ground applications, ensure the brick plugs have a rubber seal. Use a conventional bonding plaster in dabs, to a minimum thickness of 8 mm and covering at least 50% of the membrane surface area.

FLOORS:

Cm8 membrane may be overlaid with closed cell insulation before laying t&g flooring, ensuring a 10 mm expansion joint all around. Alternatively, a conventional 65 mm of sand and cement screed can be laid. However, site conditions may vary, therefore if doubt exists, please take advice from the Atal technical department. Normal decorating materials can be used as soon as the floor, screed or plaster finishes are dry.

while applying, ensure atmospheric moisture levels are below 70% rh. Impermeable floor finishes should not be laid until screed moisture content is below 75% rh.

AFTERCARE

Atal cm8 membranes provide a dry, warm and habitable living space in basements and other areas suffering from chronically damp conditions. However, it is equally important that areas which lack natural ventilation are provided with adequate means of condensation control, especially in wet areas such as kitchens, bathrooms etc.

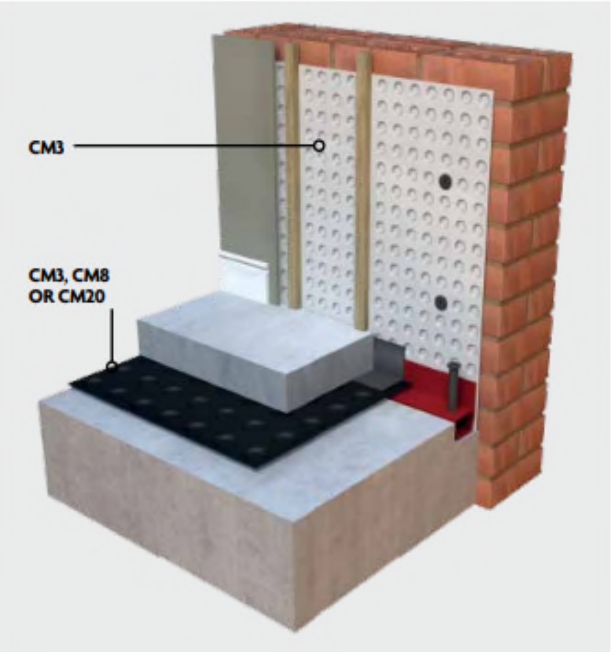
This is best achieved through the provision of an effective mechanical ventilation system. Please consult the Atal technical department for further advice.

STORAGE AND SHELF LIFE

Store in an upright position, under cover and away from high temperatures and open flames. Shelf life is the lifetime of the structure, when stored and installed in line with the datasheet recommendations.

HEALTH AND SAFETY

No specific hazards are likely to arise while using any Atal Waterproofing Membranes or ancillaries; neither are classified as hazardous in respect to CHIP II Regulations 1999. However, general precaution should be exercised in the use of drills etc. Taking particular note of the special risks associated with working in confined spaces (basements) with restricted access/egress.



Pack Size	Coverage
2 m x 10 m	20 m²
2 m x 20 m	40 m²
2.4 x 20 m	m 48 m²
2.4 m x 20 m	48 m²

Disclaimer:

The technical information reflects our current knowledge of Flo Board CM8. It is intended only as information for users. As we do not know the envisaged applications and installation conditions, it is the responsibility of the user to carefully check that the product is fit for purpose. Due to the different components at the installation site and the in-situ working conditions, MASTERTEC cannot provide any guarantee whatsoever for the result of the work. Claims arising from any legal relationship can only be recognised in the event of wilful intent or gross negligence, irrespective of the statements made here or advice provided verbally. In this case the user must prove that he has provided MASTERTEC in writing with all the information required to correctly assess the installation situation in good time. Subject to necessary product specifications or further developments. By providing this informaon ATAL does not intend to infringe third-party rights. The latest data sheet in each case applies. Our corresponding terms and condions of sale and delivery apply.

ANNEX C
Installer Daily Log Sheets

Installer Daily Log

(Prepare one installer log sheet per day per plot)

Site Name:	**Phase:**
Date:	**Plot Number:**
Weather:	**Housing Style:**
Installers:	
Progress (End of day) : In-progress, Completed	
Weather Condition:	

(Delete as appropriate)

No.	Item	Comments
1. Tasks		
	Example (product type)	*Example (Manufacturer, location, number of, serial number, reasons for repair etc.)*
1.1	**Membrane**	
1.2	**Seals**	
1.3	**Penetrations**	
1.4	**Internal Corners**	
1.5	**External Corners**	
1.6	**Repairs**	
1.7	Other	
Additional Notes:		

ANNEX D
Protection Method Statement

Post Installation protection of gas membrane

- To prevent any ongoing damage of the gas membrane following installation, contractors and staff members will be instructed not to cross the area where the membrane is in place, unless required to do so to facilitate the construction of the slab and associated elements such as pipe penetrations. High visible tape will be placed at waist level around the slab to highlight this and keep operatives from crossing.
- These interactions on top of the membrane will be kept to a minimum and will be monitored by the Site Manager.
- Scaffold boards will be used to cross the membrane where needed to allow installation of reinforcement and pipe penetrations.
- Any rebar stools or supports placed on top of the membrane will be done so with the utmost care.
- Prior to any pour of concrete, the membrane will be inspected to ensure no damage has occurred during installation of the reinforcement. Any defects will be reported to the Site Manager who will ensure a satisfactory repair is undertaken and validated prior to any actual concrete pour occurring.
- During concrete pouring, tamping will only take place from above the top level of reinforcement.

terra firma

Geotechnical & Geoenvironmental Specialists

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**

terra firma

Geotechnical & Geoenvironmental Specialists



Ground Gas Protection System Verification Plan

Site: Pearson Way, Neath

Prepared For: Wellspring Property and Investment Ltd

Issue Date: October 2022

Job No: 16819

info@terrafirmawales.co.uk

www.terrafirmawales.co.uk

REPORT TITLE : **Ground Gas Protection System Verification Plan, Pearson Way, Neath**

JOB NUMBER : **16819**

ISSUE DATE : **October 2022**

REPORT REFERENCE : **GGVP-201022-16819-1**

Document Revision Record

Issue Number	Date	Revision Details
1	20th October 2022	

	Name	Signature
Prepared	**James Rhys-Williams** BSc. (Geol) FGS	
Checked	**Mathew Lake** MEng FGS Tech IOSH	
Approved	**Gwyn Lake** BSc (Hons). PhD, CGeol, FGS	

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SECTION 1 Introduction and Proposed Development

1.1 Introduction

Wellspring Property and Investments Ltd (the Client) is proposing the construction of residential properties at Pearson Way, Neath.

TFW Group Ltd (Terra Firma) have been commissioned by the Client to prepare a ground gas protection system verification plan (Verification Plan) for the site.

Previous investigations and assessments undertaken in the location of Plots 129-132 have identified that ground gas presents a significant risk to the health of future site users. The incorporation of a ground gas protection system will be required for the identified plots.

This report presents a detailed Verification Plan for the proposed development based on available previous investigations and assessments.

1.2 Objectives

The objective of the Verification Plan is to detail the remedial steps that are required to render the proposed development fit for its intended use and to provide a detailed methodology to facilitate the validation of the ground gas protection system installation.

1.3 Previous Investigations and Assessments

The Verification Plan is based on the findings of previous investigations and assessments. This report shall be read in conjunction with the following documents.

- TFW Group Ltd. Geotechnical and Geoenvironmental Report, Reference 28042022-16819-2, Dated April 2022
- TFW Group Ltd. Remediation Strategy. October 2022. 191022-16819/RS

1.4 Roles and Responsibilities

Table 1.1 Roles and Responsibilities

Roles	Organisations
Client/ Project Manager/ Principal Contractor/ Groundworker	Wellspring Property and Investments Ltd
Gas Protection Measures Designer	Atal UK
Architect	Pentan Architects
Structural Engineer	PHG Consulting Engineers
Local Authority	Neath Port Talbot
Membrane Installer	Wellspring Property and Investments Ltd (Groundworker)
Validator	TFW Group Ltd

1.5 Limitations and Exceptions

This report has been prepared for the sole internal reliance of the Client and its 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.

It is not within the scope of Terra Firma to:

- Provide Method Statements and Risk Assessments for the installation of ground gas protection systems.

1.6 Verifier Competency

The principal Verification Officer at Terra Firma is Mr James Rhys-Williams.

Mr Rhys-Williams is suitably qualified holding a Level 4 NVQ Diploma in Verification of Ground Gas Protection Systems. Furthermore, he is an accredited Specialist in Gas Protection Verification (SGPV) by CL:AIRE (SGPV0009) and is a full member of the British Verification Council (BVC) with instant access to industry peers.

Mr Rhys-Williams has extensive experience in brownfield land investigation, risk assessment and site remediation gained while working for various geotechnical and geoenvironmental contractors and consultants since 2014.

Mr Rhys-Williams holds a bachelor honours degree in Geology obtained from the University of Bristol in 2010 and is a fellow of the Geological Society of London, maintaining regular industry related continuous professional development.

1.7 Quality Assurance

The quality and environmental aspects of the assessment comply with Terra Firma business management system which is UKAS Accredited to ISO 9001:2015 and ISO 14001:2015 standards.

SECTION 2 Site Characteristics

The following subsection information has been summarised from previous investigation and assessments listed in **Section 1.3**.

2.1 Site Location & Description

The development site is rectangular in shape and locates at Pearson Way, Neath, SA11 2EJ. The site centres on an approximate National Grid Reference of 274640 195700, occupying a plan area of approximately 0.25 Hectares.

The site is currently under development.

The proposed site layout can be seen on **Figure 2.1**.

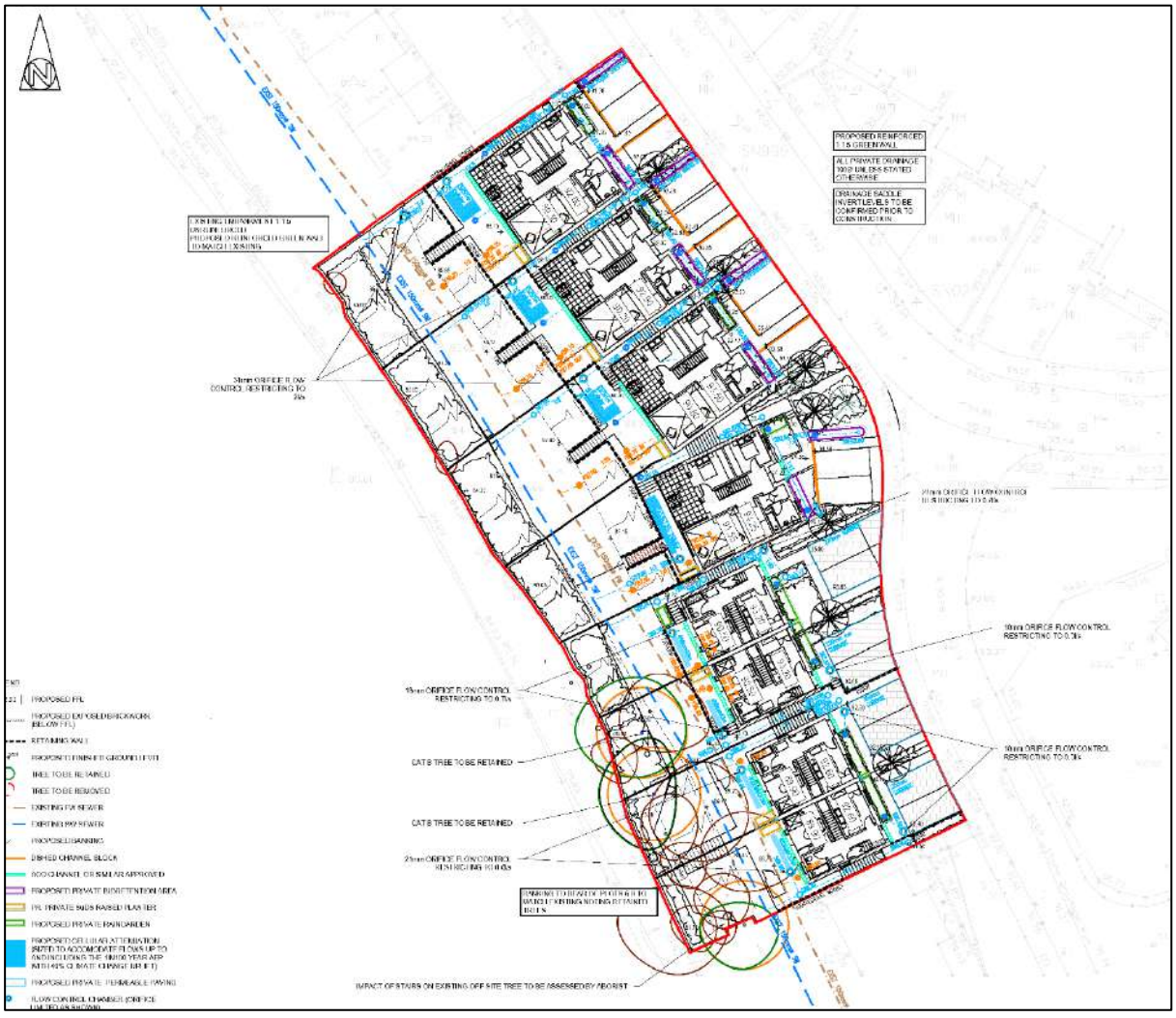


Figure 2.1 Proposed Layout

2.2 Site History Summary

A historical map review revealed that the site has remained undeveloped although it has been reprofiled historically and residential development has occurred around the site in recent times.

It was concluded that the overall risk to the surface stability of the site from possible unrecorded workings is considered low.

No historical landfills are recorded within 250m of the site.

2.3 Geology & Ground Conditions

The site is underlain by the Hughes Member of the Carboniferous South Wales Coal Measures. Superficial deposits were not recorded on the Geology Map and Made Ground is known to be present from reprofiling of the site.

The shallow ground conditions encountered during the recent TFW site investigation can in general be summarised as shown in **Table 2.1**.

Table 2.1 Summary of Ground Conditions

Depth (m)			Thickness (m)	Stratum
0.00	-	0.1-0.8	0.1-0.8	Grass over soft brown very sandy locally gravelly, **CLAY** with fine rootlets.
0.1-0.8	-	1.7-2.2	1.1-1.4	Stiff to Very stiff occasionally firm brown, orange and blue mottled very Gravelly **CLAY** to medium dense clayey **GRAVEL**. (Made Ground Fill)
1.7-2.0	-	3.7-4.0	2.0-2.2	(Boreholes Only) Firm locally stiff brown very gravelly **CLAY** or Medium Dense very Clayey sandy **GRAVEL**. Very wet in places. (Made Ground) (Suspected Fill)
3.7	-	4.0	NA	(BH03 and TP02 and TP03 Only). Stiff to very stiff brown gravelly **CLAY**.

2.4 Radon

Radon protection measures are not required for the development.

2.5 Groundwater

Groundwater seepages were frequently recorded below 1.70m.

2.6 Identified Gaseous Contamination

2.6.1 Carbon Dioxide

Gas monitoring results recorded elevated levels of Carbon Dioxide.

Maximum carbon dioxide levels recorded were 12.6% V/V.

The gas flow rate from the boreholes was also assessed. A maximum flow rate of 0.1l/hr was recorded.

Based on a flow rate of 0.1l/hr and the highest recorded carbon dioxide concentration of 12.6%, a gas screening value of 0.0058l/hr is calculated, as follows:

(12.6/100) x 0.1 = 0.0126l/hr

With reference to Table 8.5 of CIRIA report C665, the site is classified as ‘Gas Characteristic Situation 2’ (CS2) on account of the peak carbon dioxide concentration being above 5%.

SECTION 3 Sources of Contamination Requiring Remediation

The summary of the site conceptual model is presented in **Table 3.1** and based on findings of previous investigations and assessments, detailing significant pollutant linkages requiring remediation or mitigation.

Table 3.1 Summary of Pollutant Linkages

Source	Pathway	Receptor
Carbon dioxide – likely derived from made ground soils	Horizontal migration through near surface soil and indoor accumulation in confined spaces. Asphyxiation from depletion of oxygen	Future Site Users – Residents

SECTION 4 Proposed Ground Gas Remedial Measures

4.1 General

Based on the finding of previous investigations and assessments and the identified pollutant linkages the following ground gas remedial measures have been devised for the site.

Specific validation requirements for the proposed remedial measures are discussed in the following section.

4.2 Carbon Dioxide Gas

4.2.1 Protection of Site End Users

Site end users are at risk of inhalation and asphyxiation from the migration through strata and accumulation indoors of carbon dioxide gas.

Gas protection measures will be required at the site to effectively sever the link between the source and receptor.

CIRIA report C665:2007 Table 8.5 classifies the whole site as 'Gas Characteristic Situation 2' (GSC2).

In accordance with Table 4 of BS8485:2015+A1:2019 a minimum gas protection score of **3.5** is required for a '**Type A**' structure. 'Type A' structures are privately owned without central building management controls limiting internal alterations.

Building structure types are discussed in Section 7.1 of BS8485:2015+A1:2019, any variation to the above may require further assessment and the assignment of a new gas protection score.

To achieve a gas protection score of 3.5 the proposed gas protection measures are summarised in **Table 4.1**.

Table 4.1 Gas Protection Score

Cast in-situ monolithic reinforced ground bearing raft	Score (BS8485)
Cast in-situ monolithic reinforced ground bearing raft with minimal penetrations	1.5
Gas resistant membrane (satisfying BS8485:2015 Table 7 requirements)	2

Validation of gas protection measures will be required in accordance with CIRIA publication C735:2014.

SECTION 5 Validation of Remedial Measures

Ground gas protection system installation will require verification and inclusion within a Validation Report.

Verification of the ground gas protection system will be carried out in accordance with CIRIA publication C735:2014.

Verification of the gas protection system should be carried out by a suitably experienced, qualified, trained and independent verifier. Documents demonstrating the above shall be included in the Validation Report.

5.1 Risk Assessment

In general accordance with CIRIA C735:2014 risk based verification approach the proposed development is considered to be an **High Risk**. This assessment is based on the level of risk as summarised in **Table 5.1**.

Table 5.1 Perceived Risk Assessment

Risk Factors	Risk Level		
	1	2	3
Gas Regime – CS2	1	2	3
Design Complexity – Complex	1		3
Number of Buildings – Medium	1	2	3
Installation Workforce – Non Qualified Installer	1		3
VOC – No	1		3

Notes: Classification of Risk – Low risk 5; Intermediate Risk 6-7; High Risk 8-15

5.2 Gas Protection Measures Construction Details

The development comprises 6 no. 'Type A' residential structures. All of which are rectangular in shape, with a split level ground floor. All structures orientated northwest-southeast.

Technical drawings showing the proposed gas protection measures are presented in **Annex A**.

5.2.1 Structural Barrier

Each structure will incorporate a cast in-situ monolithic reinforced raft, with a 150mm reinforced concrete retaining wall between changes in ground floor levels.

Structural barriers of this nature provide very reliable ground gas protection.

A comprehensive waterproofing system (Type A Barrier Protection) has been designed to incorporate with the gas protection measures, suitable for grades 1 to 3.

5.2.2 Membrane

The membrane is to be installed by the Client/Groundworker.

The Client has specified that Atal GP1 gas barrier membrane and Atal Bentofix 5300 waterproofing membrane is to be used.

Initially Atal GP1 is to be laid on a 50mm layer of blinding sand or smooth cured concrete. On the external raft edge the membrane is to be wrapped up the outside face, and overlapped by 150mm with Atal Premsil GMA Membrane, which in turn will be secured to the primed raft face and lower blockwork of the internal leaf, then horizontally across the blockwork secured to the underside of the cavity tray.

Where the raft terminates significantly below ground level, on an external wall, Atal GP1 membrane will be taped using Atal Bentofix Tape to Atal Bentofix X2 5300 which is to extend 1m from the edge of the raft. On the external raft edge Atal Bentofix X2 5300 is to be wrapped up the outside face, and overlapped by 150mm with Atal Permsil GMA Membrane, which is to continue up the primed external face of the thickened sub-surface wall then wrapped around the blockwork in the external leaf, then horizontally across the blockwork secured to the underside of the cavity tray.

Between the split level ground floors Atal Bentofix X2 5300 is to be secured to the external face of the separating retaining wall, fixed with soft fixings (5/m2). The non-woven side should face the concrete unless otherwise instructed by Atal. Atal Bentofix X2 5300 is to be extended out at the lower and upper levels by 1m beneath the rafts over a 50mm sand blinding or smooth cured concrete layer and taped to the Atal GP1 membrane using Atal Bentofix Tape.

Detailed drawings showing the installation are shown in **Annex A**.

Table 5.2 Membrane Specification Compliancy GP1

Atal GP1 Membrane
Thickness – 0.4mm thick (between scrim) tested in accordance with BS EN 9863-1:2016. Overall thickness 0.6mm. **Suitably thick**, manufacture confirms material is suitable for heat welding by specialist installer.
Permeation Rates – Methane/Carbon Dioxide permeability rate of <0.09ml/m^2/d/atm tested in accordance with BS IS 15105-1. **Considered sufficiently impervious**.
Tensile Strength & Elongation – Mass per unit area of 370g/m^2 tested in accordance with BS EN 1849-2. Tensile strength MD 600 N/50mm, CMD 480 N/500mm, Tensile elongation MD/CMD 20%, tested in accordance with EN 12311-1, EN 12310-1. **Considered suitable strong**, membrane to be loosely laid to accommodate settlement.
Puncture/Impact Resistance – 1.25kN, tested in accordance with BS EN ISO 12236. **Protection required.**
Tear Strength – Resistance to tearing (nail shank) MD 330N, CMD 400N, tested in accordance with EN 12310-1. **Measures to be taken to avoid damage from wind and protected from follow on trades.**
Durability – Long exposure to UV light will likely reduce its effectiveness. It is considered suitably durable to remain serviceable for the anticipated life of the building.
Satisfies standards to be used as a damp protection. Building Regulation Part C.

It is considered that performance specification of Atal GP1 membrane complies with the performance specification in BS8485:2015+A1:2019 Table 7 and key performance properties reported in CIRIA C748:2014. However, additional measure are to be taken to protect the membrane from impact or puncture and tearing.

In addition, the membrane installation will need to be verified in accordance with CIRIA C735:2014 to fully satisfy the requirements of BS8485:2015+A1:2019 Table 7.

During storage membrane rolls must be stacked on a flat surface, no more than five rolls high, kept under cover and protected from sunlight and mechanical damage.

The membrane should not be installed in temperatures below 4°C.

Prior to installation the substrate should be free from debris, voids or other protrusions which may compromise the gas protection system.

The membrane should be rolled out with the printed side facing up.

It is recommended that all joints are secured using Atal DS Butyl Tape. The tape must be positioned at least 50mm away from the membrane edge and the overlapping membrane is to be lapped by at least 100mm. Laps are to be further sealed using Atal Single Sided Tape (Lap Tape). **Lap tape is only to be applied post Verification.** All tapes will prove to be ineffective when installed in damp or wet conditions. Alternatively, joints may be secured by heat welding if undertaken by a competent and qualified installer.

If the membrane is damaged a patch of the same material should be lapped at least 150mm beyond the limits of the damage, bonded with Atal DS Butyl Tape and lap sealed with Atal Single Sided Tape. Alternatively a patch may be heat welded by a competent and qualified installer. Where a puncture is minimal, a patch may be formed using Atal Premsil GMA lapped at least 150mm beyond the extents of the puncture. The suitability of either repair method will be determined during verification.

All direction changes (internal or external corner for example) should be detailed using Atal Premsil GMA lapped at least 150mm beyond the nearest membrane joint. The installer should be suitably experienced and competent to form these details in accordance with the manufacture guidance.

Table 5.3 Membrane Specification Compliancy Bentofix

Atal Bentofix X2 5300
BBA Certificate: 05/4256
Thickness – 6mm thick **Suitably thick**
Permeation Rates – Methane permeability rate of 460ml/m^2/d/atm tested in accordance with BS IS 15105-1. **Not sufficiently impervious in accordance with BS8485**.
Puncture/Impact Resistance – Very robust with the ability to selfheal one hydrated. **Considered suitable**
Tear Strength – Very robust with the ability to selfheal one hydrated. **Considered suitable**

Atal Bentofix X2 5300 membrane does not constitute a gas membrane, as defined in BS8485:2015+A1:2019, but when used as part of the structural barrier in basement floor and wall constructions conforming to BS 8102:2009, Grades 2 and 3 waterproofing, the system will contribute to restricting the ingress of radon, methane and carbon dioxide into a building from landfill and naturally occurring sources, with reference to BS8485:2015+A1:2019 Table 5.

All other performance specifications of Atal Bentofix X2 5300 comply with the performance specification in BS8485:2015+A1:2019 Table 7 and key performance properties reported in CIRIA C748:2014.

Atal Bentofix system components should be stored in dry conditions, under cover and away from the possibility of damage or premature contact with water.

The Bentofix system should only be installed in temperatures between 5-40°C.

The Bentofix system must be installed fully supported on flat, smooth surfaces, without wrinkles or folds in the membrane that could cause the membrane to sag during concrete placing. And all surfaces to which the membrane is applied must be sound and solid to ensure no movement occurs during the pouring of concrete.

The membrane is either installed with the nonwoven geotextile uppermost (horizontal) and to the inside of the structure (vertical) ensuring it will be in contact with the fresh concrete when it is poured, or fixed to existing soil retaining substrates (eg secant or contiguous piling), with the coated geotextile uppermost (horizontal) or to the inside of the structure (vertical), unless otherwise instructed by Atal.

It is recommended that all joints are achieved by overlapping the adjacent membranes by at least 100mm securing all laps using Atal Bentofix Tape .

Floor to wall joints must be overlapped by a minimum of 400mm and laps secured using Atal Bentofix Tape.

When post applied to the retaining concrete wall, the Atal Bentofix X2 5300 membrane is to be secured to the concrete using Atal soft Washer Fixings at 300mm centres around the perimeter and 500mm centres within the area of the membrane.

Membrane and accessory data and technical sheets, certificates and installation guides are presented in **Annex B.**

Upon completion of membrane installation workmanship should be verified by a suitably experienced, qualified, trained and independent verifier.

It is recommended that Installers prepare a daily log sheet during the works which can conveniently be used to recorded progress made, materials used (batch ID etc), repairs or defects. This log sheet should be submitted to the verifier to aid in the verification process. An example daily log sheet is presented in **Annex C**.

The membrane is to be covered by a protective fleece as soon as practicably possible post installation and post Verification (**Do not cover the membrane before inspection**). This protection fleece will act to protect the underlying membrane during the raft pour. Extreme care is still to be taken during pouring. The use of mechanical tools is strongly discouraged as the potential to cause damage to the membrane is very high.

Any rips, punctures or defects identified during the verification process will be recorded by the verifier, repaired by the installer and re-inspected at a later date to check for conformance.

5.2.3 Service Entries

All service penetrations should be detailed in accordance with the manufacturer specifications.

Service penetrations should be installed at least 50mm away from walls, obstructions and other penetrations to allow for the correct installation.

Ducting style service entries are considered a significant conduit for harmful gasses to enter properties. All service entry ducts are to be sealed in accordance with published guidance presented in BRE414:2001 Section 10. It is recommended that a product such as Filoform MD111 Expanding Resin is used for this purpose. The installation should follow manufacture guidelines.

Duct seals will need to be verified upon completion of the works.

Membrane and accessory data and technical sheets, certificates and installation guides are presented in **Annex B.**

5.3 Proposed Development Programme

The construction of all structure substructures is anticipated to commence in the autumn of 2022, to be completed in sequential order. Installation of the membranes is expected to be undertaken over at least **six** visits due to the complexity of the installation and construction programme.

5.4 Maintaining the Integrity of Gas Protection Measures

Membranes installed vertically along reinforced concrete retaining walls are to be protected from damage using Atal Flow Boards 4e Drain Board.

In the intervening period between installation of the membrane, placement of the protection fleece and pouring of concrete raft, membrane must be protected from high footfall traffic. To achieve this Site Management will put in place exclusions to limit access to plant and personnel to completed zones. A method statement to achieve this is provided in **Annex D**.

To protect the membrane from footfall and puncture during raft pouring and levelling, a protection fleece is to be installed above the membrane. Site Management is to strictly control the concrete pour process to avoid damage to the membrane and report to the Verifier any damage that may occur.

Follow on contractors should be made aware of the ground protection system in place. It is essential that the integrity of all gas protection measures is maintained post-verification and not damaged by any subsequent construction works.

Prior to the commencement of the membrane installation it is recommended a tool box talk on safeguard and upkeep measures should be undertaken. Site management along with membrane installers, ground workers the verifier and other subcontractors (if applicable) should be present.

Accidental damage to the membrane system should be reported to the verifier, rectified and re-inspected at a later date.

A final inspection may be required.

5.5 Required In-situ Integrity Testing & Evidence

With respect to the perceived risk assessment (**Table 5.1**) and in general accordance with CIRIA C735 Table A2 the level of verification and integrity testing to be included within the Validation Report for the construction are presented.

Before commencement of the works, the installer contractor should produce a detailed installation plan including a method statement, CQA procedures and any qualifications. On receipt of these documents' verification protocol could be increased or reduced.

Consideration will be given to the need for further integrity testing if concerns are raised by visual and air lance testing. If further integrity is carried out appropriate pro forma are to be produced by the Verifier.

It is recommended that the membrane Installer fill out a daily log sheet to be submitted to the Verifier on completion of the works.

5.5.1 Methodology

With reference to CIRIA C735 Table A2.

- **Groundworker (Membrane Installer)** to provide daily log sheets, or sign-off sheets to be submitted to the Independent Verifier for each plot/structure.

- **Independent Verifier** to conduct a thorough visual verification of the substrate and membrane prior to 100% of raft pours. Photographic evidence to be collected and inspection proforma to be prepared.

- **Independent Verifier** to air lance 100% of all joins, pipe penetrations etc. to ASTM D4437. Results to be recorded on the inspection proforma.

- **Groundworker (Membrane Installer)** to provide photographic evidence of waterproofing system installation if not observed by the Independent Verifier during inspection visits.

- **Groundworker (Membrane Installer)** to provide photographic evidence of membrane protection elements, post installation, if not observed by the Independent Verifier during inspection visits.

- **Independent Verifier** to consider further need for/scope of in-situ integrity testing based on inspection findings. Additional in-situ testing might include leak detection (i.e. smoke, tracer gas or dielectric). Testing to be undertaken initially on 25-50% of total area falling to 10-25% of total area if acceptable results obtained. Results to be recorded on inspection proforma.

- **Groundworker (Site Manager)** to provide Verifier photographic evidence of service entry sealing to BRE Report 414 standards upon completion. Suitable product datasheets supplied in **Annex B** for reference.

5.6 Validation Report

The Validation Report should present a detailed description of the ground gas protection measures applied and lines of evidence gathered during verification processes to confirm that protection measures have been install as per the Verification Plan and satisfy the remedial objectives, severing the pathway between the source and receptor.

As a minimum the Validation Report should include.

- Description of the as-built protection measures installed and any variation in design from the Verification Plan.
- Details of the Installer and relevant qualifications
- Details of the Verifier independency and relevant qualifications
- Verifier proformas and integrity testing results
- Visual inspection photographic evidence
- Installer daily log sheets
- Details of non-conformances and how they were rectified
- Statement based on the presentation of lines of evidences and review of the site conceptual model confirming that the discussed gas protection measures achieve the remedial objectives set out in the Verification Plan

References

BRE (2001) Protective measures for housing on gas-contaminated land, BRE Report 414

BRE (2015) Radon Guidance on protective measures for new buildings, BRE Report 211

BS 5925 (1991) Ventilation principles and designing for natural ventilation

BS 8485:2015+A1 (2019) Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings

BS 8576 (2013) Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs)

CIRIA C665 (2007) Assessing risks posed by hazardous ground gasses to buildings.

CIRIA C735 (2014) Good practice on the testing and verification of protection systems for building against hazardous ground gases

CIRIA C748 (2014) Guidance on the use of plastic membranes as VOC vapour barriers

CIRIA C795 (2020) Retrofitting hazardous ground gas protection measures in existing or refurbished buildings.

CIRIA R149 (1995) Protecting development from methane

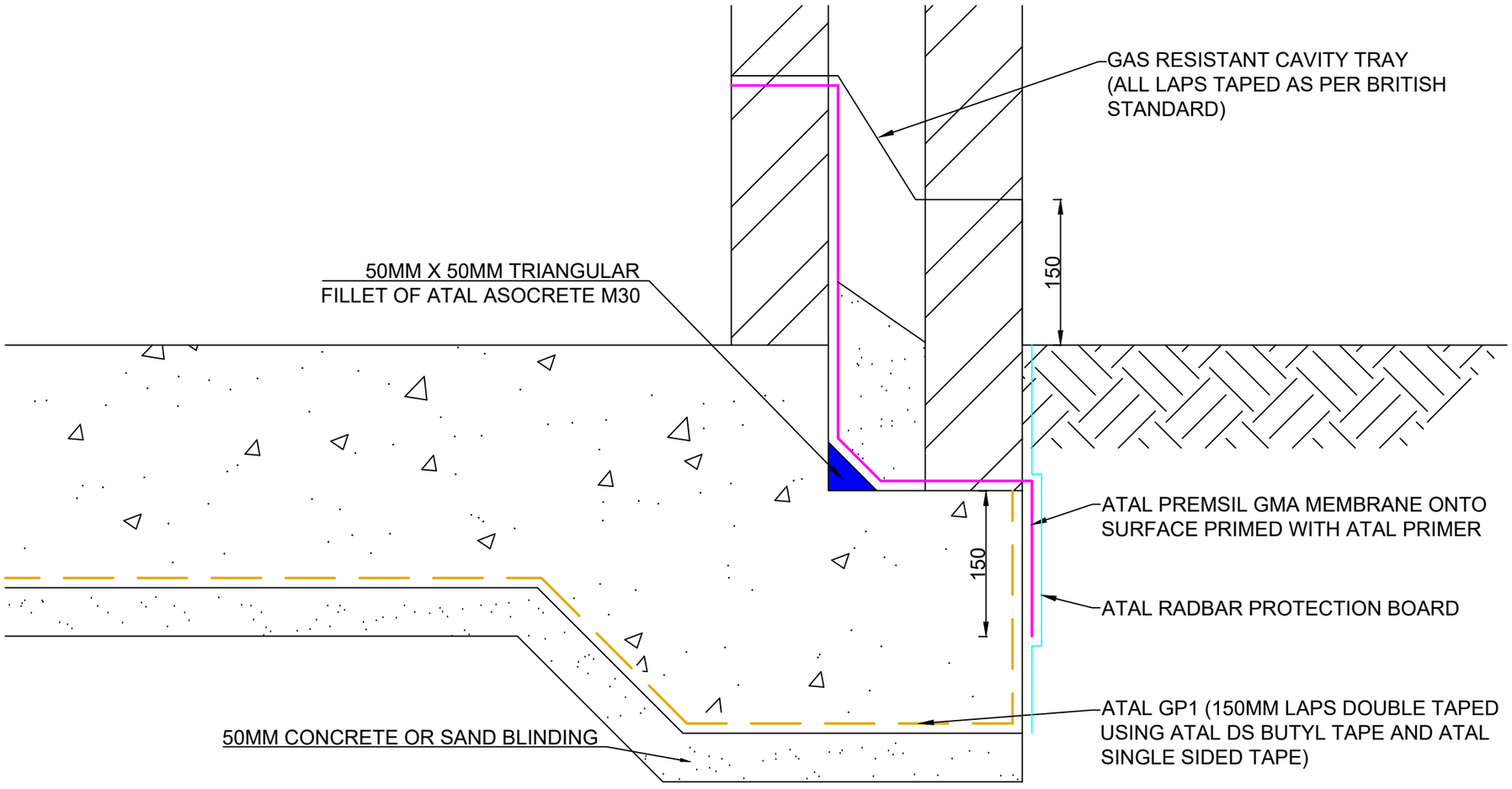
D4437-08 (2013) Standard practice for non-destructive testing (NDT) for determining the integrity of seams used in joining flexible polymeric sheet geomembranes

NHBC (2007) Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present, report edition no.4

OVE ARUP & PARTNERS (1997) Passive venting of soil gases beneath building. Research Report. Guide for design.

WILSON S, CARD G and HAINES S (2009) Ground Gas Handbook

ANNEX A
Technical Drawings



Installation Notes

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SUBSTRATES NEED TO BE FREE FROM LOOSE MATERIAL AND DEBRIS. BEFORE APPLYING LIQUID MEMBRANE ENSURE DUST, OIL, GREASE, ORGANIC GROWTH , SOIL ARE REMOVED VIA JET WASHING AND SCABBLING IF REQUIRED.

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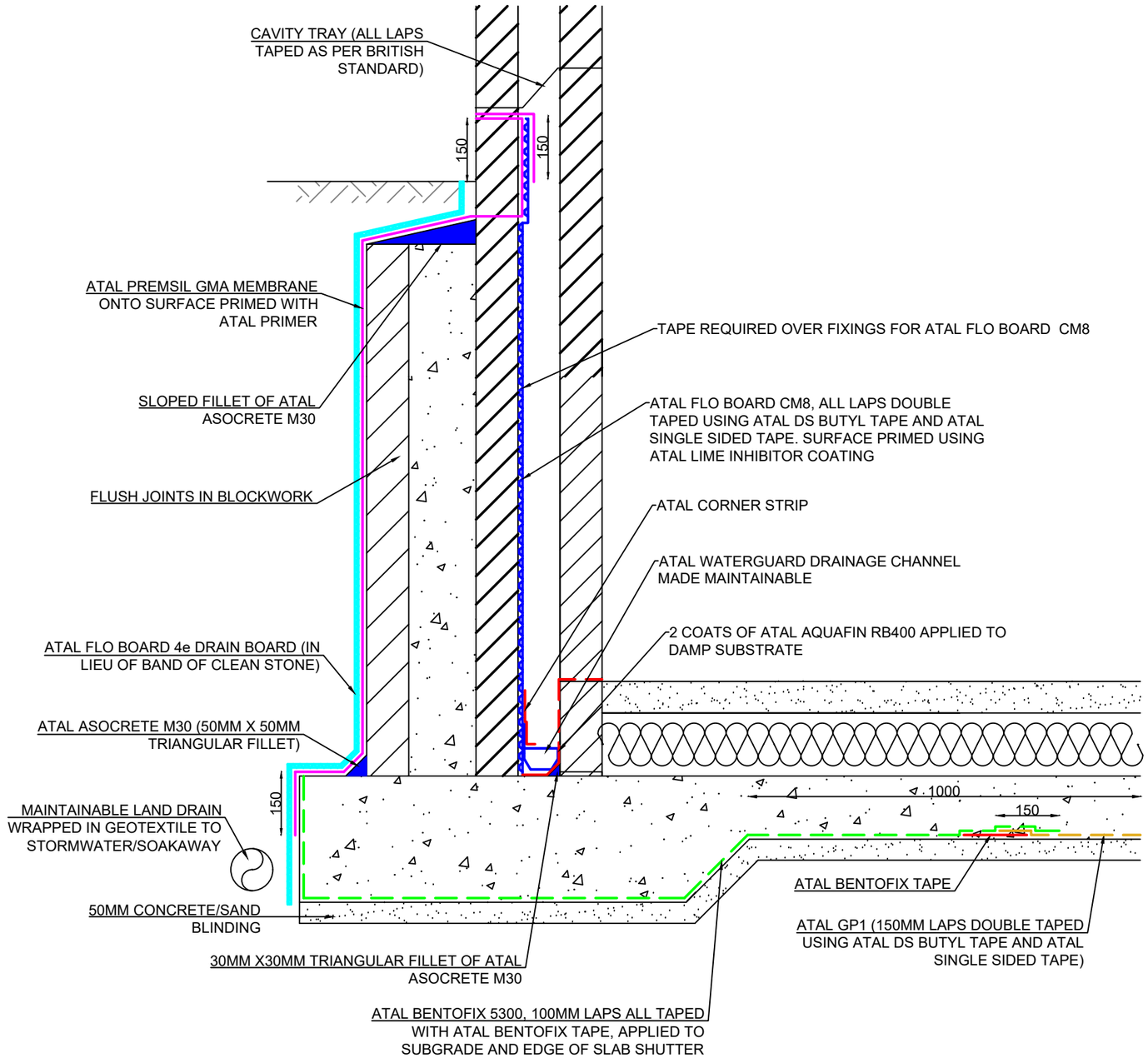
Drawing Title

Edge Of Slab Detail

atal uk
Unit 27, Tafarnaubach Industrial Estate,
Tafarnaubach, Tredegar NP22 3AA
+44 (0) 1495 717202
enquiries@ataluk.com

Structural Waterproofing Systems

Drawn By	Date	Checked by
SB	29/06/2022	IP
Drawing No.	**Rev**	**Checked Date**
001	A	29/06/2022



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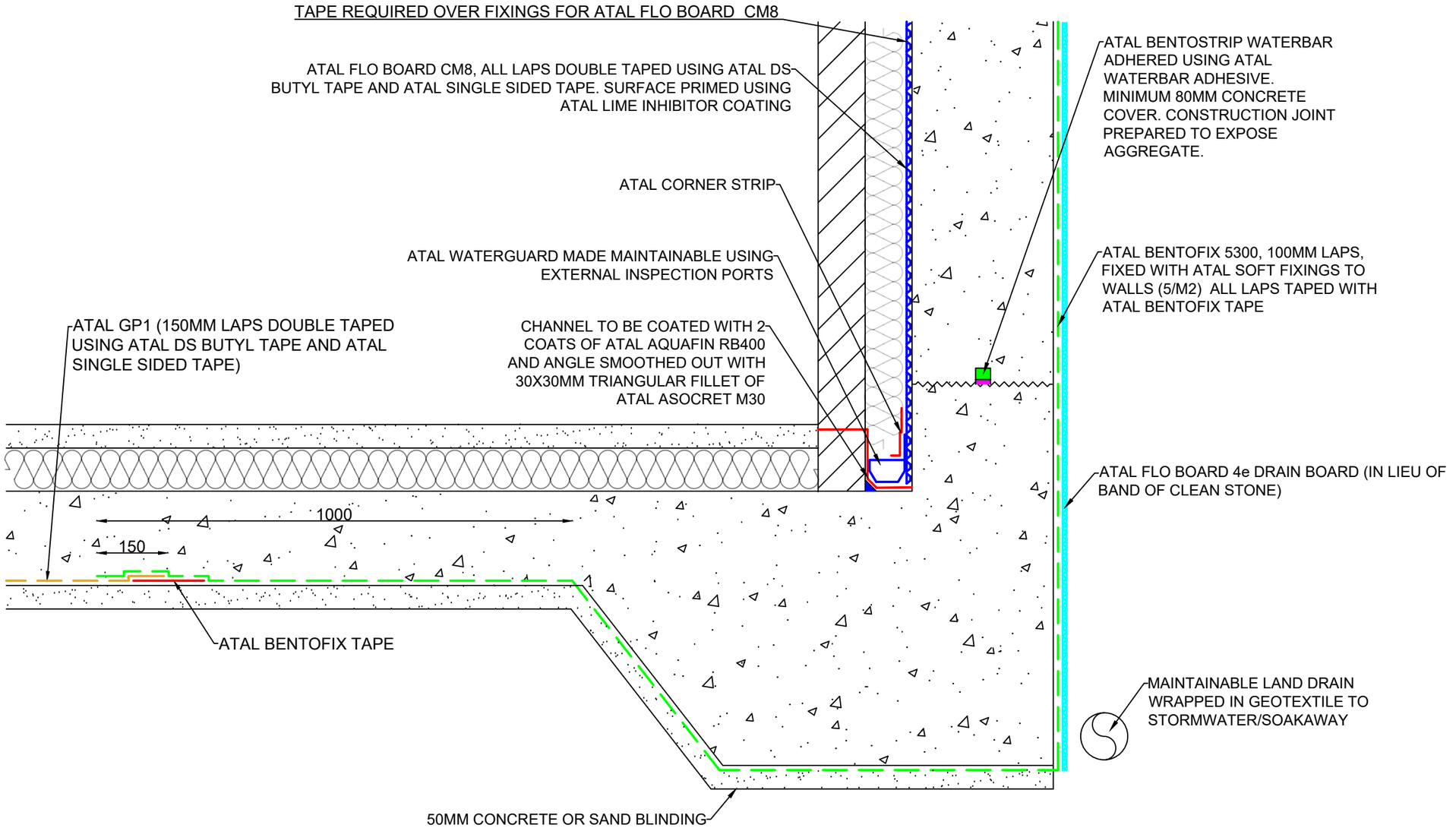
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Drawing Title

Blockwork Retaining Wall Detail

atal uk
Unit 27, Tafarnaubach Industrial Estate, Tafarnaubach, Tredegar NP22 3AA
+44 (0) 1495 717202
enquiries@ataluk.com
Structural Waterproofing Systems

Drawn By	Date	Checked by
SB	29/06/2022	IP
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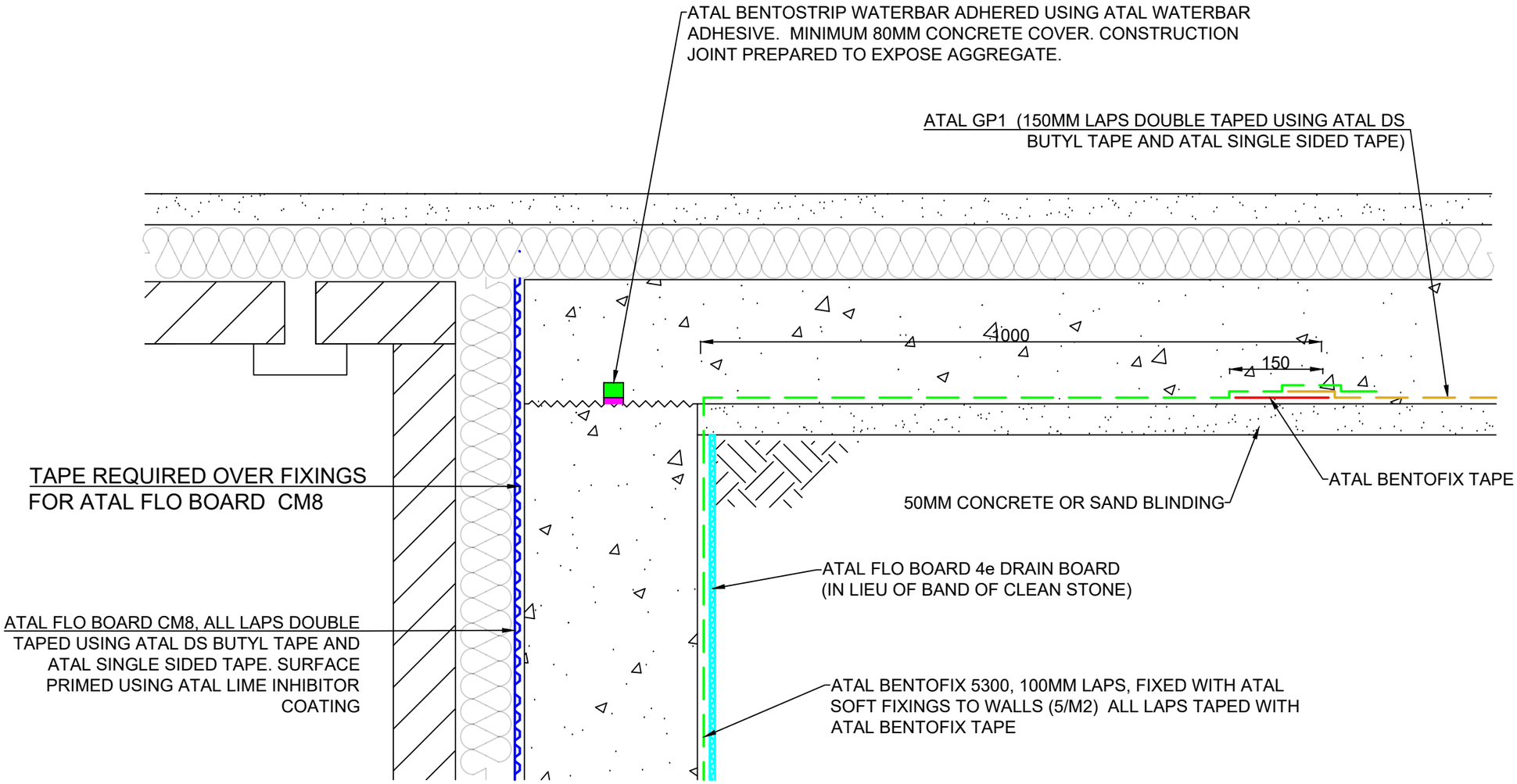
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Drawing Title

Bottom Of RC Retaining Wall Detail

atal uk
Unit 27, Tafarnaubach Industrial Estate, Tafarnaubach, Tredegar NP22 3AA
+44 (0) 1495 717202
enquiries@ataluk.com
Structural Waterproofing Systems

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SB	29/06/2022	IP
Drawing No.	**Rev**	**Checked Date**
003	A	29/06/2022



Installation Notes

DETAILS ISSUED BY atal uk ARE WORKING DRAWINGS FOR WATERPROOFING INSTALLER'S, FOR STRUCTURAL DETAILS AND FINISHES SEE ENGINEERING AND ARCHITECTURAL DRAWINGS RESPECTIVELY.

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SOFT WASHER FIXINGS INSERTED USING HILTI DX460 OR DX5 (SINGLE SHOT HEAD) TO BE SOURCED BY THE PURCHASER.

Notes

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Date	Description	Revision

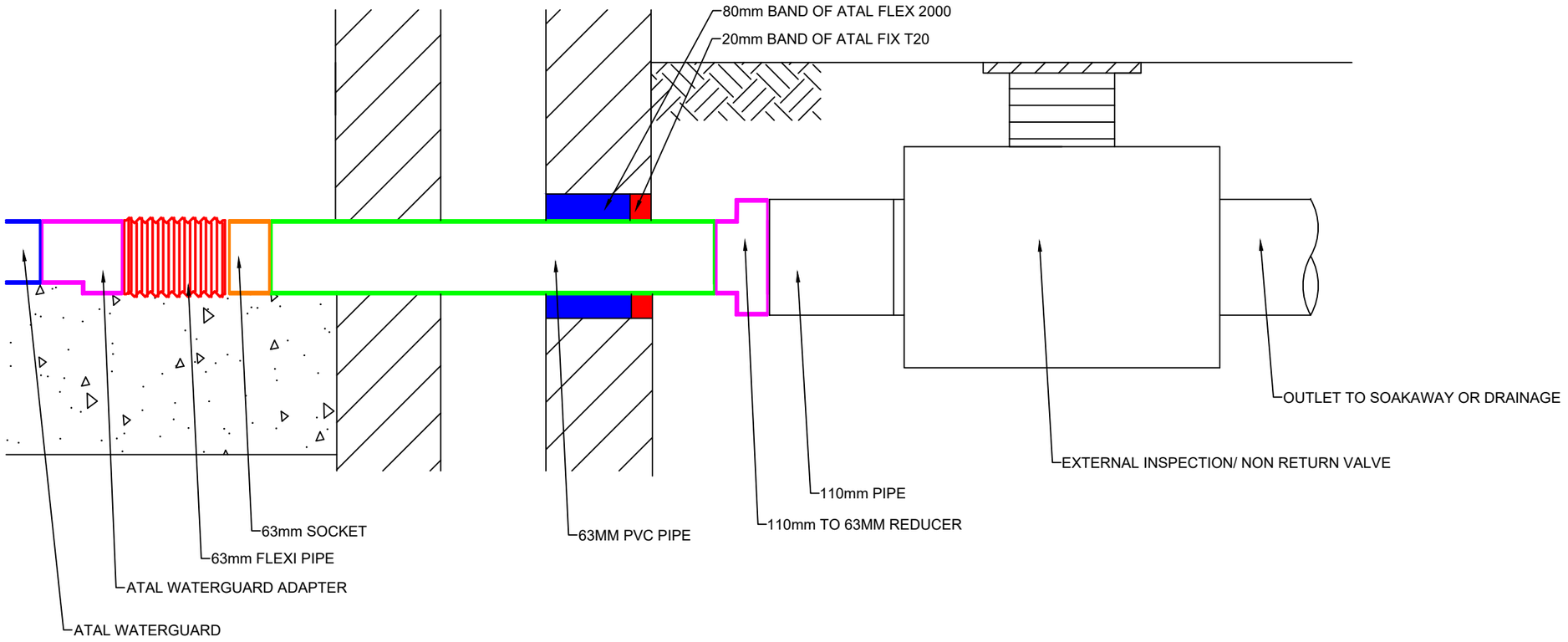
Project Title
ATAL4403
PEARSON WAY, NEATH, SA11 2EJ

Drawing Title

Step in Level Detail

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+44 (0) 1495 717202
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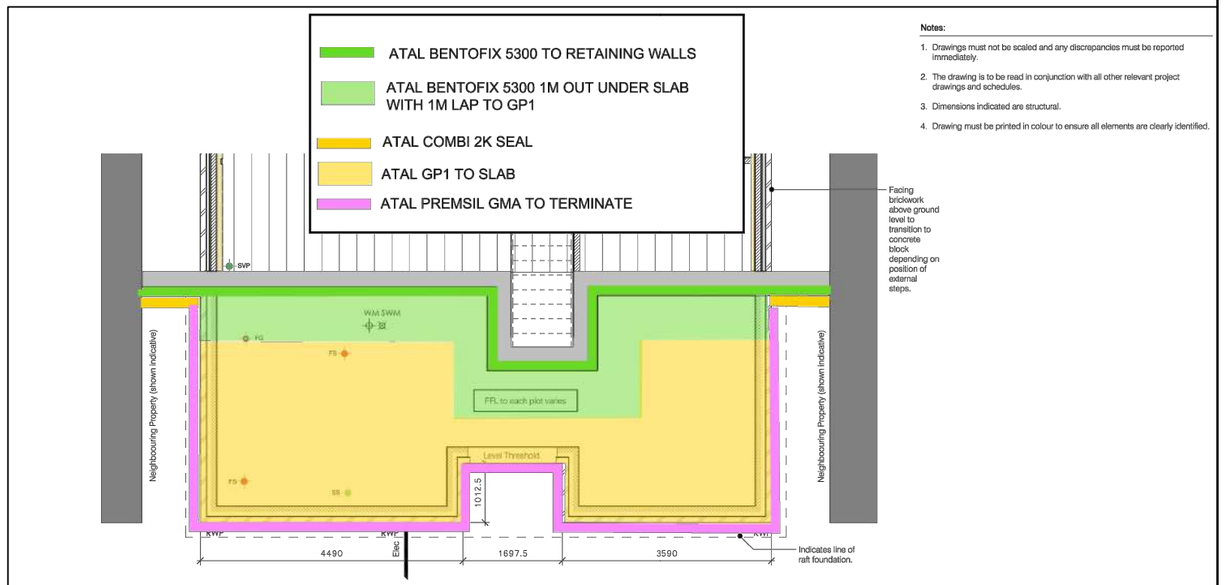
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Drawing Title

Outlet Detail

Drawn By	Date	Checked by
SB	27/06/2022	IP
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005	A	27/06/2022

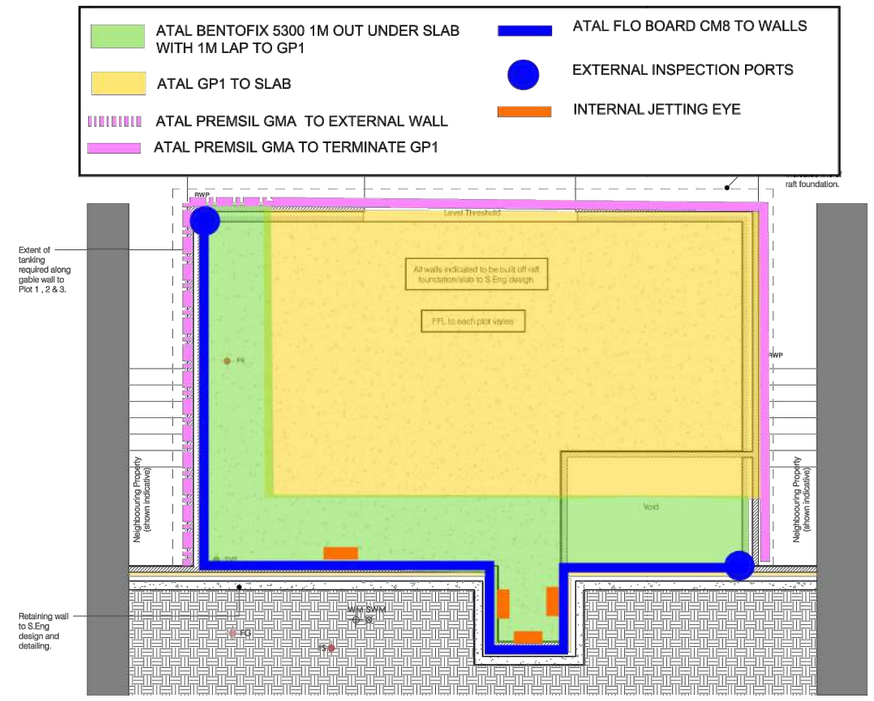
GROUNDFLOOR PLAN



Notes:

1. Drawings must not be scaled and any discrepancies must be reported immediately.
2. The drawing is to be read in conjunction with all other relevant project drawings and schedules.
3. Dimensions indicated are structural.
4. Drawing must be printed in colour to ensure all elements are clearly identified.

LOWER GROUNDFLOOR PLAN



Lower Ground Floor Sub-Structure Plan

ISSUED FOR COMMENT ONLY

Installation Notes

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ATAL4403
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Drawing Title

Marked Up Plan

atal uk

Unit 27, Tafarnaubach Industrial Estate,
Tafarnaubach, Tredegar NP22 3AA

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Structural Waterproofing Systems

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ANNEX B
Manufacturer Data Sheets

AQUAFIN RB400

Unit 27,
Tafarnaubach Industrial Estate
Tafarnaubach,
Tredegar,
NP22 3AA

WWW.ATALUK.COM

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

SCHOMBURG GmbH & Co. KG
Aquafinstrasse 2 – 8
D-32760 Detmold (Germany)
phone +49-5231-953-00
fax +49-5231-953-108
email export@schomburg.de
www.schomburg.com

SCHOMBURG

Technical Data Sheet

AQUAFIN®-RB400

Art. No. 2 04218

Rapid cementitious waterproofing

CE

SCHOMBURG GmbH & Co. KG
Aquafinstraße 2 – 8
D-32760 Detmold
19
2 04218

DIN EN 14891
AQUAFIN-RB400
Liquid-applied water impermeable cement-based product for use beneath ceramic tiling in external areas
DIN EN 14891: CM

Initial tensile adhesion strength	≥ 0,5 N/mm²
Tensile strength	
after water contact	≥ 0,5 N/mm²
after heat ageing	≥ 0,5 N/mm²
after freeze/thaw cycles	≥ 0,5 N/mm²
after contact with lime water	≥ 0,5 N/mm²
Water impermeability	no water penetration
Crack bridging	≥ 0,75 mm
Release of dangerous substances	NPD

NPD = „No Performance Determined"

RADON BARRIER

- Rapid reactive drying
- Multi-functional
- Good crack bridging
- Hydraulic, self-cross-linking setting
- Rainproof, can be walked on and coated already after just 3 hours
- Vapour-permeable, resistant to frost, UV-resistant and ageing-resistant
- radon barrier
- Sulphate resistant
- Resistant to de-icing salt
- Resistant to concrete-damaging water
- Resistant to negative pressure water
- Can be plastered an coated
- Bitumen-free

Areas of use:

- For the waterproofing in direct ground of walls and substrates of new and existing buildings on building components made of concrete or masonry work
- Waterproofing against internal pressure water in container constructions (e.g. service water tanks, waste water tanks)
- Waterproofing of window and door elements
- Horizontal waterproofing against capillary rising moisture in and underneath walls
- Application on old, firmly adhering bitumen coatings
- Bonding protective or perimeter insulation

If applied in containers or in case of water loads with aggressive water or soft water with a hardness < 30 mg CaO per l, a water analysis is always required. The degree of attack is evaluated in accordance with EN 1992-1-1 (Euro Code 2). AQUAFIN-RB400 is resistant up to exposure class XA2.

Technical data:

Drum size: 20 kg

	Liquid component	Powder component
Basis:	Polymer dispersion	Special cement, functional filling materials
Mix ratio:	1 part by weight	1.5 parts by weight
Packaging:	8 kg	12 kg
Colour:	white	grey

Combination product

Density:	approx. 1.1 kg/dm³
Grain size:	< 0.5 mm
Pot life*:	approx. 45 minutes
Substrate temperature/ processing temperature:	+5°C to +30°C
Adhesive strength, in accordance with DIN EN 1542:	> 0.5 N/mm²
Crack bridging ability referring to DIN 28052-6:	> 2.0 mm
Expansion, in accordance with ASTM D 412-06:	approx. 220 %
Crack bridging ability, in accordance with ASTM C836:	3.0 mm
Water-tightness:	2.5 bar
Sealing against negative pressing water:	1.5 bar

AQUAFIN®-RB400

Water vapour diffusion coefficient μ: approx. 670
s_d value at 2 mm dry film thickness: approx. 1.3 m
CO_2 coefficient of permeability, μ: > 96,000
s_d value, CO_2 at 3.0 mm dry film thickness: > 280 m
Full service conditions*):

- Rainproof on inclined surfaces after approx. 3 hours, standing water loading must be avoided
- Sealing against pressing water, (1 bar) after approx. 16 h

*) at +23°C and 50% relative humidity. The stated data may be extended or shortened as a consequence of weather conditions. Higher temperatures and lower humidity shorten the drying time, lower temperatures and higher humidity extend the drying time.

Storage:
Powder component: cool and dry, 9 months
Liquid component: Frost-free, 9 months in original unopened container, use the opened container promptly
Cleaning: Clean tools in fresh condition with water, loosen dried-on material with ASO-R001 and wash off

Substrate:
The substrate must be load-bearing, fully grouted and level to a large extent, open-pored, and have a closed surface. It must be free of gravel pockets, cavities, gaping cracks and ridges, dust and adhesion inhibiting substances such as oil, paint, laitance layers, and loose components.

Dense concrete, P II and P III plaster, fully grouted masonry, and cement-based screed are suitable as substrates.

Exposure	Dry film thickness, mm	Wet film thickness, mm	Consumption, kg/m²
Ground moisture, non-pressure water	> 2.0	approx. 2.2	2.4
Pressure water	> 3.0	approx. 3.3	3.6
Joint water proofing in conjunction with joint tape technology	> 2.5	2.75	3.0
Container waterproofing	> 2.0	approx. 2.2	2.4
Profile waterproofing beneath masonry	> 2.0	approx. 2.2	2.4
Non-pressure water on slab surfaces	> 3.0	approx. 3.3	3.6
Levelling layers	1 mm	1.1 mm	1.2
Possible additional consumption in case of uneven substrates and artisanal variations must be considered.			

AQUAFIN-RB400 can be used to renovate old, firmly adhering coatings containing bitumen **(not bitumen sheeting)**. The waterproofing must be covered with a scratch coat and double-coated after drying out completely. The base point area and the transition to the splashing water base must be stripped down to the cementitious substrate beforehand, because these connection and termination areas are frequently affected by moisture penetration from the rear during renovation.

Corners and edges such as those on base slabs, etc. must be cut or chamfered. Depressions >5 mm and damaged areas, large-pored substrates, or uneven masonry must be levelled out beforehand using a suitable cement-based mortar, e.g. ASOCRET-M30. Alternatively, levelling or filling coats <5 mm can be applied with a mixture of AQUAFIN-RB400/quartz sand 0.1–0.35 mm (approx. 5 kg on 20 kg of AQUAFIN-RB400).

The substrate must be pre-dampened so that it is matt

AQUAFIN®-RB400

damp when AQUAFIN-RB400 is applied. Extremely absorbent and slightly sandy substrates must be primed with ASO-Unigrund-GE or ASO-Unigrund-K, and the primer must be totally dry before the subsequent work steps are carried out.

Moisture penetration from the rear and intermittent moisture loading from the negative side must be avoided. We recommend pre-sealing with AQUAFIN-1K to prevent pushing off of the substrate. This requires min. 1.75 kg/m² AQUAFIN-1K. On uneven substrates, pre-sealing with ASOCRET-M30 can also be completed with consumption of 1.4 kg/m²/mm. Negative moisture loading can also be counteracted with ASODUR-SG2/-thix depending on the object. Consumption of 600–1,000 g/m² is required when using ASODUR-SG2/-thix.

Application:
Put approx. 50–60% of the liquid component into a clean mixing bucket and mix with the powder component to produce a homogeneous, lump-free compound. Finally, add the rest of the liquid component and mix sufficiently. A mixing time of approx. 2–3 min. is required with a powerful agitator (approx. 500–700 min^{-1}). After a settling period of approx. 2 minutes, thoroughly homogenise the compound again.

Due to the project or processing conditions, e.g. processing using the screening or spraying method, adding water up to a maximum of 1.0% (0.2 l/20 kg) AQUAFIN-RB400 is permitted. Water is added after mixing the powder and liquid component.

Pre-screen the base slab-wall transition with AQUAFIN-1K or ASOCRET-M30 featuring consistency able to be screened, and install a sealing groove of ASOCRET-M30 with an edge height of at least 4 cm while it is still wet. After drying, carry out the waterproofing with AQUAFIN-RB400.

AQUAFIN-RB400 is applied pore-free by trowelling, spraying or brushing for at least two application steps. The second and subsequent application steps may be completed once the first application step cannot be damaged (approx. 3 hrs., depending on the ambient conditions). An even layer thickness is achieved, e.g. using a coating thickness trowel or a 6 to 8 mm notched trowel and then smoothing. Apply as much material as needed to achieve the required dry film thickness.

If you apply using the spraying method with suitable spraying systems like HighPump M8 (peristaltic pump), HighPump Small, -Medium or -Pictor (screw pump), we recommend a nozzle size of 4.5 to 6.0 mm. For more information, contact Dittmann Sanierungstechnik GmbH, Hohen Neuendorf, www.saniertechnik.de.

For watertight formation of moving and connecting joints, use the system components of the ASO-joint tape method in accordance with the respective wear class.

Apply ASO-Dichtband-2000-S, or ADF-Dehnfugenband in the transition between the wall and floor and across connecting joints, and adhere ASO-Dichtband-2000-S-Ecken joint tape in the corner areas with AQUAFIN-RB400. Apply AQUAFIN-RB400 at least 2 cm wider than the width of joint tape you use. The joint tape is placed in the fresh layer and then pressed in without voids or wrinkles. Bonding must be carried out in such a way that water cannot migrate around the back. The joint tape to be used should be inserted in a loop over movement joints. The joint tape edges must be adhered overlapping at least 5 to 10 cm with AQUAFIN-RB400, free of wrinkles and covering the whole area. Finally, the bonded joint tapes must be coated over with AQUAFIN-RB400 and seamlessly integrated into the waterproofing. Proceed in the same way when inserting ASO joint tape pre-formed pieces.

Pipe penetrations:
Depending on the nominal diameter, the ASO-Dichtmanschette-Boden (ASO sealing sleeve base)

AQUAFIN®-RB400

or ASO-Dichtmanschette-Wand (ASO sealing sleeve wall) or ADF-Rohrmanschette (ADF pipe sleeve) are used for waterproofing pipe penetrations with non-pressing water and waterproofing is applied at least 5 cm onto the pipe penetration. In case of pressing water, use suitable loose fixed flange constructions. Apply the AQUAFIN-RB400 generously to the thin-bed flange and overlapping area, embed the sealing sleeve used free of voids and wrinkles and subsequently integrate in the waterproofing by means of complete over-coating.

Drainage and protection boards for components in direct ground:
The waterproofing must be protected against weathering influences and mechanical damage using suitable protective measures. Protective layers may only applied after drying is complete. Suitable protection and drainage boards can be fastened using heaps of COMBIDIC-1K, and the perimeter insulation must be bonded covering the whole area and butt jointed with COMBIDIC-2K-CLASSIC or COMBIDIC-2K-PREMIUM.

Alternatively, protective layers can be bonded covering the whole area with a mixture of AQUAFIN-RB400/ quartz sand 0.1–0.35 mm (approx. 5 kg on 20 kg AQUAFIN-RB400) and suitable notched trowel using the Buttering-Floating method.

Drainage is implemented in accordance with national regulations.

Notes:

- Protect surfaces that are not to be treated against the effects of AQUAFIN-RB400!
- The waterproofing must not be affected by water while it is setting. The effect of water from behind can lead to spalling in case of frost.
- In case of strong sunlight, work against the movement of the sun in shaded areas.
- In rooms with high humidity and/or insufficient ventilation (e.g. water containers), dew point undershooting (condensation formation) may occur on the surface. This must be avoided by taking suitable measures, e.g. by using condensation dryers. Direct heating or uncontrolled blowing warm air is not permitted.
- AQUAFIN-RB400 may not be subjected to punctuated or linear loads as the surface coating.
- AQUAFIN-RB400 may be plastered and coated with vapour permeable, solvent-free dispersion facade paints or dispersion silicate paints (not pure silicate paints). Silicon resin paints and acrylate-based paints may also be used.
- Direct contact with metals like copper, zinc, and aluminium must be avoided by means of pore-sealed priming. Pore-sealed priming is produced via 2 application steps using ASODUR-GBM. The first application step is generously applied to the degreased and cleaned substrate. Once this coat has reacted to the extent that it can no longer be scattered (approx. 3–6 hours), another coat of ASODUR-GBM is brushed on and sprinkled with quartz sand featuring a grain size of 0.2–0.7 mm. Consumption of ASODUR-GBM approx. 800–1,000 g/m².
- To waterproof PVC, gunmetal, and stainless steel flanges, abrade, clean, and degrease the flange, apply AQUAFIN-RB400 and ASO-Dichtmanschette (ASO-Joint-Sleeve) or alternatively embed the ADF-Rohrmanschette (ADF-Pipe-Sleeve) without cavities or wrinkles and connect seamlessly to the surface waterproofing.

The current applicable regulations must be observed!
Please observe valid safety data sheet!

The rights of the buyer with regard to the quality of our materials are based on our terms and conditions of sale and delivery. Our technical advice team will be happy to advise you in the case of requirements that exceed the scope of the application described here. In order to be binding, a legally binding written confirmation is required. The product description does not release the user from a duty of care. Lay a test area in the event of uncertainty. This version becomes invalid in the event of a new version being issued.

MSt/TET/LiB/KKa 10/20

ATAL BENTOFIX X2 5300
TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

ATAL BENTOFIX X2 5300

Structural Waterproofing Systems

BBA Certified as Bentofix X2 BFG 5300 Waterproofing System Cert No. 05/4256

DESCRIPTION

Atal Bentofix X2 5300 is a needle punched GBR-C comprised of a uniform layer of powder sodium bentonite encapsulated between a slit-film woven and a staple-fibre nonwoven geotextile. The woven fabric is coated with a low-permeability polymer polyolefin coating to achieve an immediate gas and radon gas barrier before hydration. The coated woven geotextile side is, in general, not placed against the concrete structure. Seal all laps using Atal Bentofix Tape.

USES INCLUDE:

- Waterproofing protection to grades 1, 2 and 3 of BS8102:2009
- Protection from ground gases including methane, CO^2 and radon.
- Can be used in both post-applied or pre-applied situations and either horizontal or vertical application.

ADVANTAGES

- Unique impermeable lap joints derived from surface bentonite impregnation of the nonwoven geotextile layer during manufacture.
- Full surface contact between the bentonite impregnated cover layer and the concrete ensures that small cracks and surface imperfections are sealed.
- Self-healing bentonite properties
- Quick and easy installation in almost all weather conditions
- Forms a tenacious mechanical bond to poured concrete when cast in situ, remaining in place if settlement of the substrate occurs
- No requirement for priming systems or protection systems
- BBA Accredited, certificate no. 05/4256

TYPICAL PROPERTIES @ 20°C

- Tensile Strength - 20 kN/m / 11 kN/m
- Puncture Force - 2500N
- Peel Strength - >360N/m
- Water Permeability - <5 x10m/s-9
- Methane Permeability - 5.46 x 10m/s-9
- Radon Permeability - 1.3x10-11 m2/s
- Thickness - 6.0mm



SPECIFICATION OUTLINE

The product must be stored, handled and used strictly per the datasheets.

TESTING

ATAL NAUE BENTOFIX X2 BFG 5300 has been tested in

accordance with the appropriate parts of the

following standards:

ASTM D5887, CSN 73 0601, ISO 10913.

INSTALLATION INSTRUCTIONS

Installation advise in the BBA certificate must be followed at all times.

HORIZONTAL FLOOR SLAB APPLICATION

For installation of horizontal concrete slabs following the required groundwork preparation, a 50mm blinding layer of lean concrete or sand/gravel is placed, compacted and levelled. This layer should be free from debris and have a smooth surface. Remove all standing water before rolling out Atal Bentofix X2 5300 membrane. Alternatively, well-compacted hardcore or clay base may be suitable; please contact atal for more information.

The membrane edges must be overlapped a minimum of 100mm in the centre and edges. Avoid wrinkles, folds and uneven overlaps. Seal all laps using Atal Bentofix Tape.

Pour concrete following the direction of overlaps to minimise the chances of a break in the waterproofing. In all applications, the vibrating poker used to compact concrete mustn't come into contact with the Bentofix membrane.

VERTICAL CASTING APPLICATION

In most cases, install the Atal Bentofix X2 5300 membrane to the concrete with the bentonite impregnated nonwoven geotextile side facing towards the concrete. Should the Atal Bentofix X2 5300 membrane be used as a gas barrier and installed against a piled wall or sacrificial shutter then the membrane will need to be reversed with the bentonite impregnated nonwoven side facing the shutter or piled wall.

Floor to wall joints must be overlapped a minimum of 400mm. Avoid wrinkles, folds and uneven overlaps. The Bentofix Tape must be used in all laps, 75mm over each roll, on the laminated side. Ensure all overlaps are aligned not to let concrete into the lap during pouring.

PRE APPLIED APPLICATION

Apply the Atal Bentofix X2 5300 to timber formwork, 'tacking' by nail or staple either horizontally or vertically, following general application guidelines for lapping all adjacent edges 100mm, and staggering adjacent roll ends no less than 300mm, ensuring that laps face downwards.

The coated woven geotextile side should be against the formwork, and the nonwoven/spun geotextile side should face the concrete. Extend Bentofix the full depth of the formwork, so that the Bentofix laps 350mm over the Bentofix already cast into the slab edge and wall kicker, and allow no less than 300mm at the top of the formwork, to provide ground slab continuity later, if required. Position formwork and penetrate the Bentofix with tie bolts, as necessary.

The usual concrete practice is applied in terms of striking times for formwork, but due care should be taken to ensure that the Bentofix remains bonded to green concrete.

Where a slab 'toe' exists, and underslab Atal Bentofix has terminated at the top edge of slab, additional Bentofix may be required to ensure continuity and to link underslab/edge of slab Bentofix with the vertical Bentofix. Apply a 50x50mm fillet of Atal Bentonite Paste (powder & water) at the internal wall/slab corner, and place additional Bentofix over the slab 'toe' lapping 300mm over the edge of slab Bentofix, and continue over the 'toe' terminating under the unbonded wall Bentofix 'flap' at the back of the kicker.

Ensure all laps are taped with Atal Bentofix Tape.

POST APPLIED APPLICATION

When post applied to the concrete the Atal Bentofix X2 5300 membrane shall be secured to the concrete using Atal Soft Washer Fixings (30mm length min.) at 300mm centres along the 20mm outside edges, and at 500mm centres within the area of the membrane.

PRECAUTIONS

HEALTH AND SAFETY:

Atal Bentofix X2 5300 rolls are heavy and may need mechanical lifting to be moved. coated woven geotextile is available in 3 roll sizes:

- 1.20 x 4.5m = 28kg
- 2.42 x 15m Roll = 210kg
- 4.85 x 40m Roll = 1000kg

Full health and safety data are given in the Product Safety Data Sheet.

FIRE

Atal Bentofix X2 5300 is non-flammable

STORAGE AND SHELF LIFE

Atal Bentofix X2 5300 will have a shelf life of 12 months when kept in dry conditions at a temperature of 5°C to 45°C. Storage at higher temperatures and high humidity may reduce the shelf life.

Atal Cyf products are guaranteed against defective materials and manufacture. Products are sold subject to the Atal Cyf Terms and Conditions of Sale, copies of which are forwarded on invoice and are available on request. Atal Cyf endeavours to ensure that the above data and any further advice is correct, however, it cannot accept any direct or indirect liability for the use of its products as such usage is beyond its control.

ATAL FLO BOARD 4E
TECHNICAL DATASHEET

Unit 27,
Tafarnaubach Industrial Estate,
Tafarnaubach,
Tredegar,
NP22 3AA

FOR MORE DATASHEETS VISIT:
WWW.ATALUK.COM

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

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Structural Waterproofing Systems

ATAL FLO BOARD 4E

DESCRIPTION

Atal Flo Board 4e consists a high strength flexible polyethylene cuspated core with a non-woven geotextile bonded onto one or both sides.

The geotextile filters a wide range of materials allowing water to perculate into the core to be efficiently transported away to a discharge point. The geotextile is bonded to the core to ensure that it does not deform into the drainage passages under the load of the backfill material allowing continuity of the drainage void.

The single cuspated HDPE core forms a high-performance drainage layer with clear void to allow flow in all directions. The compressive strength and creep resistance properties of Atal Flo Board 4e ensures that the core maintains its drainage capacity, even when subjected to compressive loads.

Atal Flo Board 4e is durable and sufficiently robust to resist the mechanical stresses imposed during installation and throughout the design life.

Use of Atal Flo Board 4e will eliminate the need for further protection of the waterproofing.

ADVANTAGES

When compared with aggregate drainage layers Atal Flo Board 4e geocomposites are much thinner yet offer superior flow characteristics. This reduces dead loads associated with aggregate drainage layers and may reduce required thickness of the roof slab construction.

The wide roll Atal Flo Board 4e composites are especially suited for rapid installation on large block paving or roof drainage projects.

Atal Flo Board 4e enhances structural waterproofing performance by providing an additional barrier that prevents the majority of the water reaching the liner.

The high CBR puncture resistance of Atal Flo Board 4e provides protection and prolongs the life of the waterproofing.

INSTALLATION

Atal Flo Board 4e is easy to handle and is rapidly installed without the need for specialist plant.

Atal Flo Board 4e has a built in geotextile overlap that ensures integrity of the drainage layer across the entire installation area.

The site in which the Atal Flo board 4e is to be installed must be sufficiently excavated and prepared.

A perforated pipe is normally used at the base of the wall to collect water from the geocomposite and must be placed as closely as possible and surrounded with filter stone.

The geocomposite can either be unrolled across the wall structure with the flapped edge at the bottom, or lengthways down the wall structure and cut to length as required. The flat face of the core must be secured against the structure and the geotextile faced cuspated side towards the backfill to ensure efficient water filtration across the geotextile.

Where the geocomposite is laid on vertical structures in the vertical plane, it can be supported at the top of the wall with ballast (such as sand bags) and at the bottom with filter stone, prior to backfilling. In all situations, the geocomposite can also be supported temporarily using stick pins. Alternatively, pin shot fix or plug drill and fix plugs provide a permanent method of securing the geocomposite to the wall.

On wider or higher areas of walls, additional lengths of Flo board will be required. Jointing is carried out by butting the cores together ensuring the 100 mm geotextile overlapping piece is located over the joint. The lapped joint is then sealed and held in place using a continuous run of ABG Jointing Tape. Subsequent rows of geotextile can be installed in the same manner with the final row overlapped using a separate geotextile piece to seal the complete installation.

All cut edges must be sealed using ABG Jointing Tape. It is essential that during the lapping process no gaps are left in the installed Flo board System that could allow the soil to enter the core.

At corners, Flo board must be cut and re-sealed. For all Flo board Systems, the use of an angle profile will ensure a secure installation.

BACKFILLING

Prior to backfilling, the installed geocomposite must be inspected to ensure it has been securely fitted into position and that all joints are completely sealed.

Backfill material must not contain sharp or large stones that could tear or damage the geocomposite during compaction and is normally SHW class 6 or 7 backfill material. Care must be taken to avoid damaging the geocomposite during the backfilling process.

The permeability of the backfill material, when compacted, should be at least equal to that of the native soil.

Where the geocomposite is laid as transverse strips across a wall, backfilling is brought up progressively in layers as subsequent rolls are installed. Compacting equipment can operate close to the geocomposite without causing damage.

Where the geocomposite is laid vertically in upright lengths and adequately secured (see section 12.4), backfilling can proceed in one operation.

HEALTH SAFETY AND ENVIRONMENT

All components of Atal Flo Board 4e are inert and do not present a hazard to health.

SUPPLY

Atal Flo Board 4e is Manufactured in 4mm and 12mm and 1.1m wide rolls.

CHEMICAL RESISTANCE

Atal Flo Board 4e has excellent resistance to petrol, oils, acid, alkalis, leachate andall common chemicals.

ATAL FLO BOARD 4E APPLICATIONS

A strong, robust geocomposite layer

designed to:

• Relieve external water pressure from buried structures.

• Provide drainage behind retaining walls, potable water reservoir roofs and walls, tunnels, roof gardens

• Provide drainage under block paving.

• Relief of uplift pressure beneath tanks, slabs and culverts.

• Capillary break layer below base slabs.

• Atal Flo Board 4e can be applied horizontally on roofs and below base slabs or vertically against walls.

Atal Flo Board 4e geocomposite drainage layer is ideal for structural drainage applications; it provides sub-surface drainage with higher performance and lower cost than conventional granular filters layers. It has been specially designed to be compatible with structural waterproofing and to give the optimum performance over the whole life of the structure.

Atal Flo Board 4e enhances the performance of the waterproofing systems by providing an additional barrier, preventing the majority of the water reaching the waterproofing system.

Atal Flo Board 4e geocomposite drainage system has a proven record in structural drainage and offers a 120 year design life.

BURIED STRUCTURES

When installed on external faces of a buried structure Atal Flo Board 4e collects and drains percolated groundwater from the backfill material. Installed with the flat face of the core against the structure and dimpled face against the backfill, Atal Flo Board 4e also provides a high level of protection to the waterproofing system.

RETAINING STRUCTURES

Atal Flo Board 4e installed behind retaining structures acts as an efficient groundwater drainage system. Atal Flo Board 4e provides a high-level of protection to the structure offering drainage capacity 10 to 50 times better than filter stone.

ATAL GP1

TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

INTRODUCTION

Atal GP1 is a multi layer, low-density polyethylene membrane, reinforced with a polypropylene reinforcing grid with an integral aluminium foil. Atal GP1 is specifically designed and manufactured to perform as a Methane, Carbon Dioxide, Radon, air and Moisture protection system.

The membrane is manufactured by using a multi–layer extrusion/coating process and incorporate a tough polypropylene reinforcement grid. Atal GP1 is extremely flexible for ease of installation and is robust enough to cope with the site conditions. atal GP1 will also protect against damp and therefore will act as a DPM and satisfy Approved Document C.

USAGE

The product will restrict the ingress of radon, methane and carbon dioxide gases into buildings from landfill and naturally-occurring sources and meet the performance criteria for a gas resistant membrane as defined in BS 8485 : 2015.

INSTALLATION

Atal GP1 should be installed in accordance with the product installation guidelines and in accordance with BS8485:2015.

The membrane can be installed in all normal site conditions, provided that the air temperature is not below 4°C to prevent the risk of surface condensation.

The product must only be applied to surfaces that have a smooth finish, ie they should be free from voids, projections and mortar deposits. Surfaces should be dry and free from dust and frost.

Concrete surfaces should be dense. Vertical surfaces of brickwork and blockwork must be dry and rendered to provide an even surface. Brickwork or blockwork not rendered must be flush pointed to give a smooth surface without sudden changes in level.

The membrane is rolled out with the coloured surface uppermost (white side down), ensuring that it is properly aligned. All end and side overlaps should be a minimum of 150 mm and prepared in accordance with the Certificate holder's instructions.

When the membrane is laid below the concrete slab, it should be loose-laid to accommodate any small movements.

All surfaces must be dried thoroughly prior to joining. Roll edges can be welded, or taped. A strip of the tape is unrolled over the membrane with its nearest edge 50 mm from the membrane edge. The protective paper is removed from the butyl tape prior to rolling an adjacent run of the membrane, which must be carefully unrolled over the jointing tape, ensuring a 100 mm overlap.

All service penetrations and direction changes should be properly detailed in accordance with the Certificate holder's instructions. Service ducts should be vented to prevent the possibility of gas accumulating in confined spaces.

The continuity of the gas protection must extend over the footprint of the building, and the gas membrane must be sealed to a gas-resistant damp-proof course.

The membrane should be covered by a screed or other protective layer, such as Atal protection fleece, as soon as possible after installation. If blockwork protection is used, care must be taken to avoid damage to the membrane during construction.

The membrane installation should be subject to third-party independent validation, in accordance with the BS 8485 : 2015.

JOINTING AND SEALING

Atal GP1 is suited to sealing using atal DS Butyl Tape and atal Single Sided Tape or by means of welding. atal GP1 should be overlapped by at least 150mm. When taping the laps a silicon roller should be used to remove trapped air and ensure a good seal is achieved.

Welding should be carried out by competent personnel with suitable qualifications in accordance with best practice, and guidance contained within BS8485:2015. Atal Premsil GMA should be used to for sealing around pipe penetrations and termination into DPC.

INSTALLATION BELOW SLAB

A 50mm sand or concrete blinding should be laid when the membrane is installed below the slab. Atal GP1 should be protected after installation using atal Protection Board, insulation or a protective blinding to prevent puncture during the construction process.

INSTALLATION ABOVE SLAB AND TO SUSPENDED FLOORS

The substrate should be smooth and free from voids, projections, mortar deposits, dust and frost. Atal GP1 should be protected after installation using atal Protection Board, insulation or a protective blinding to prevent puncture during the construction process.

RESISTANCE TO PUNCTURE

The membrane can be punctured by sharp objects. Care should be taken during installation to not damage the membrane. If damage occurs the repair should be in accordance with atal guidance.

ANCILLARY PRODUCTS

- atal Termination Strap
- atal DS Butyl Tape
- atal Single Sided Tape
- atal Premsil GMA
- atal Premsil Primer
- atal Protection Board
- atal Gasflow 25S

HANDLING

Roll weights are in excess 20 kg and hence appropriate care and equipment is required for unloading and handling.

STORAGE

Rolls of atal GP1 should be stored on stable/level ground and stacked not more than five rolls high, with no other material stacked on top.

The rolls can be stored outdoors when packaged but should be protected from exposure to UV.

ADDITIONAL INFORMATION

For additional information or assistance please contact atal on 01495 717202.

Terms and Conditions of Sale, copies of which are forwarded on the invoice, are available on request. Atal Cyf endeavours to ensure that the above data and any further advice is correct, however, it cannot accept any direct or indirect liability for the use of its products as such usage is beyond its control.



CHARACTERISTIC	TEST METHOD	UNIT	ATAL GP1
PHYSICAL PROPERTIES			
Thickness	EN 1849 - 2	mm	0.6
Width	EN 1849 - 2	m	4
Length	EN 1849 - 2	m	25
Weight	EN 1849 - 2	g/m^2	370
HYDRAULIC PROPERTIES			
Water Column	EN 20811	-	>300
Resistance to Water Penetration	EN 13967, EN 1928	-	Pass
Water Tightness	EN 1296, EN 1367, EN 1928	-	Pass
MECHANICAL PROPERTIES			
Resistance to Static Load	EN 12730 - B	kg	20
Tensile Strength (MD)	EN 12311 - 1	N/50mm	600
Tensile Strength (CMD)	EN 12311 - 1	N/50mm	480
Tensile Elongation (MD)	EN 12311 - 1	%	20
Tensile Elongation (CMD)	EN 12311 - 1	%	20
Puncture Resistance	EN 12310 - 1	kN	1.25
Resistance to Tearing (Nail Shank) MD	EN 12310 - 1	N	330
Resistance to Tearing (Nail Shank) CMD	EN 12310 - 1	N	400
DURABILITY AND CHEMICAL RESISTANCE			
Transmission Rate of Volatile Liquids - Diesel	ISO 6179:2010 (B)	$g/m^2/h$	0.246
Transmission Rate of Volatile Liquids - Xylene	ISO 6179:2010 (B)	$g/m^2/h$	0.571
Transmission Rate of Volatile Liquids - Toluene	ISO 6179:2010 (B)	$g/m^2/h$	0.583
Transmission Rate of Volatile Liquids - Petrol	ISO 6179:2010 (B)	$g/m^2/h$	0.135
GAS PERMEABILITY			
Methane Permeability	BS EN ISO 15105 - 1	$ml/m^2/day/atm$	<0.09
Carbon Dioxide Permeability	BS EN ISO 15105 - 1	$ml/m^2/day/atm$	<0.09
Radon Permeability	K124/02/95	m^2/s	8.0×10^{-15}
COMPLIANCE AND CERTIFICATION			
NHBC Standards Compliant			
BS8485:2015 Compliant			

ATAL PREMSIL GMA
TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

ATAL PREMSIL GMA

EC Certificate of factory production control 0836-CPD-13/F032 accredited by the BBA.

DESCRIPTION

Atal Premsil GMA is an advanced waterproof membrane capable of resisting the passage of methane gas. The membrane is manufactured from an aluminium, and cross-orientated HDPE film laminated to a layer of rubber modified bitumen adhesive.

Independent tests show that this advanced backing film and adhesive layer provides excellent technical performance for the suppression of methane, radon and other common ground gases.

The membrane should be covered as soon as possible after installation with protective blinding or Atal Flo Board 4e.

Use Atal Premsil GMA for the following applications:

- External tanking of underground structures
- Car parks and Retaining Walls
- Subways and Lift Shafts

ADVANTAGES

- Independent certification for the suppression of methane and radon gas
- Excellent overlap integrity due to bitumen joint
- Factory controlled thickness
- Rapid and easy application
- Flexible and accommodating giving an excellent bond to the substrate
- Non-hazardous and resistant to dilute acids and alkalis
- High-performance protection against groundwater and soluble salts such as sulphates and chlorides
- Capable of resisting a 6 metre head of water when fully supported

STORAGE

The membrane rolls must be stacked on end and stored in dry, well-ventilated buildings, out of direct sunlight or other significant sources of heat. Storage conditions should be adjusted before application to bring the temperature of the rolls to within the relevant specified application range.

INSTRUCTIONS FOR USE

First, apply Atal Premsil Primer ensuring complete coverage and allow to dry. Only prime areas where Atal Premsil GMA is to be applied on the same day.

Atal Premsil GMA should be applied, allowing 50mm for edge laps and 100mm for end laps.

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ATAL PREMSIL GMA

Dimensions	Method	Units	Data
Backing Thickness	-	mm	0.1
Backing Type	-		Aluminium Polythene Laminate
Adhesive Thickness	-	mm	0.9
Total Thickness	-	mm	1
Width	-	mm	1050
Length	-	m	28.6
Area	-	m^2	30
Weight	-	kg/m^2	1.1
Carton Weight	-	kg	33

Mechanical Data	Method	Units	Data
Membrane Strength	ASTM D1000	N/mm	3
Elongation	ASTM D1000	%	40
Puncture Resistance	ASTM E154	N	250
Adhesion (180º Peel)	ASTM D1000	N/mm	2

Functional Data	Method	Units	Data
Water Vapour Transmission	ASTM E96	$g/m^2/24h$	<0.1
Methane Gas Permeability	-	$ml/m^2/24$ hrs	<0.03
Radon Diffusion	-	m^2/s	5.0×10^{-14}
Dimensional Stability	MOAT 27 5.1.6	%	
	(80ºC)		
Longitudinal			0
Lateral			0

ATAL FLO BOARD CM8 TECHNICAL DATASHEET

Tafarnaubach Industrial Estate,
Unit 27,
Tafarnaubach,
Tredegar NP22 3AA

CONTACT US:
Phone Us: 01495 717202
Email: Enquiries@ataluk.com

atal uk.com
Structural Waterproofing Systems

ATAL FLO BOARD CM8

DESCRIPTION

Cm8 cavity drain membrane is an 8 mm studded membrane, suitable for type c waterproofing and delivering a grade 3 environment to bs8102:2009 and nhbc chapter 5.4. Cm8 is available in both 500g or 700g densities. We recommend using the cm8 hd700 when a heavier, denser membrane is deemed necessary by the Atal technical department. Please always take advice from our technical experts when making product selections.

ADVANTAGES

• Creates dry, habitable living space in areas previously suffering from damp-wet conditions.

• waterproof, salt inhibiting, root and contaminate resistant.

• quick to install - minimal preparation needed to wall surfaces.

• easily cut down using a sharp blade. • no drying out process - redecoration can occur immediately.

• little or no damage to the existing structure.

• low and high temperature tolerance.

• part of a type c cavity drain membrane system in line with bs8102:2009.

• clear for easy application and fixing of Atal plugs.

typical uses

Walls, floors, vaults, tunnels, above and below ground level, waterproofing applications and damp-proofing applications.

SUBSTRATE PREPERATION

1.When used in new construction, the concrete slab must be laid in accordance with bs 8204-1:2003+a1:2009 to achieve a flat surface not deviating more than 5 mm from the underside of a 3000 mm straight edge.

2. Unsound plaster, render or screed should be removed and surfaces made level, with floors to the above tolerances. This can be achieved using Atal universal mortar, or a 3:1 sand:cement mix incorportating renderproof waterproofing additive. Leave all new works to dry thoroughly before cm8 membranes are fixed.

3. In case of walls suffering from mould or masonry fungi, prior to fixing the membrane, remove surface contamination by brushing, then apply microtech biocide in line with the relevant technical data sheet

4. If dry rot (serpula lacrymans) is present in the walls, this will require detailed assessment before proceeding. Contact the Atal technical department for further advice.

5. Above ground level it is recommended, that where possible, all sources of moisture are alleviated at the source using a dpc such as ultracure, before applying cm8 membrane. This reduces potential damage to masonry and timber etc.

CONDITIONS AND LIMITATIONS

Flat soffits below ground should never be lined with Atal cm8 membrane as it requires a minimum slope of 10%.

Take care when running cm8 membrane around internal and external corners to ensure the sheet is fixed tight to the angle, ensuring well defined edges for subsequent finishes.

APPLICATION

With studs facing the wall, fixing is carried out using Atal CM Brick Plugs.

1.we recommend an application of atal microsealer to the concrete walls and slab, before an application of cm8, to prevent lime efflorescence and dusting, which can block perimeter drainage channels.

2. Drill a hole through the centre of the stud. Take care mwhen drilling holes to avoid excessive masonry dust from falling into the cavity.

3. Place the chosen plug (with seal for all underground waterproofing applications) into the hole and drive the fixing home with a rubber mallet or club hammer.

4. We would suggest that spacing between plug fixings should be no greater than 600 mm, to ensure a tight fix to the wall. However, this may vary depending on the exact batten/board size and site conditions may dictate otherwise.

5. Seal the membrane at the flanges (a band of membrane running along the edge where no studs are present) with a tape.

6. Ensure flanges run vertically on walls and are positioned in front of the preceding width of membrane. In the case of horizontal joints, the lower sheet is positioned to the front.

7. Where there is or could be severe water ingress, joints may also be closed off with Atal Overseal Tape.

8. Seal the stud to stud joints with Atal Rope.

Vaulted Ceilings: These can be successfully lined using Atal CM8, taking care to seal all mitred joints with Atal Tape/ Rope/Overseal Tape/Corner Detail/Atal Fibre Tape

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.5 Kg/m²	N/A
Sheet Thickness	0.45 mm	EN 149-2
Stud Height	7 mm	N/A
Colour	Clear	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength	180 kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1:200-1
Type of Application	Type V	N/A

FINISHING

STUD FRAME:

When using this finishing method, Atal brick plugs should be applied in a vertical line, roughly corresponding to the stud locations and battens (minimum of 25 x 38mm). Fix the stud frame to the plugs using no. 10 screws (5 mm). If the plugs cannot be applied in a straight line, 'gyproc' brackets can be used to hold the battens in place. Ensure the screw depth does not perforate the cm8 membrane.

DOT AND DAB DRY LINING:

On reasonably flat walls, Atal cm brick plugs can be used to provide a key for board adhesives. Their unique serrated head allows for the dab to be applied directly to the head of the brick plug. For below ground applications, ensure the brick plugs have a rubber seal. Use a conventional bonding plaster in dabs, to a minimum thickness of 8 mm and covering at least 50% of the membrane surface area.

FLOORS:

Cm8 membrane may be overlaid with closed cell insulation before laying t&g flooring, ensuring a 10 mm expansion joint all around. Alternatively, a conventional 65 mm of sand and cement screed can be laid. However, site conditions may vary, therefore if doubt exists, please take advice from the Atal technical department. Normal decorating materials can be used as soon as the floor, screed or plaster finishes are dry.

while applying, ensure atmospheric moisture levels are below 70% rh. Impermeable floor finishes should not be laid until screed moisture content is below 75% rh.

AFTERCARE

Atal cm8 membranes provide a dry, warm and habitable living space in basements and other areas suffering from chronically damp conditions. However, it is equally important that areas which lack natural ventilation are provided with adequate means of condensation control, especially in wet areas such as kitchens, bathrooms etc.

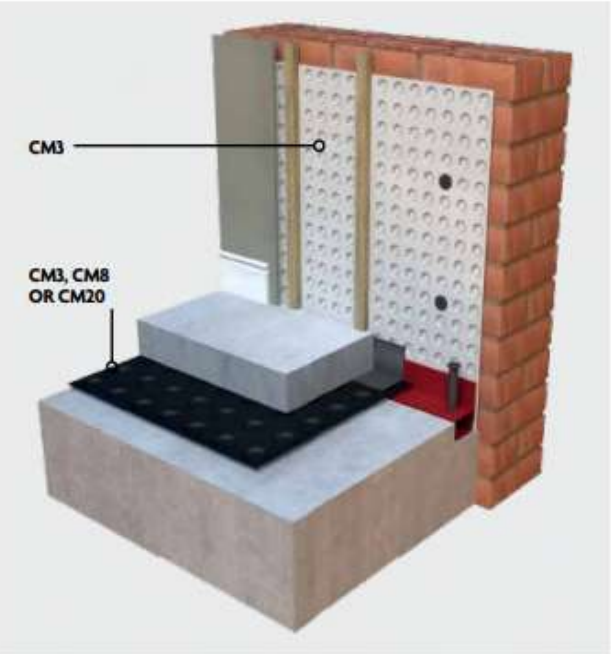
This is best achieved through the provision of an effective mechanical ventilation system. Please consult the Atal technical department for further advice.

STORAGE AND SHELF LIFE

Store in an upright position, under cover and away from high temperatures and open flames. Shelf life is the lifetime of the structure, when stored and installed in line with the datasheet recommendations.

HEALTH AND SAFETY

No specific hazards are likely to arise while using any Atal Waterproofing Membranes or ancillaries; neither are classified as hazardous in respect to CHIP II Regulations 1999. However, general precaution should be exercised in the use of drills etc. Taking particular note of the special risks associated with working in confined spaces (basements) with restricted access/egress.



Pack Size	Coverage
2 m x 10 m	**20 m²**
2 m x 20 m	**40 m²**
2.4 x 20 m	**m 48 m²**
2.4 m x 20 m	**48 m²**

Disclaimer:

The technical information reflects our current knowledge of Flo Board CM8. It is intended only as information for users. As we do not know the envisaged applications and installation conditions, it is the responsibility of the user to carefully check that the product is fit for purpose. Due to the different components at the installation site and the in-situ working conditions, MASTERTEC cannot provide any guarantee whatsoever for the result of the work. Claims arising from any legal relationship can only be recognised in the event of wilful intent or gross negligence, irrespective of the statements made here or advice provided verbally. In this case the user must prove that he has provided MASTERTEC in writing with all the information required to correctly assess the installation situation in good time. Subject to necessary product specifications or further developments. By providing this informaon ATAL does not intend to infringe third-party rights. The latest data sheet in each case applies. Our corresponding terms and condions of sale and delivery apply.

ANNEX C
Installer Daily Log Sheets

Installer Daily Log

(Prepare one installer log sheet per day per plot)

Site Name:	**Phase:**
Date:	**Plot Number:**
Weather:	**Housing Style:**
Installers:	
Progress (End of day) : In-progress, Completed	
Weather Condition:	

(Delete as appropriate)

No.	Item	Comments
1. Tasks		
	Example (product type)	*Example (Manufacturer, location, number of, serial number, reasons for repair etc.)*
1.1	**Membrane**	
1.2	**Seals**	
1.3	**Penetrations**	
1.4	**Internal Corners**	
1.5	**External Corners**	
1.6	**Repairs**	
1.7	Other	
Additional Notes:		

ANNEX D
Protection Method Statement

Post Installation protection of gas membrane

- To prevent any ongoing damage of the gas membrane following installation, contractors and staff members will be instructed not to cross the area where the membrane is in place, unless required to do so to facilitate the construction of the slab and associated elements such as pipe penetrations. High visible tape will be placed at waist level around the slab to highlight this and keep operatives from crossing.
- These interactions on top of the membrane will be kept to a minimum and will be monitored by the Site Manager.
- Scaffold boards will be used to cross the membrane where needed to allow installation of reinforcement and pipe penetrations.
- Any rebar stools or supports placed on top of the membrane will be done so with the utmost care.
- Prior to any pour of concrete, the membrane will be inspected to ensure no damage has occurred during installation of the reinforcement. Any defects will be reported to the Site Manager who will ensure a satisfactory repair is undertaken and validated prior to any actual concrete pour occurring.
- During concrete pouring, tamping will only take place from above the top level of reinforcement.



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**