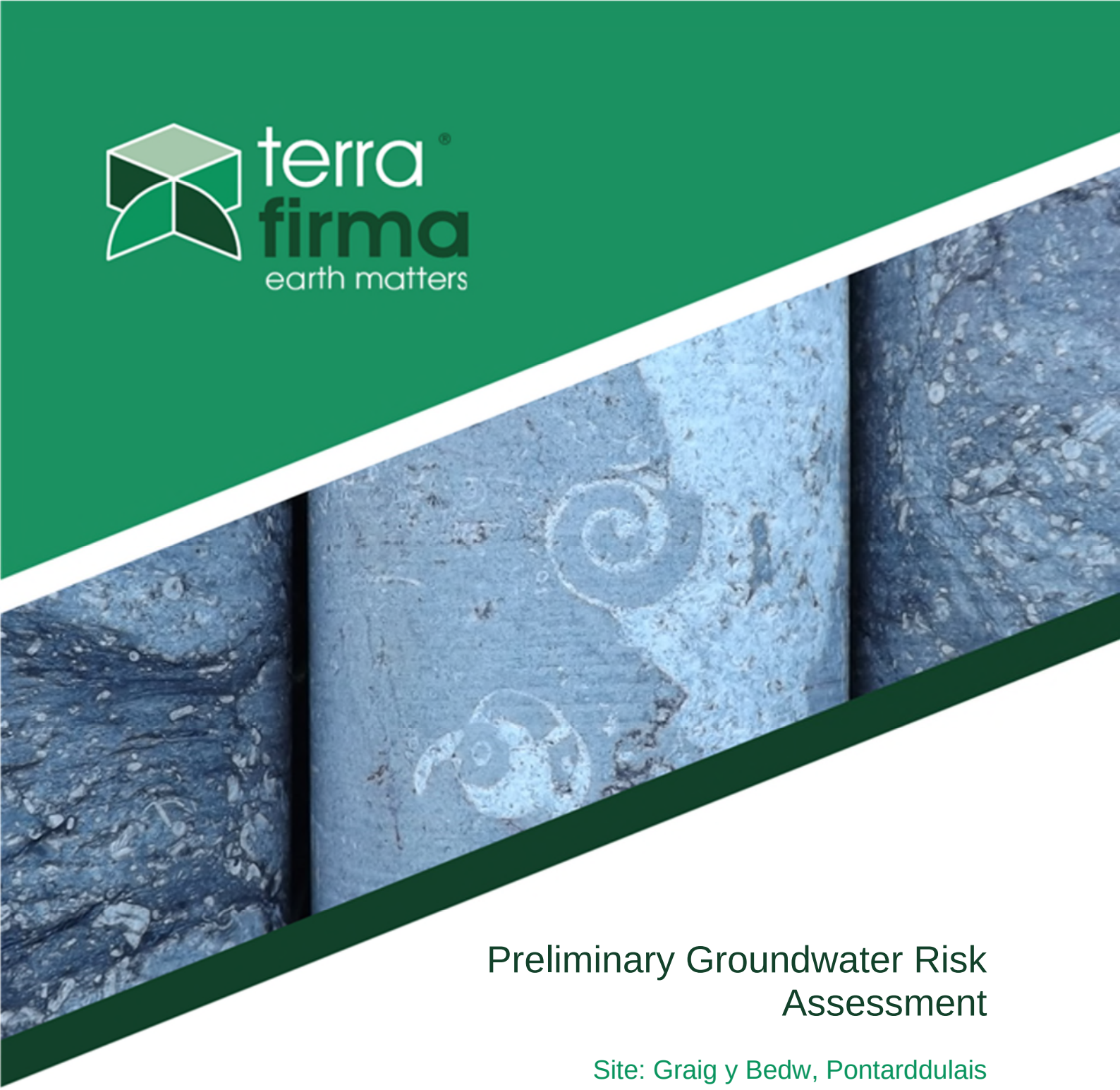

Preliminary Groundwater Risk Assessment

Site: Graig y Bedw, Pontarddulais

Prepared For: AR Drainage Solutions

Issue Date: June 2026

Job No: TF-26-260-CA

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REPORT TITLE : **Preliminary Groundwater Risk Assessment: Proposed Commercial Development, Graig y Bedw, Pontarddulais, SA4 8NS**

JOB NUMBER : **TF-26-260-CA**

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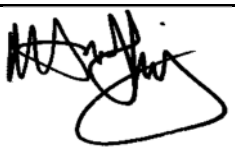
Checked	**Michael Watkins** MESci, CGeol, FGS **Principal Engineering Geologist**	
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Annexes

ANNEX A Envirocheck Report
ANNEX B GRAF One2Clean Sewage Treatment Tank and Drainage Tunnel Specification
ANNEX C GRAF Commissioning Certificate
ANNEX D Risk Assessment Definitions
ANNEX E DR Drainage Solutions Percolation Test Results

SECTION 1 Introduction & Proposed Development

1.1 Background

Priority Childcare (the Client) has undertaken the change of use of a residential property to a new care home in Pontarddulais, Swansea. DR Drainage Solutions were asked to carry out an assessment of the suitability of existing septic tank on site for use in the new development. The existing tank was found to have a tree growing through it and the side walls were defective, which allowed untreated effluent to seep into the surrounding ground before passing properly through the septic system. The septic tank was condemned, and DR Drainage Solutions installed a GRAF treatment tank at the Care Home along with an infiltration tunnel system installed in an 'infiltration field' at the site. Natural Resources Wales (NRW) have requested a preliminary groundwater risk assessment (GWRA) for conditions relating to the approval of an environmental permit. The proposed layout can be seen in **Figure 1.1**.

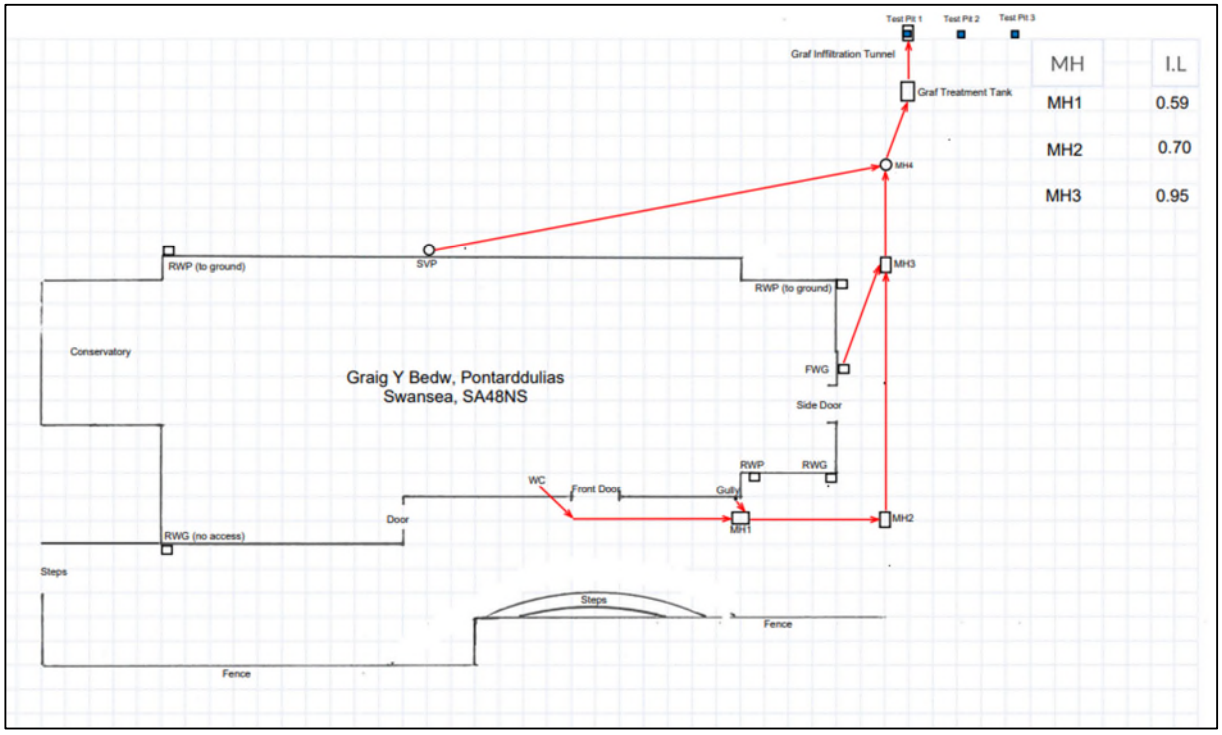

Figure 1.1 Proposed Site Layout

AR Drainage Solutions are the Consulting Engineers for the project.

TFW Group Ltd (Terra Firma) have been commissioned by AR Drainage Solutions on behalf of the Client to undertake a Preliminary Groundwater Risk Assessment.

This report comprises a Preliminary Groundwater Risk Assessment, including a Preliminary Geoenvironmental Risk Assessment.

1.2 Objectives

Land Contamination Risk Management (LCRM) guidance provided by the Environment Agency advocates using a tiered approach. This comprises Tier 1; the Preliminary Risk Assessment, Tier 2; the Generic Quantitative Risk Assessment and Tier 3; the Detailed Quantitative Risk Assessment. As each tier is completed a decision is made whether it is necessary to advance to the next tier.

1.2.1 Preliminary Groundwater Risk Assessment

Natural Resources Wales (NRW) have significant concerns regarding the infiltration field design as it does not conform with British Standard BS6297.

NRW will only agree to the use of the infiltration field for treated effluent if the developer can provide the following:

- a preliminary groundwater risk assessment
- an estimated percolation rate for the infiltration field

The main objectives of the Tier 1 Geoenvironmental Assessment programme are:

- provide information on past and current uses of the site and surrounding area;
- identify the likely potential environmental liabilities at the site associated with any groundwater contamination from past site and surrounding land uses;
- provide information on the likely ground conditions beneath the site, including soil types and groundwater;
- produce an initial conceptual site model, to detail the nature and extent of potential contamination, its source, potential pathways and likely receptors (pollutant linkage);
- prepare a preliminary environmental risk assessment for the site.

In order to achieve the above objectives, Terra Firma carried out an assessment programme including a review of existing data.

1.3 Information Sources

The following sources of information have been referenced in support of this assessment:

- Landmark Envirocheck Report (**Annex A**)
- British Geological Map Sheet 230 Solid (Ammanford) 1:50,000 scale
- Coal Authority Website; and
- Client provided information, plans and specification documents. (**Figure 1.1 and 3.1/Annex B)**

1.4 Roles & Responsibilities

Table 1.1 Roles and Responsibilities

Role	Organisation
Client/Developer	Priority Childcare
Geotechnical/Geoenvironmental Consultant	TFW Group Ltd
Engineer	AR Drainage Solutions
Local Authority	Swansea Council

1.5 Limitations & Exceptions of Investigation

The Client has requested that a Preliminary Groundwater Risk Assessment be undertaken to enable the outlined main objectives.

The Preliminary Groundwater Risk Assessment report was conducted, and this report has been prepared for the sole internal reliance of the Client and their design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of TFW Group Ltd. If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill. The report represents the findings and opinions of experienced geoenvironmental and

geotechnical consultants. TFW Group Ltd does not provide legal advice and the advice of lawyers may be required.

Any environmental risk assessment outcomes may not take into account the potential for the creation of new contaminant linkages as a result of variation to the proposed development and recommended engineering solutions. It is therefore imperative that the Client engages a geoenvironmental consultant to re-visit the conceptual site model and potential risks upon completion of final designs, prior to development.

1.6 Quality Assurance

The quality, health, safety and environmental aspects of the assessment comply with Terra Firma business management system which is UKAS accredited and complies with the requirements of BS EN ISO 9001:2015, BS EN ISO 14001:2015 and BS EN ISO 45001:2018 standards.

SECTION 2 Review of Existing Data

2.1 Physical Setting & Current Site Use

The development site is roughly rectangular in shape and locates to the east of the town of Pontarddulais. The site centres on an approximate National Grid Reference of 261820, 203770, occupying a plan area of approximately 0.68 Hectares.

The site is currently occupied by the building which will become a care home for children operated by the client Priority Childcare.

Site boundaries are defined by an unnamed road to the southeast where the building is located, with hedgerows on the other three sides.

Key offsite features include a farm to the southeast, with farmland to the north and south. The town of Pontarddulais is located 1.5km to the west.

The site's elevation is approximately 110m AOD at the southeast, sloping down to 95m AOD in the northwest.

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

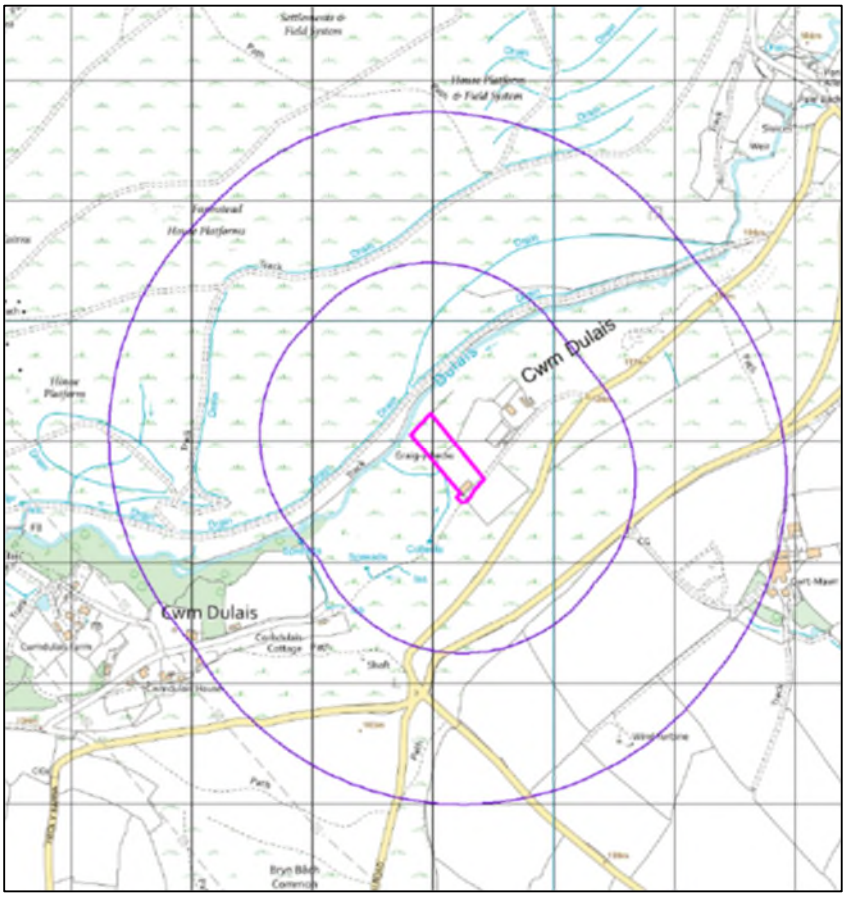

Figure 2.1 Site Location

2.2 Historical Setting

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
1876 1:2,500	A track runs northeast to southwest through the southeastern corner of the site. The remainder of the site is rough pasture.	The Birch Rock Tramway runs northeast to southwest 112m north of site, connecting to the Birch Rock Colliery 540m northeast. The Dulais River runs northeast to southwest 10m to the north of site.
1898 1:2,500	No significant changes.	No significant changes.
1921 1:10,560	No significant changes.	The tramway to the north is now named the Graig Merthyr Railway and has expanded.
1938 1:10:560	No significant changes.	No significant changes.
1952 1:10,560	A small building appears in the southeastern corner of the site. The site now has a boundary marked on the map.	Another building appears 56m to the northeast.
1959 1:2,500	There are now three buildings at the south of the site, and a pond located midway along the site's southwest boundary. The pond is fed by a small stream that crosses the site from the south, before flowing from the pond into the Dulais River to the west.	The railway to the north has multiple lines. There is now a building 102m northeast named Bryn Eglws.
1976 1:2,500	There is now only one larger building on site, named Graig-y-bedw. The remainder of the site is covered by bracken.	The building 56m northeast is no longer evident.
1989 1:2,500	No significant changes.	The railway to the north is no longer present.
1991 1:10,000	No significant changes.	The area where the railway was is now listed as "Opencast Workings".
2003 1:10,000	No significant changes.	The workings to the north/northeast are now listed as "disused".
2016 1:10,000	No significant changes.	There is now a track running in the former location of the railway.
2026 1:10,000	No significant changes.	No significant changes.

2.3 Geological Setting

2.3.1 Geological Mapping

The 1:50,000 and 1:10,560 scale British Geological Survey maps of the area, Sheet 230 and Sheet SN60SW respectively, and the online BGS GeoIndex map viewer were consulted for geology underlying the site.

Alluvium deposits underlie the northwestern boundary of the site, with Glacial Till underling the majority of the site with Glaciofluvial Deposits underling the southeastern corner.

Detailed stratigraphical information beneath the site is provided in **Table 2.2**.

Table 2.2 Detailed Stratigraphical Information

Age	Formation	Member	Description
Quaternary	-	-	Alluvium - a general term for clay, silt, sand and gravel. It is the unconsolidated detrital material deposited by a river, stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta, or as a cone or fan at the base of a mountain slope. Normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel. A stronger, desiccated surface zone may be present.
	-	-	Devensian Till - An unstratified, glacially deposited diamicton formed during the Devensian Stage (the last glacial period of the Quaternary, which peaked around 22,000 years ago). It is a heterogeneous, unsorted mixture of clay, silt, sand, gravel, and boulders
	-	-	Devensian Glaciofluvial Deposits - Sediments, primarily sand, gravel, and boulders laid down by meltwater rivers at the margins of ice sheets during the last major glaciation
Carboniferous	Pennant Sandstone Formation	Swansea Member	Green-grey, lithic arenites ('Pennant sandstones') with thin mudstone, siltstone and seatearth interbeds, and mainly thin coals.

A fault, trending north to south, is located 60m west of the site with the downthrow to the east.

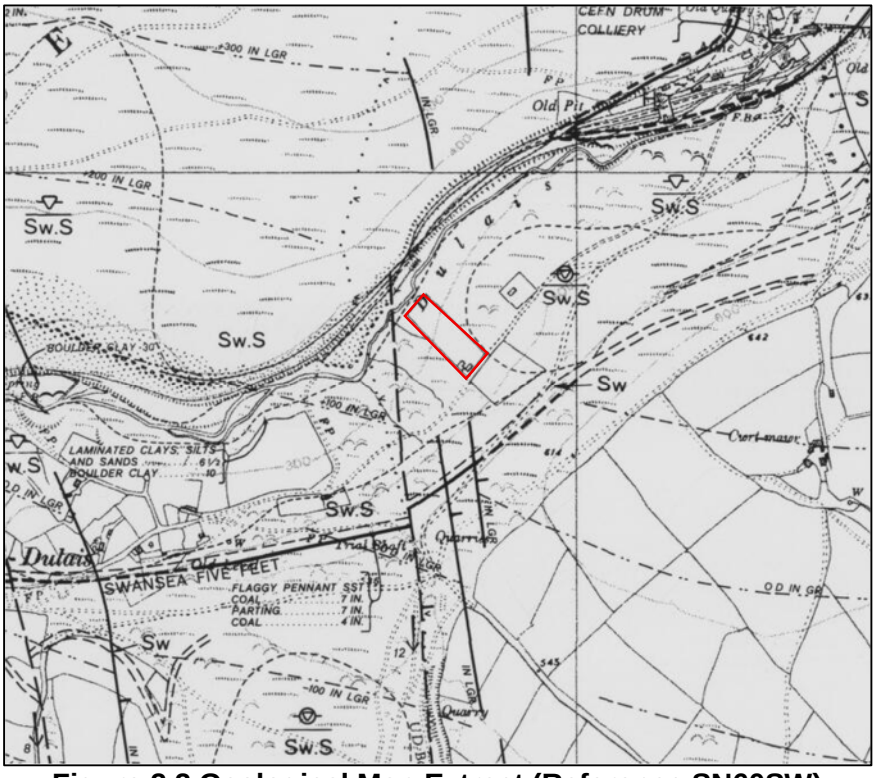

Figure 2.2 Geological Map Extract (Reference SN60SW)

Strata are typically dipping 12º to the south in the local area.

The Swansea Five Feet coal seam outcrops 100m south of the site.

There is a fault located 70m west of the site, trending north to south with the downthrow to the east.

There are no BGS borehole records or previous site investigations available in proximity of the site.

2.3.2 Mining & Mineral Sites

The site situates inside the South Wales Coal Field.

The Coal Authority online viewer indicates the site is located within a coal mining reporting area, but not within a development high risk area.

There are no relevant BGS mineral sites recorded by the Envirocheck report datasheets in proximity of the site (**Annex A**).

2.4 Natural Hazards

2.4.1 Geotechnical Risks

The following natural hazards have been considered for their potential geotechnical risk to the proposed development.

Table 2.3 Summary of Geotechnical Risks

Hazard	Hazard Potential	Details
Ground Dissolution / Karstic Features	No Hazard	The geology underlying the site comprises sandstone / mudstone rocks of Swansea Member which are not prone to dissolution features.
Collapsible Ground	No Hazard to Very Low Risk	The northwest boundary of the site has a very low chance of collapsible ground whilst the majority of the site reads as no hazard. This is due to the presence of both alluvium, till and glaciofluvial deposits across the site. In the northwest, the alluvium is likely to consist of relatively uniform silts, clays and fine sands that are naturally settled and lack a loose, open structure. Alluvium is not prone to sudden collapse. In the rest of the site, the glacial till and glaciofluvial deposits are generally dense and well compacted, with a mixed particle size that provides good internal stability. As neither deposit is loose, highly porous, or structure-sensitive, the conditions required for collapsible ground are not present. Whilst the site lies in coal mining reporting area, the site is not located within a High Risk Development Area.
Compressible Ground	No Hazard to Moderate Risk	The majority of the site has no hazard for compressible ground, while the northwest shows a moderate hazard. This reflects the distribution of superficial deposits across the site, with glacial till and glaciofluvial deposits present across the majority of the site and alluvium in the northwest. The alluvium is likely to comprise soft to firm silts and clays, which can be more compressible under loading, particularly where they are of variable thickness or contain finer-grained material. As a result, some settlement may occur if the ground is loaded. In contrast, the glacial till and

		glaciofluvial deposits are typically dense and well consolidated, with low compressibility and good load-bearing capacity.
Landslide	Very Low to Moderate	There are no landslides identified on the geological maps or recorded on the BGS geoindex in the local area. The topography in the local area slopes to the north, down to the Dulais River.
Running Sand	Very Low to Low Risk	The majority of the site shows a very low hazard for running sands, while the southeast shows a low hazard. This reflects the underlying superficial deposits, with glacial till and alluvium in the northwest. Glacial till is typically a dense, cohesive material containing a mixture of clay, silt, sand, and gravel, which limits the movement of water and prevents the conditions required for running sands to develop. In contrast, the alluvium in the northwest may contain layers of fine to medium sand. Where these sandy horizons are present and become water-bearing, there is a small potential for running conditions to occur during excavation. However, as these deposits are likely to be interbedded with finer-grained material and are not expected to be loose or laterally extensive, the overall hazard remains low.
Shrinking and Swelling Clays	No Hazard to Very Low Risk	The majority of the site shows a very low hazard for shrinking and swelling of clays with the east of the site showing no hazard. Although superficial deposits include glacial till and alluvium, neither is expected to contain significant volumes of highly plastic clay. The glacial till is typically a mixed deposit with a balanced particle size distribution, which limits its shrink–swell potential. Similarly, the alluvium is likely to comprise silts, fine sands, and low to moderate plasticity clays, which are not prone to significant volume change with variations in moisture content. As a result, the risk of ground movement due to shrink–swell behaviour is considered very low across the site.

2.4.2 Radon

The Envirocheck report (**Annex A**) details that basic radon protective measures are required for new developments constructed at ground level on the investigation site.

2.5 Environmental Setting

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

2.5.1 Hydrogeology

The Alluvium and Devensian Glaciofluvial Deposits which lie beneath the site northwest and southeast of the site respectively have an aquifer designation of secondary aquifer – A.

The Devensian Till which lie beneath the majority of the site have an aquifer designation of secondary aquifer – Undifferentiated.

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

Deeper groundwater flow within the underlying bedrock will be controlled by the strata dip and any fractures or bedding planes within the rock units. Given the mining setting of the area underground workings are also likely to be acting as conduits for groundwater flow.

The hydraulic gradient will be at its steepest during periods of heavy rainfall and aquifer recharge.
It is unlikely that the groundwater is in hydrological continuity with the nearby Dulais River due to the cohesive nature of the soil beneath the site, which will inhibit the flow of groundwater between site and river.

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

The nearest groundwater abstraction point is located 888m southwest, operated by Mrs L A Lucas, Mrs J.R Brock and L W H Brock. The water abstracted is for general farming and domestic use.

2.5.2 Hydrology

The nearest surface water feature locates on site and comprises a tributary which feeds into the Dulais River.

The topography of the site slopes down towards to the northwest. Surface water is likely to drain in this direction, towards the Dulais River.

2.5.3 Flooding

The recorded flood risks to the site are summarised in **Table 2.4**.

Table 2.4 Flood Risk Summary

Hazard	Risk
Extreme flooding from rivers and seas	No risk.
Groundwater flooding	Limited potential for groundwater flooding to occur.
Surface water flooding 1 in 30-year event	No risk.
Surface water flooding 1 in 100-year event	No risk.
Surface water flooding 1 in 1000-year event	No risk.

2.5.4 Waste

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

There are two discharge consents within influencing distance of the site, they are summarised in **Table 2.5**.

Table 2.5 Discharge Consents

Operator	Distance / Direction	Discharge Type	Status
Mr Andrew A R Allister	6m Southeast	Unspecified	Active
C Jones	128m Northeast	Unspecified	Expired

2.5.5 Infilled Land

There are no potentially infilled land features within 250m of the site.

2.5.6 Pollution

There are two pollution incidents recorded to have occurred within proximity of the site.

Table 2.6 Pollution Incidents

Date	Distance / Direction	Pollutant	Incident Severity
7th June 1995	149m North	Mud/clay/soil	Cat 2 Significant
7th June 1995	154m North	Coal solids	Cat 3 – Minor

2.5.7 Sensitive Land Use

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

There is an area of ancient woodland 950m east of the site.

2.5.8 Estimated Urban Soil Chemistry

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

2.5.9 Industrial Land Use

There are no relevant contemporary trade directory entries recorded in proximity of the site.

There are no recorded Control of Major Accident Hazards Sites (COMAH) and Notifications of Installations Handing Hazardous Substances (NIHHS) within 250m of the site.

SECTION 3 Sewage Treatment Tank

3.1 GRAF One2Clean Sewage Treatment Tank and Drainage Tunnel

A GRAF One2Clean sewage treatment tank is a compact, fully biological wastewater treatment system that works by cycling household sewage through three stages. In the first chamber, solids settle naturally while lighter materials float, creating a calm separation zone. The partially clarified water then moves into the aeration chamber, where a small, low-power air compressor feeds oxygen to specialised bacteria that break down organic pollutants. Finally, the treated water flows into the clarification chamber, where remaining particles settle out before the clean effluent is discharged.

A GRAF infiltration tunnel works by temporarily storing treated effluent in a lightweight, modular plastic chamber and then allowing it to soak naturally into the surrounding ground. Treated effluent enters the tunnel through a connected inlet pipe and fills the hollow internal void, where the large open volume provides rapid attenuation during peak flows. As the water level rises, it seeps out through the perforated sides and base of the tunnel into the surrounding gravel backfill, which disperses the flow evenly into the soil. The infiltration tunnel was installed at 1.80m depth below ground level and was12m in length. The tunnel was installed approximately 45m northwest of the Care Home.

A depiction of the combine tank and tunnel is shown in **Figure 3.1**.

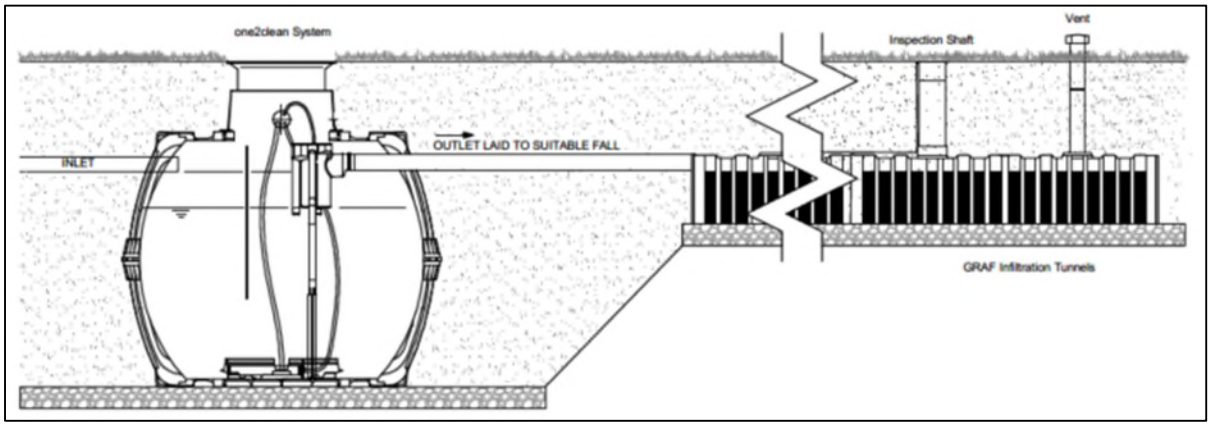

Figure 3.1 GRAF One2Clean Sewage Treatment Tank and Drainage Tunnel

The GRAF One2Clean Sewage Treatment Tank and Drainage Tunnel were commissioned by GRAF on 31 March 2026. A copy of the certificate is presented in **Annex C**.

SECTION 4 Ground Investigation

4.1 Site works

Three percolation tests were carried out on site by AR Drainage Solutions between 18th and 20th November 2025. Test pits were dug 300mm by 300mm to a depth of 1.00m. The percolation tests were carried out in general accordance with BS6297. The results from the tests are summarised in **Table 4.1** and presented in **Annex E**.

Table 4.1 Percolation Test Summary

Location	Time Taken to Drain From 75%-25%
Test Pit 1	420 seconds (7 minutes)
	420 seconds (7 minutes)
	840 seconds (14 minutes)
Test Pit 2	3600 seconds (60 minutes) to drop 375mm (37%)
	3600 seconds (60 minutes) to drop 375mm (37%)
	3600 seconds (60 minutes) to drop 375mm (37%)
Test Pit 3	1560 seconds (26 minutes)
	1800 seconds (30 minutes)
	1740 seconds (29 minutes)

GRAF UK Limited calculated a percolation value of 12sec/mm and an infiltration rate of 0.30m/hr.

The BS6297 states that drainage field disposal should only be used when percolation tests indicate average percolation vales of between 12 and 100sec/mm. This minimum value ensures that untreated effluent cannot percolate too rapidly into groundwater. Where the percolation value is outside these limits effective treatment is unlikely to take place in a drainage field. However, these guidelines are for untreated effluent, whereas the effluent being released into the drainage field on site will be treated by the GRAF – One2Clean. The percolation value of 12sec/mm calculated by GRAF UK Ltd complies with the BS6297 required percolation values.

4.2 Groundwater

Groundwater was not encountered during AR Drainage Solution's ground investigation. By extrapolating the level of the nearby Dulais River across to the location of the proposed sewage treatment tank, groundwater would be anticipated at a depth of approximately 25m. However, groundwater levels are anticipated to rise away from the Dulais River and may vary throughout the year due to recharge from rainfall and infiltration. Therefore, the depth to groundwater cannot be accurately determined at present.

4.3 Preliminary Ground Conditions

Due to the lack of ground investigation data and BGS boreholes in the local area, ground conditions beneath the site are unknown. However, based upon the low percolation results the shallow soils could be expected to have a significant clay content.

SECTION 5 Preliminary Environmental Risk Assessment

5.1 General

The preliminary environmental risk assessment is a qualitative evaluation of unacceptable risks to 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 1990, a contaminant linkage needs to be identified. Contaminant linkages are defined by having a valid 'source – pathway – receptor' as established in the preliminary conceptual site model.

For our definitions of contaminant linkages and how we define risk please refer to **Annex D** which includes our classifications of consequence and probability, and risk assessment matrix.

5.2 Potential Sources of Contamination

Effluent produced by the care home is a source of contamination. However, due to the process carried out by the GRAF sewage treatment tank, only treated effluent will be released into the soil. If the sewage treatment tank performs as it has been designed to, no credible pollutant source is released into the ground.

The treated effluent leaving the system has already undergone primary settlement, biological aeration, and final clarification, meaning the only potential source is a high-quality, low-strength effluent with significantly reduced biochemical oxygen demand, suspended solids, and pathogen levels. The treated effluent, which complies with EN 12566-3 performance standards, flows into an infiltration tunnel. The infiltration tunnel provides effective attenuation and filtration below ground level into the superficial deposits. The treated effluent is immediately subject to soil filtration, adsorption, and further aerobic biodegradation. This combination of engineered and natural treatment removes the characteristics typically required to form a viable contaminant source.

The potential contamination beneath the site, whether in the matrix of soil or any groundwater will be related to the sites past use. Because the site has only ever been occupied by a residential house, no other potential sources of contamination have been identified.

There are no sites within the local area that may have presented a potential source of contamination to the site.

5.3 Potential Pollution Pathways

The system design prevents any direct or rapid route to sensitive receptors. The effluent is released at low hydraulic loading rates, allowing it to percolate slowly through the unsaturated zone rather than moving laterally or vertically in concentrated flows. The drainage tunnel is approximately 100m from the Dulais River. The superficial deposits, Devensian Till, has a low permeability that attenuates any residual contaminants.

The depth to groundwater is unknown at this stage due to a lack of site investigation either on site or in the local area. It cannot therefore be stated with any certainty what the vertical separation between the infiltration tunnel and the groundwater is. The greater the vertical separation, the greater effects of filtration will be before the treated effluent reaches the groundwater.

5.4 Potential Receptors

There are hydrological receptors to any contamination that may be present on site. Potential receptors are summarised in **Table 5.1**.

Table 5.1 Contamination Receptor

ID	Receptor
R1	Groundwater (aquifer)
R2	Surface waters (river)
R3	Areas of Sensitive Land (SSSI's etc)

5.5 Preliminary Conceptual Site Model

The preliminary conceptual site model establishes potential contaminant linkages between contaminants (source), pathways and receptors, realised during the preparation of the Tier 1 assessment. Where a potential contaminant linkage is identified, an assessment of risk is subsequently undertaken. The preliminary conceptual site model is tabulated in **Table 5.2** and an illustrative conceptual site model in **Figure 5.1**.

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

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

5.5.1 Data Gaps & Uncertainties

Key data gaps and uncertainties identified in the conceptual site model at Tier 1 assessment stage include:

- there are no previous site investigations available for the site,
- the precise ground conditions below the site are unknown; and
- groundwater depth and flow direction are conceptual at this stage.

Table 5.2 Preliminary Conceptual Site Model

Source	Pathway	Receptor	Preliminary Risk Assessment		
			Consequence	Probability	Risk & Justification
Aquatic Environment					
Treated Effluent S1	Surface run-off P3	Surface waters (river) R2	**Mild**	**Unlikely**	**Near Zero Risk:** Treated effluent is released into the ground at 1.80m and will not be affected by surface run-off
Treated Effluent S1	Vertical migration of liquid contaminants (unsaturated zone) P1	Groundwater (aquifer) R1	**Mild**	**Low Likelihood**	**Low Risk:** Treated effluent should not contain significant concentrations of contaminants. The treated effluent is also slowly released into the soil where it is absorbed, filtered and naturally occurring aerobic bacteria then further break down any remaining organic material and pathogens.
Treated Effluent S1	Horizontal and vertical migration of contaminants (saturated zone) P2	Surface waters (river) R2	**Mild**	**Low Likelihood**	
		Groundwater (aquifer) R1	**Mild**	**Low Likelihood**	

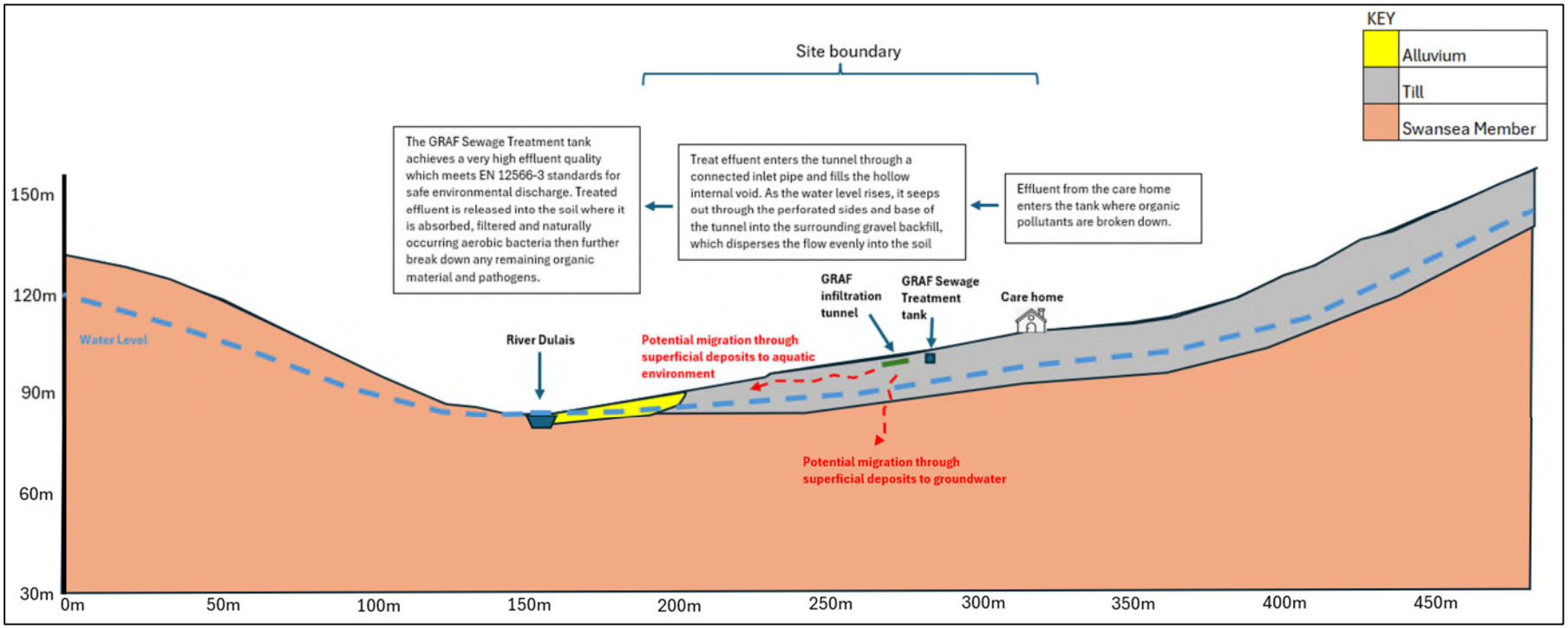

Figure 5.1 Illustrative Conceptual Site Mode

5.6 Conclusion

The Preliminary Groundwater Risk Assessment indicates that the overall risk to groundwater and the aquatic environment is very low, with no unacceptable pollutant linkages identified. The only potential contaminant source is the treated effluent from the GRAF One2Clean system which, based on its treatment process, the treated effluent contains only very low residual concentrations of coliforms and organic matter. The effluent is discharged at 1.80m below ground level, where it is slowly released into the soil which allows it to be absorbed, filtered, and where naturally occurring aerobic bacteria further break down any remaining organic material and pathogens. Provided the system continues to operate as designed there will be no contamination source from the sewage treatment tank. The annual servicing of the treatment tank will highlight any issues with its operation.

A GRAF One2Clean system must be serviced routinely, and the treated effluent should be sampled at regular intervals to confirm that the plant is operating correctly and consistently meeting its treatment standards. Scheduled servicing ensures that the air compressor, control unit, and biological treatment stages continue to function as designed, while periodic effluent sampling provides objective evidence that the system is achieving the required reductions in organic matter and pathogens. Together, these checks help identify any early signs of performance decline, prevent environmental non-compliance, and maintain the long-term reliability of the installation.

It should be noted that the reason for the sewage treatment tank is to upgrade the existing tank, which was found to be defective with a tree growing through it. The old tank allowed untreated effluent to seep into the surrounding ground before passing properly through the septic system. The installation of the new GRAF treatment tank and infiltration tunnel system will significantly improve the existing situation.

The underlying geology comprises predominantly Devensian Till overlying the Swansea Member bedrock, providing a thick, mixed, and relatively low-permeability stratum beneath the infiltration tunnel.

With reference to BS 6297-2007, in terms of protection of drinking water sources, a minimum 50m distance is required between the drainage field and any well, spring, borehole or other sources of water supply intended for human consumption. This is easily achieved given there are no abstraction points recorded within 888m, well beyond the zone of influence of the infiltration field. The site also does not lie within a Source Protection Zone.

The nearest surface water receptor is a tributary of the Dulais River located on site; however, surface run-off does not form a viable pathway, as the effluent is discharged below ground and is not exposed at the surface.

The main data gap in the preliminary groundwater risk assessment and preliminary conceptual site model is the depth to groundwater and bedrock. If the effluent being released by the system was untreated, these measurements could have a significant influence on the environmental impact to the aquatic environment. However, given the quality of the treated effluent being disposed of to the soil, it is considered that the risk to the low permeability aquifer is very low.

It is concluded that the risk to the aquatic environment by replacing the existing defective septic tank with a new sewage treatment tank is acceptable and that further assessment is not required.

ANNEX A
Envirocheck Report

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Envirocheck® Report:

Datasheet

Order Details:

Order Number:
402122936_1_1

Customer Reference:
26-260

National Grid Reference:
261820, 203770

Slice:
A

Site Area (Ha):
0.68

Search Buffer (m):
1000

Site Details:

Site at 261840, 203750

Client Details:

Mr M Lake
TFW Group Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

Prepared For:

CARDIFF
cf23 7ha

Landmark INFORMATION GROUP

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Contents

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	25
Hazardous Substances	-
Geological	27
Industrial Land Use	33
Sensitive Land Use	35
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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.

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		9
Prosecutions					
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 4	Yes			
Pollution Incidents to Controlled Waters	pg 4		2	1	3
Historical Prosecutions					
Registered Radioactive Substances					
Substantiated Pollution Incident Register					
Water Abstractions	pg 5				3 (*5)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 7	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 7	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 7	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 8		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 8		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS NGD Water Network Links	pg 10	1	21	35	68
Water Framework Directive - Catchment	pg 24	Yes	Yes		Yes
Water Framework Directive - Groundwater	pg 24	Yes			
Water Framework Directive - Surface Waters	pg 24		Yes		

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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					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 25	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 25			4	7
Potentially Infilled Land (Water)	pg 25			1	8
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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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 27	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 27	Yes		Yes	Yes
BGS Recorded Mineral Sites	pg 27			3	13
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 30	Yes	n/a	n/a	n/a
Mining Instability	pg 30	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 30	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 30	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 31	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 31	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 31	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 31	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures	pg 31	Yes	n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 33				1
Fuel Station Entries					
Points of Interest - Commercial Services					
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 33			6	6
Points of Interest - Public Infrastructure	pg 34				4
Points of Interest - Recreational and Environmental					
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 35				2
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (NW)	0	1	261825 203772
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	0	1	261800 203800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	54	1	261825 203900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	117	1	261850 203950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	268	1	261550 203650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	288	1	262000 204050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	364	1	262100 204050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	395	1	262100 204100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	434	1	262150 204100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (NE)	466	1	262150 204150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14NW (NE)	473	1	262200 204100
1	**Discharge Consents** Operator: Mr Andrew A R Allister Property Type: Domestic Property (Single) Location: Graig-Y-Bedw Cwmdulais Pontarddulai, Cwmdulais Pontarddulais Swansea Authority: Natural Resources Wales Catchment Area: Not Given Reference: BF0200201 Permit Version: 1 Effective Date: 14th June 1978 Issued Date: 14th June 1978 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge Environment: Into Land Receiving Water: To Land Nr. River Dulais **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	6	2	261870 203710
2	**Discharge Consents** Operator: Jones C Property Type: Undefined Or Other Location: Bryneglur Cwm Dulais Pontardulais Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bm0037701 Permit Version: 1 Effective Date: 8th June 1984 Issued Date: 8th June 1984 Revocation Date: 18th November 1992 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Underground Strata **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	128	2	261950 203860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Rees D R Property Type: Undefined Or Other Location: Pontardulais Banc Y Cwm Cwm Dulais. Authority: Natural Resources Wales Catchment Area: River Loughor Reference: Bp0018301 Permit Version: 1 Effective Date: 21st July 1986 Issued Date: 21st July 1986 Revocation Date: 11th July 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: To Land **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	510	2	261400 203450
4	**Discharge Consents** Operator: Price H S Property Type: Livestock Production, Food Production Location: Cwrt Mawr Felindre Swansea Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bk0328601 Permit Version: 2 Effective Date: 11th April 1994 Issued Date: 11th April 1994 Revocation Date: 24th March 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Land **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A14SW (E)	532	2	262400 203600
4	**Discharge Consents** Operator: Price H S Property Type: Livestock Production, Food Production Location: Cwrt Mawr Felindre Swansea Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bk0328601 Permit Version: 1 Effective Date: 6th December 1972 Issued Date: 6th December 1972 Revocation Date: 10th April 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Land **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14SW (E)	532	2	262400 203600
5	**Discharge Consents** Operator: Rostron B J (Regional Manager) Property Type: Undefined Or Other Location: Pontardulais Craig Merthyr Col Authority: Natural Resources Wales Catchment Area: River Loughor Reference: Bp0143701 Permit Version: 1 Effective Date: 31st August 1989 Issued Date: 31st August 1989 Revocation Date: 18th November 1992 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: River Dulais **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	614	2	262300 204200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Water Supply Grid Location: Twyn Felindre S.Res C/O Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0204001 Permit Version: 1 Effective Date: 2nd October 1989 Issued Date: 2nd October 1989 Revocation Date: 16th March 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: To Land **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	717	2	262600 203800
7	**Discharge Consents** Operator: Mr Richard G Bassett Property Type: Domestic Property (Single) Location: Pal Bach Felindre Swansea Authority: Natural Resources Wales Catchment Area: Not Given Reference: BE0070101 Permit Version: 1 Effective Date: 7th November 1972 Issued Date: 7th November 1972 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge Environment: Into Land Receiving Water: To Land Nr. River Dulais **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	856	2	262450 204400
8	**Discharge Consents** Operator: Mr Raymond Hirst Property Type: Domestic Property (Single) Location: Green Acres Cefn Drum Pontardulais, Cefn Drum Pontardulais Swansea Authority: Natural Resources Wales Catchment Area: Not Given Reference: BM0038501 Permit Version: 1 Effective Date: 8th June 1984 Issued Date: 8th June 1984 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge Environment: Land/Soakaway Receiving Water: Underground Strata **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A11SE (W)	966	2	260800 203750
9	**Discharge Consents** Operator: The Occupier Property Type: Undefined Or Other Location: Hengoed Felindre Swansea Authority: Natural Resources Wales Catchment Area: River Loughor Reference: Bp0059101 Permit Version: 1 Effective Date: 23rd September 1987 Issued Date: 23rd September 1987 Revocation Date: 16th September 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: To Land **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	976	2	262750 204190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: T J P Harper Property Type: Undefined Or Other Location: Ty Dorkin Cwmdulais Pontardulais Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bm0039101 Permit Version: 1 Effective Date: 20th June 1984 Issued Date: 20th June 1984 Revocation Date: 11th July 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Underground Strata **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A12SW (W)	982	2	260820 203540
	Nearest Surface Water Feature	A13SW (SW)	0	-	261816 203753
11	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: PONTARDULAIS Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Inadequate Design/Capacity Incident Date: 7th June 1995 Incident Reference: 24507 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Effluent Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	149	3	261800 203995
11	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Bridge In, The Main Street, PONTARDULAIS Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Inadequate Design/Capacity Incident Date: 7th June 1995 Incident Reference: 24507 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Effluent Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	154	3	261800 204000
12	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Agricultural: Silage Liquor Note: Natural Causes Incident Date: 13th June 1995 Incident Reference: 24558 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	A14NW (NE)	442	3	262200 204050
13	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Poor Operational Practise Incident Date: 7th June 1995 Incident Reference: 24531 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Effluent Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	548	3	262300 204095

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Pontarddulais Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Poor Operational Practise Incident Date: 7th June 1995 Incident Reference: 24531 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Effluent Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	551	3	262300 204100
14	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: PONTARDULAIS Authority: Environment Agency, Welsh Region Pollutant: Industrial Solid Waste Note: Not Supplied Incident Date: 11th March 1996 Incident Reference: 27597 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	A19NE (NE)	960	3	262500 204500
15	**Water Abstractions** Operator: Natural Resources Wales Licence Number: Wa/059/0002/010 Permit Version: Not Supplied Location: Not Supplied Authority: Natural Resources Wales Abstraction: Crown & Government: General Use relating to Secondary category - Low Loss - Low Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): 0 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	A19SW (NE)	853	2	262412 204437
16	**Water Abstractions** Operator: Mrs L A Lucas & Mrs J.R Brock & L W H Brock Licence Number: 22/59/4/0018 Permit Version: 100 Location: Well West Of Bryn Bach Uchaf Authority: Environment Agency, Welsh Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Well West Of Bryn Bach Uchaf Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st February 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	888	3	261300 203000
17	**Water Abstractions** Operator: Ewe Hoe Lee Licence Number: 22/59/2/0097 Permit Version: Not Supplied Location: Not Supplied Authority: Natural Resources Wales Abstraction: Impounding Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): 0 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	A19NW (NE)	946	2	262490 204490

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr & Mrs W Bell Licence Number: 22/59/4/0002 Permit Version: 100 Location: Well In Field No 1141 At Ysgiach Uchaf Authority: Environment Agency, Welsh Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Well In Field No 1141 At Ysgiach Uchaf Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st December 1965 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A15NW (E)	1173	3	263050 203880
	Water Abstractions Operator: Mr G Williams Licence Number: 22/59/2/0059 Permit Version: 100 Location: Spring At Gellygwm Uchaf Authority: Environment Agency, Welsh Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Spring At Gellygwm Uchaf Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th March 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A24NE (NE)	1685	3	262800 205200
	Water Abstractions Operator: Nacap Land & Marine Licence Number: 22/59/4/0091 Permit Version: 2 Location: Afon Lliw Authority: Environment Agency, Welsh Region Abstraction: Construction: Hydraulic Testing Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 28 March Authorised End: 31 October Permit Start Date: 25th May 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1803	3	262245 201940
	Water Abstractions Operator: Nacap Land & Marine Licence Number: 22/59/4/0091 Permit Version: 1 Location: Afon Lliw Authority: Environment Agency, Welsh Region Abstraction: Construction: Hydraulic Testing Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th March 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1803	3	262245 201940

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Nacap Land & Marine Licence Number: 22/59/4/0091 Permit Version: 1 Location: Afon Lliw Authority: Environment Agency, Welsh Region Abstraction: Construction: Hydraulic Testing Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 28 March Authorised End: 30 April Permit Start Date: 28th March 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1803	3	262245 201940
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13SW (NW)	0	2	261825 203772
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13NE (E)	0	2	261849 203777
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13NW (NW)	0	2	261780 203806
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (NW)	0	2	261825 203772
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (E)	0	2	261849 203777
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NW (NW)	0	2	261780 203806
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SW (NW)	0	2	261825 203772

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	5	2	261759 203806
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	5	2	261759 203808
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	10	2	261767 203828
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	11	2	261755 203800
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	11	2	261753 203812
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	12	2	261757 203820
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	17	2	261761 203832
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	23	2	261771 203852
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	27	2	261738 203801
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (N)	28	2	261787 203872
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	33	2	261777 203872
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	34	2	261733 203792
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	69	2	261714 203763
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	91	2	261690 203757
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	97	2	261841 203932
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	118	2	261669 203740

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	123	2	261866 203947
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	132	2	261661 203728
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	137	2	261870 203961
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	147	2	261886 203963
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	150	2	261882 203969
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	165	2	261651 203688
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	177	2	261638 203685
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	178	2	261914 203979
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	181	2	261638 203679
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	186	2	261922 203983
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	194	2	261930 203987
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	202	2	261930 203997
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	203	2	261938 203991
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	211	2	261946 203995
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	220	2	261954 203999
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	222	2	261598 203663

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	228	2	261962 204003
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	235	2	261582 203661
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	250	2	261570 203653
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
18	**OS NGD Water Network Links** Description: Still water Length: 12.021 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	0	4	261814 203752
19	**OS NGD Water Network Links** Description: Watercourse Length: 107.758 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	1	4	261814 203752
20	**OS NGD Water Network Links** Description: Watercourse Length: 114.868 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (S)	1	4	261821 203743
21	**OS NGD Water Network Links** Description: Watercourse Length: 568.285 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A13NW (NW)	10	4	261754 203814
22	**OS NGD Water Network Links** Description: Drain Length: 76.173 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13NW (NW)	45	4	261736 203846
23	**OS NGD Water Network Links** Description: Drain Length: 657.208 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13NW (NW)	49	4	261759 203875

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	**OS NGD Water Network Links** Description: Drain Length: 558.156 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13NW (NW)	49	4	261767 203885
25	**OS NGD Water Network Links** Description: Drain Length: 5.366 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13NW (NW)	49	4	261759 203875
26	**OS NGD Water Network Links** Description: Drain Length: 7.284 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13NW (NW)	49	4	261762 203879
27	**OS NGD Water Network Links** Description: Drain Length: 5.118 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13NW (W)	55	4	261709 203818
28	**OS NGD Water Network Links** Description: Drain Length: 233.002 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13NW (W)	59	4	261706 203814
29	**OS NGD Water Network Links** Description: Watercourse Length: 117.966 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A13SW (W)	61	4	261718 203772
30	**OS NGD Water Network Links** Description: Watercourse Length: 69.371 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	147	4	261745 203593
31	**OS NGD Water Network Links** Description: Marsh Length: 100.741 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	173	4	261645 203684
32	**OS NGD Water Network Links** Description: Watercourse Length: 38.108 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A13SW (SW)	173	4	261645 203684

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	**OS NGD Water Network Links** Description: Watercourse Length: 22.413 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	190	4	261689 203593
34	**OS NGD Water Network Links** Description: Watercourse Length: 4.308 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	191	4	261704 203573
35	**OS NGD Water Network Links** Description: Watercourse Length: 36.966 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 2	A13SW (SW)	205	4	261609 203676
36	**OS NGD Water Network Links** Description: Watercourse Length: 38.089 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A13SW (SW)	205	4	261609 203676
37	**OS NGD Water Network Links** Description: Watercourse Length: 6.533 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A13SW (SW)	240	4	261582 203655
38	**OS NGD Water Network Links** Description: Watercourse Length: 190.522 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A13SW (SW)	247	4	261576 203651
39	**OS NGD Water Network Links** Description: Marsh Length: 18.993 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	247	4	261576 203651
40	**OS NGD Water Network Links** Description: Watercourse Length: 149.182 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13SW (SW)	253	4	261583 203633
41	**OS NGD Water Network Links** Description: Drain Length: 4.984 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13SW (W)	277	4	261524 203673

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	**OS NGD Water Network Links** Description: Drain Length: 499.078 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A13NW (NW)	279	4	261673 204095
43	**OS NGD Water Network Links** Description: Drain Length: 141.534 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A13SW (W)	282	4	261519 203672
44	**OS NGD Water Network Links** Description: Drain Length: 6.548 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	321	4	261461 203706
45	**OS NGD Water Network Links** Description: Drain Length: 382.727 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	327	4	261454 203705
46	**OS NGD Water Network Links** Description: Drain Length: 7.178 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	327	4	261454 203705
47	**OS NGD Water Network Links** Description: Watercourse Length: 81.301 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	330	4	261454 203698
48	**OS NGD Water Network Links** Description: Drain Length: 69.647 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14NW (NE)	358	4	262179 203955
49	**OS NGD Water Network Links** Description: Drain Length: 11.789 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12NE (NW)	390	4	261457 204050
50	**OS NGD Water Network Links** Description: Watercourse Length: 19.105 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	401	4	261408 203628

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	**OS NGD Water Network Links** Description: Watercourse Length: 3.958 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	404	4	261376 203700
52	**OS NGD Water Network Links** Description: Drain Length: 90.304 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SE (W)	406	4	261365 203731
53	**OS NGD Water Network Links** Description: Watercourse Length: 110.95 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	407	4	261372 203701
54	**OS NGD Water Network Links** Description: Drain Length: 4.061 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SE (W)	407	4	261366 203729
55	**OS NGD Water Network Links** Description: Drain Length: 8.246 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	408	4	261900 204240
56	**OS NGD Water Network Links** Description: Drain Length: 164.29 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SE (W)	408	4	261365 203725
57	**OS NGD Water Network Links** Description: Drain Length: 247.176 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	414	4	261907 204245
58	**OS NGD Water Network Links** Description: Watercourse Length: 29.629 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	414	4	261402 203610
59	**OS NGD Water Network Links** Description: Drain Length: 16.396 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SE (W)	416	4	261381 203648

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	**OS NGD Water Network Links** Description: Watercourse Length: 41.859 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SE (SW)	428	4	261400 203585
61	**OS NGD Water Network Links** Description: Watercourse Length: 29.102 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 2	A12SE (SW)	428	4	261400 203585
62	**OS NGD Water Network Links** Description: Drain Length: 92.078 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SE (W)	430	4	261365 203651
63	**OS NGD Water Network Links** Description: Still water Length: 15.943 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A14NW (NE)	431	4	262173 204067
64	**OS NGD Water Network Links** Description: Watercourse Length: 6.519 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SE (W)	443	4	261373 203603
65	**OS NGD Water Network Links** Description: Watercourse Length: 299.271 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SE (W)	443	4	261373 203603
66	**OS NGD Water Network Links** Description: Watercourse Length: 97.616 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12NE (W)	444	4	261321 203841
67	**OS NGD Water Network Links** Description: Watercourse Length: 126.553 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A14NW (NE)	445	4	262188 204069
68	**OS NGD Water Network Links** Description: Watercourse Length: 17.71 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12NE (W)	452	4	261313 203800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**OS NGD Water Network Links** Description: Drain Length: 172.158 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12NE (W)	452	4	261313 203801
70	**OS NGD Water Network Links** Description: Watercourse Length: 3.22 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12NE (W)	458	4	261307 203784
71	**OS NGD Water Network Links** Description: Drain Length: 48.684 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	459	4	261901 204293
72	**OS NGD Water Network Links** Description: Watercourse Length: 105.894 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12NE (W)	460	4	261305 203782
73	**OS NGD Water Network Links** Description: Drain Length: 64.835 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	494	4	262323 203507
74	**OS NGD Water Network Links** Description: Drain Length: 240.56 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	498	4	261943 204322
75	**OS NGD Water Network Links** Description: Watercourse Length: 83.53 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	505	4	261277 203677
76	**OS NGD Water Network Links** Description: Drain Length: 117.803 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	511	4	261887 204349
77	**OS NGD Water Network Links** Description: Drain Length: 17.722 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A19SW (NE)	533	4	262261 204119

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	**OS NGD Water Network Links** Description: Drain Length: 13.869 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A19SW (NE)	550	4	262278 204126
79	**OS NGD Water Network Links** Description: Drain Length: 11.23 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	556	4	262380 203484
80	**OS NGD Water Network Links** Description: Drain Length: 3.214 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	559	4	261985 204372
81	**OS NGD Water Network Links** Description: Drain Length: 38.788 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	559	4	261986 204372
82	**OS NGD Water Network Links** Description: Watercourse Length: 48.784 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	559	4	261209 203741
83	**OS NGD Water Network Links** Description: Drain Length: 119.352 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	559	4	261209 203741
84	**OS NGD Water Network Links** Description: Watercourse Length: 255.352 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A19SW (NE)	562	4	262290 204130
85	**OS NGD Water Network Links** Description: Drain Length: 35.159 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	566	4	262391 203483
86	**OS NGD Water Network Links** Description: Drain Length: 131.71 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	568	4	261887 204407

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	**OS NGD Water Network Links** Description: Drain Length: 184.363 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	580	4	262026 204378
88	**OS NGD Water Network Links** Description: Watercourse Length: 75.22 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	580	4	261195 203695
89	**OS NGD Water Network Links** Description: Still water Length: 14.176 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	599	4	262426 203477
90	**OS NGD Water Network Links** Description: Drain Length: 204.389 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18SE (N)	607	4	262008 204415
91	**OS NGD Water Network Links** Description: Drain Length: 2.988 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	608	4	262438 203483
92	**OS NGD Water Network Links** Description: Drain Length: 11.798 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	610	4	262441 203485
93	**OS NGD Water Network Links** Description: Drain Length: 89.466 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18NE (N)	622	4	261890 204461
94	**OS NGD Water Network Links** Description: Drain Length: 6.739 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	622	4	262451 203479
95	**OS NGD Water Network Links** Description: Drain Length: 227.008 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	628	4	262457 203475

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	**OS NGD Water Network Links** Description: Watercourse Length: 11.076 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	653	4	261124 203686
97	**OS NGD Water Network Links** Description: Watercourse Length: 37.988 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	653	4	261124 203686
98	**OS NGD Water Network Links** Description: Watercourse Length: 191.901 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A14SW (SE)	662	4	262485 203457
99	**OS NGD Water Network Links** Description: Watercourse Length: 102.185 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SW (W)	667	4	261117 203651
100	**OS NGD Water Network Links** Description: Watercourse Length: 24.477 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	668	4	261145 203558
101	**OS NGD Water Network Links** Description: Still water Length: 13.651 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SE (W)	670	4	261155 203531
102	**OS NGD Water Network Links** Description: Watercourse Length: 4.985 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	682	4	261142 203532
103	**OS NGD Water Network Links** Description: Watercourse Length: 15.33 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	684	4	261138 203535
104	**OS NGD Water Network Links** Description: Drain Length: 3.272 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18NE (N)	690	4	261960 204517

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
105	**OS NGD Water Network Links** Description: Watercourse Length: 119.685 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	692	4	261125 203544
106	**OS NGD Water Network Links** Description: Drain Length: 199.703 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18NE (N)	693	4	261963 204519
107	**OS NGD Water Network Links** Description: Drain Length: 43.587 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18NE (N)	707	4	261917 204543
108	**OS NGD Water Network Links** Description: Drain Length: 2.916 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18NE (N)	748	4	261938 204581
109	**OS NGD Water Network Links** Description: Drain Length: 189.353 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A18NE (N)	750	4	261940 204583
110	**OS NGD Water Network Links** Description: Still water Length: 22.74 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A19SW (NE)	758	4	262383 204327
111	**OS NGD Water Network Links** Description: Watercourse Length: 52.666 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SW (W)	761	4	261034 203596
112	**OS NGD Water Network Links** Description: Watercourse Length: 3.194 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SW (W)	761	4	261034 203596
113	**OS NGD Water Network Links** Description: Watercourse Length: 57.314 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SW (W)	764	4	261031 203594

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
114	**OS NGD Water Network Links** Description: Still water Length: 14.037 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A19SW (NE)	776	4	262389 204349
115	**OS NGD Water Network Links** Description: Still water Length: 8.283 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19SW (NE)	776	4	262389 204349
116	**OS NGD Water Network Links** Description: Drain Length: 13.668 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19SW (NE)	784	4	262396 204351
117	**OS NGD Water Network Links** Description: Drain Length: 25.803 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19SW (NE)	786	4	262348 204407
118	**OS NGD Water Network Links** Description: Watercourse Length: 63.708 Physical Level: Underground Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A19SW (NE)	789	4	262394 204362
119	**OS NGD Water Network Links** Description: Drain Length: 38.562 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19SW (NE)	797	4	262410 204355
120	**OS NGD Water Network Links** Description: Still water Length: 7.132 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SW (W)	806	4	260995 203570
121	**OS NGD Water Network Links** Description: Watercourse Length: 6.512 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SW (W)	811	4	260991 203564
122	**OS NGD Water Network Links** Description: Drain Length: 71.283 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19SW (NE)	812	4	262348 204442

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
123	**OS NGD Water Network Links** Description: Watercourse Length: 22.97 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SW (W)	813	4	260993 203552
124	**OS NGD Water Network Links** Description: Drain Length: 8.877 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	813	4	260993 203552
125	**OS NGD Water Network Links** Description: Watercourse Length: 11.314 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SW (W)	816	4	260988 203559
126	**OS NGD Water Network Links** Description: Drain Length: 26.959 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	816	4	260988 203559
127	**OS NGD Water Network Links** Description: Watercourse Length: 16.833 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 2	A12SW (W)	824	4	260983 203549
128	**OS NGD Water Network Links** Description: Watercourse Length: 164.176 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SW (W)	833	4	260979 203534
129	**OS NGD Water Network Links** Description: Watercourse Length: 483.335 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A9NE (SE)	846	4	262628 203332
130	**OS NGD Water Network Links** Description: Watercourse Length: 11.459 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A19SW (NE)	848	4	262423 204418
131	**OS NGD Water Network Links** Description: Drain Length: 13.156 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19SW (NE)	852	4	262413 204434

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
132	**OS NGD Water Network Links** Description: Drain Length: 2.452 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19SW (NE)	858	4	262426 204430
133	**OS NGD Water Network Links** Description: Watercourse Length: 191.028 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A19SW (NE)	859	4	262428 204429
134	**OS NGD Water Network Links** Description: Watercourse Length: 114.888 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A12SW (W)	888	4	260915 203551
135	**OS NGD Water Network Links** Description: Watercourse Length: 29.541 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A3NW (S)	963	4	261759 202741
136	**OS NGD Water Network Links** Description: Watercourse Length: 255.62 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A11SE (W)	984	4	260801 203605
137	**OS NGD Water Network Links** Description: Still water Length: 37.283 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A3NW (S)	990	4	261764 202713
138	**OS NGD Water Network Links** Description: Watercourse Length: 68.682 Physical Level: Surface level Permanence: Permanent Feature Name: Dulais Catchment Name: Loughor Primacy: 1	A12SW (W)	992	4	260822 203501
139	**OS NGD Water Network Links** Description: Drain Length: 77.127 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A9NE (SE)	994	4	262763 203269
140	**OS NGD Water Network Links** Description: Watercourse Length: 70.692 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19NW (NE)	995	4	262421 204622

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	**OS NGD Water Network Links** Description: Watercourse Length: 2.915 Physical Level: Underground Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19NW (NE)	995	4	262421 204622
142	**OS NGD Water Network Links** Description: Watercourse Length: 141.651 Physical Level: Surface level Permanence: Permanent Feature Name: Not Supplied Catchment Name: Loughor Primacy: 1	A19NW (NE)	998	4	262424 204623
	Water Framework Directive - Catchment Class Code: River Catchment WaterBody Name: Dulais - headwaters to confluence with Loughor WaterBody ID: GB110059032080 Operational Catchment: Loughor Management Catchment: Carmarthen Bay and the Gower Catchment Name: Not Supplied	A13SW (NW)	0	2	261825 203772
	Water Framework Directive - Catchment Class Code: River Catchment WaterBody Name: Lliw - headwaters to confluence with Llan WaterBody ID: GB110059032100 Operational Catchment: Loughor Management Catchment: Carmarthen Bay and the Gower Catchment Name: Not Supplied	A13SE (SE)	240	2	261950 203480
	Water Framework Directive - Catchment Class Code: River Catchment WaterBody Name: Loughor - confluence with Aman to tidal limit WaterBody ID: GB110059032310 Operational Catchment: Loughor Management Catchment: Carmarthen Bay and the Gower Catchment Name: Not Supplied	A18NW (N)	762	2	261560 204570
	Water Framework Directive - Groundwater Waterbody Name: Carmarthen Carboniferous Coal Measures Waterbody ID: GB41002G200600 URL Address: Not Available Overall Rating: Poor Chemical Rating: Poor Quantitative Measure: Good Year: 2023	A13SW (NW)	0	2	261825 203772
	Water Framework Directive - Surface Waters Class Code: River Waterbody Name: Dulais - headwaters to confluence with Loughor Waterbody ID: GB110059032080 URL Address: Not Supplied Overall Rating: Not Supplied Chemical Rating: High Classification Year: 2024	A13NW (NW)	10	2	261753 203812

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: City and County of Swansea - Has no landfill data to supply		0	5	261825 203772
143	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A8NW (S)	292	-	261763 203420
144	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A13SW (S)	304	-	261690 203439
145	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A8NW (S)	345	-	261777 203361
146	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A8NW (S)	447	-	261806 203254
147	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A7NE (SW)	515	-	261439 203384
148	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A7NE (SW)	521	-	261452 203359
149	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A19SW (NE)	592	-	262320 204140
150	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A8SW (S)	618	-	261803 203083
151	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A8SW (S)	772	-	261756 202933
152	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1988	A19NW (NE)	800	-	262288 204478
153	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1991	A9NE (SE)	964	-	262682 203193
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A14SW (SE)	486	-	262324 203528
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14SW (SE)	596	-	262426 203486
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7NE (SW)	700	-	261357 203199
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A19SW (NE)	836	-	262485 204325
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8SW (S)	867	-	261776 202835
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	884	-	261378 202951

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
160	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A7SE (SW)	922	-	261385 202902
161	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1883	A9SW (SE)	954	-	262406 202922
162	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	991	-	261378 202827

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: South Wales Upper Coal Measures Formation	A13SW (NW)	0	1	261825 203772
	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 (NW)	0	1	261825 203772
	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 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NW (E)	398	1	262264 203863
	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 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SW (NE)	634	1	262251 204288
	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 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SE (E)	659	1	262500 203500
	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 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SE (NE)	914	1	262555 204362
163	**BGS Recorded Mineral Sites** Site Name: Bryn Bach Quarries Location: Bryn Bach Common, Pontarddulais, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 66941 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NW (S)	311	1	261735 203410

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	**BGS Recorded Mineral Sites** Site Name: Cwrl-Mawr Location: Pontarddulais, Ammanford, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151501 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A8NW (S)	319	1	261682 203427
165	**BGS Recorded Mineral Sites** Site Name: Cefn'Drum Colliery Location: Pontarddulais, Ammanford, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151481 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	356	1	262043 204104
166	**BGS Recorded Mineral Sites** Site Name: Birch Rock Location: Pontarddulais, Ammanford, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151479 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)	501	1	262177 204172
167	**BGS Recorded Mineral Sites** Site Name: Cwm Dulais Location: Cwm-Dulais, Pontarddulais, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 66939 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	520	1	261435 203380
168	**BGS Recorded Mineral Sites** Site Name: Bryn Bach Quarry Location: Bryn Bach Common, Pontarddulais, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 66940 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NW (S)	533	1	261785 203170
169	**BGS Recorded Mineral Sites** Site Name: Cefn Drum Colliery Location: Pontarddulais, Gorseinon, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 188692 Type: Underground **Status: Ceased** Operator: Ncb South Wales Area Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	613	1	262291 204210

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
169	**BGS Recorded Mineral Sites** Site Name: Craig Y Bedw Location: Pontarddulais, Swansea, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151494 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)	636	1	262292 204246
170	**BGS Recorded Mineral Sites** Site Name: Graig Merthyr Colliery Location: Pontarddulais, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 4349 Type: Underground **Status: Ceased** Operator: Graig Merthyr Colliery Ltd. Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	678	1	262370 204215
171	**BGS Recorded Mineral Sites** Site Name: Pant-Y-Ffa Location: Bryn Bach Common, Pontarddulais, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 66942 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	690	1	261835 203010
172	**BGS Recorded Mineral Sites** Site Name: Pant-Y-Ffa Location: Bryn Bach Common, Pontarddulais, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 66943 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8SW (S)	690	1	261764 203015
173	**BGS Recorded Mineral Sites** Site Name: Craig Y Bedw Location: Pontarddulais, Ammanford, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151495 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	691	1	262420 204174
174	**BGS Recorded Mineral Sites** Site Name: Pant-Y-Ffa Location: Bryn Bach Common, Pontarddulais, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 66944 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8SW (S)	776	1	261750 202930

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
175	**BGS Recorded Mineral Sites** Site Name: Birch Rock Colliery Location: Pontarddulais, Ammanford, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151480 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	A19NW (NE)	825	1	262329 204477
176	**BGS Recorded Mineral Sites** Site Name: Allt-Y-Cando Location: Pontarddulais, Ammanford, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151478 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	A19NW (NE)	897	1	262317 204577
177	**BGS Recorded Mineral Sites** Site Name: Ffynnon-Fedw Location: Pontarddulais, Ammanford, Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 151505 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Swansea Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	954	1	262669 203193
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SW (NW)	0	6	261825 203772
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (NW)	0	-	261825 203772
	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	A13SW (NW)	0	1	261825 203772
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	261780 203806
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	261825 203772
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	261780 203806
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	261825 203772

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	261849 203777
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	261770 203800
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	261825 203772
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	261834 203770
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	9	1	261763 203823
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	59	1	261712 203780
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	130	1	261925 203895
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	183	1	261608 203715
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	190	1	261910 203999
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	218	1	261949 204002
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	240	1	261576 203662
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	261825 203772
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	261780 203806
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	35	1	261749 203845
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	67	1	261894 203646
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	261849 203777
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	261825 203772
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (5 to 10% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	1	261800 203775
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	261825 203772
	Radon Potential - Radon Protection Measures Protection Measure: Basic radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	1	261800 203775

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	261825 203772

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
178	**Contemporary Trade Directory Entries** Name: Aur Y Ddraig Ltd Location: TY-DORKIN, PONTARDDULAIS, SWANSEA, SA4 8NP Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	914	-	260890 203544
179	**Points of Interest - Manufacturing and Production** Name: Trial Shaft Location: SA4 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	313	7	261691 203428
179	**Points of Interest - Manufacturing and Production** Name: Trial Shaft Location: SA4 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	317	7	261688 203426
180	**Points of Interest - Manufacturing and Production** Name: Wind Turbine Location: SA5 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	489	7	262132 203297
180	**Points of Interest - Manufacturing and Production** Name: Cwrt Mawr Turbine Location: SA5 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to address or location	A8NE (SE)	489	7	262132 203297
180	**Points of Interest - Manufacturing and Production** Name: Cwrt Mawr Location: Pontarddulais, SA5 7PN Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	489	7	262132 203297
181	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: SA5 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A19SW (NE)	499	7	262165 204183
182	**Points of Interest - Manufacturing and Production** Name: Chuckle Chick Poultry Location: SA4 Category: Farming Class Code: Poultry Farming, Equipment and Supplies Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	601	7	261251 203497
183	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: SA5 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A19SW (NE)	646	7	262291 204262
184	**Points of Interest - Manufacturing and Production** Name: E C B Rees Location: Pantyffa Farm, Pontlliw, Swansea, SA4 9HE Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A8SW (S)	855	7	261820 202845
185	**Points of Interest - Manufacturing and Production** Name: Tank Location: SA4 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	867	7	261424 202943
186	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: SA4 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A17NW (NW)	998	7	261019 204474

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
186	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: SA4 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A17NW (NW)	999	7	261050 204509
187	**Points of Interest - Public Infrastructure** Name: Weir Location: SA5 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	703	7	262354 204276
187	**Points of Interest - Public Infrastructure** Name: Weir Location: SA5 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	709	7	262359 204279
187	**Points of Interest - Public Infrastructure** Name: Sluices Location: SA5 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	747	7	262366 204330
187	**Points of Interest - Public Infrastructure** Name: Weir Location: SA5 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	756	7	262362 204349

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
188	**Ancient Woodland** Name: Not Supplied Reference: 874 Area(mÂ²): 7156.6 Type: Ancient and Semi-Natural Woodland	A14SE (E)	950	2	262814 203534
189	**Ancient Woodland** Name: Not Supplied Reference: 889 Area(mÂ²): 10652.98 Type: Ancient and Semi-Natural Woodland	A14SE (E)	950	2	262819 203562

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Natural Resources Wales	November 2023	Annually
Carmarthenshire County Council - Environmental Health Department	September 2017	Annual Rolling Update
City and County of Swansea - Environmental Health Department	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - Welsh Region	August 2014	Quarterly
Natural Resources Wales	February 2026	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Welsh Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Welsh Region	January 2009	
Integrated Pollution Prevention And Control		
Natural Resources Wales	February 2026	Quarterly
Environment Agency - Welsh Region	July 2024	Bi-Annually
Local Authority Integrated Pollution Prevention And Control		
Swansea Bay Port Health Authority	April 2014	Variable
City and County of Swansea - Environmental Health Department	December 2020	Variable
Carmarthenshire County Council - Environmental Health Department	March 2015	Variable
Local Authority Pollution Prevention and Controls		
Swansea Bay Port Health Authority	April 2014	Annually
City and County of Swansea - Environmental Health Department	December 2020	Annual Rolling Update
Carmarthenshire County Council - Environmental Health Department	March 2015	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
Carmarthenshire County Council - Environmental Health Department	March 2015	Variable
Nearest Surface Water Feature		
Ordnance Survey	March 2026	
Pollution Incidents to Controlled Waters		
Environment Agency - Welsh Region	December 1998	
Historical Prosecutions		
Environment Agency, Welsh Region	March 2013	Not Applicable
Natural Resources Wales	March 2013	Not Applicable
Registered Radioactive Substances		
Natural Resources Wales	January 2015	
Environment Agency - Welsh Region	June 2016	
Substantiated Pollution Incident Register		
Natural Resources Wales	February 2026	Quarterly
Environment Agency Wales - South West Area	January 2021	Quarterly
Water Abstractions		
Environment Agency - Welsh Region	April 2026	Quarterly
Natural Resources Wales	February 2026	Quarterly
Water Industry Act Referrals		
Environment Agency - Welsh Region	October 2017	
Natural Resources Wales	October 2022	
Groundwater Vulnerability Map		
Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations		
Natural Resources Wales	January 2018	As notified
Superficial Aquifer Designations		
Natural Resources Wales	January 2018	As notified

Agency & Hydrological	Version	Update Cycle
Source Protection Zones Natural Resources Wales	July 2022	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	
Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	
Areas Benefiting from Flood Defences Natural Resources Wales	November 2019	Quarterly
Flood Water Storage Areas Natural Resources Wales	June 2025	Quarterly
Flood Defences Natural Resources Wales	November 2019	
OS NGD Water Network Links Ordnance Survey	April 2026	Quarterly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water Suitability Natural Resources Wales	February 2016	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified
Water Framework Directive - Catchment Natural Resources Wales	July 2025	Annually
Water Framework Directive - Groundwater Natural Resources Wales	July 2025	Annually
Water Framework Directive - Surface Waters Natural Resources Wales	January 2026	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Natural Resources Wales	March 2023	
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Welsh Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Natural Resources Wales	August 2024	Quarterly
Environment Agency Wales - South West Area	January 2023	Quarterly
Licensed Waste Management Facilities (Locations)		
Natural Resources Wales	February 2026	Quarterly
Environment Agency Wales - South West Area	July 2024	Bi-Annually
Local Authority Landfill Coverage		
Carmarthenshire County Council	February 2003	Not Applicable
City and County of Swansea - Environmental Health Department	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Carmarthenshire County Council	October 2018	
City and County of Swansea - Environmental Health Department	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency Wales - South West Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency Wales - South West Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency Wales - South West Area	June 2015	
Hazardous Substances	**Version**	**Update Cycle**
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	March 2026	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Carmarthenshire County Council - Area Planning Office (East Area)	August 2023	Variable
Carmarthenshire County Council - Area Planning Office (South Area)	August 2023	Variable
Carmarthenshire County Council - Environment Department (West Area)	August 2023	Variable
City and County of Swansea - Planning Department	June 2023	Variable
Planning Hazardous Substance Consents		
Carmarthenshire County Council - Area Planning Office (East Area)	August 2023	Variable
Carmarthenshire County Council - Area Planning Office (South Area)	August 2023	Variable
Carmarthenshire County Council - Environment Department (West Area)	July 2022	Variable
City and County of Swansea - Planning Department	October 2022	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	February 2026	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	February 2023	
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	November 2025	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	November 2025	Annually
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	December 2025	Quarterly
Fuel Station Entries Green Street Advisor (UK) Ltd	February 2026	Quarterly
Points of Interest - Commercial Services PointX	March 2026	Quarterly
Points of Interest - Education and Health PointX	March 2026	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2026	Quarterly
Points of Interest - Public Infrastructure PointX	March 2026	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2026	Quarterly
Underground Electrical Cables National Grid	January 2024	

Data Currency

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural Resources Wales	March 2026	Bi-Annually
Areas of Adopted Green Belt		
Carmarthenshire County Council	March 2026	Quarterly
City and County of Swansea	March 2026	Quarterly
Areas of Unadopted Green Belt		
Carmarthenshire County Council	March 2026	Quarterly
City and County of Swansea	March 2026	Quarterly
Areas of Outstanding Natural Beauty		
Natural Resources Wales	April 2026	Bi-Annually
Environmentally Sensitive Areas		
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks		
Forestry Commission	May 2023	Not Applicable
Local Nature Reserves		
Carmarthenshire County Council	January 2026	Bi-Annually
City and County of Swansea	January 2026	Bi-Annually
Marine Nature Reserves		
Natural Resources Wales	February 2026	Bi-Annually
National Nature Reserves		
Natural Resources Wales	January 2026	Bi-Annually
National Parks		
Natural Resources Wales	October 2025	Annually
Nitrate Vulnerable Zones		
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	April 2016	
Natural Resources Wales	February 2026	Annually
Ramsar Sites		
Natural Resources Wales	February 2026	Bi-Annually
Sites of Special Scientific Interest		
Natural Resources Wales	November 2025	Bi-Annually
Special Areas of Conservation		
Natural Resources Wales	January 2026	Bi-Annually
Special Protection Areas		
Natural Resources Wales	May 2026	Bi-Annually

Data Suppliers

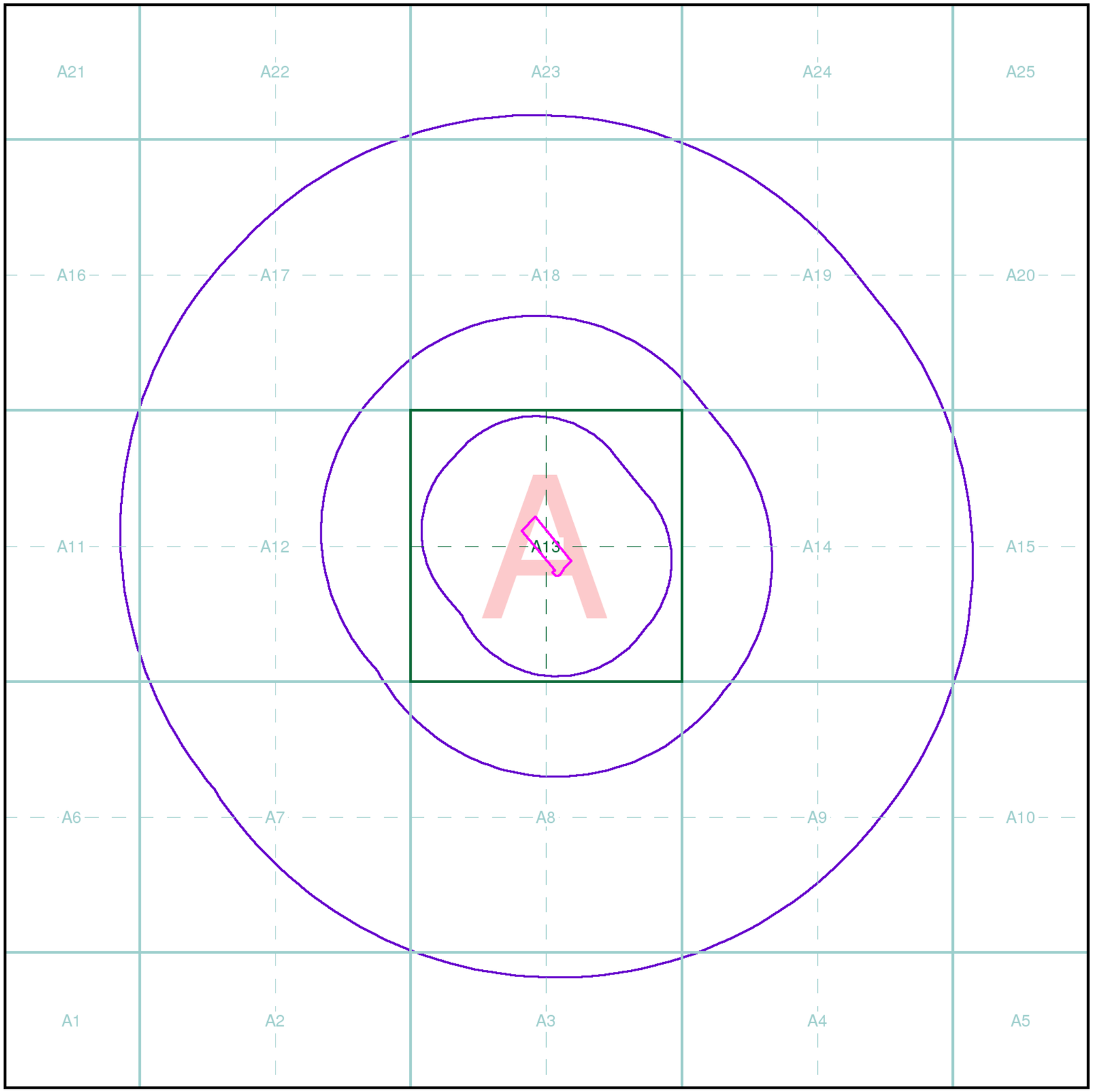
A selection of organisations who provide data within this report

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

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	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.co.uk
5	**City and County of Swansea - Environmental Health Department** The Guildhall, Swansea, West Glamorgan, SA1 4PE	Telephone: 01792 636000 extn 5651 Fax: 01792 635719
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** 5-6 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Landmark Information Group, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0330 036 6618 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

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



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Index Map

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

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

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

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

A selection of organisations who provide data within this report:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Cyfoeth Naturiol Cymru
Natural Resources Wales

Envirocheck reports are compiled from 136 different sources of data.

Prepared For
CARDIFF
cf23 7ha

Client Details
Mr M Lake, TFW Group Ltd, 5 Deryn Court, Wharfdale Road, Pentwyn, Cardiff, CF23 7HB

Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261830, 203770
Site Area (Ha):	0.68
Search Buffer (m):	1000

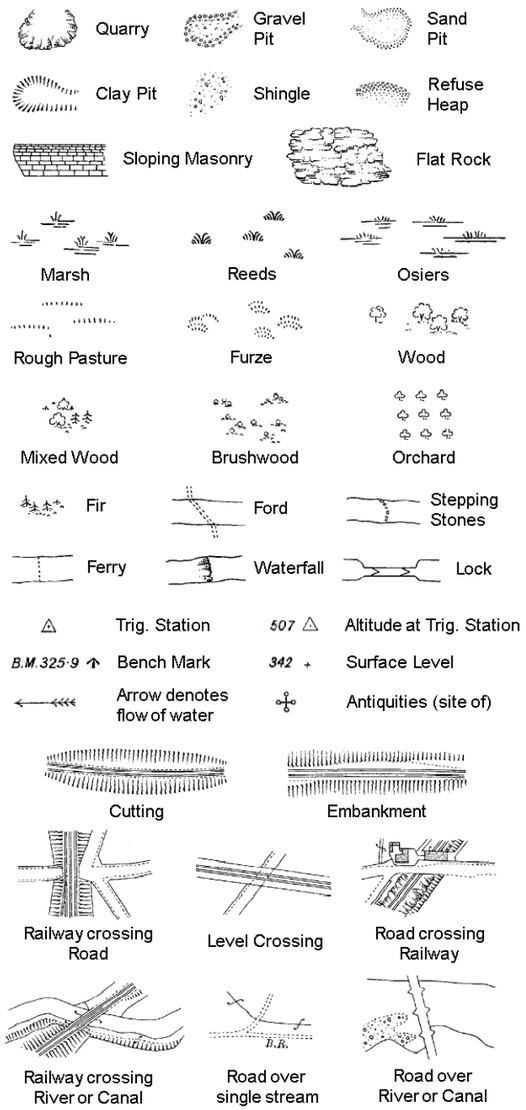
Site Details
Site at 261840, 203750

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

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

Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

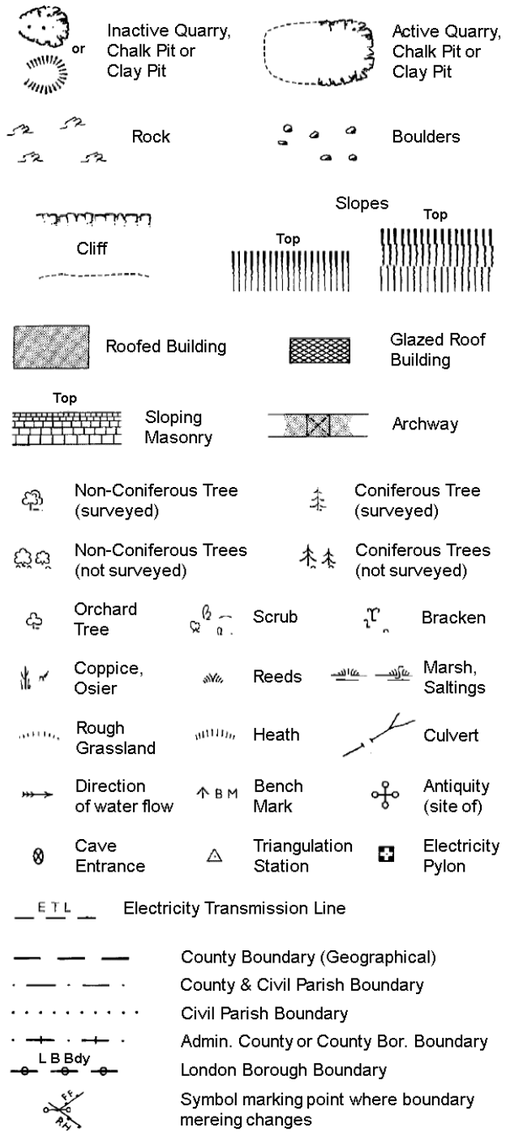
Administrative County & Civil Parish Boundary

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

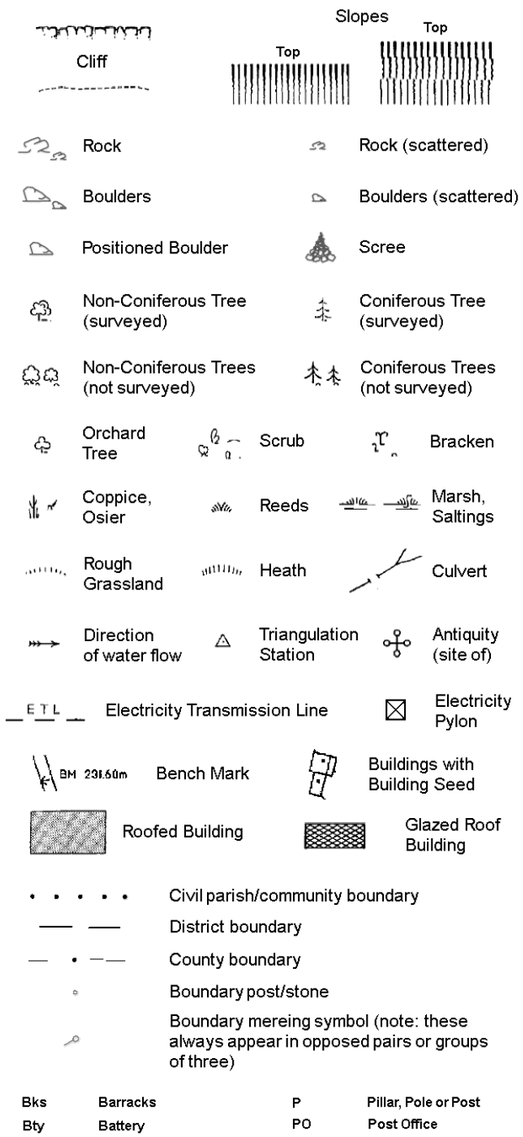
Admin. County or County Bor. Boundary

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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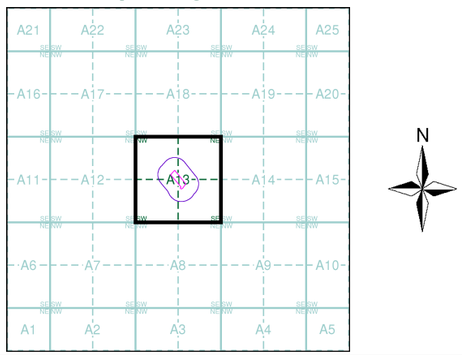
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1876	2
Glamorganshire	1:2,500	1898	3
Glamorganshire	1:2,500	1916 - 1918	4
Ordnance Survey Plan	1:2,500	1959	5
Ordnance Survey Plan	1:2,500	1976	6
Additional SIMs	1:2,500	1976 - 1990	7
Additional SIMs	1:2,500	1989	8
Large-Scale National Grid Data	1:2,500	1993	9
Historical Aerial Photography	1:2,500	2000	10

Historical Map - Segment A13



Order Details

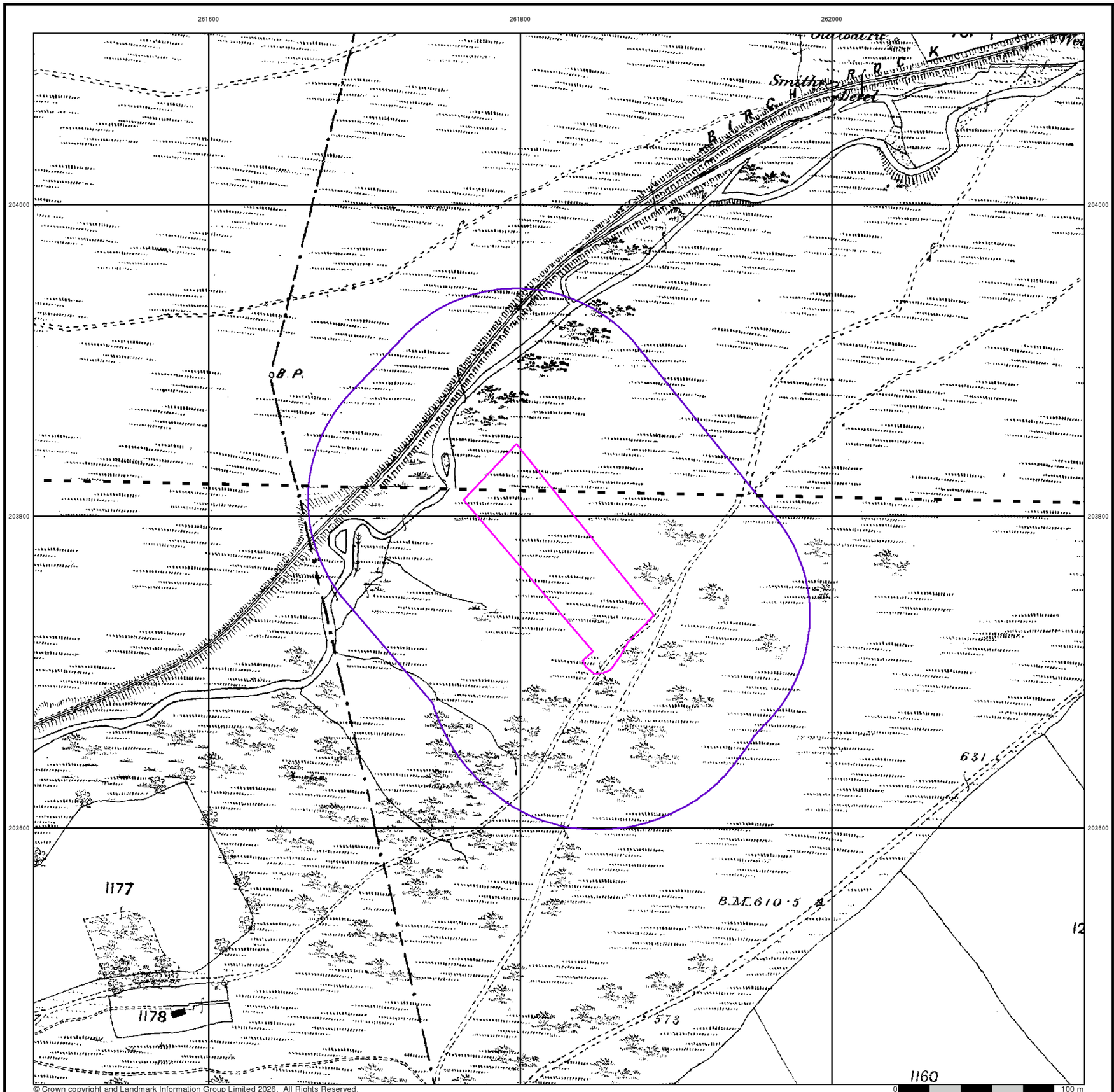
Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

Landmark INFORMATION GROUP

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



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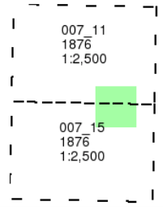
Glamorganshire

Published 1876

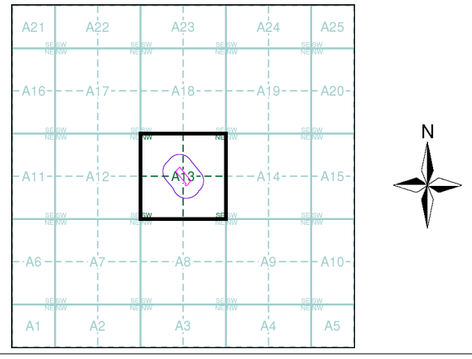
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



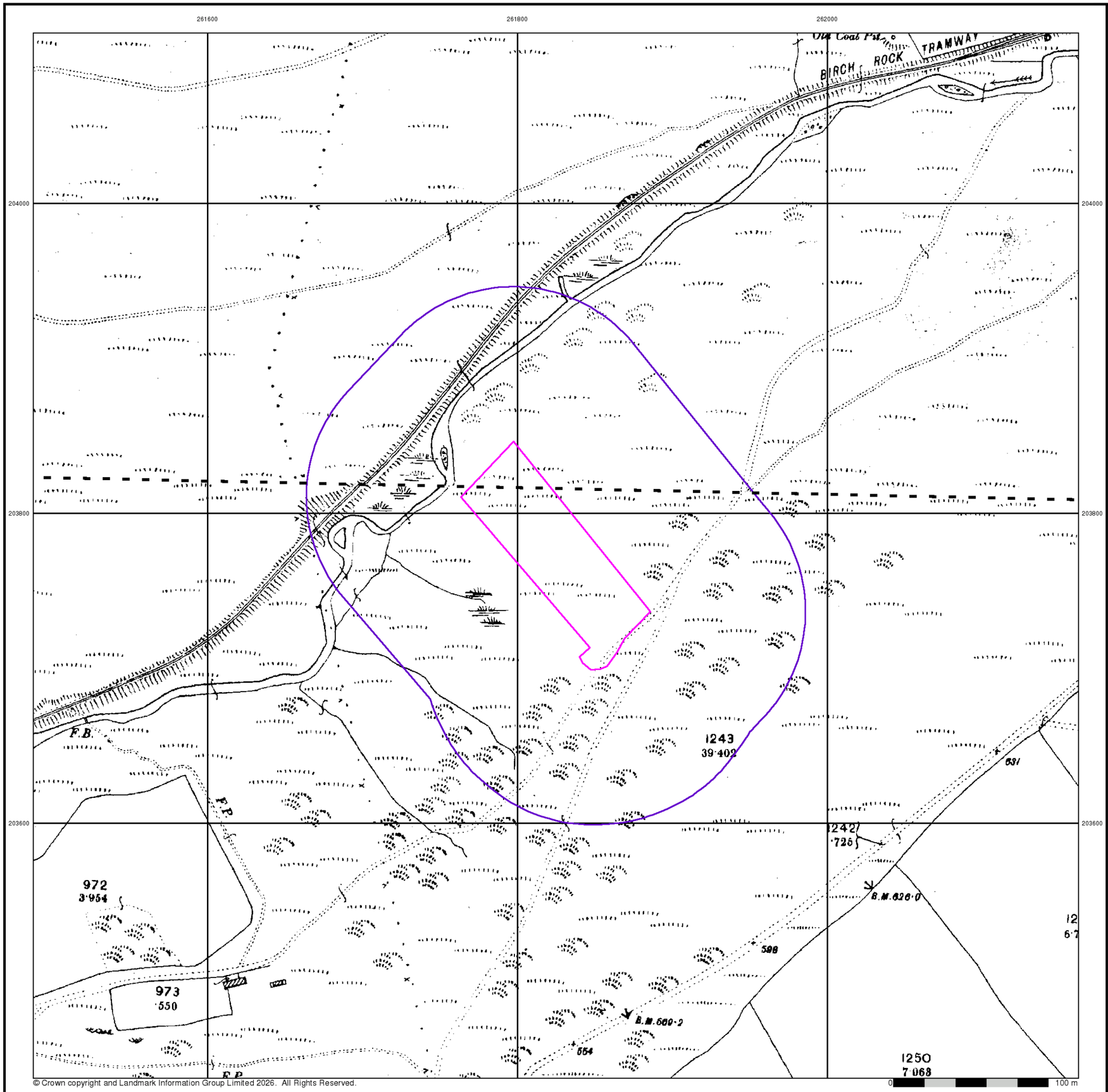
Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

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



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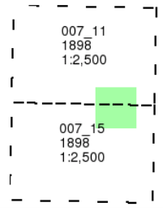
Glamorganshire

Published 1898

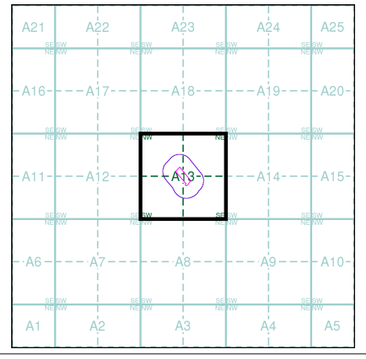
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

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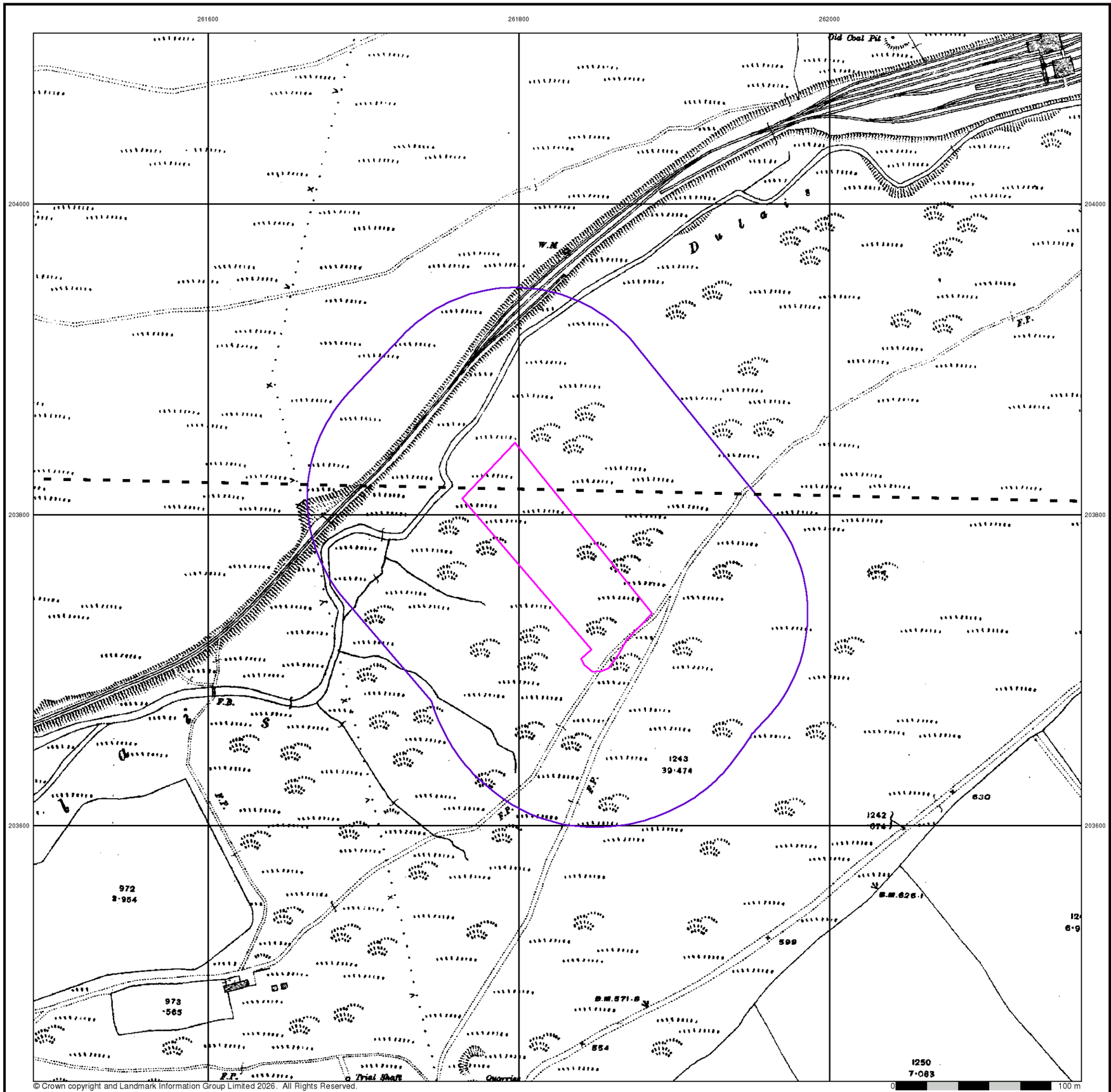
Web: www.envirocheck.co.uk



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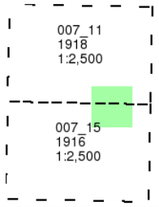
Glamorganshire

Published 1916 - 1918

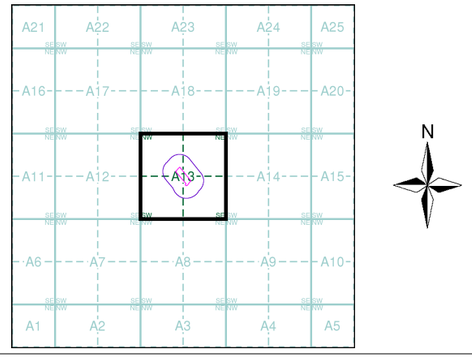
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

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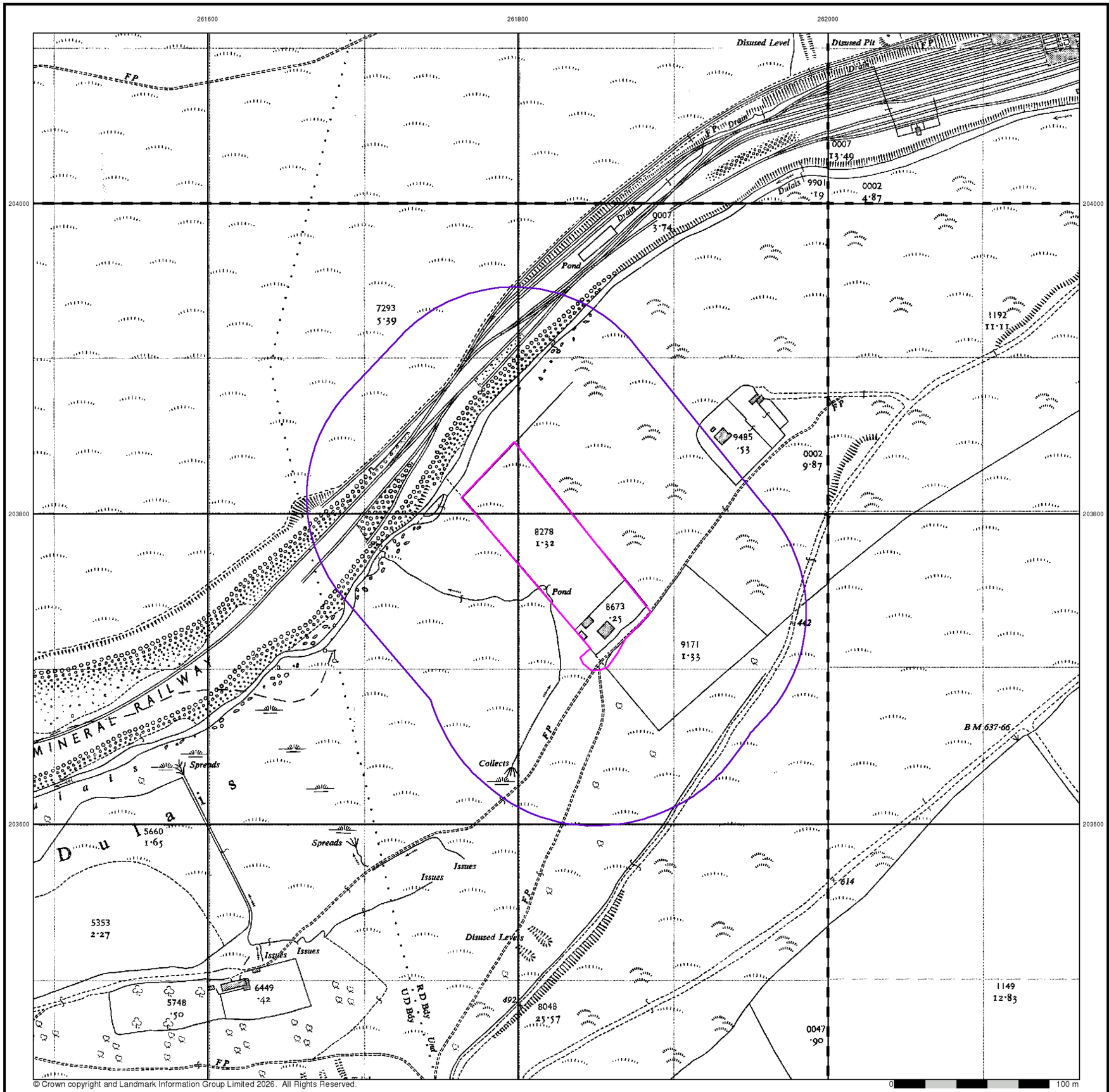

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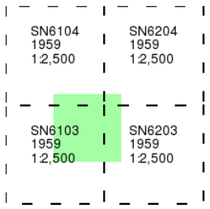
Ordnance Survey Plan

Published 1959

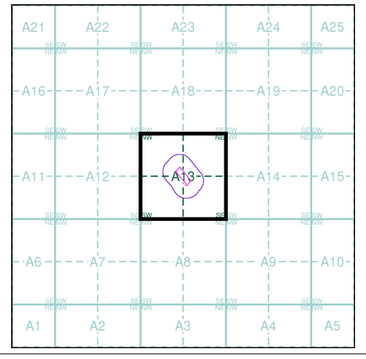
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

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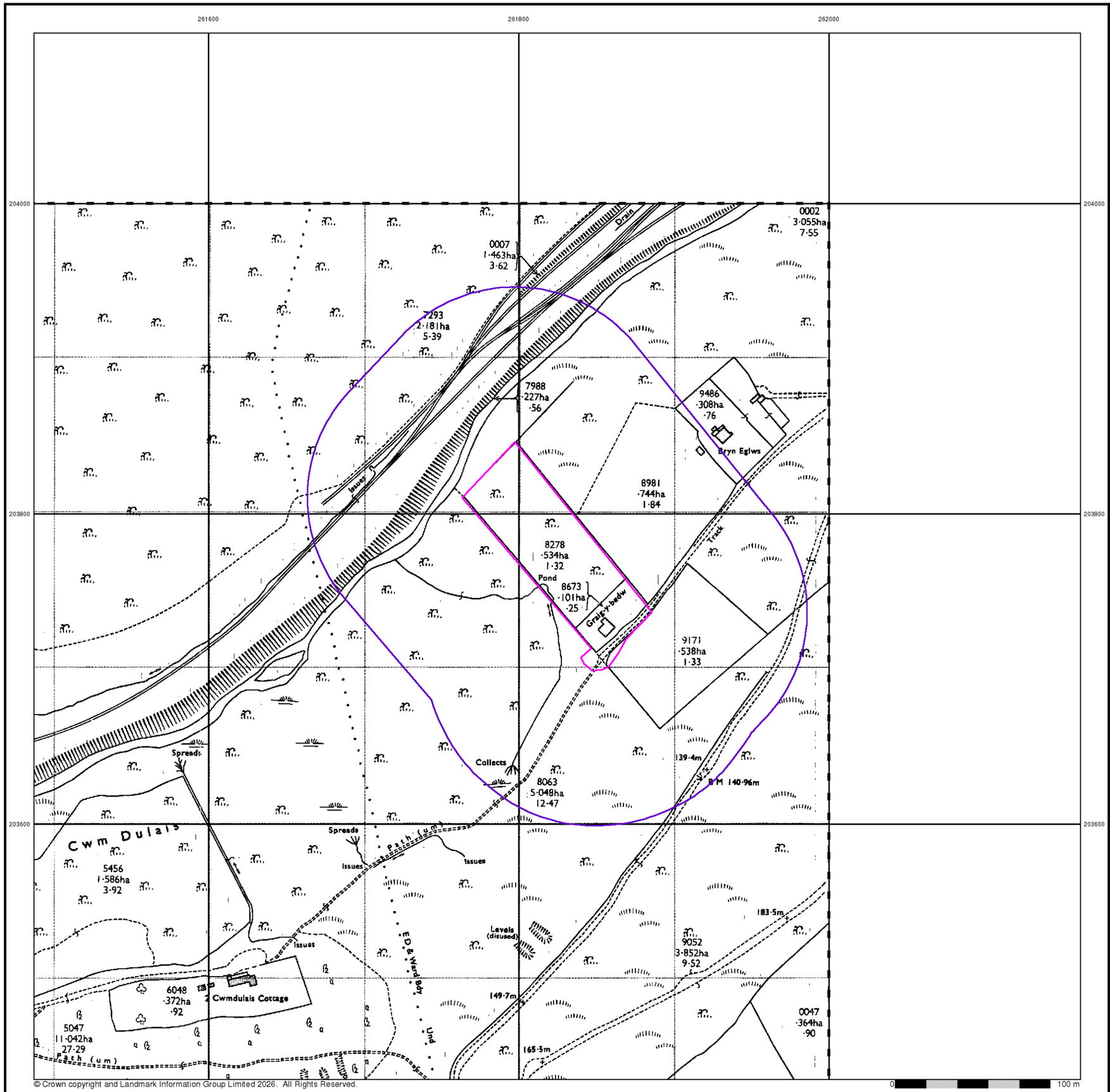

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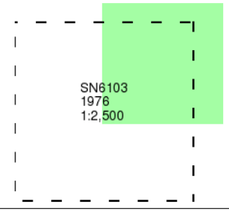
Ordnance Survey Plan

Published 1976

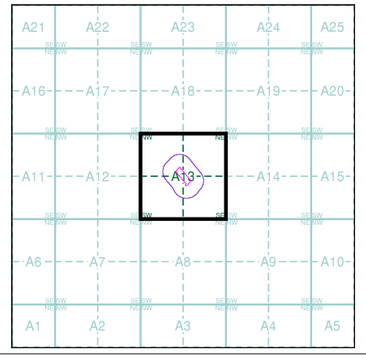
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

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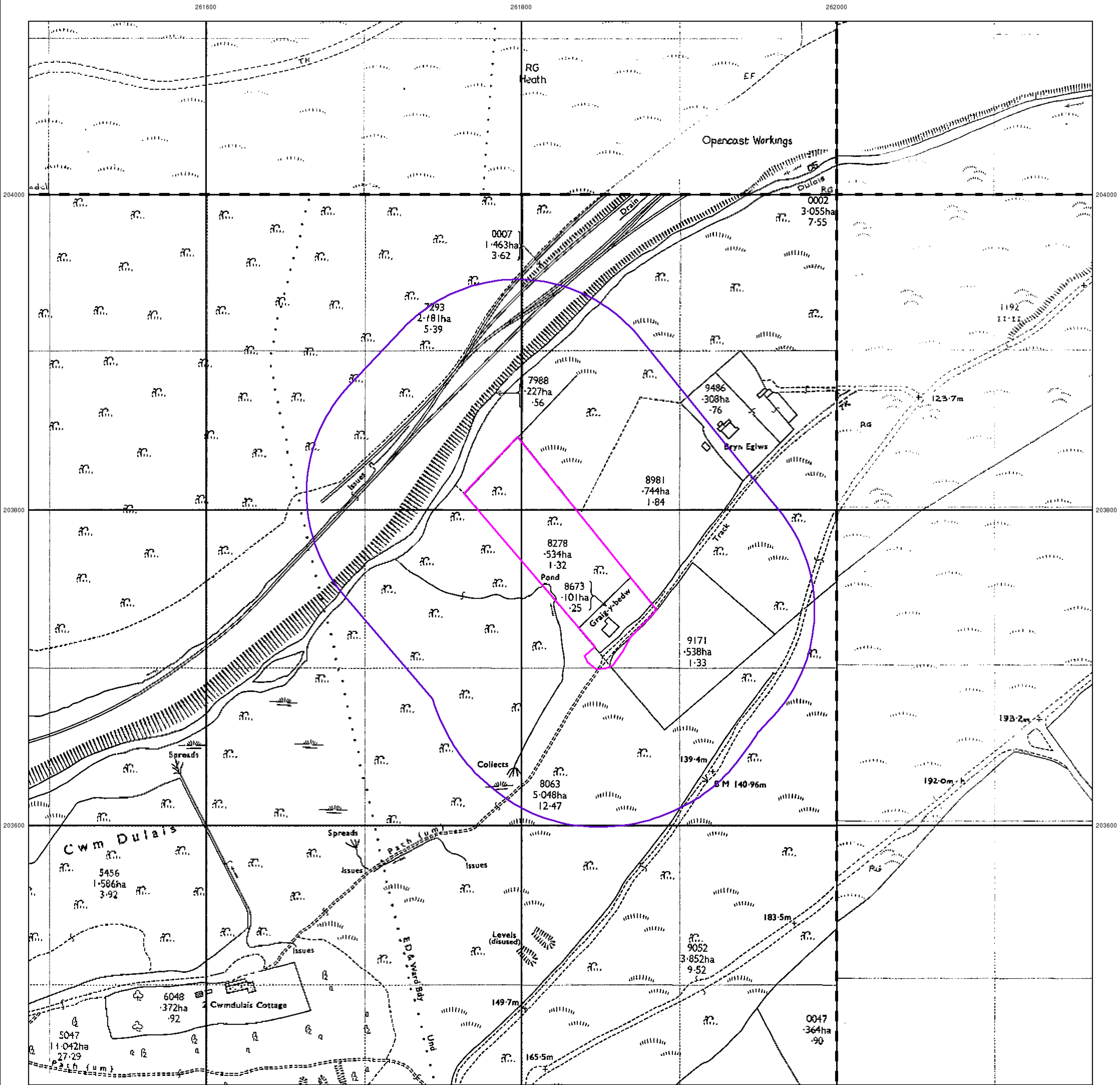

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Additional SIMs

Published 1976 - 1990

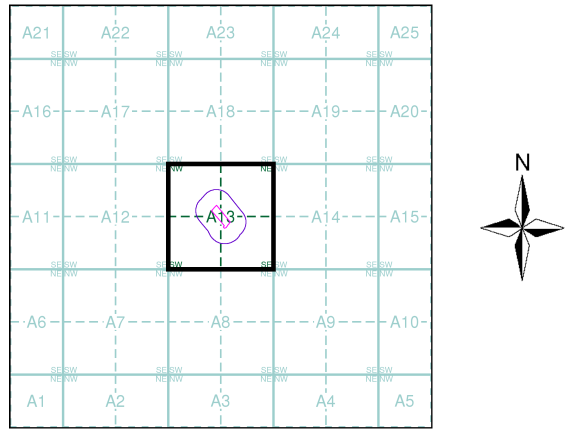
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

SN6104 1990 1:2,500	SN6204 1990 1:2,500
SN6103 1976 1:2,500	SN6203 1989 1:2,500

Historical Map - Segment A13



Order Details

Order Number: 402122936_1_1
Customer Ref: 26-260
National Grid Reference: 261820, 203770
Slice: A
Site Area (Ha): 0.68
Search Buffer (m): 100

Site Details

Site at 261840, 203750

Landmark INFORMATION GROUP

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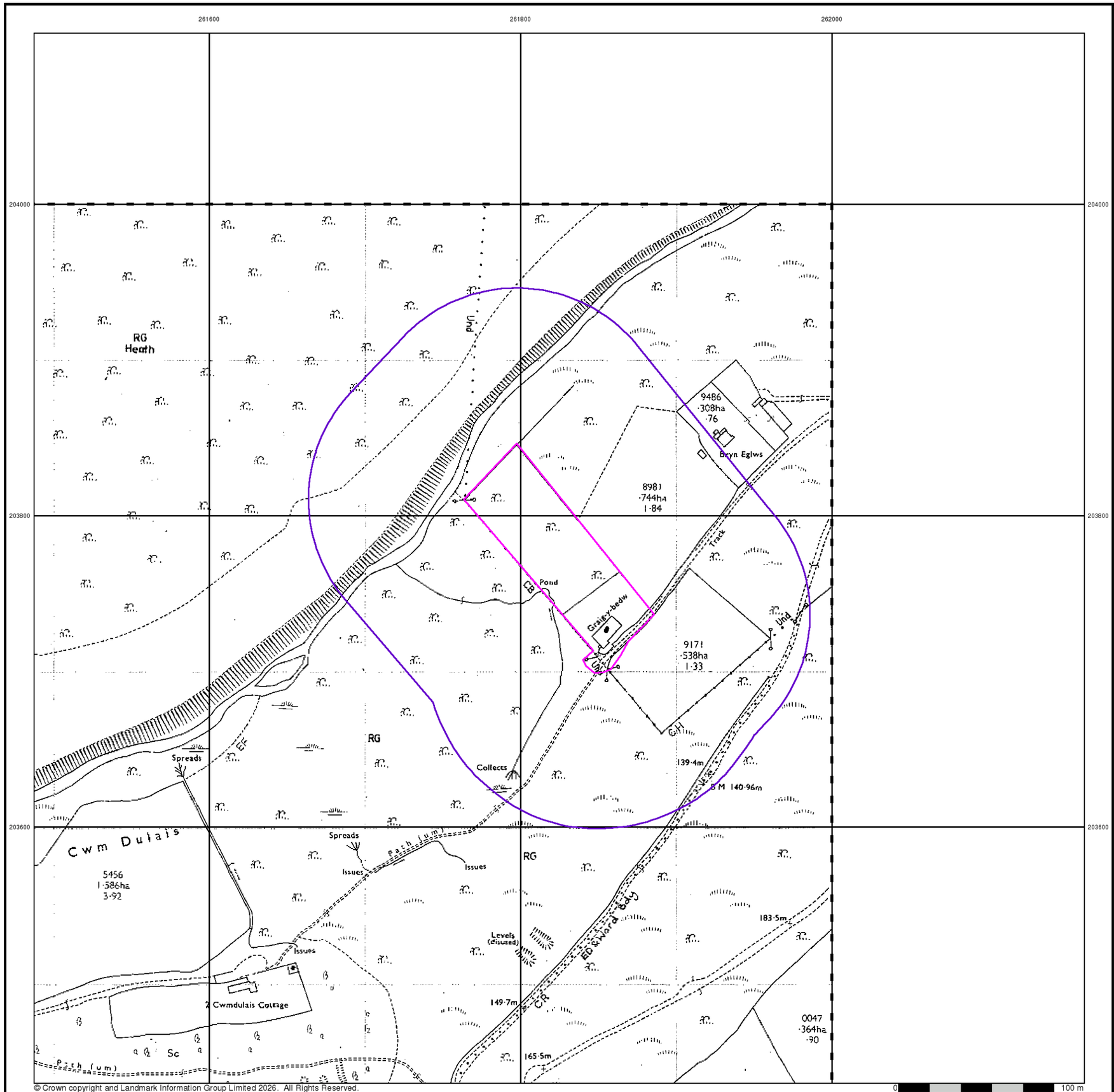
Web: www.envirocheck.co.uk



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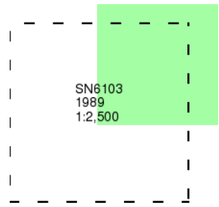
Additional SIMs

Published 1989

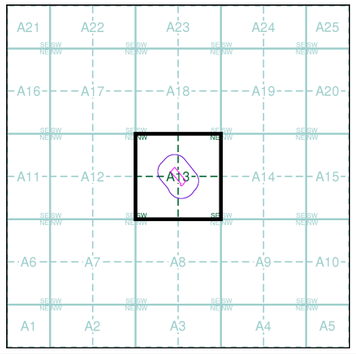
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

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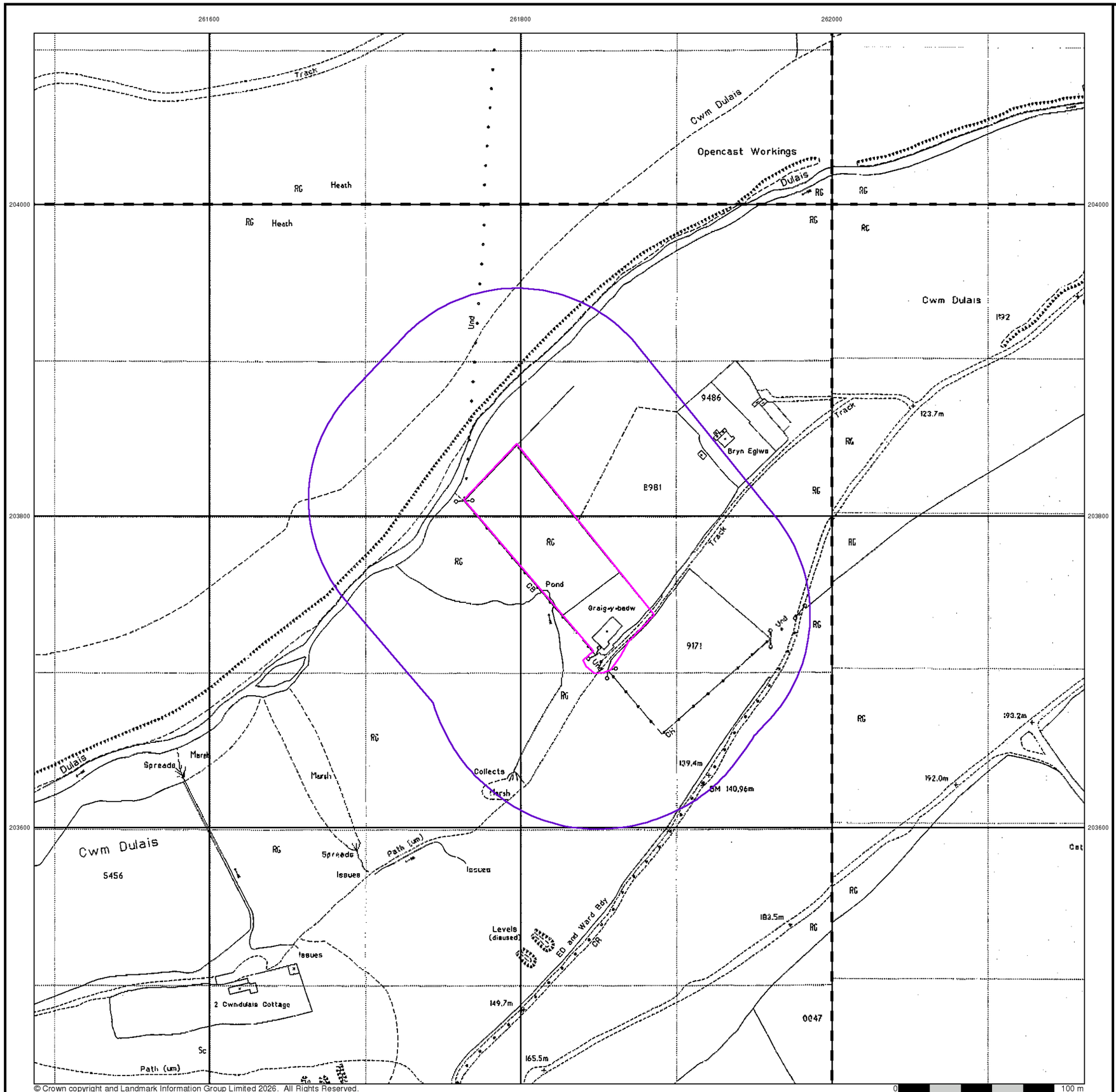

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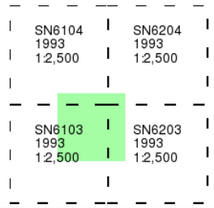
Large-Scale National Grid Data

Published 1993

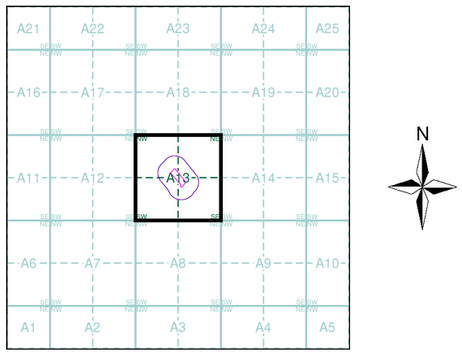
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

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

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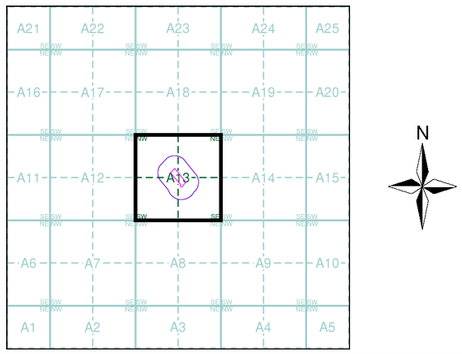
Historical Aerial Photography

Published 2000

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

Historical Aerial Photography - Segment A13



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	100

Site Details

Site at 261840, 203750

Landmark INFORMATION GROUP

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

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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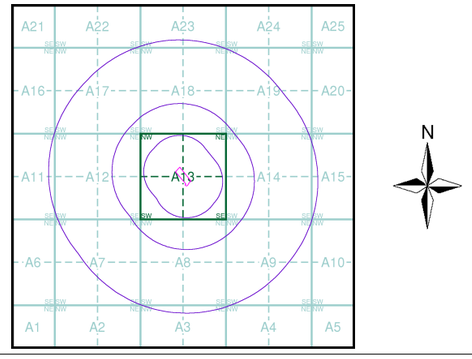
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1883	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1938	6
Glamorganshire	1:10,560	1952	7
Ordnance Survey Plan	1:10,000	1964 - 1965	8
Swansea	1:10,000	1976	9
Ordnance Survey Plan	1:10,000	1988	10
Ordnance Survey Plan	1:10,000	1991	11
10K Raster Mapping	1:10,000	1999	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2025	14

Historical Map - Slice A



Order Details

Order Number: 402122936_1_1
Customer Ref: 26-260
National Grid Reference: 261820, 203770
Slice: A
Site Area (Ha): 0.68
Search Buffer (m): 1000

Site Details

Site at 261840, 203750

Landmark INFORMATION GROUP
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Web: www.envirocheck.co.uk

Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Fireproof Building
- Prominent Fireproof Building
- Non-fireproof Building
- Non-fireproof Building (non-dwelling)
- Factory, mill, and flour mill, with chimneys
- Factory, mill, and flour mill, without chimneys
- Power Station, drawn to scale
- Hydroelectric Power Station
- Radio Station, drawn to scale
- Telephone Station, drawn to scale
- Abandoned Open-pit Mine or Quarry
- Open-pit Salt Mine
- Pit
- Oil Deposit or Well
- Oil Seepage
- Tailings Pile
- Fuel Storage Tanks
- Natural Gas Tank
- Bench Mark
- Drill Hole
- Burial Mound
- Triangulation Point on Burial Mound
- Single-track Railroad
- 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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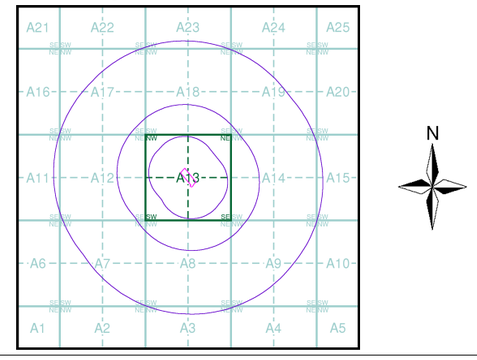
Geotechnical & Geoenvironmental Specialists

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1883	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1938	6
Glamorganshire	1:10,560	1952	7
Ordnance Survey Plan	1:10,000	1964 - 1965	8
Swansea	1:10,000	1976	9
Ordnance Survey Plan	1:10,000	1988	10
Ordnance Survey Plan	1:10,000	1991	11
10K Raster Mapping	1:10,000	1999	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2025	14

Russian Map - Slice A



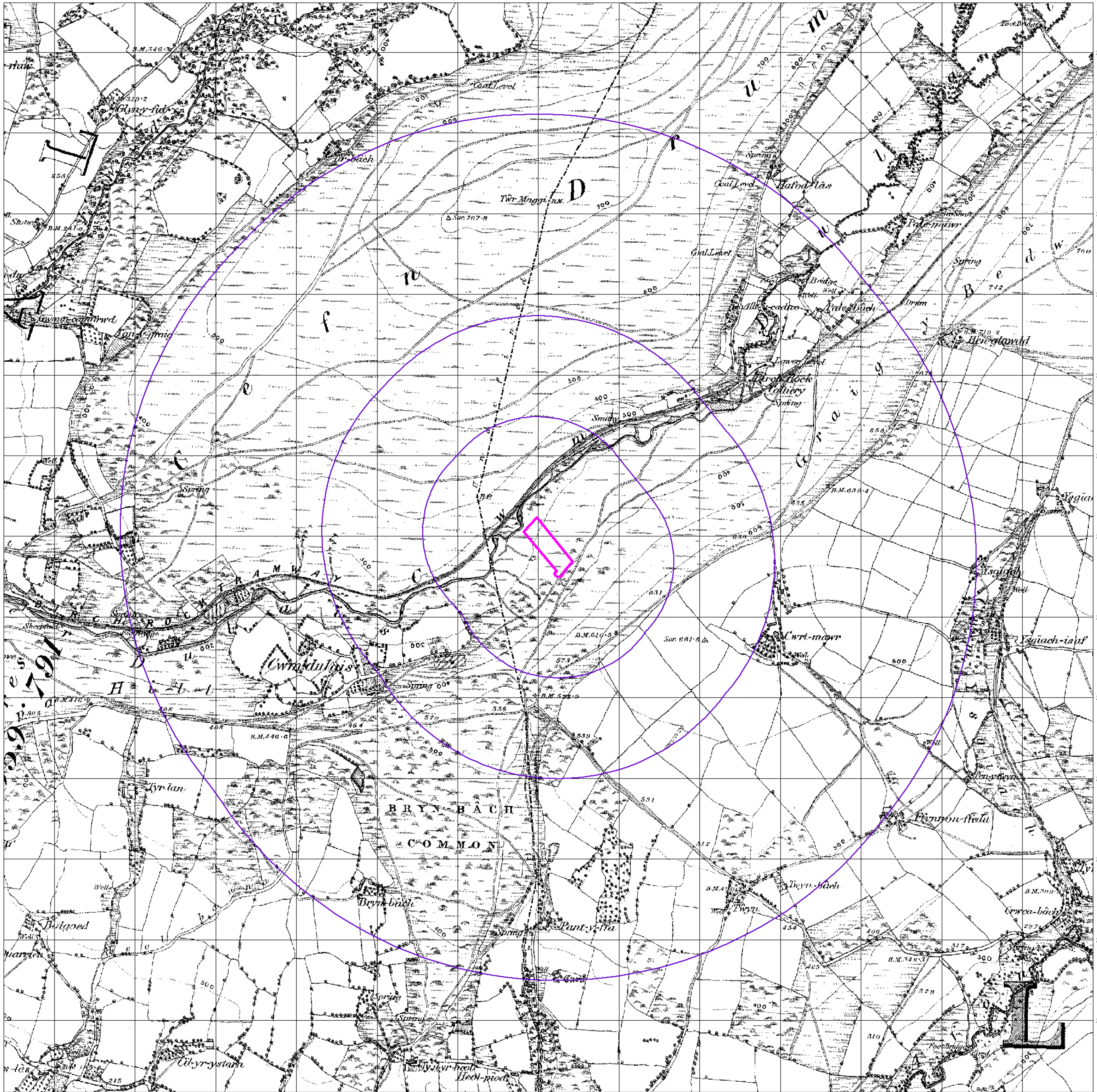
Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	1000

Site Details

Site at 261840, 203750

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



0 400 m

Geotechnical & Geoenvironmental Specialists

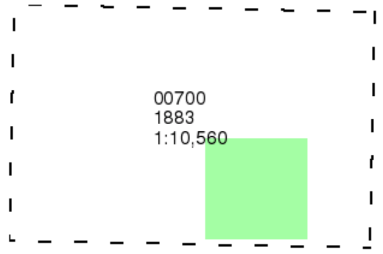
Glamorganshire

Published 1883

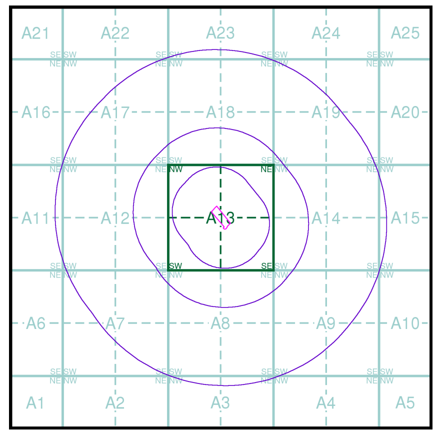
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 402122936_1_1
Customer Ref: 26-260
National Grid Reference: 261820, 203770
Slice: A
Site Area (Ha): 0.68
Search Buffer (m): 1000

Site Details

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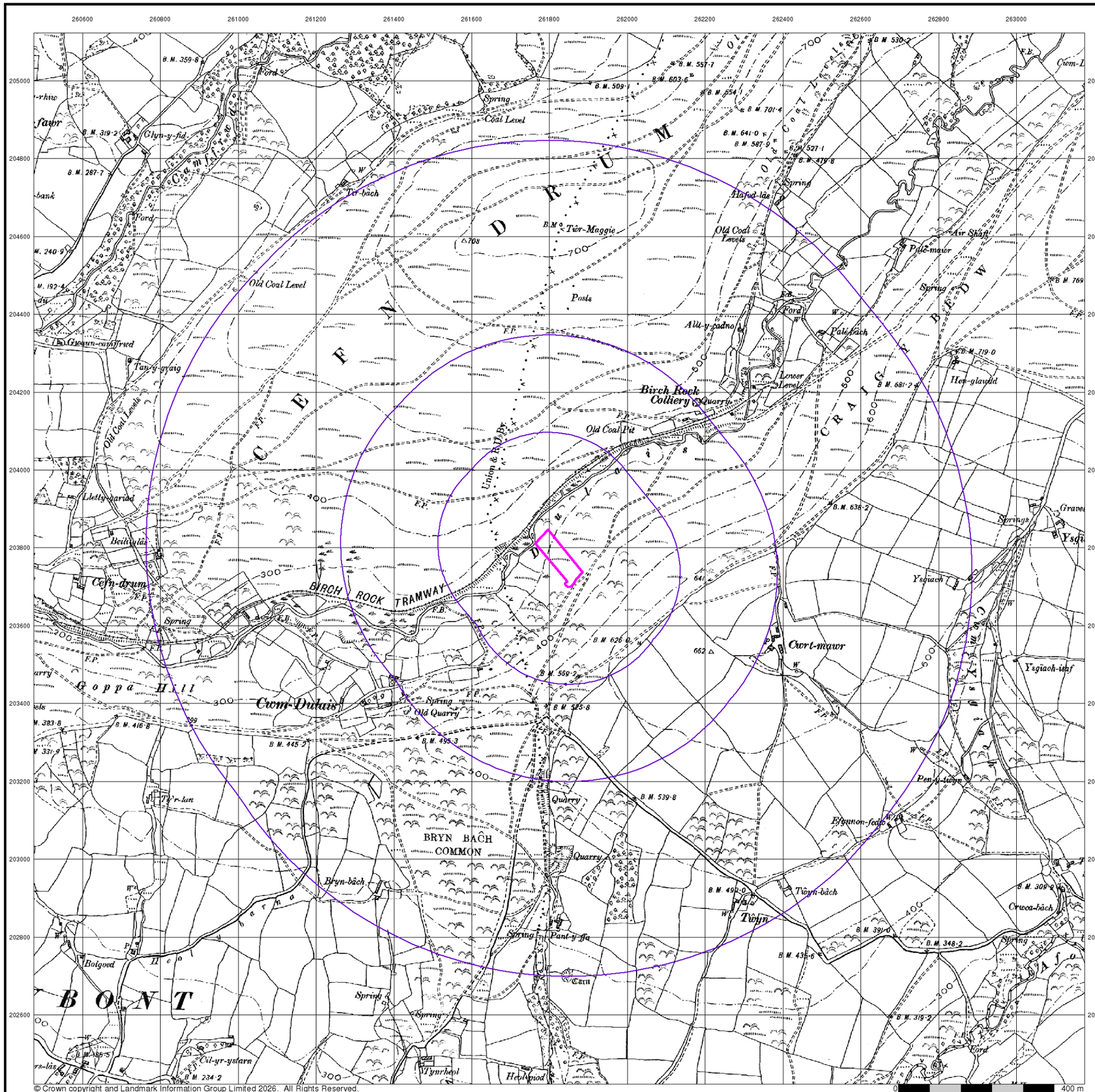

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Glamorganshire

Published 1900

Source map scale - 1:10,560

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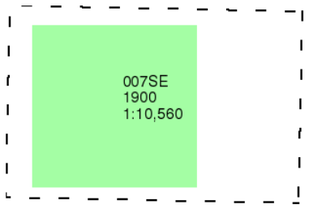
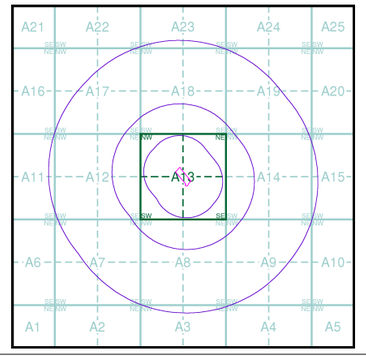
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
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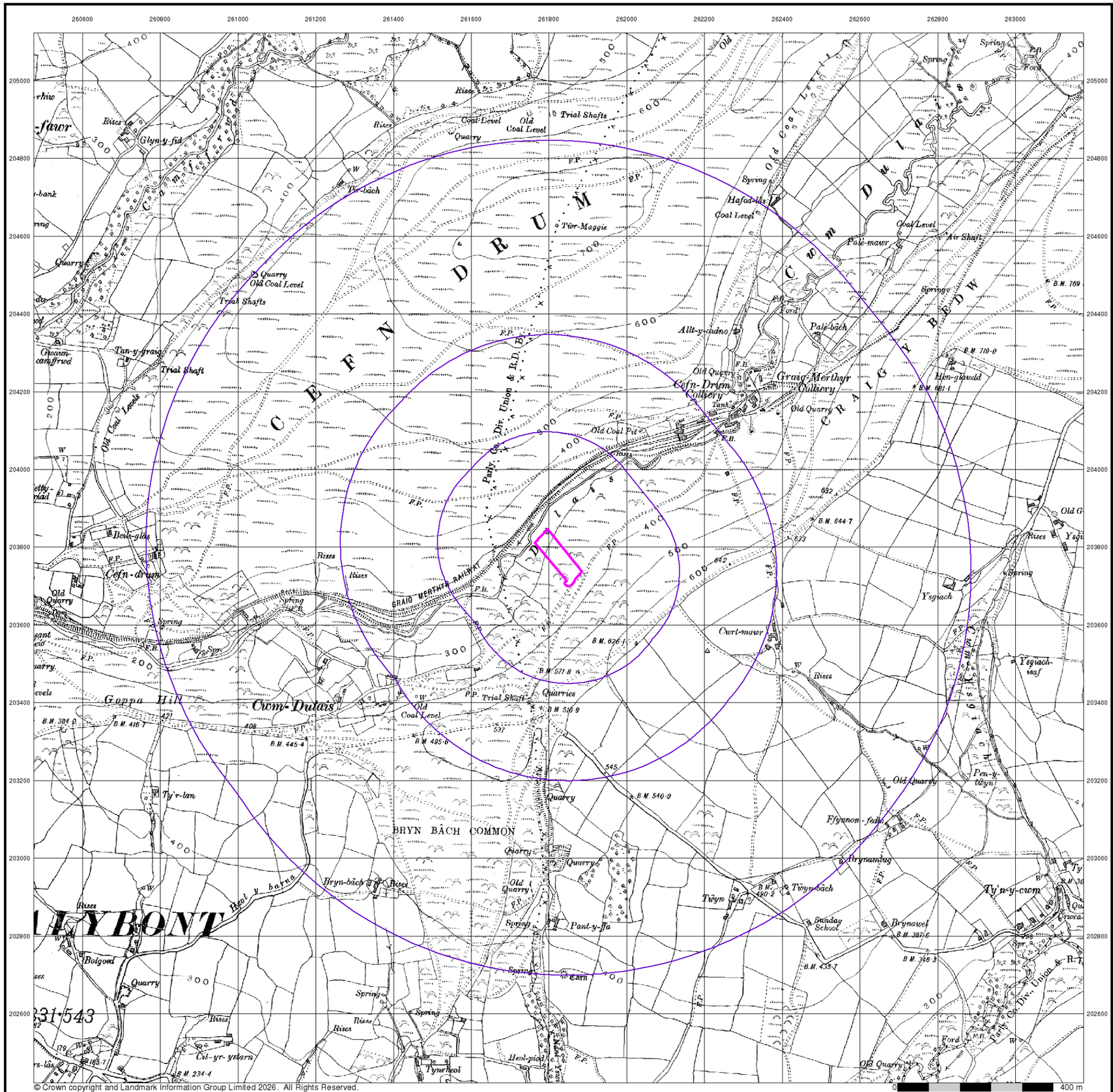

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Glamorganshire

Published 1921

Source map scale - 1:10,560

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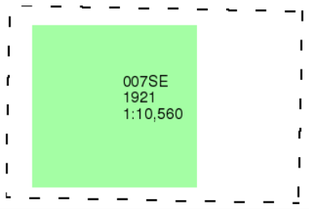
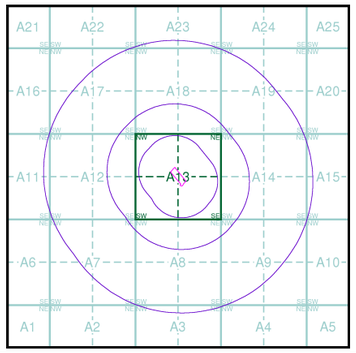
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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Customer Ref:	26-260
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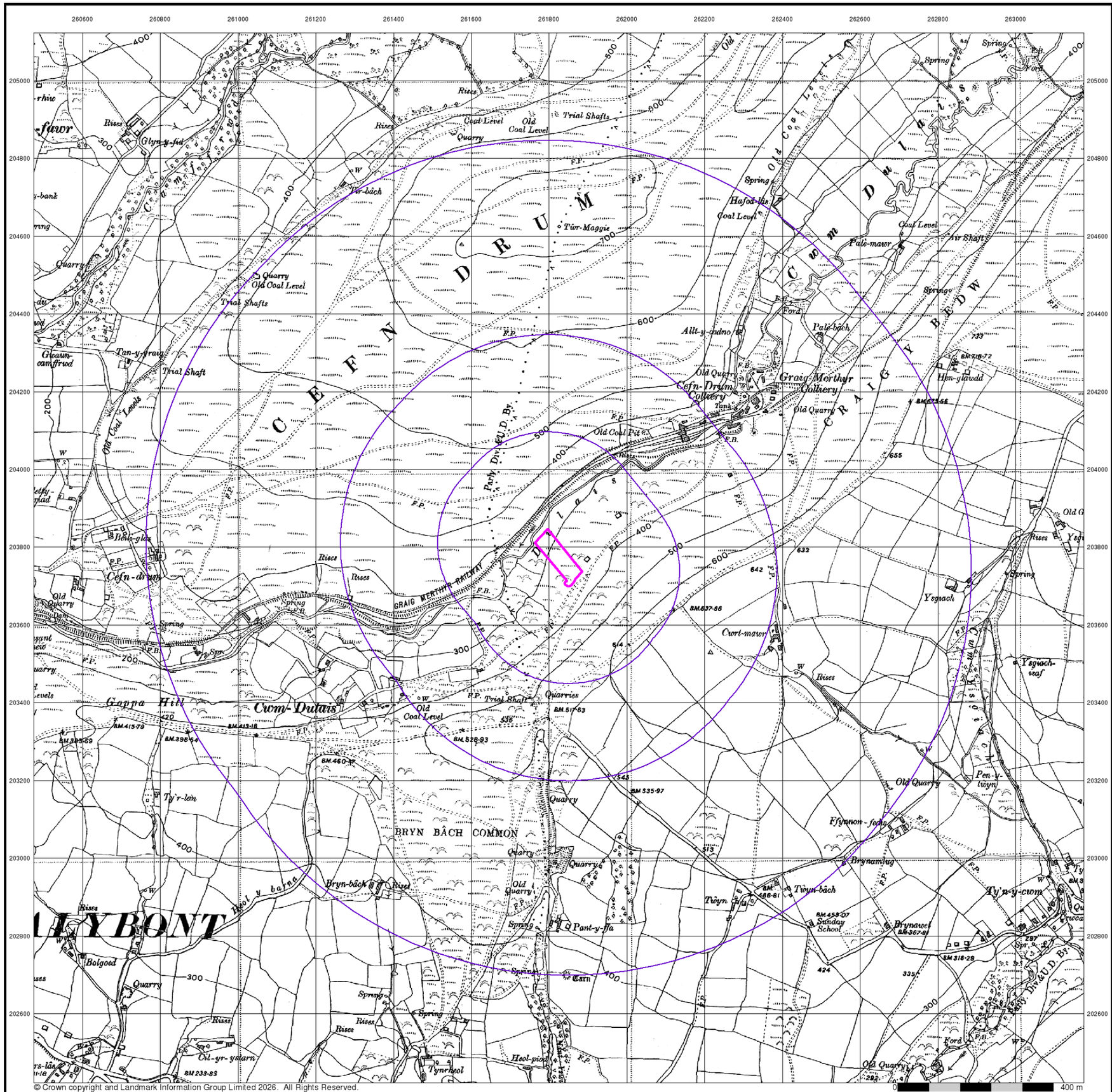

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Glamorganshire

Published 1938

Source map scale - 1:10,560

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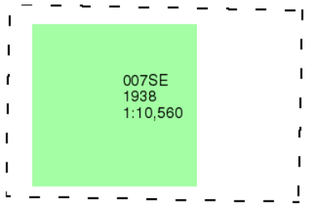
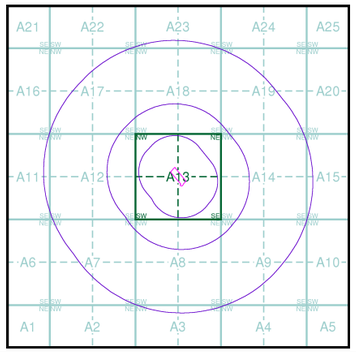
Map Name(s) and Date(s)



Historical Map - Slice A



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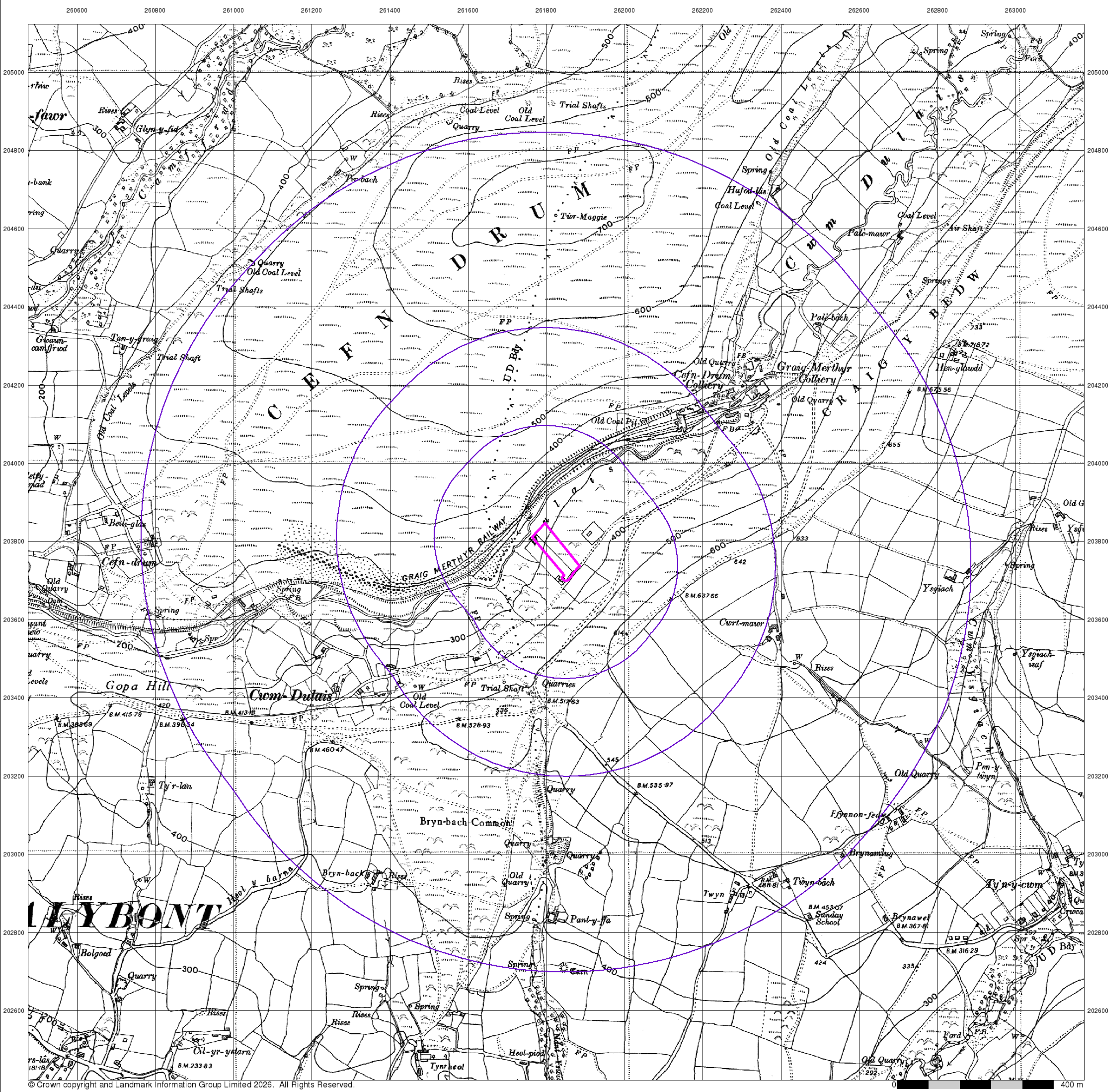

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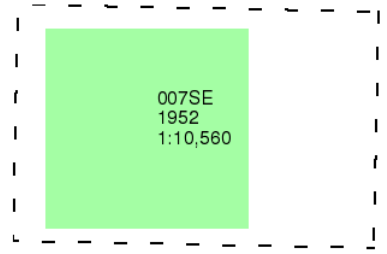
Glamorganshire

Published 1952

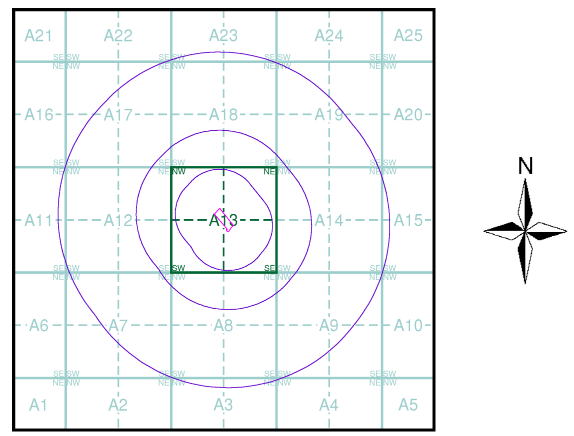
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 402122936_1_1
Customer Ref: 26-260
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Slice: A
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Site Details

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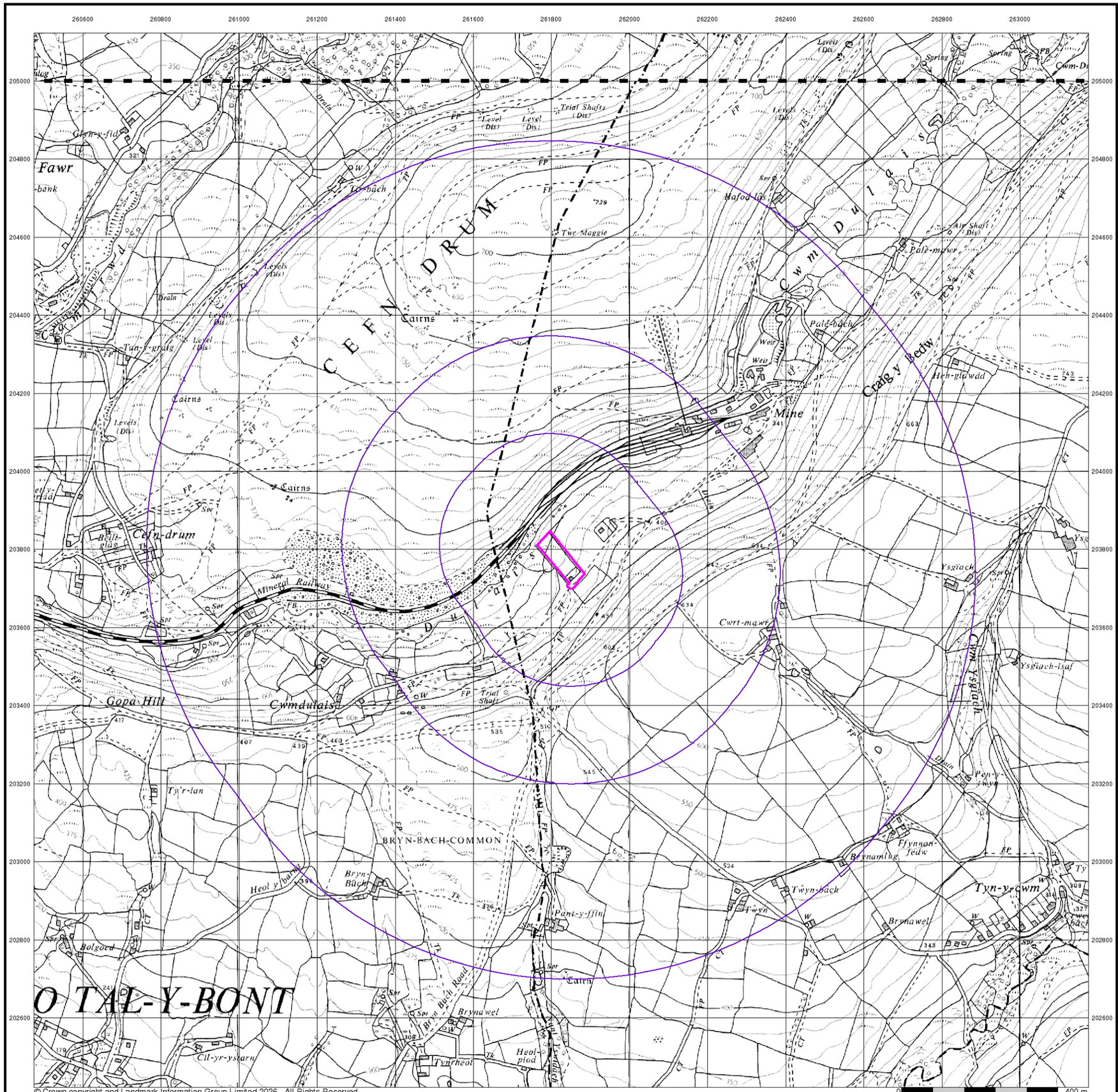

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Ordnance Survey Plan

Published 1964 - 1965

Source map scale - 1:10,000

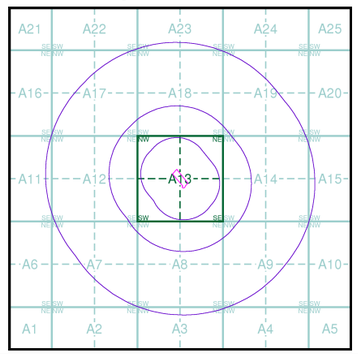
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

Map Name(s) and Date(s)

SN60NW
1965
1:10,560

SN60SW
1964
1:10,560

Historical Map - Slice A



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	1000

Site Details

Site at 261840, 203750

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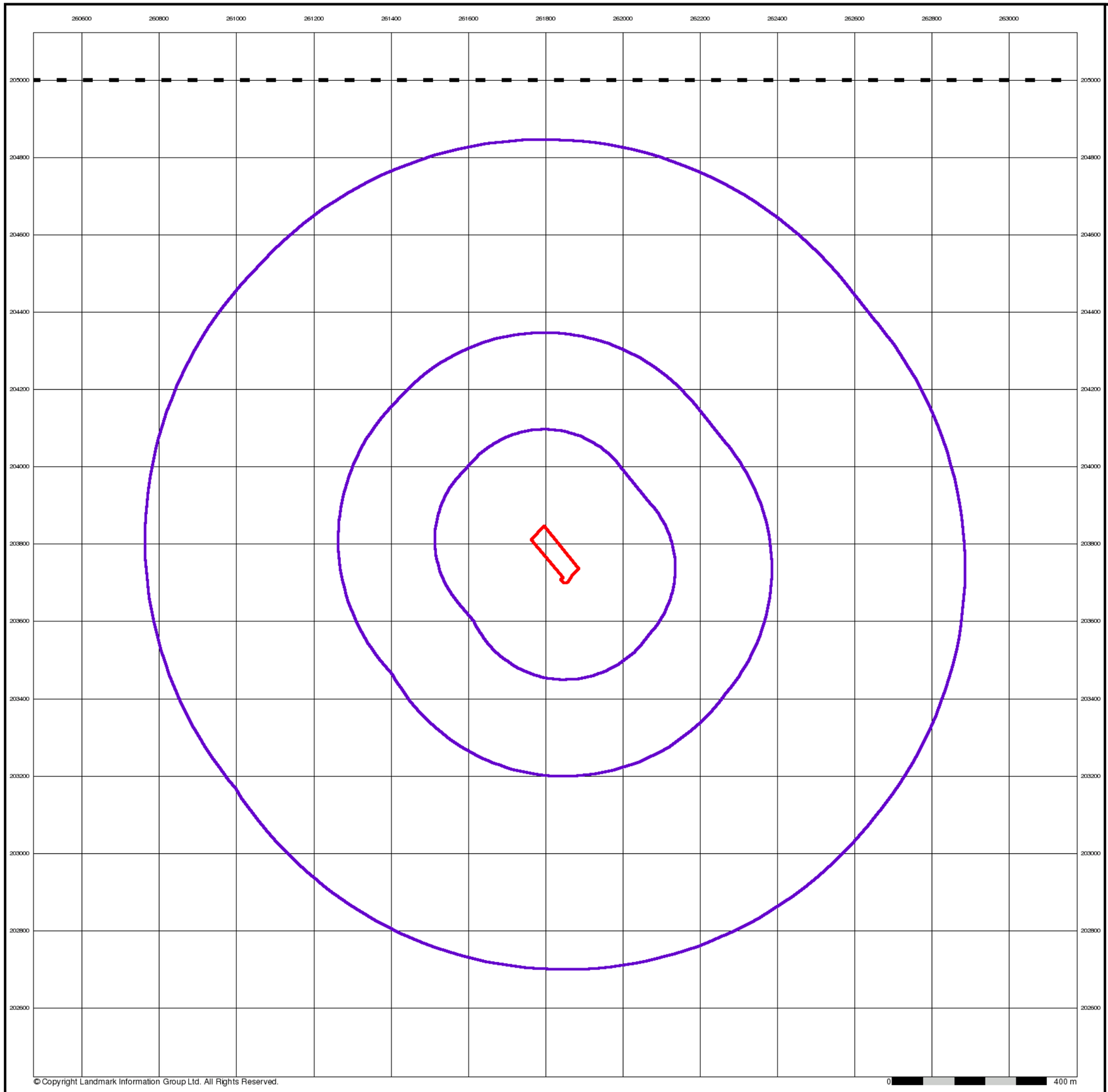

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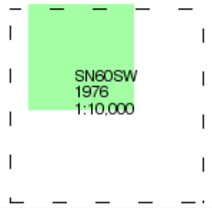
Swansea

Published 1976

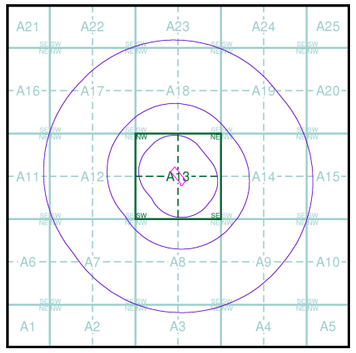
Source map scale - 1:10,000

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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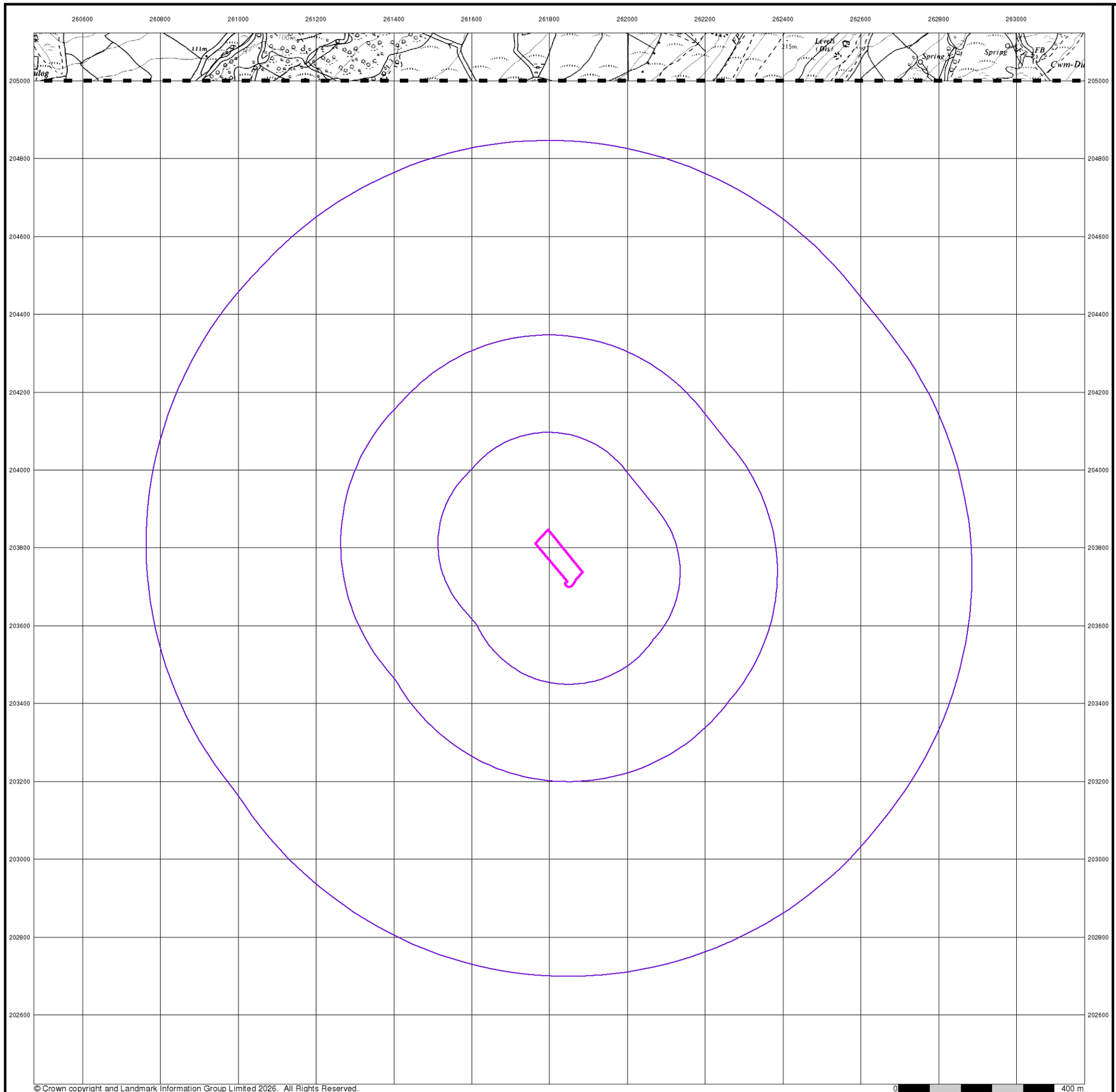

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Ordnance Survey Plan

Published 1988

Source map scale - 1:10,000

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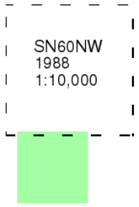
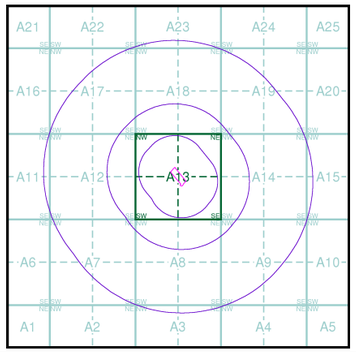
Map Name(s) and Date(s)



Historical Map - Slice A



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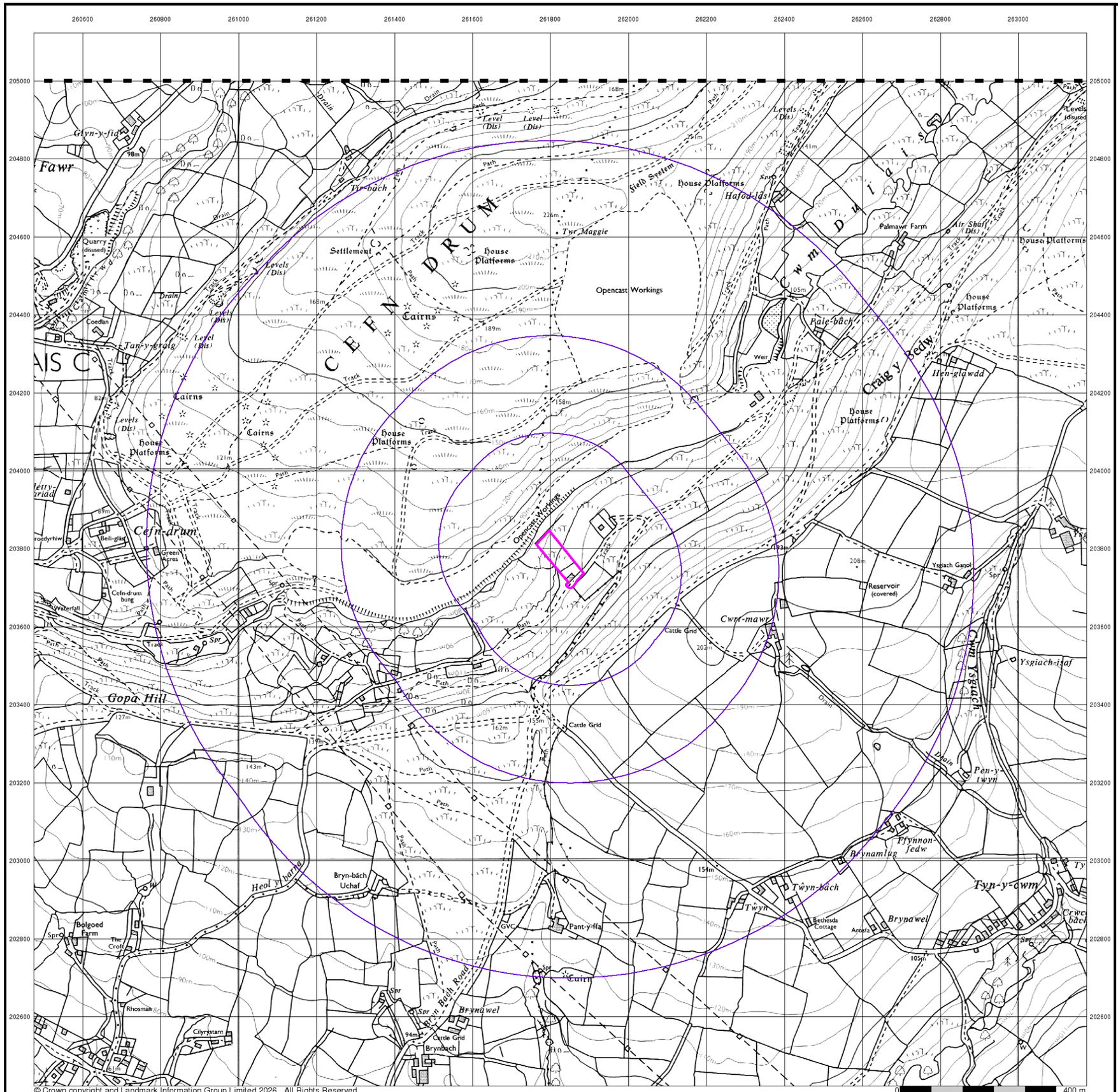

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Ordnance Survey Plan

Published 1991

Source map scale - 1:10,000

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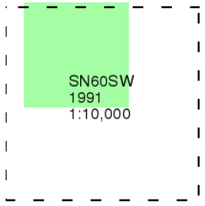
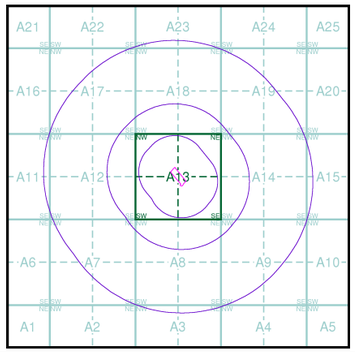
Map Name(s) and Date(s)



Historical Map - Slice A



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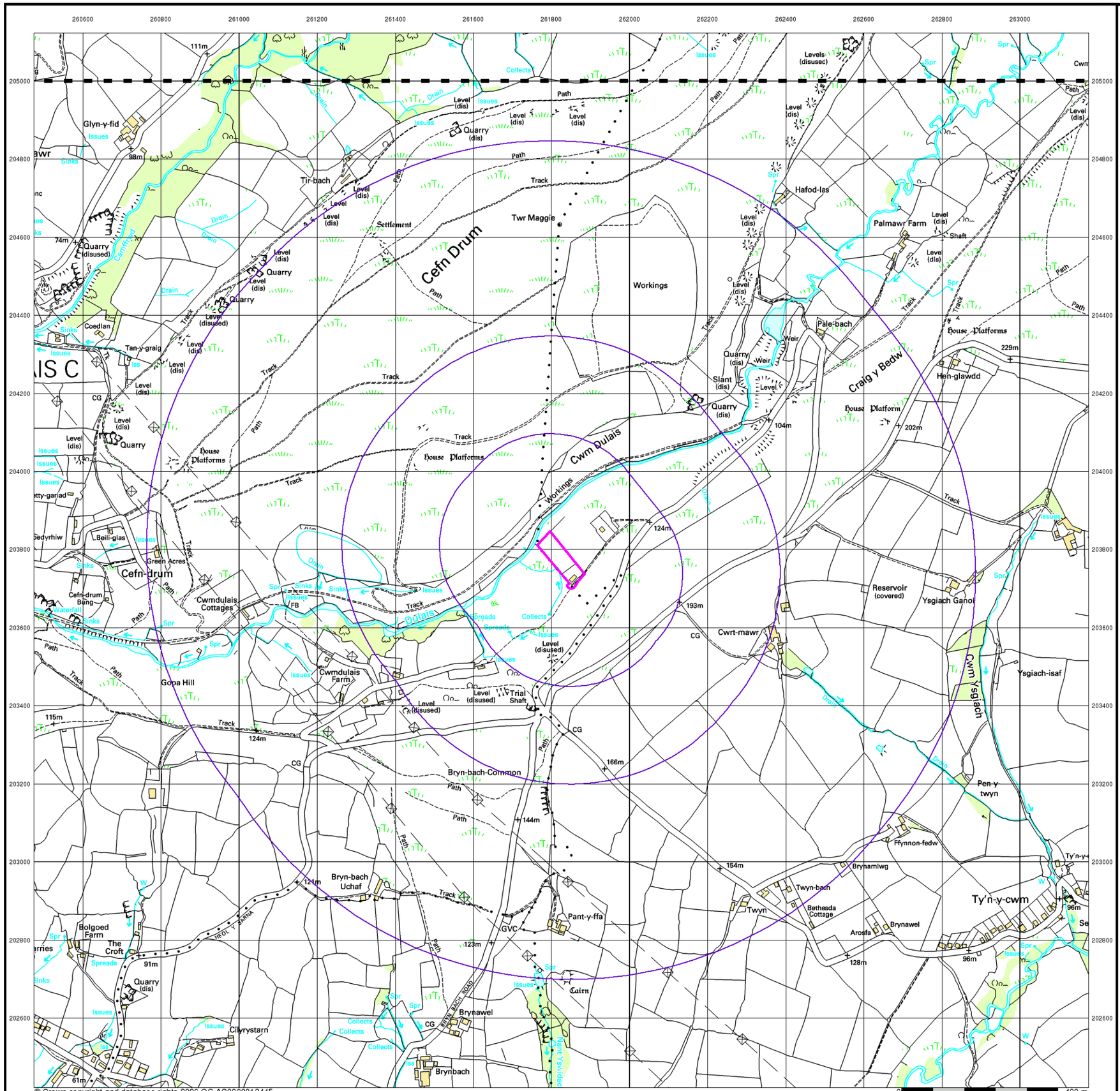

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10k Raster Mapping

Published 1999

Source map scale - 1:10,000

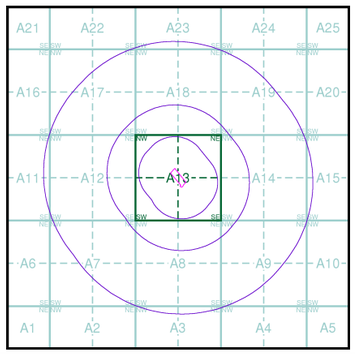
The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

SN60NW 1999 1:10,000

SN60SW 1999 1:10,000

Historical Map - Slice A



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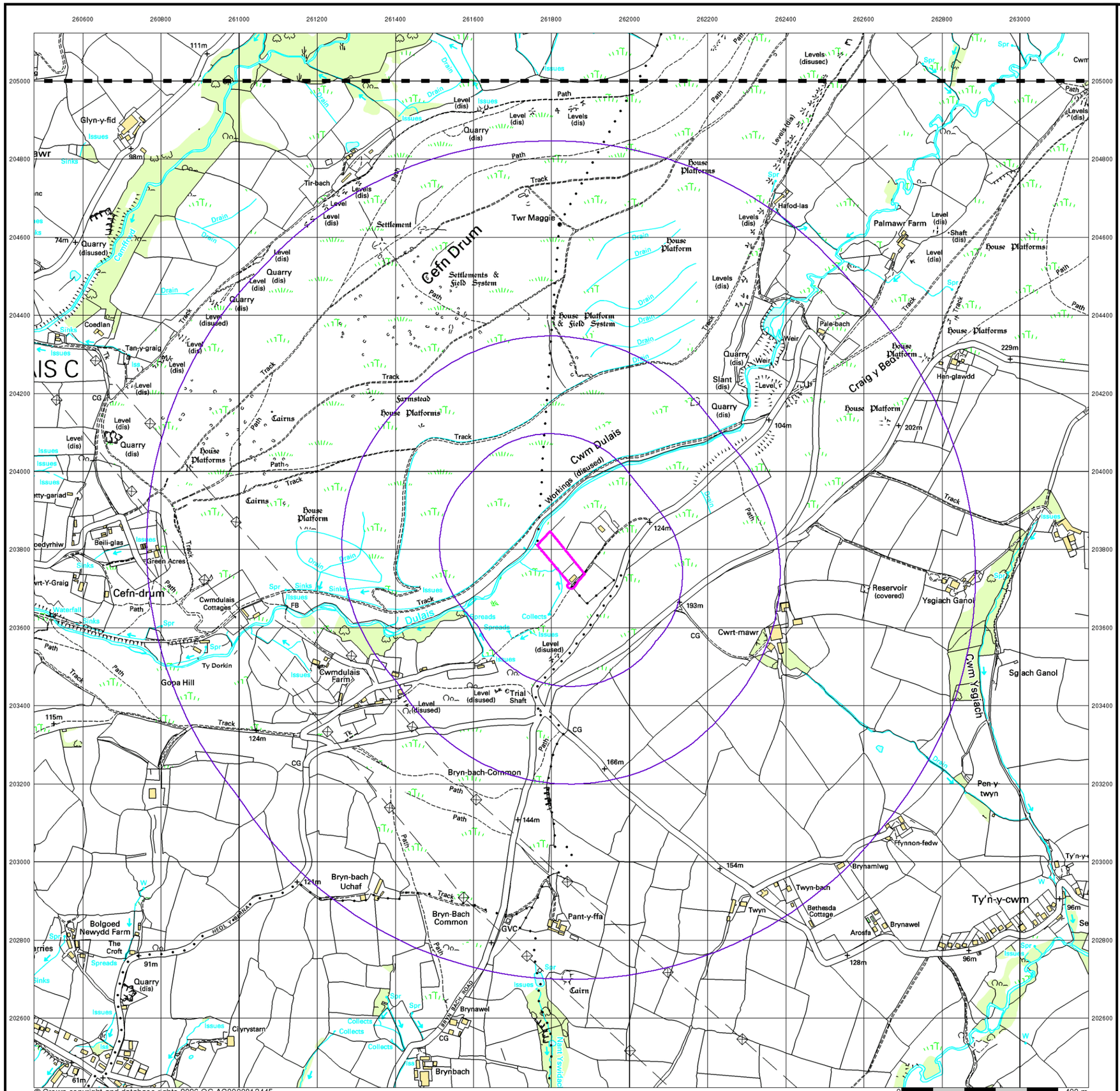

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10k Raster Mapping

Published 2006

Source map scale - 1:10,000

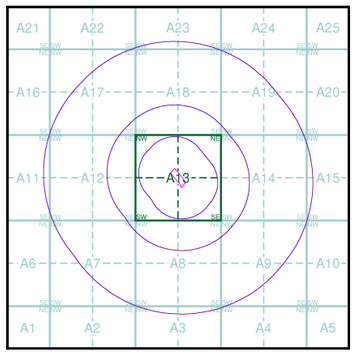
The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

SN60NW
2006
1:10,000

SN60SW
2006
1:10,000

Historical Map - Slice A



Order Details

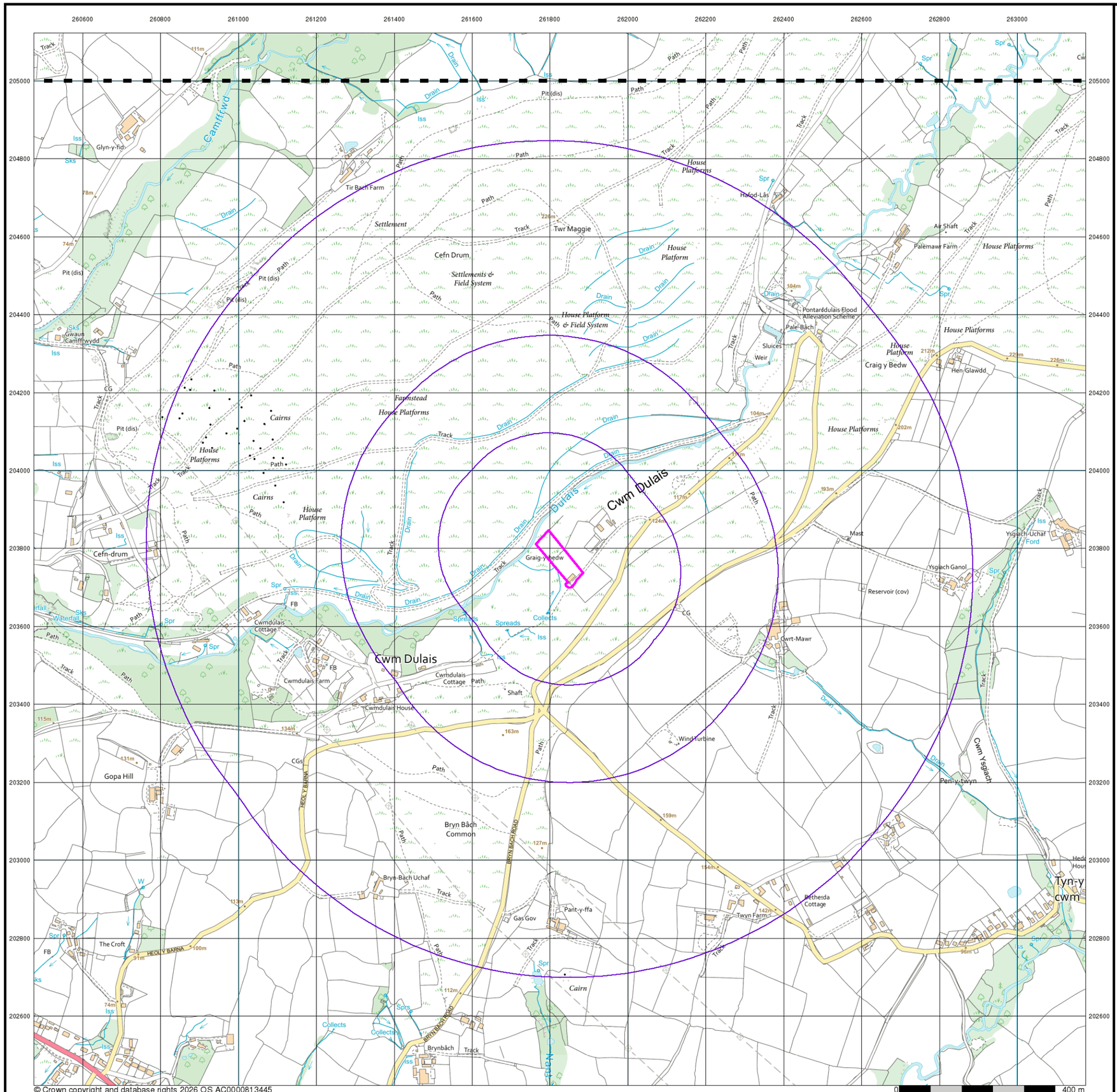
Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	1000

Site Details

Site at 261840, 203750

Landmark INFORMATION GROUP

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



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VectorMap Local

Published 2025

Source map scale - 1:10,000

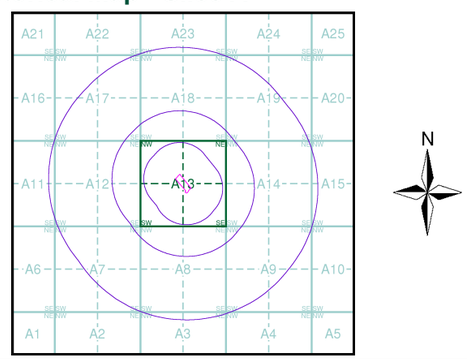
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap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

SN60NW 2025 Variable

SN60SW 2025 Variable

Historical Map - Slice A



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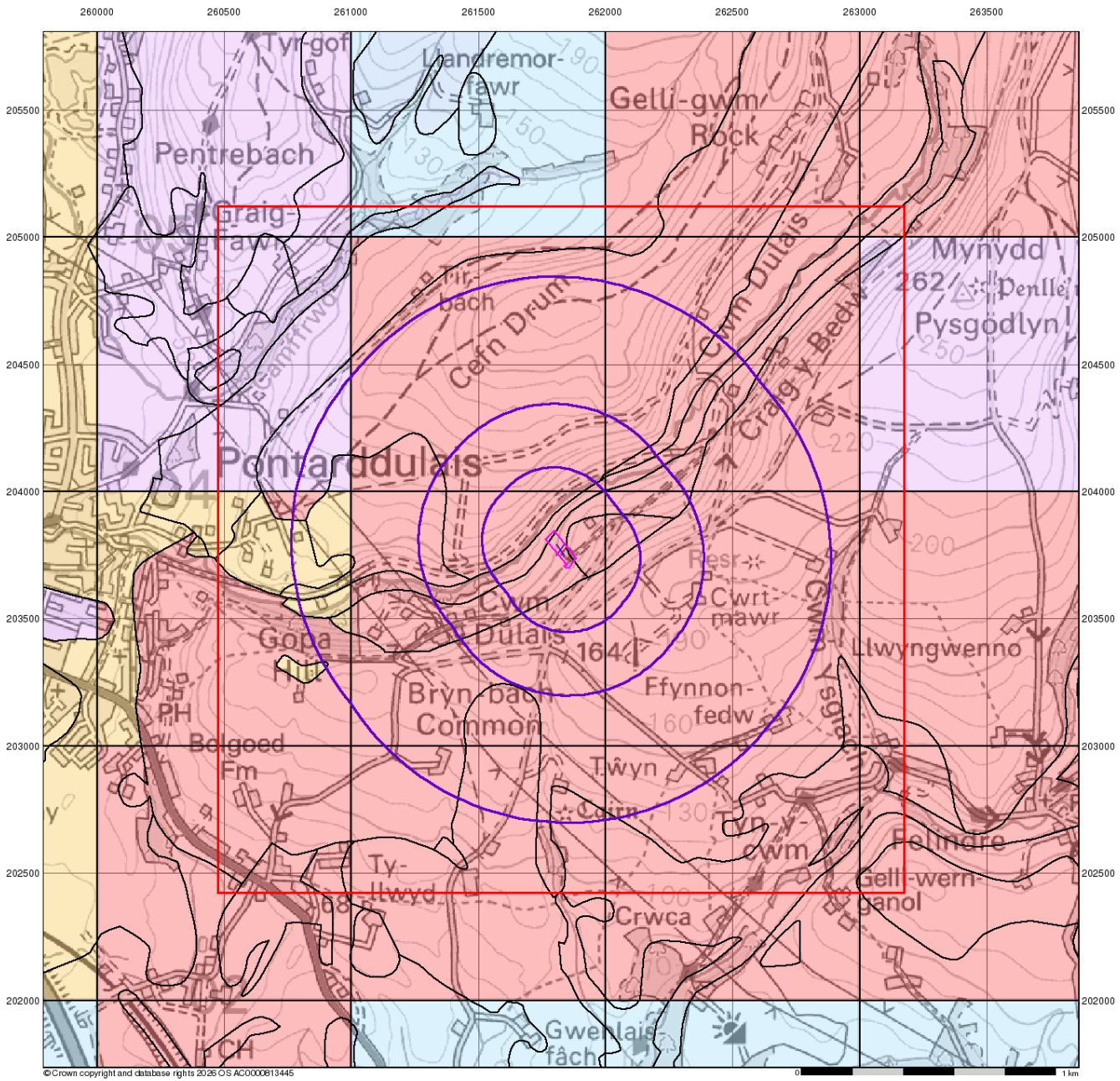

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Groundwater Vulnerability

General

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

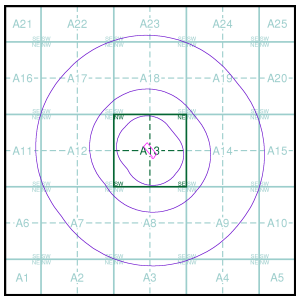
Agency and Hydrological

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



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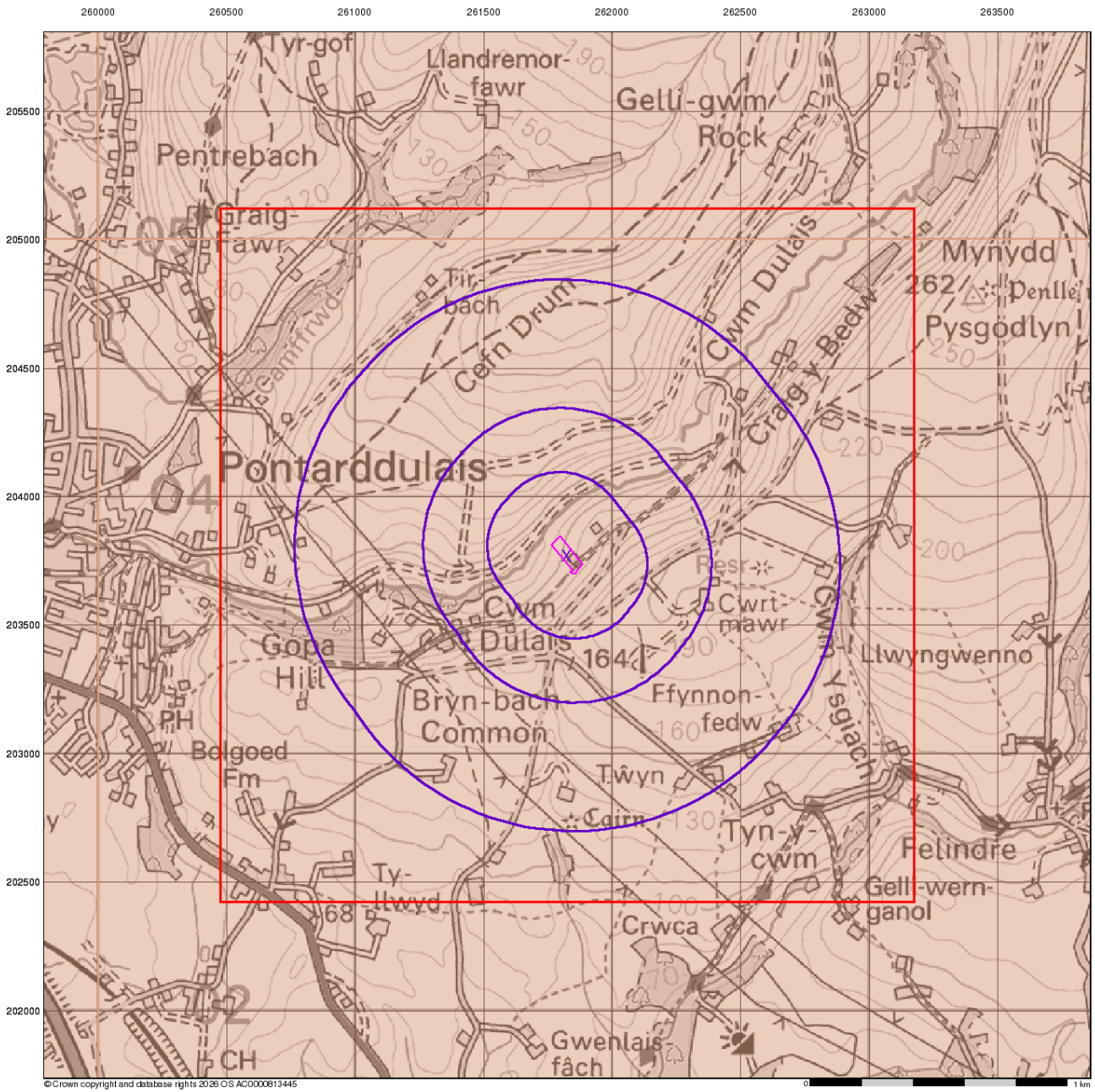

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Bedrock Aquifer Designation

General

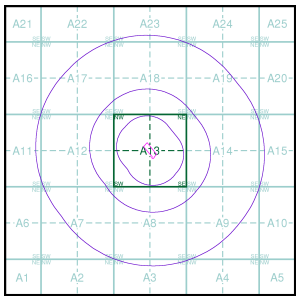
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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



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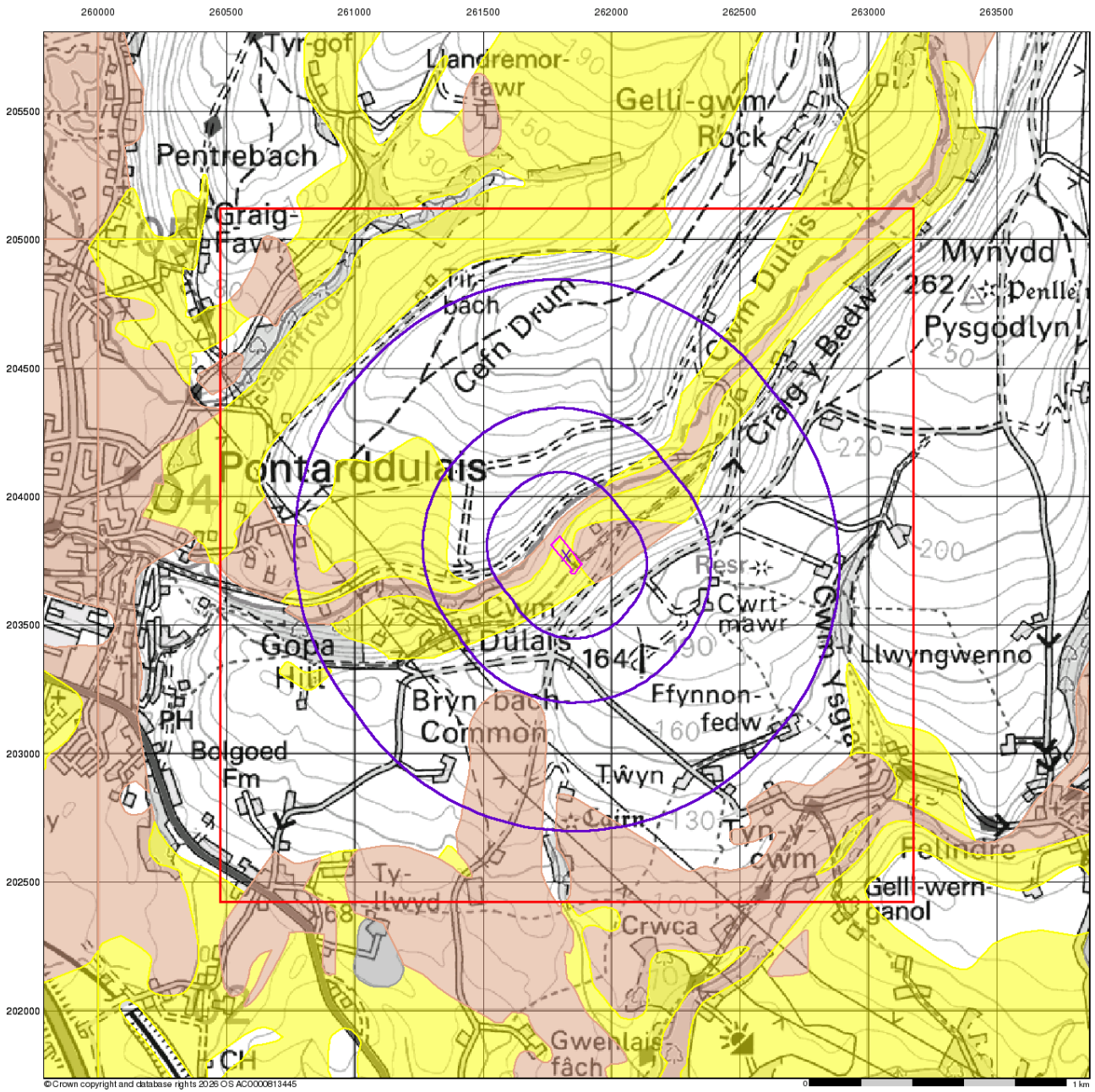

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Superficial Aquifer Designation

General

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

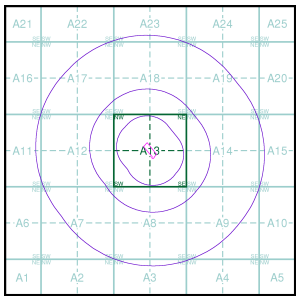
Slice | Map ID

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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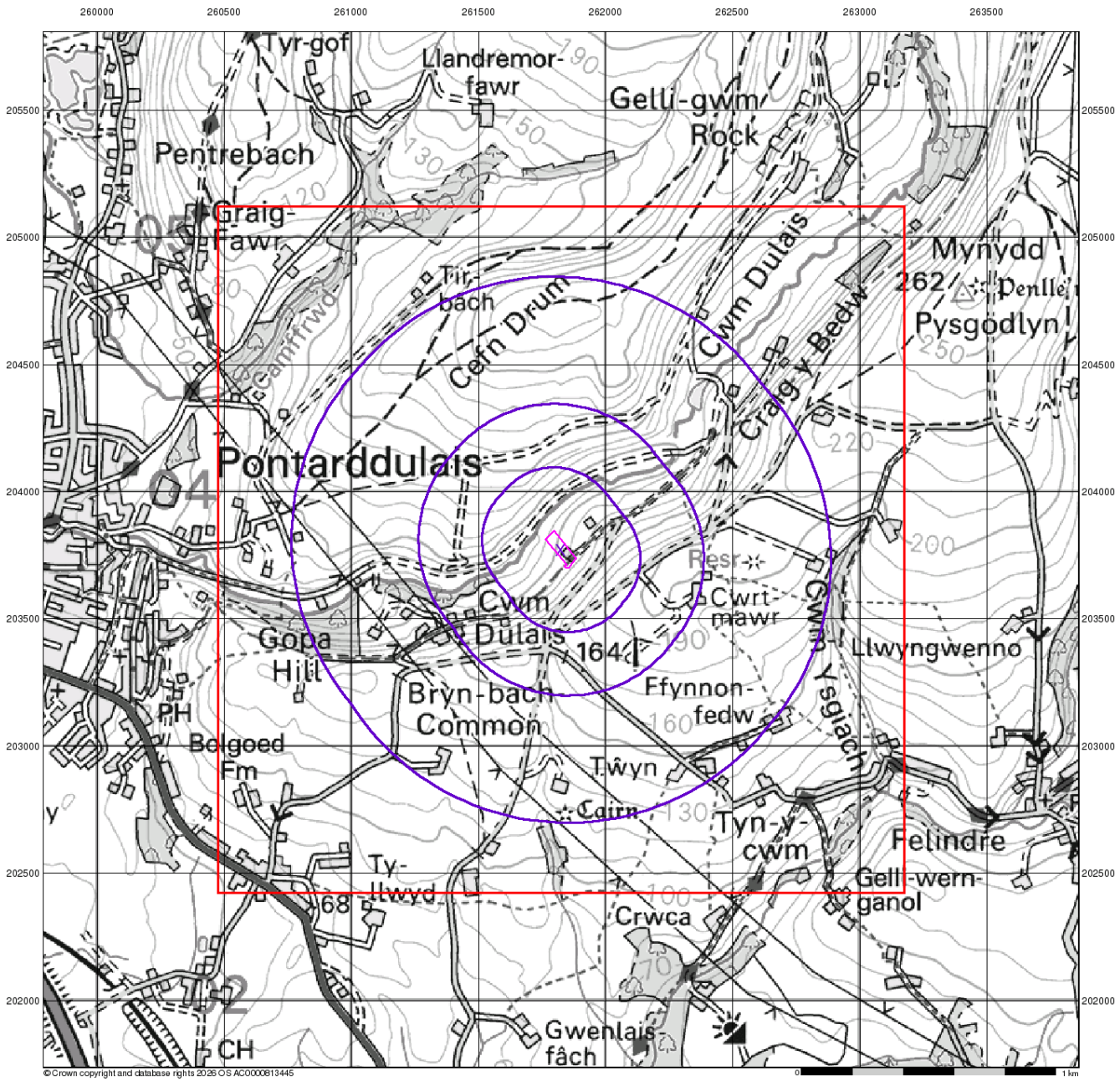

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Source Protection Zones

General

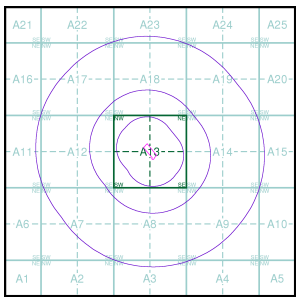
Specified Site | Specified Buffer(s) | Bearing Reference Point

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



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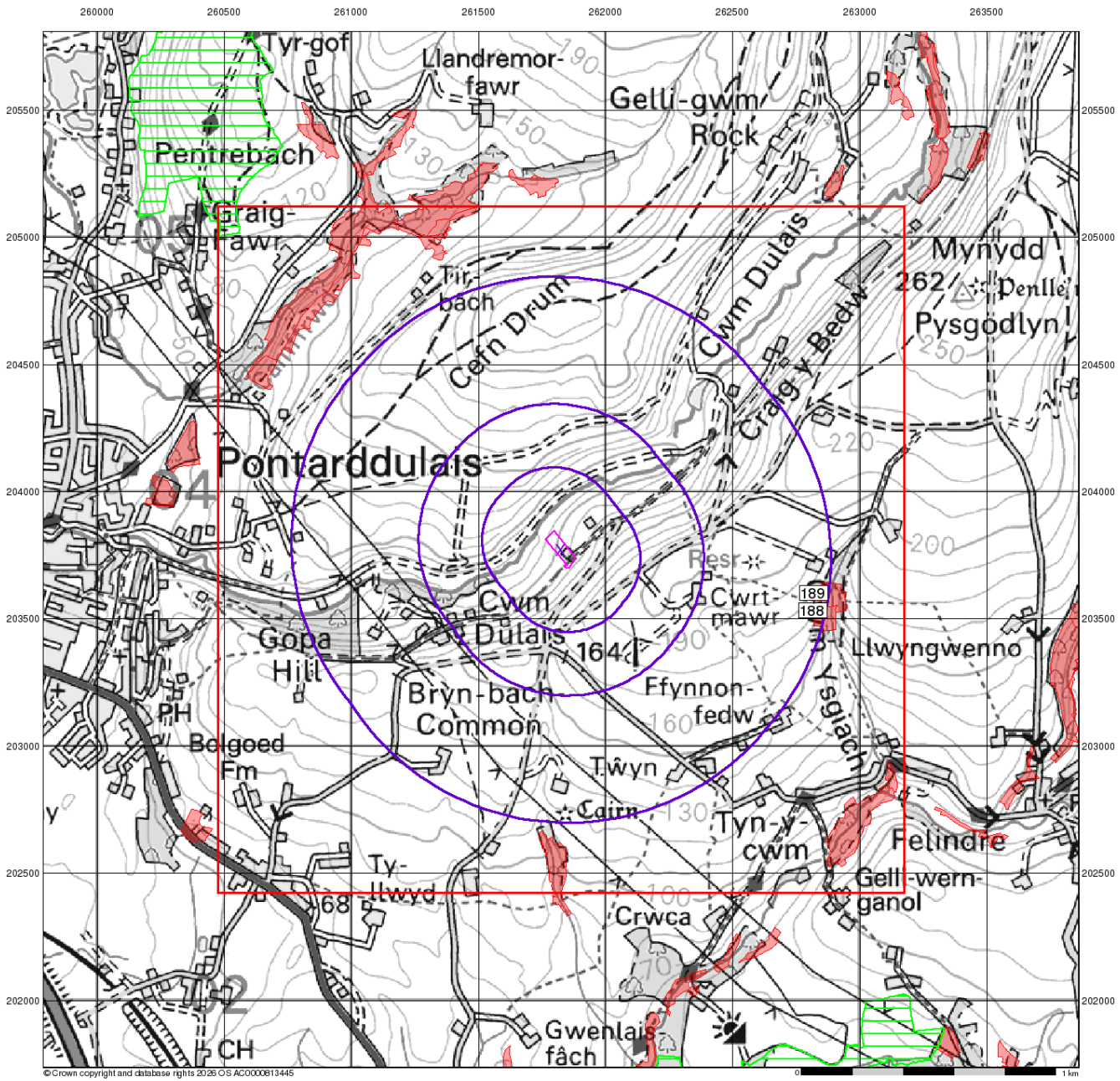

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Sensitive Land Uses

General

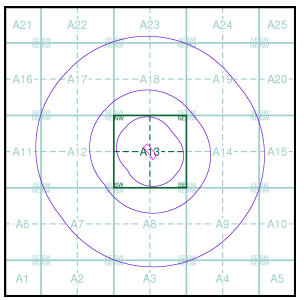
Specified Site | Specified Buffer(s) | Bearing Reference Point

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



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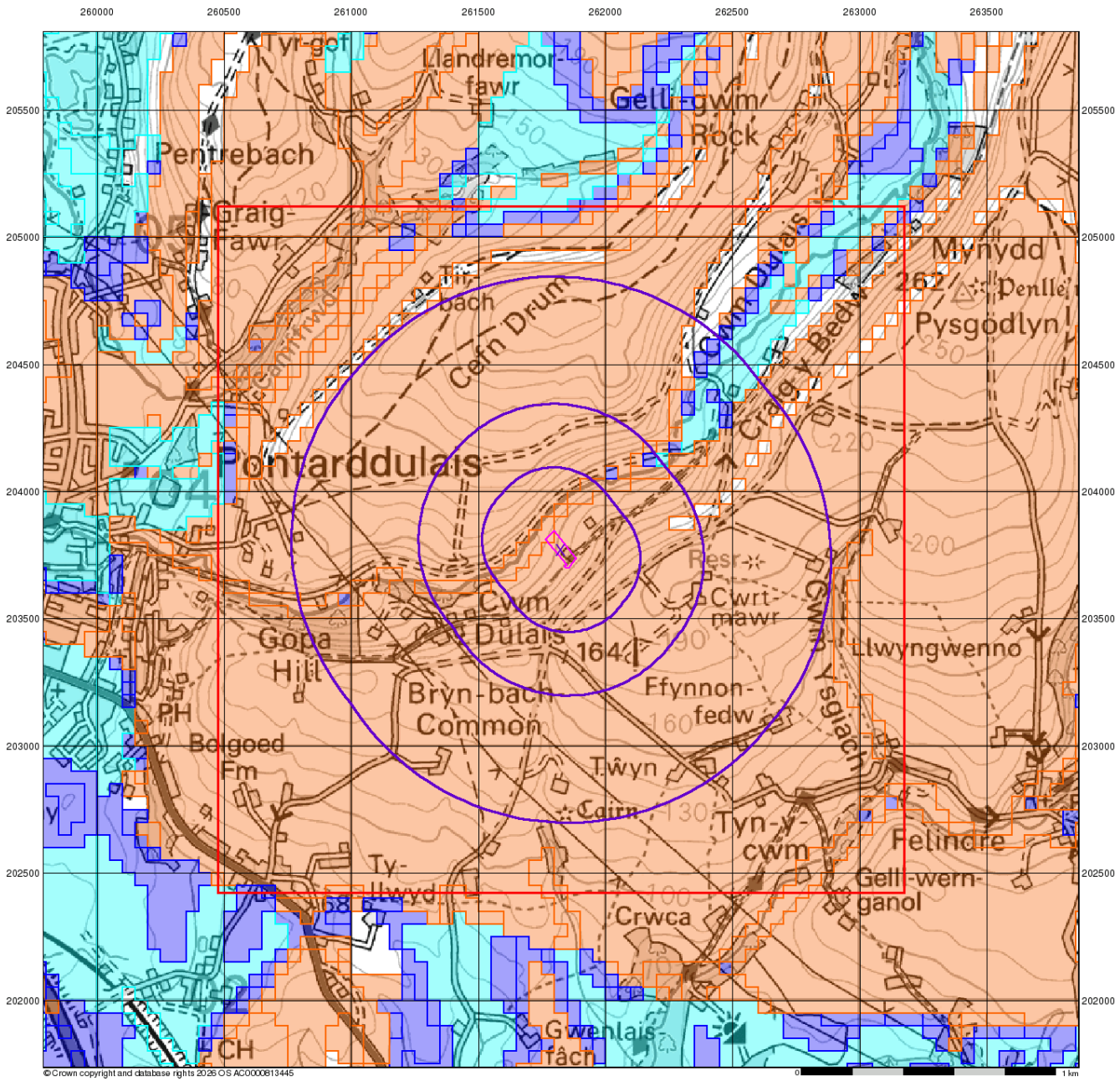

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BGS Flood GFS Data

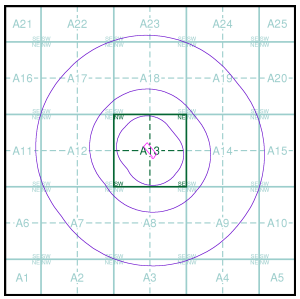
General

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



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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
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Not Supplied - Quaternary

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
		Faults		
		Rock Segments		

Superficial Geology

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

Bedrock and Faults

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

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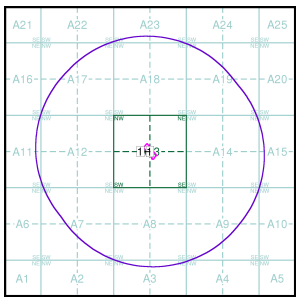
Geology 1:50,000 Maps

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: 230
Map Name: Ammanford
Map Date: 1977
Bedrock Geology: Available
Superficial Geology: Available
Artificial Geology: Available
Faults: Not Supplied
Landslip: Available
Rock Segments: Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

Order Number: 402122936_1_1
Customer Reference: 26-260
National Grid Reference: 261820, 203770
Slice: A
Site Area (Ha): 0.68
Search Buffer (m): 1000

Site Details:

Site at 261840, 203750

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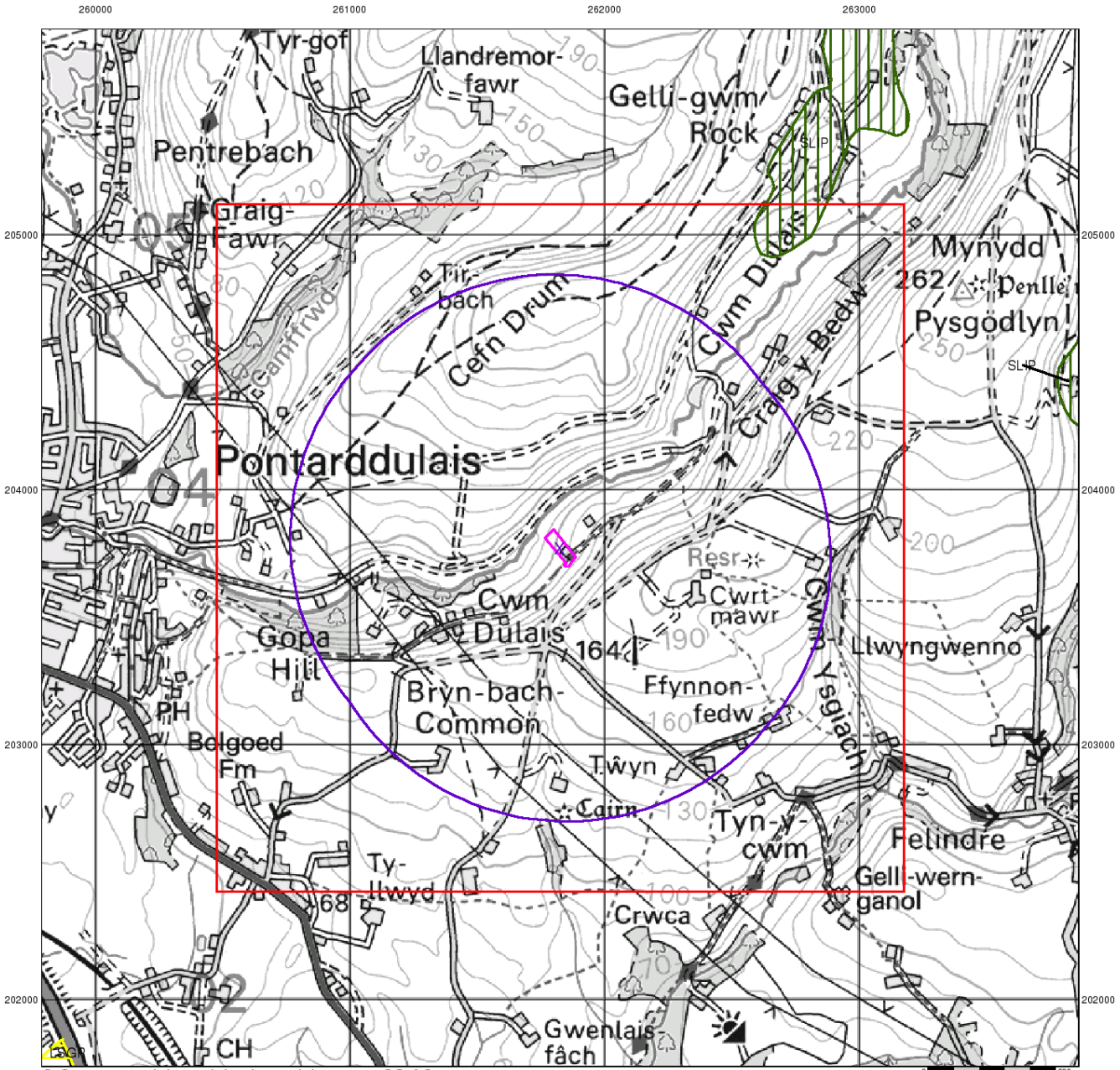

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Artificial Ground and Landslip

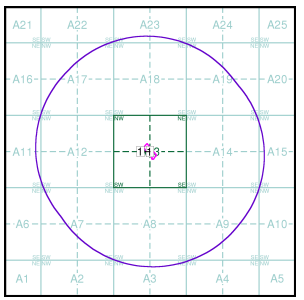
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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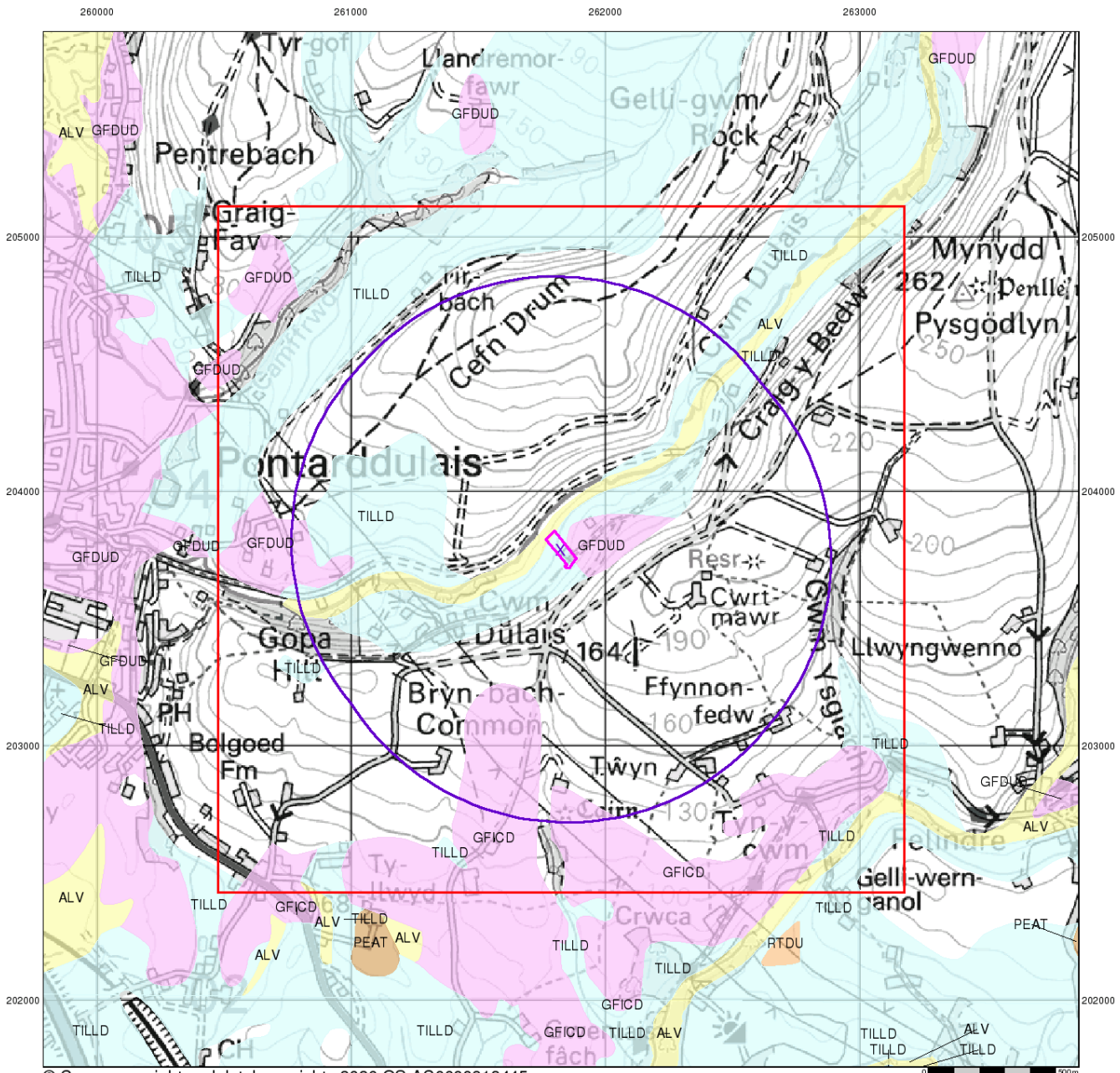

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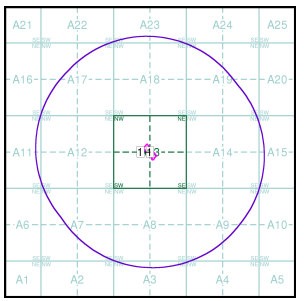
Superficial Geology

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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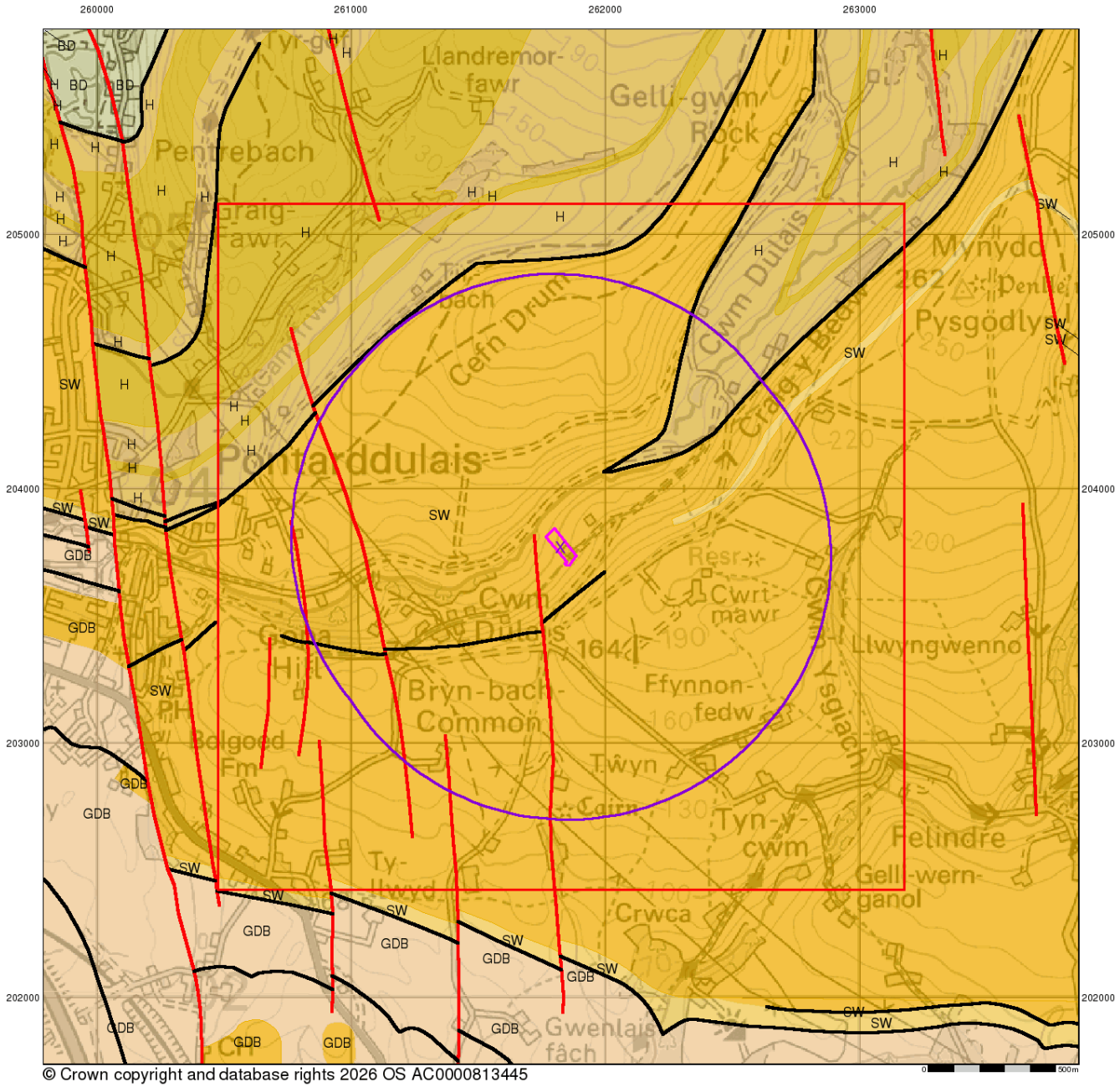

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Bedrock and Faults

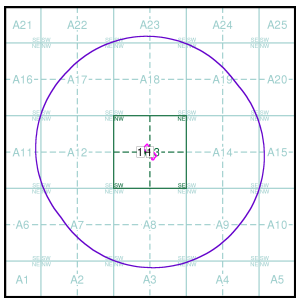
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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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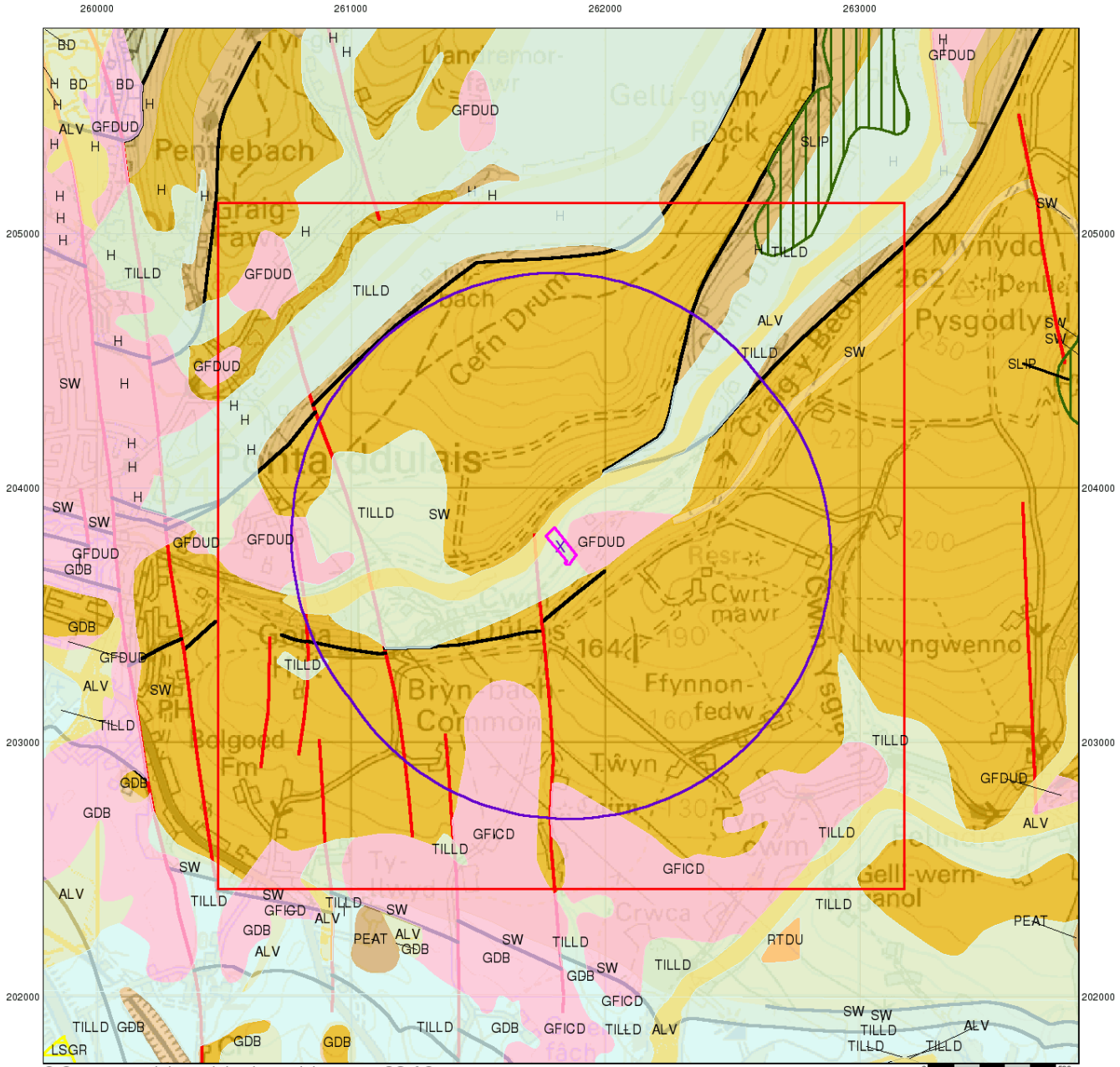

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Combined Surface Geology

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.

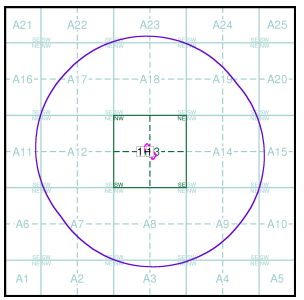
Additional Information

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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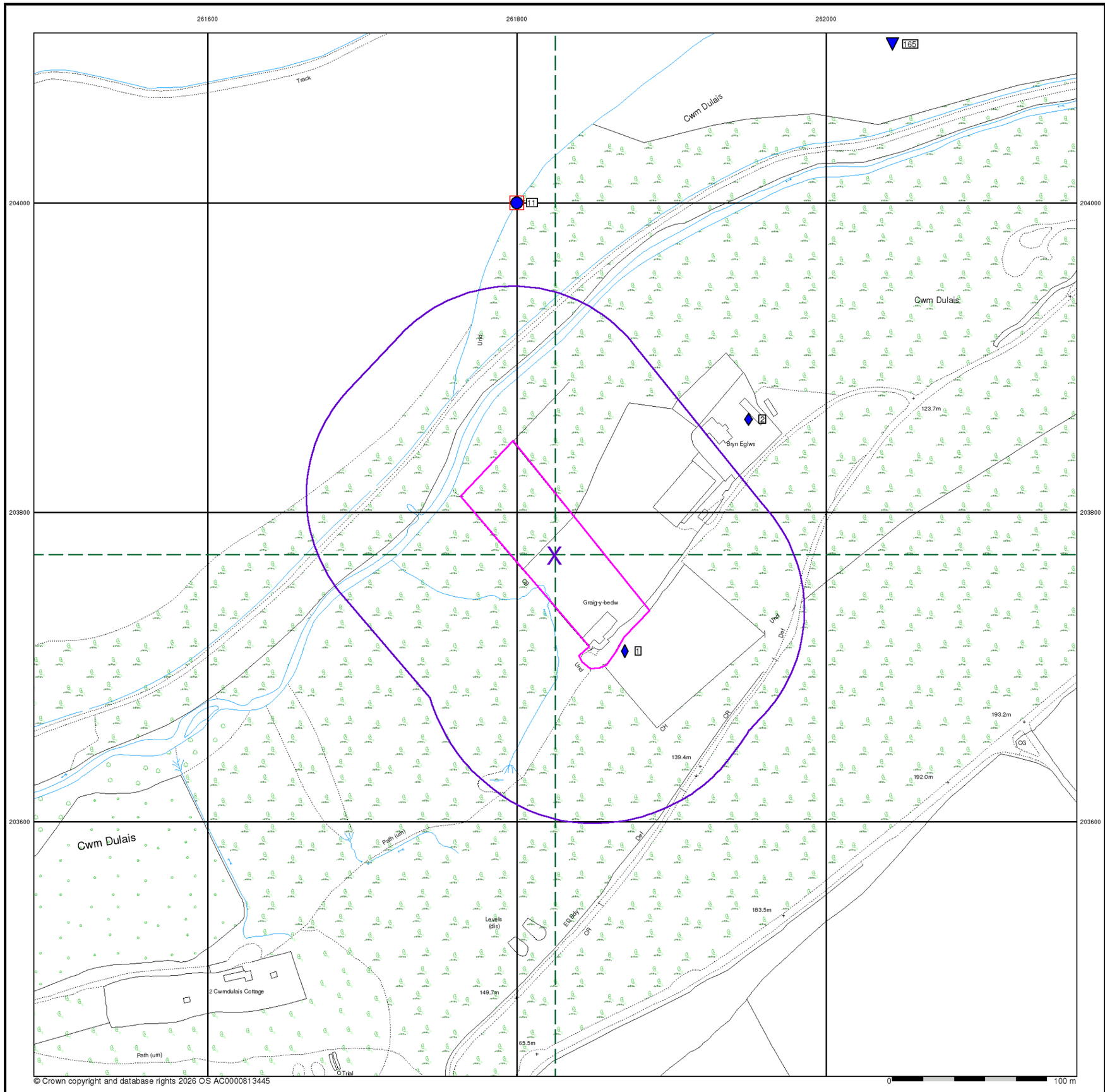

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Geotechnical & Geoenvironmental Specialists

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
- Historical Prosecutions
- Prosecutions
- Registered Radioactive Substance
- River Network or Water Feature
- 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

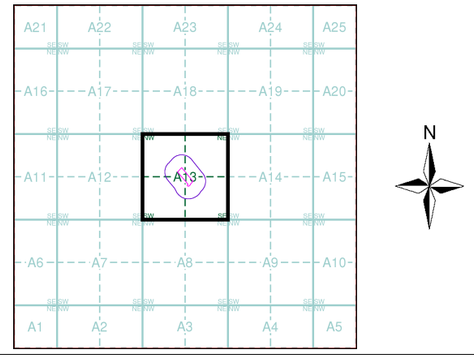
Hazardous Substances

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

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13



Order Details

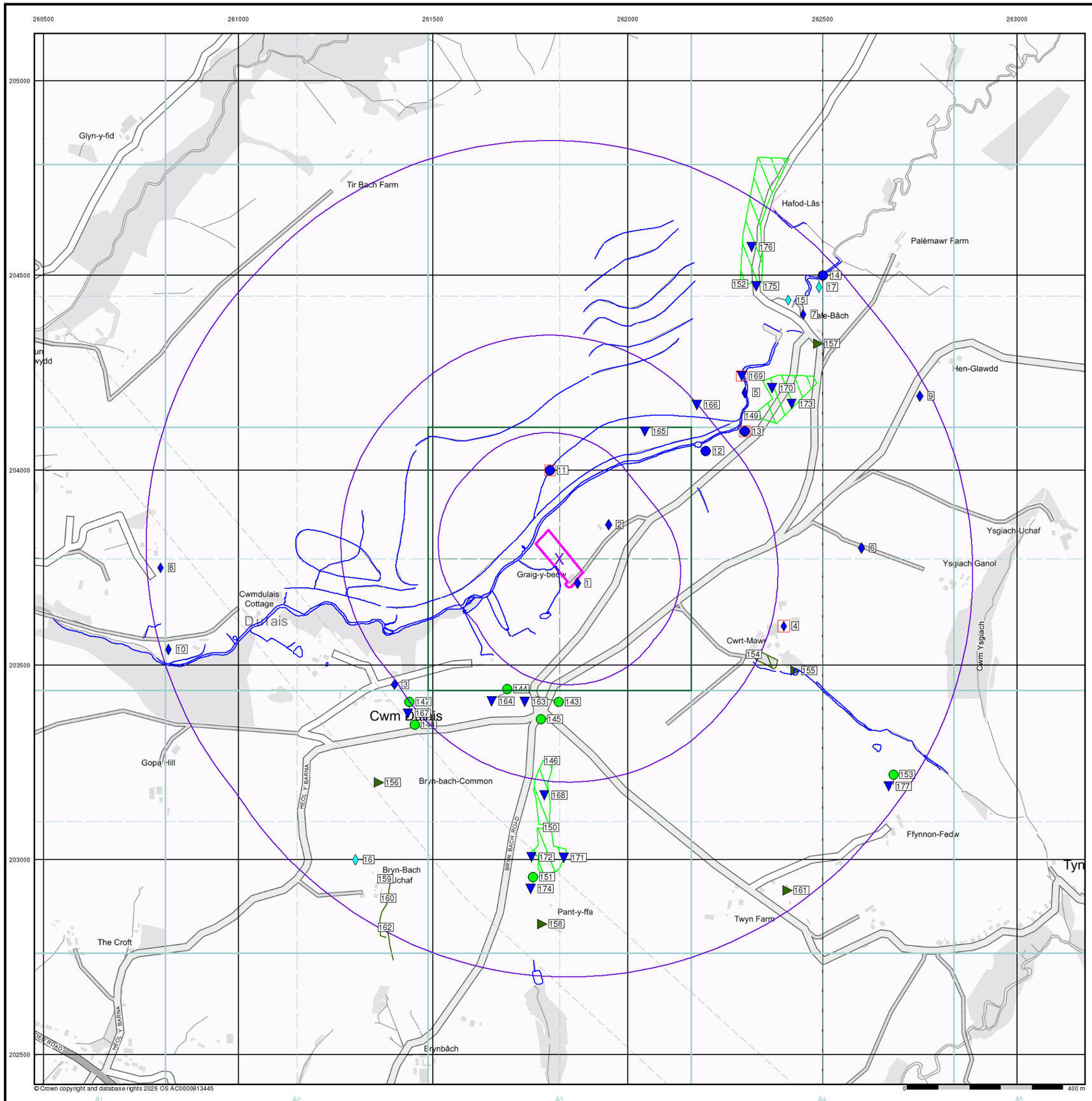
Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Plot Buffer (m):	100

Site Details

Site at 261840, 203750

Landmark INFORMATION GROUP

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



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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
- Historical Prosecutions
- Prosecutions
- Registered Radioactive Substance
- River Network or Water Feature
- 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

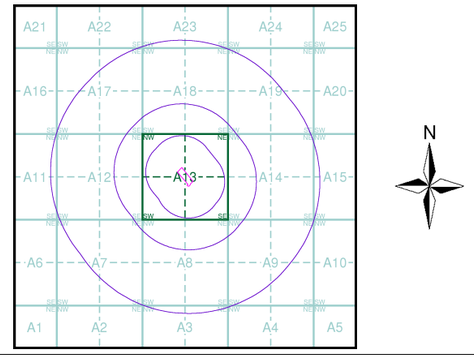
Hazardous Substances

- 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:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	1000

Site Details

Site at 261840, 203750

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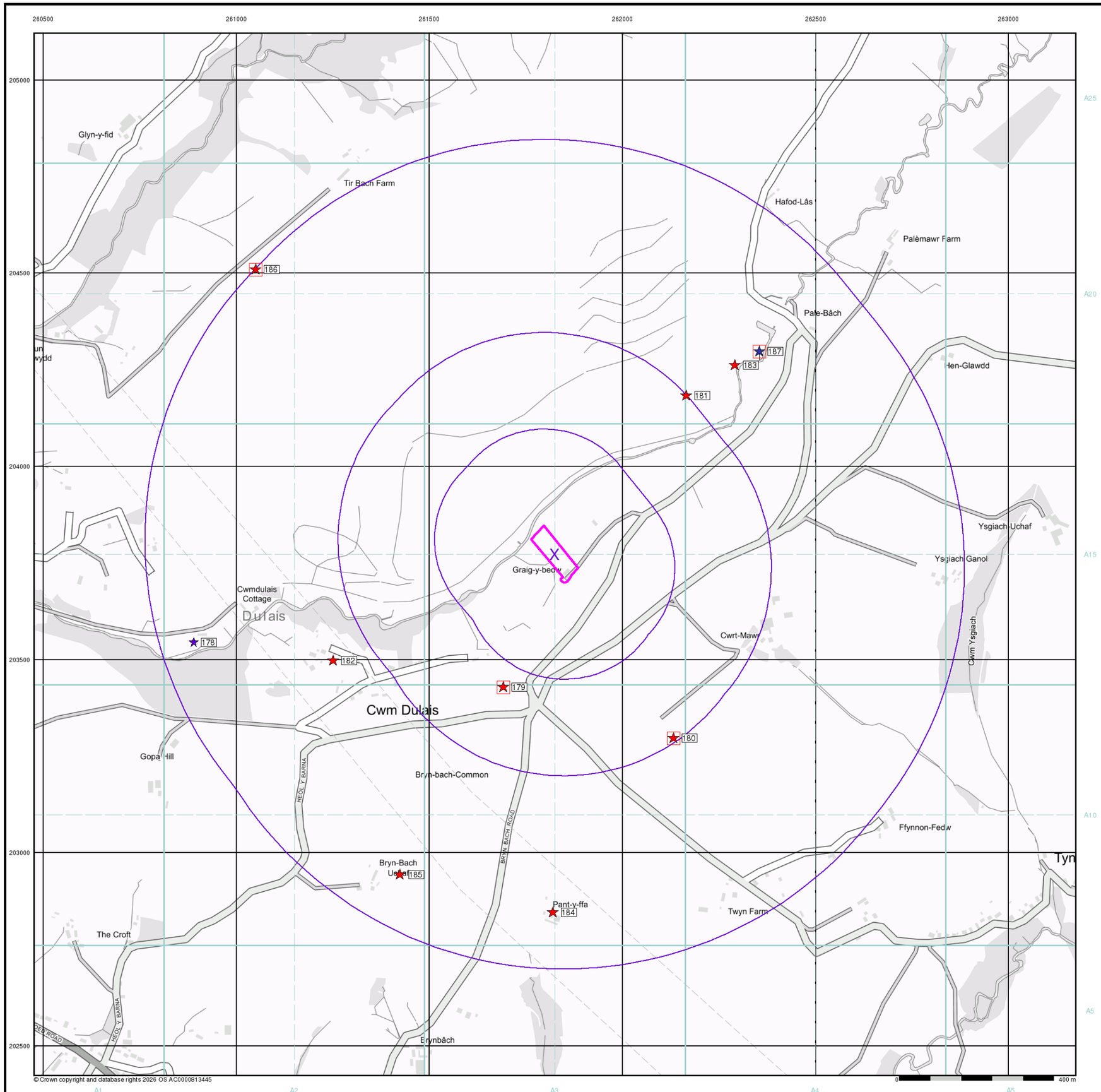

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Industrial Land Use Map

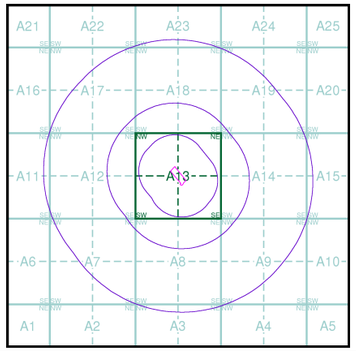
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- 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



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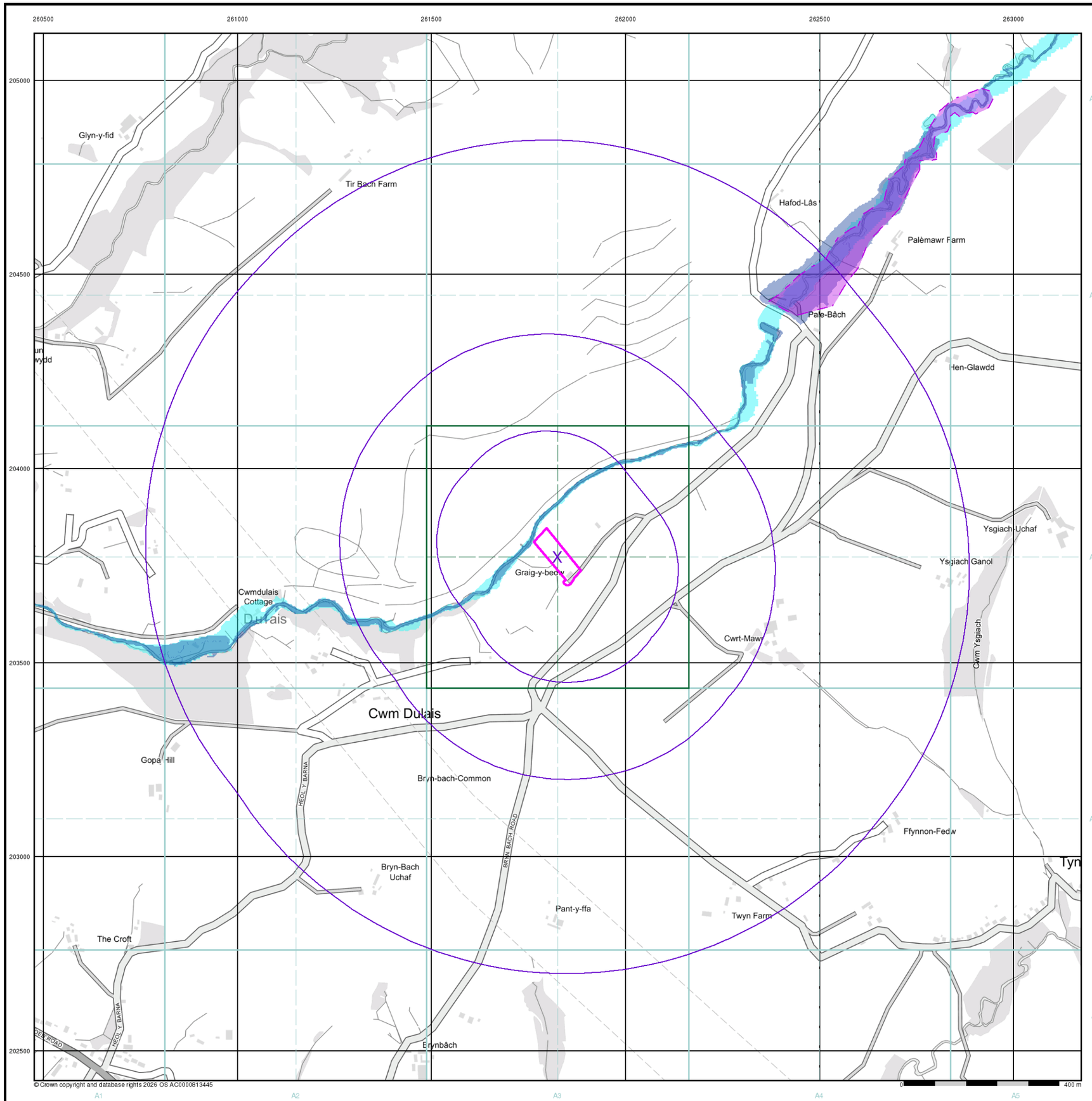

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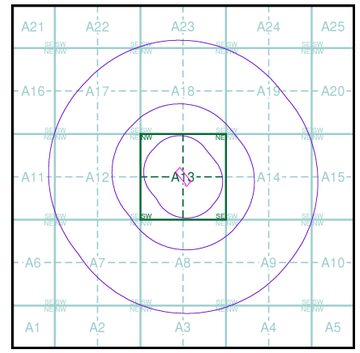
General

- 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



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Customer Ref:	26-260
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Search Buffer (m):	1000

Site Details

Site at 261840, 203750

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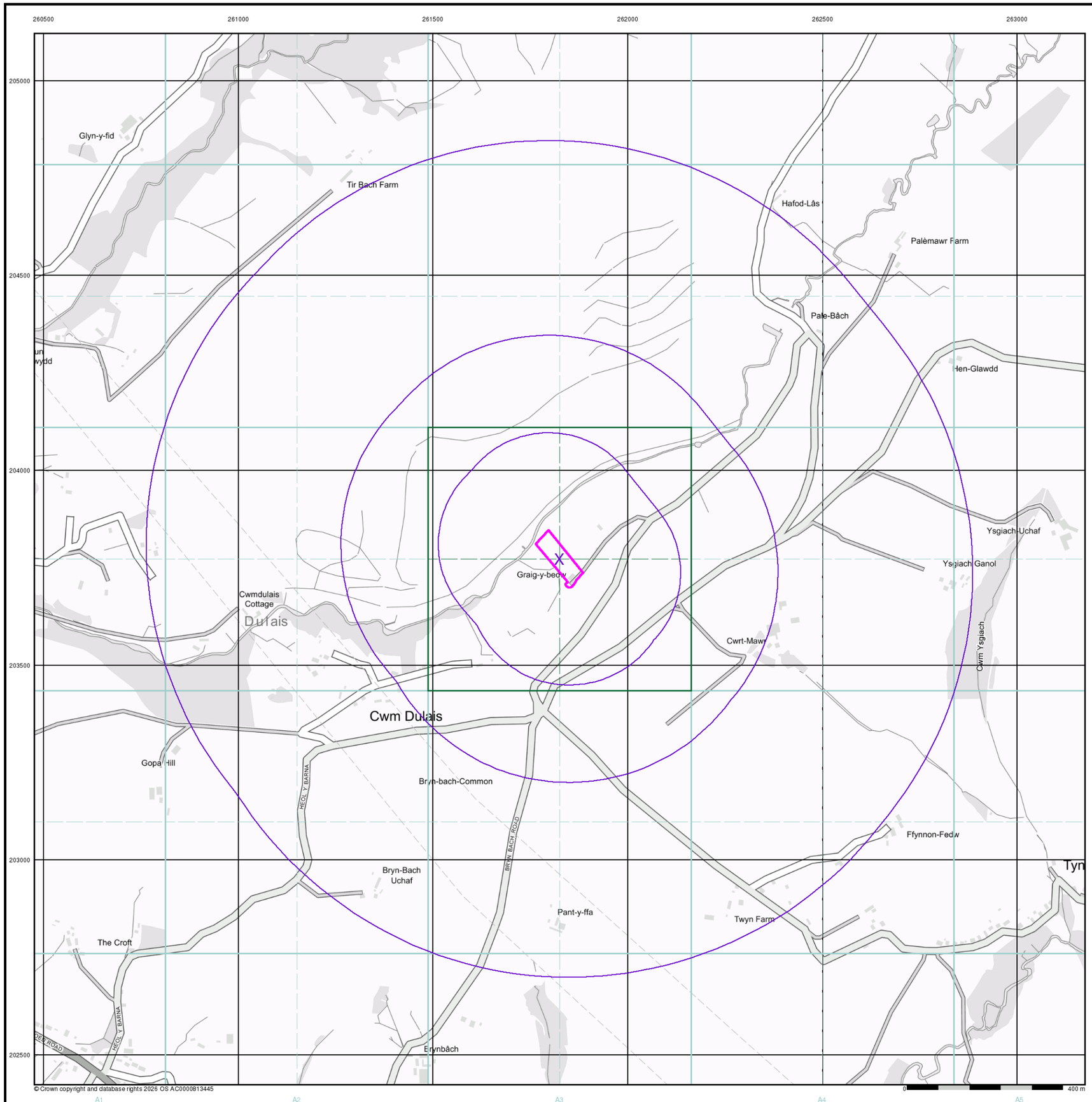

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General

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

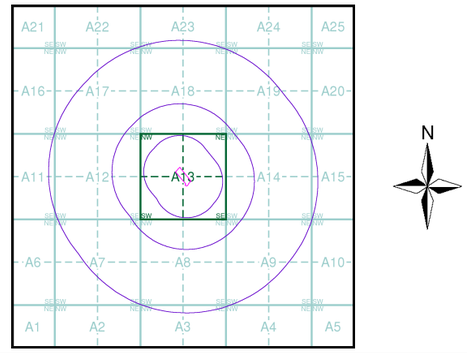
Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A



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Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
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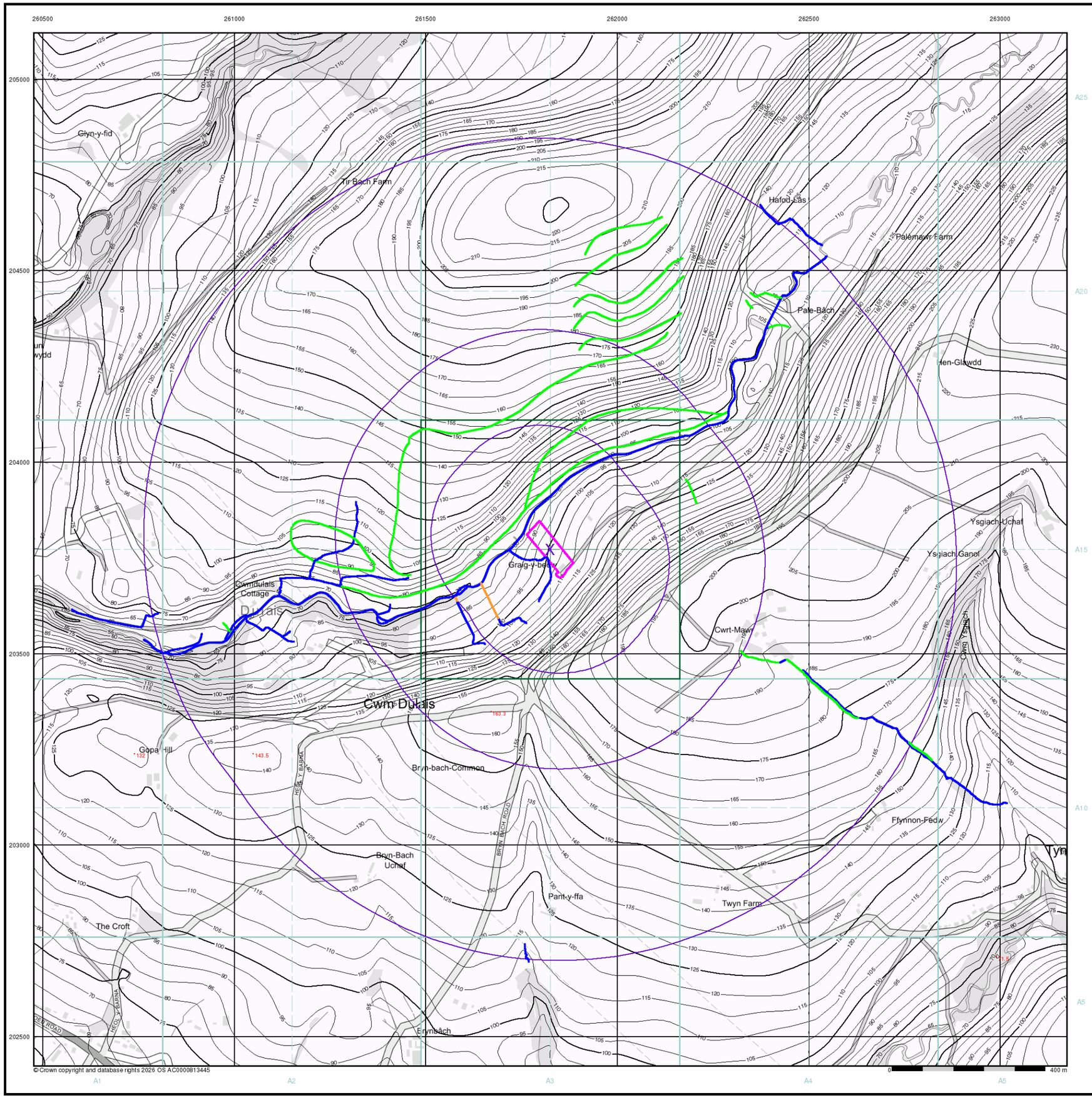

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General

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

OS NGD Water Network Links Data

- Canal
- Canal Feeder
- Reservoir
- Foreshore
- Marsh
- Watercourse
- Overflow
- Drain
- Other
- Still Water
- Leat
- Lock
- Sea

Contours (height in metres)

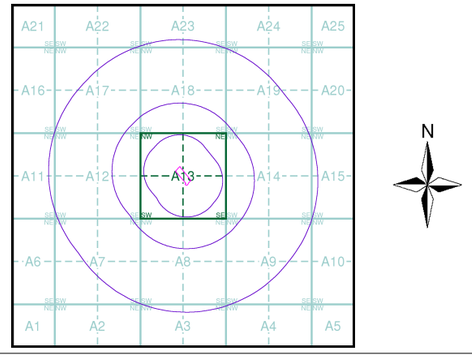
Standard Contour 105

Master Contour 100 95

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS NGD Water Network Map - Slice A



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
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Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	1000

Site Details

Site at 261840, 203750

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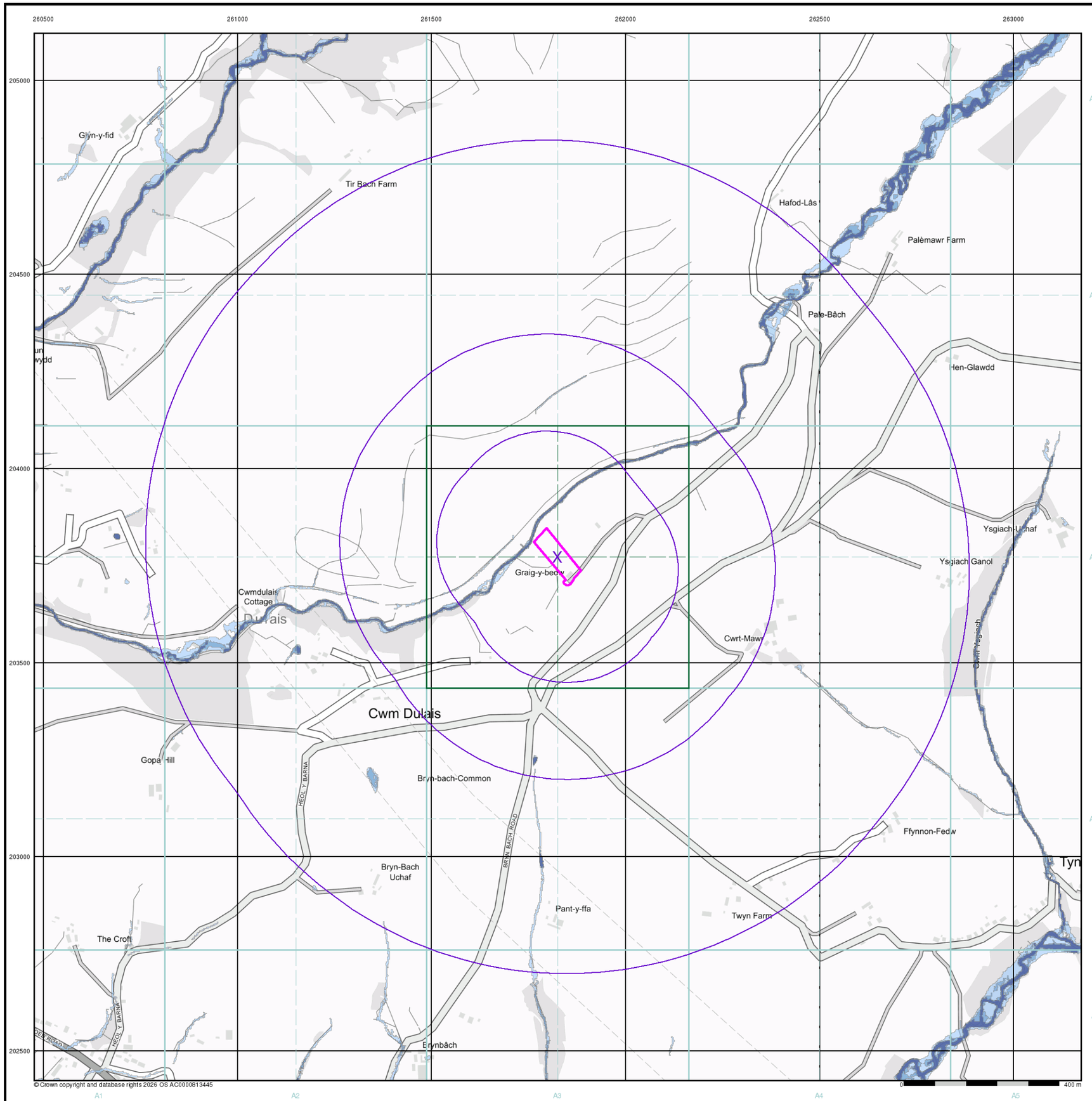

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General

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

Risk of Flooding from Surface Water

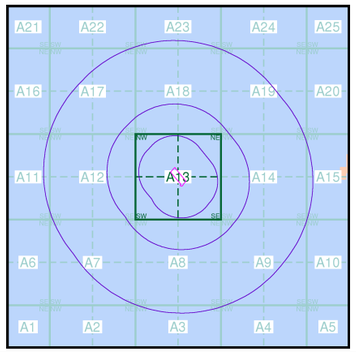
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

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



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Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
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Site at 261840, 203750

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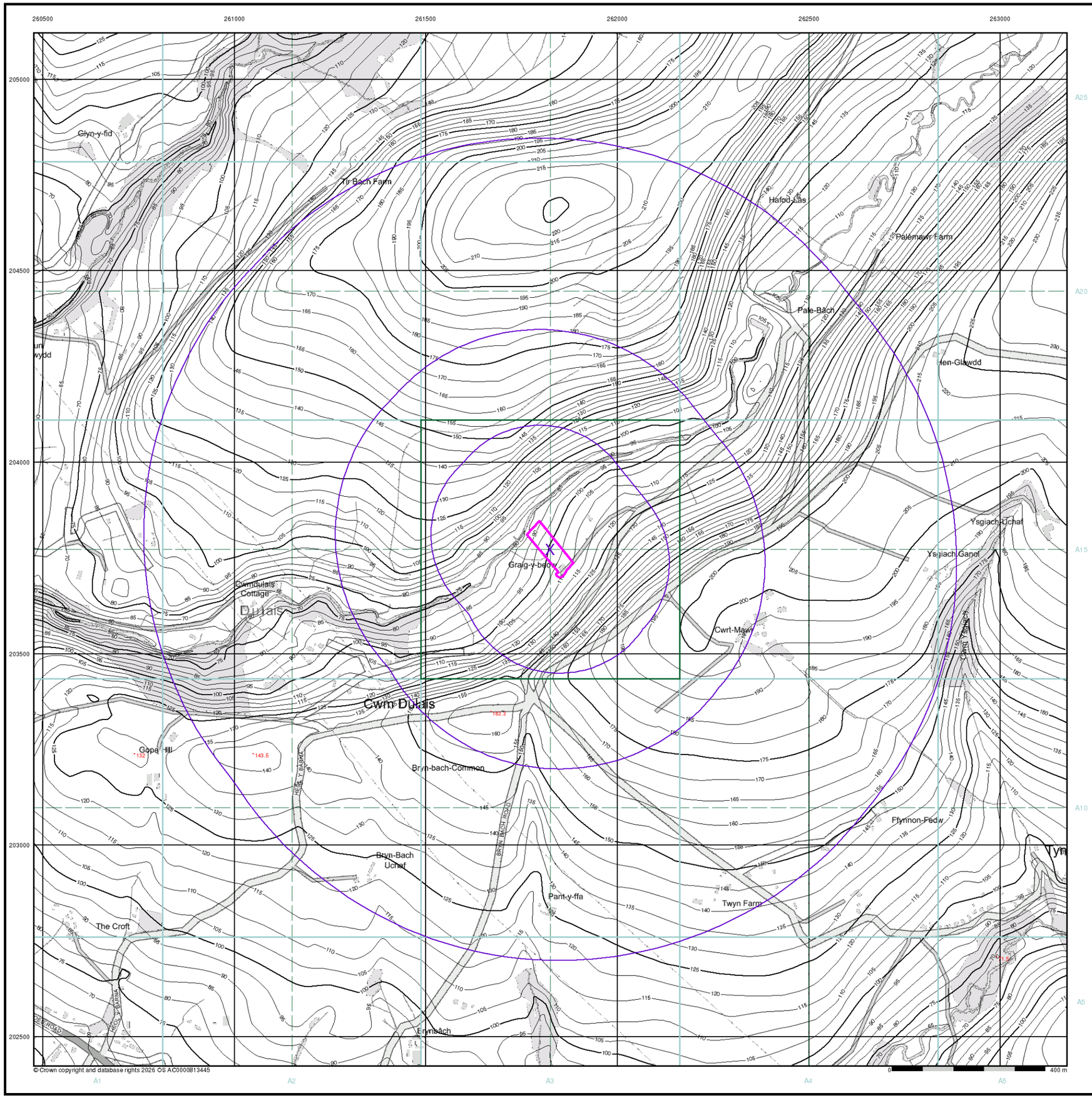

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WFD Surface Waters Map

General

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

Slice | Map ID

Water Framework Directive - Surface Water Quality

- High
- Good
- Moderate
- Poor
- Bad

Contours (height in meters)

Standard Contour 105

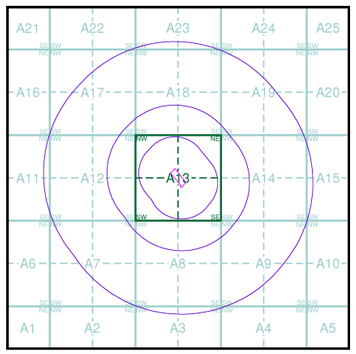
Master Contour 100 95

Spot Height * 167.3

MLW Mean Low Water

MHW Mean High Water

WFD Surface Waters Map - Slice A



Order Details

Order Number:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	1000

Site Details

Site at 261840, 203750

Landmark INFORMATION GROUP

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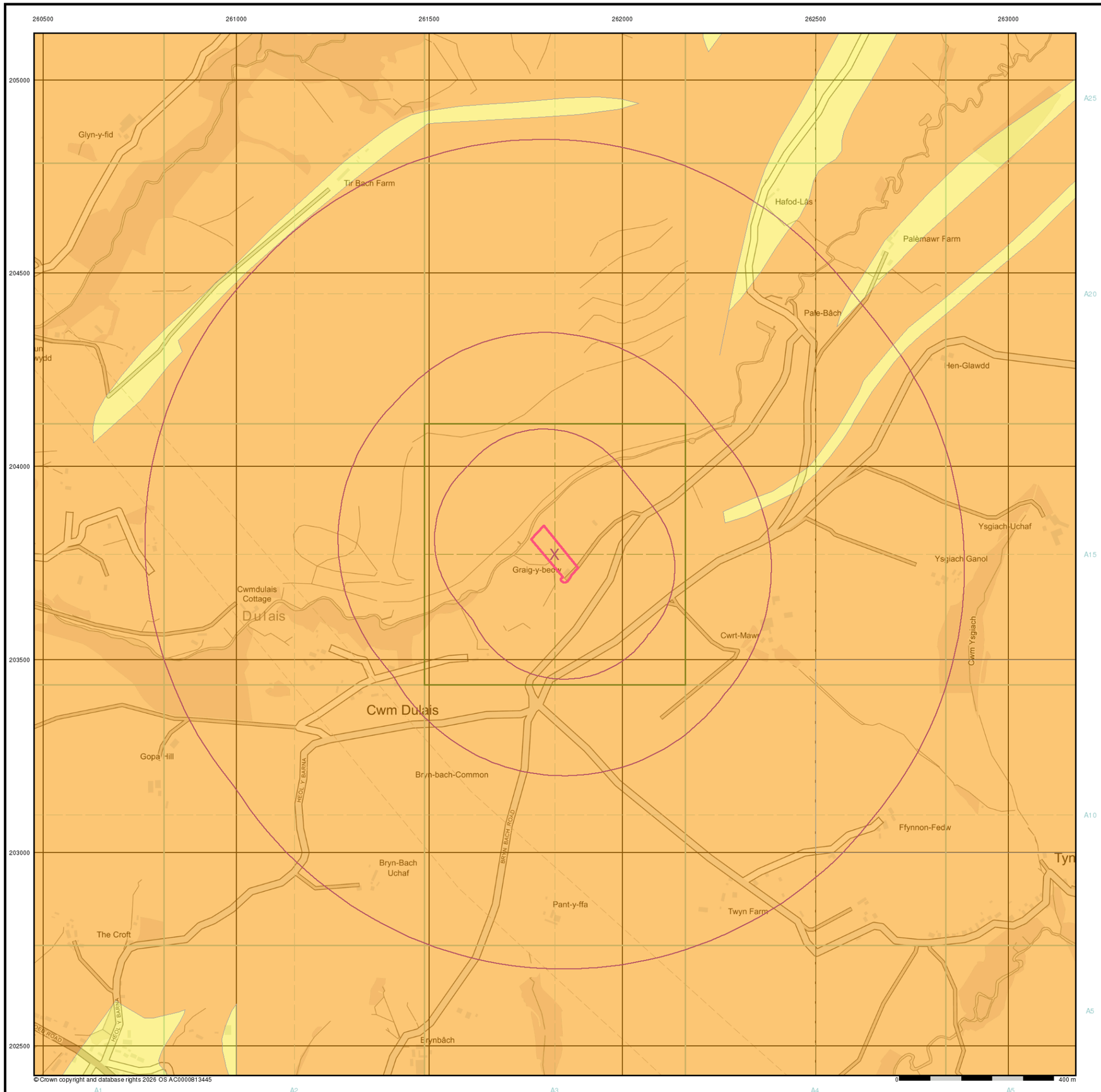

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Geotechnical & Geoenvironmental Specialists

General

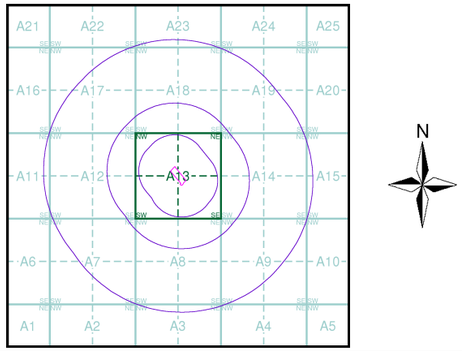
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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:	402122936_1_1
Customer Ref:	26-260
National Grid Reference:	261820, 203770
Slice:	A
Site Area (Ha):	0.68
Search Buffer (m):	1000

Site Details

Site at 261840, 203750

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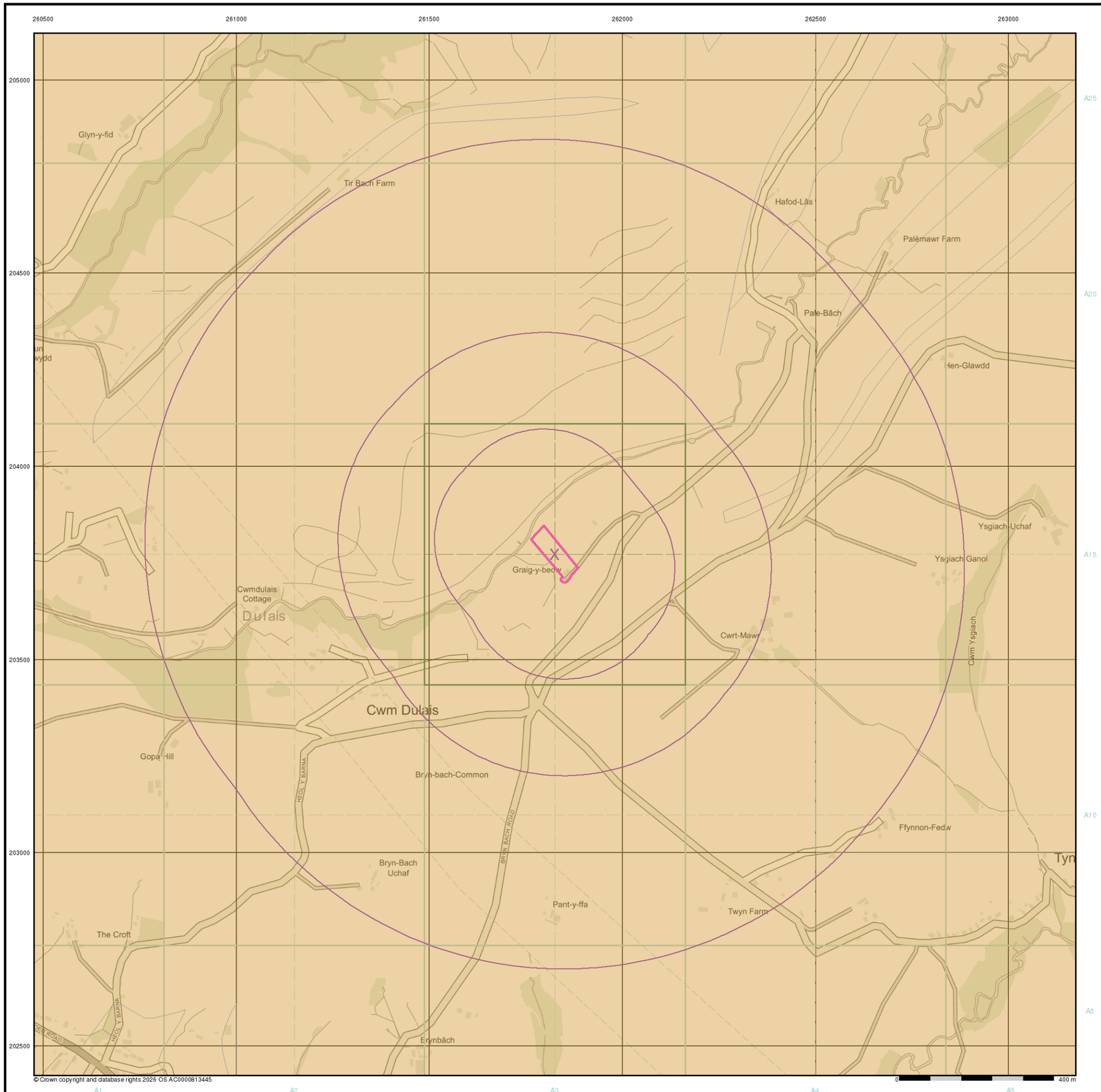

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Geotechnical & Geoenvironmental Specialists

General

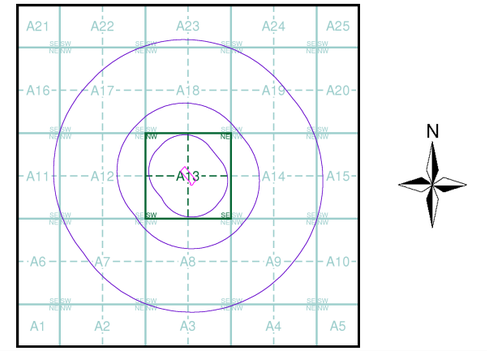
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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

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Customer Ref:	26-260
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Site at 261840, 203750

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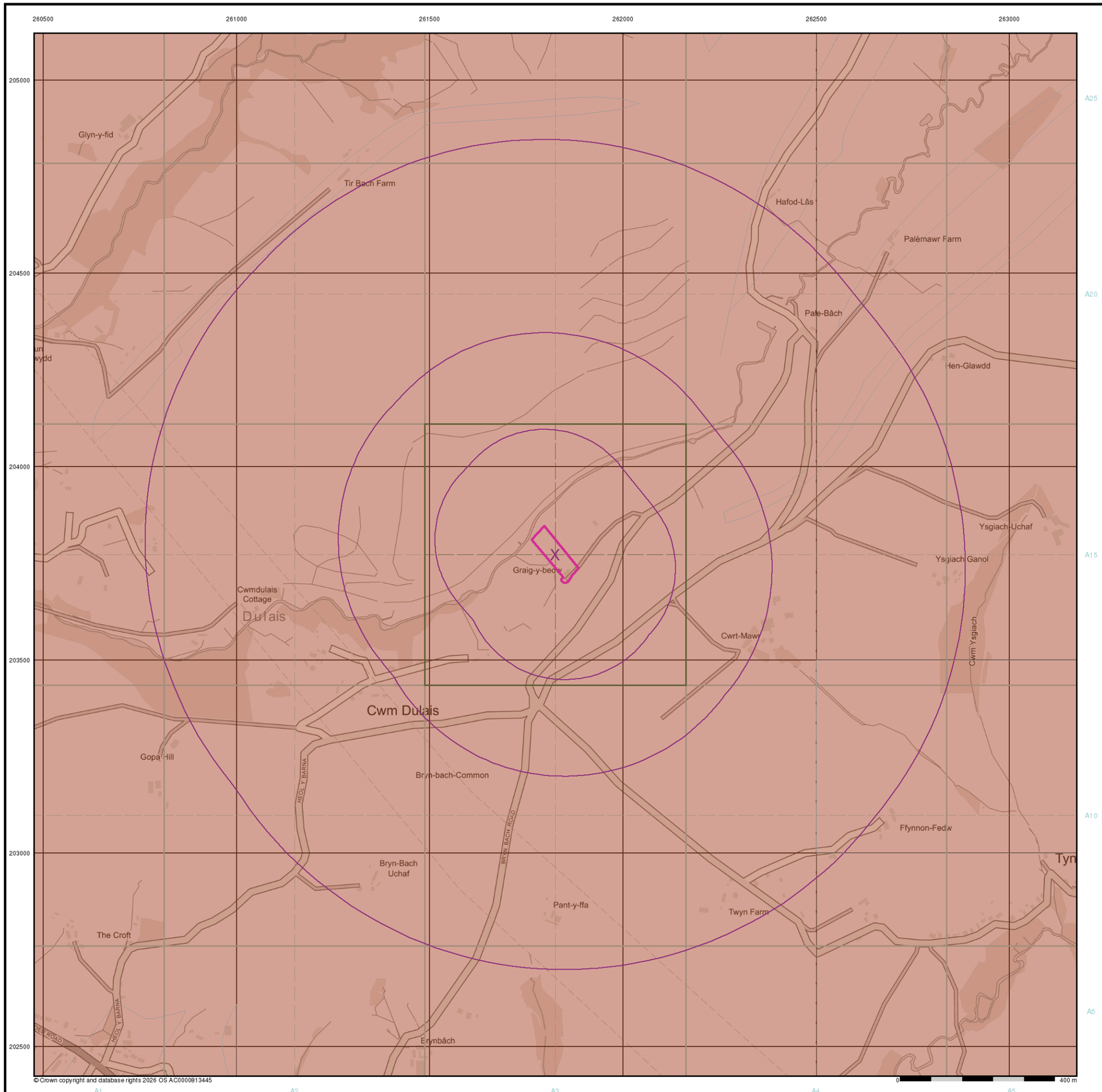

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Geotechnical & Geoenvironmental Specialists

General

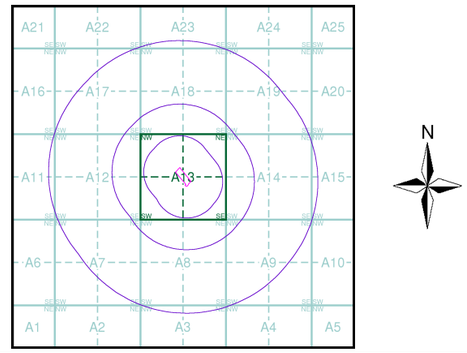
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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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National Grid Reference:	261820, 203770
Slice:	A
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Site at 261840, 203750

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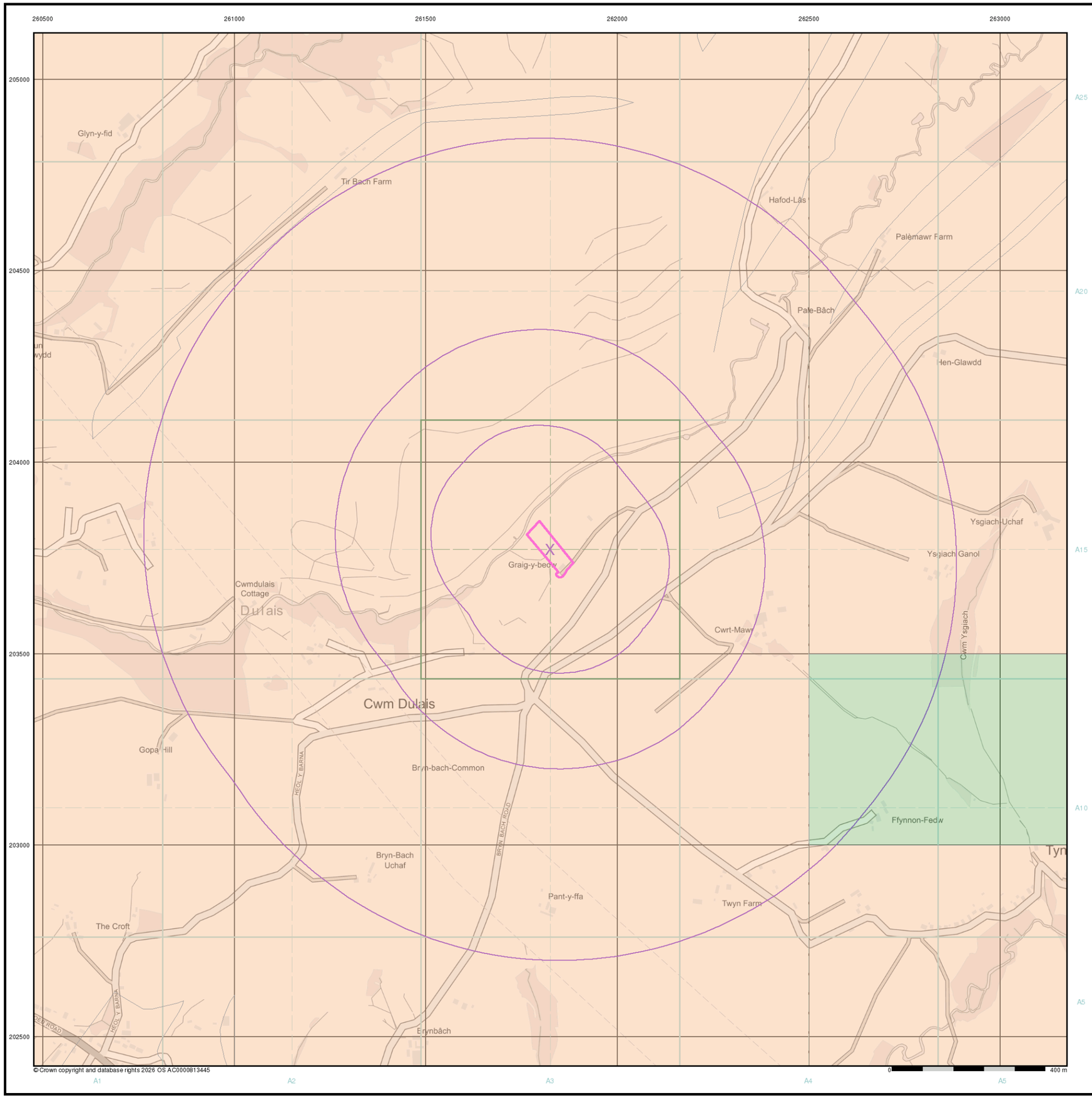

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Geotechnical & Geoenvironmental Specialists

General

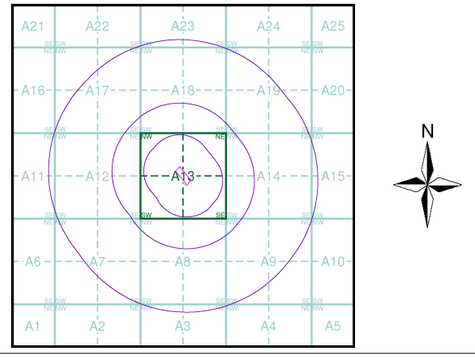
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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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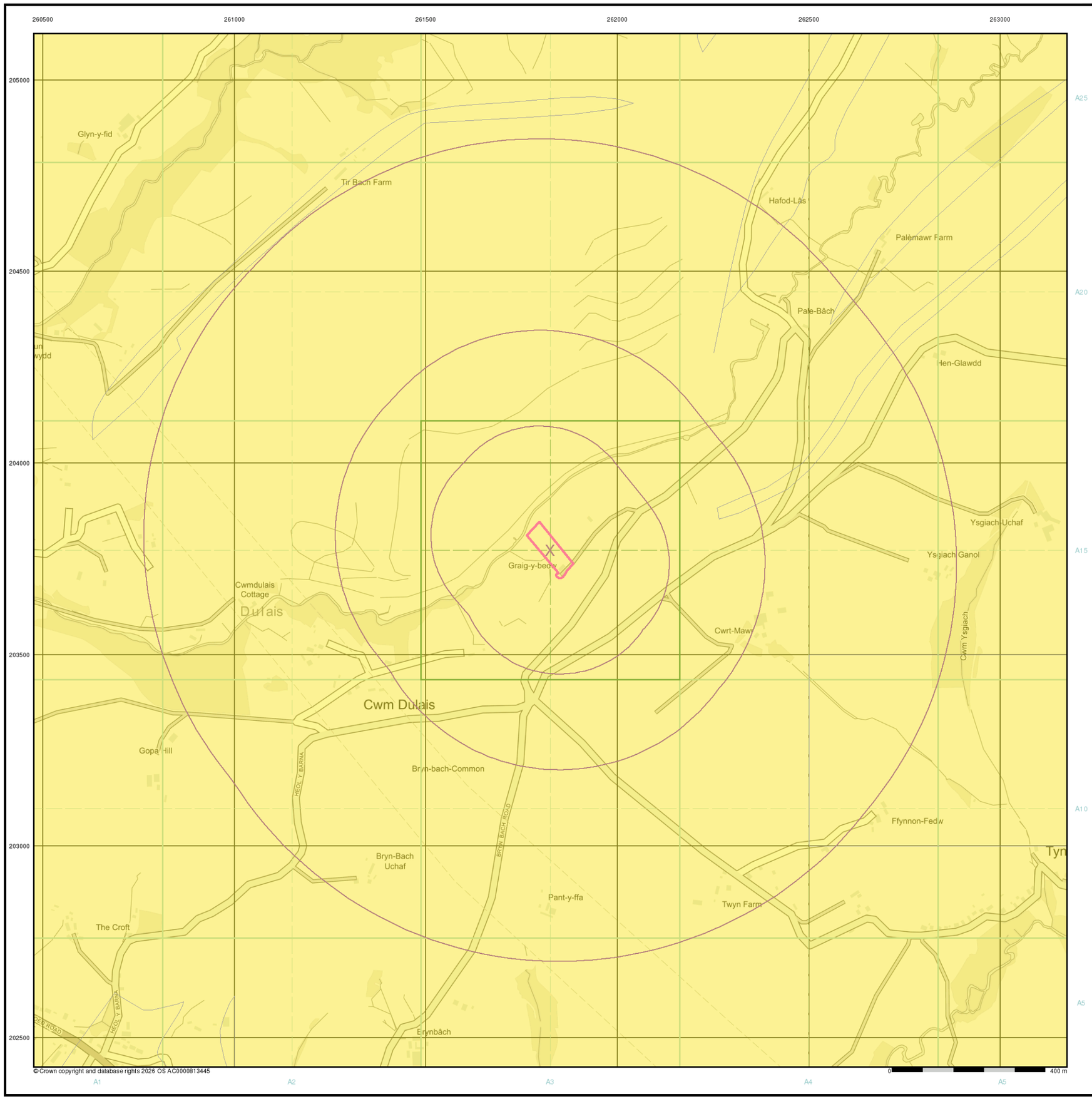

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Geotechnical & Geoenvironmental Specialists

General

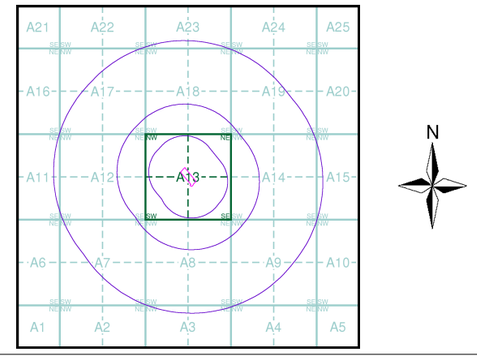
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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



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Web: www.envirocheck.co.uk

ANNEX B
GRAF One2Clean Sewage Treatment Tank and Drainage Tunnel Specification

Introducing the cutting-edge One2Clean treatment plant range

Setting the standard

- ✓ Only one tank with just one chamber required
- ✓ Less energy consumption and less wear
- ✓ No mechanical elements in the wastewater
- ✓ No pumps in the wastewater
- ✓ No electrical components in the wastewater
- ✓ Incredibly low volume of sewage sludge

ADVANCED TECHNOLOGY

The go to treatment plant for Nutrient Neutrality.
Unrivalled effluent quality.
Treatment levels -
BOD – 7mg/l
Suspended Solids – 14mg/l
Ammonia – 0.5mg/l
Phosphate – 1.6mg/l
Nitrate – 7.9mg/l

one*2clean* set-up kit

- Conventional wastewater treatment systems require up to three pumping processes. one2clean only requires one pumping process, which saves energy and extends the lifetime of the air compressor – the core part of the system
- Rugged clear water lifter manufactured in one seamless piece. No connectors or screws necessary
- Simple maintenance via an integrated, self-cleaning sampling container

one*2clean* system control

- The one2clean has a compact controller
- The microprocessor control system ensures simple operation and maintenance

Wastewater tank

- Telescopic cover
- State-of-the-art manufacturing for maximum stability
- Suitable for vehicle loading in conjunction with telescopic vehicle dome shaft
- 100% watertight and corrosion-resistant
- Can be installed in groundwater

T: 01608 661500 | E: info@grafuk.co.uk | **www.grafuk.co.uk**

The one2clean system

The only wastewater underground tank of it's kind!

PRODUCT QUALITY

German engineering.

15 YEAR WARRANTY ON TANK

3 YEAR WARRANTY ON PARTS

50 YEAR DESIGN LIFE ON DESIGN

SUSTAINABILITY

Low power consumption - Daily energy usage of your One2clean treatment plant – from 0.59kWh/d.

Quiet operation – High quality diaphragm compressors.

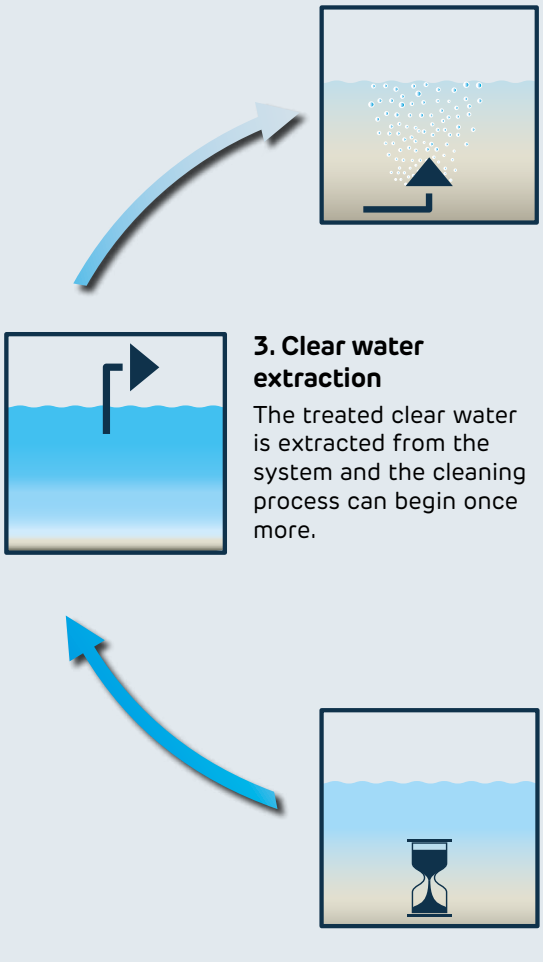
CUSTOMER SERVICE

Lifetime support – Customer support on your project from start to finish.

GRAFter network – Graf accredited service provider network for all your service and maintenance needs.

GRAF UK ACCREDITED SERVICE PROVIDER

HOW IT WORKS



1. Wastewater treatment

The wastewater arrives directly in the biological zone without the need for pumping processes. Aeration of the entire container leads to immediate wastewater activation. The micro-organisms begin the biological cleaning process without delay.

2. Settling phase

Aeration is interrupted by the control unit, the activated sludge sinks to the bottom. A clear water zone develops in the upper part of the container.

3. Clear water extraction

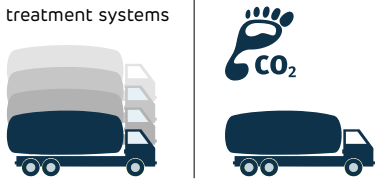
The treated clear water is extracted from the system and the cleaning process can begin once more.

Incredibly low volume of sewage sludge

- Aeration of the entire wastewater tank
- Immediate wastewater activation
- Minimisation of sludge
- Less sludge removal
- Cost savings

Conventional wastewater treatment systems

one*2clean*



Low maintenance costs

- Simple construction
- High-quality components
- Maximum performance using optimised technology
- Integrated sampling point

Minimal power consumption

- The one2clean has only one pumping process, reducing energy consumption and running costs
- Economical motor valve
- Energy-optimised membrane compressor

For assistance with your project please contact us on T: 01608 661500 | E: info@grafuk.co.uk | **www.grafuk.co.uk**

The one2clean system

The only wastewater underground tank of it's kind!

One2Clean systems

Inhabitants [max.]	Standard control system	Advanced control system	Max. daily flow [l/d]	Max. organic load [kg BOD5/d]	Total volume [l]	Length [mm]	Width [mm]	Height [mm]	Weight [kg]	Product code
5	✓	✓	750	0.3	3,750	2280	1755	1880	150	G50000
7	✓	✓	1,050	0.42	4,800	2280	1985	2110	185	G50002
9	✓	✓	1,350	0.54	6,500	2390	2190	2390	220	G50004
12	✓	✓	1,800	0.72	8,500	3500	2040	2515	380	G50200
15	✓	✓	2,250	0.9	10,000	3520	2240	2575	455	G50204
18*	✓	✗	2,700	1.08	13,000	5380	2190	2390	440	G50010
19**	✓	✓	2,850	1.14	13,000	4000	2420	2755	510	*TBC*
24	✗	✓	3,600	1.44	16,000	4590	2500	3160	890	G50300
32	✗	✓	4,800	1.92	22,000	6230	2500	3160	1085	G50302
45	✗	✓	6,750	2.70	32,000	8440	2500	3160	1430	G50304
50	✗	✓	7,500	3.00	38,000	9925	2500	3160	1630	G50306
60	✗	✓	9,000	3.60	44,000	11440	2500	3160	1840	G50308
70	✗	✓	10,500	4.20	48,000	12140	2500	3160	1970	G50310

18 - Two tank system*
*19** - Not available until summer 2024*
Advanced control system incorporates an advanced Control M controller with plug and play options.

Technical data

System	one2clean
System conformity	EN 12566-3
Purifying technology	fully biological SBR lifting technology
One-tank systems available up to	9 inhabitants | 1,350 l/d
Two-tank systems available up to	18 inhabitants | 2,700 l/d
Maintenance interval	1 – 2 per year
Warranty for underground tank	15 years
Warranty for purifying technology	3 years
Cleaning performance	7, 14, 0.5

Control	
Holiday mode	Manual
+D Removal of nitrogen	●
+C Carbon infeed	○
Logbook function	●
Operation	4 keys
External control cabinet for installing control unit outdoors	○
Annual power consumption	230 kWh (5 inhabitants | 750 l/d)

Parameter	%	mg/l
COD (chemical oxygen demand)	94,2 %	43
BOD_5 (biochemical oxygen demand)	98,0 %	7
SS (suspended solids)	96,3 %	14
NH_4-N	98,3 %	0.5
N_{total}	87,0 %	7.9

Results of practical testing undertaken by the Prüfinstitut für Abwassertechnik (Testing Institute for Wastewater Technology), Aachen

● Standard equipment
○ Available as options
— not available

FREE COMMISSIONING

Graf UK will arrange **FREE** commissioning of your system by a Graf accredited service provider who will register your system to activate your warranty. For more information go to **https://bit.ly/GRAFFreeCommission** or scan the QR code.

WORTH £150

For general enquiries go to https://bit.ly/grafuksts or scan the QR code.

Prüfinstitut für Abwassertechnik GmbH

PERFORMANCE RESULTS

Otto Graf GmbH
Carl-Zeiss-Str. 2 - 6, 79331 Teningen, Germany

EN 12566-3
Small wastewater treatment systems for up to 50 PT

Small wastewater treatment system one2clean
SBR plant in one two-zone polypropylene tank

Test report PIA2014-216B14.01.e

Nominal organic daily load*	0.27	kg/d
Nominal hydraulic daily load	0.75	m³/d
Material	polypropylene	

Treatment efficiency (nominal sequences)

	Efficiency	Effluent
COD	94.2 %	43 mg/l
BOD_5	98.0 %	7 mg/l
SS	96.3 %	14 mg/l
NH_4-N**	98.3 %	0.5 mg/l
N_{tot}**	87.0 %	7.9 mg/l
P_{tot}	80.2 %	1.6 mg/l

Electrical consumption 0.63 kWh/d

**at a test influent of ≥ 300 mg/l BOD_5 (mean)*
***determined for temperatures ≥ 12°C in the bioreactor*

Performance tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH
(PIA GmbH)
Hergenrather Weg 30
52074 Aachen, Germany

This document replaces neither the declaration of performance nor the CE marking.

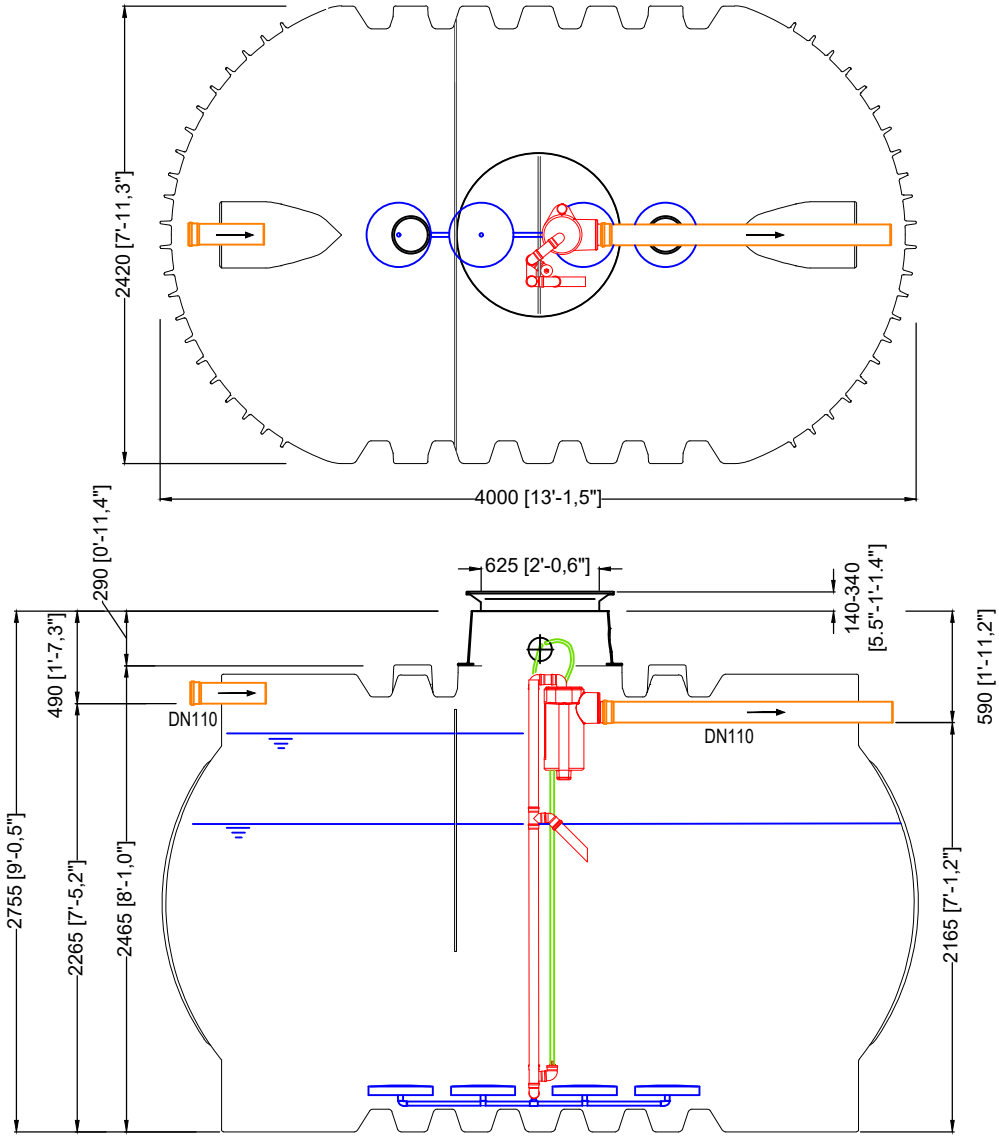
Notified Body No.: 1739

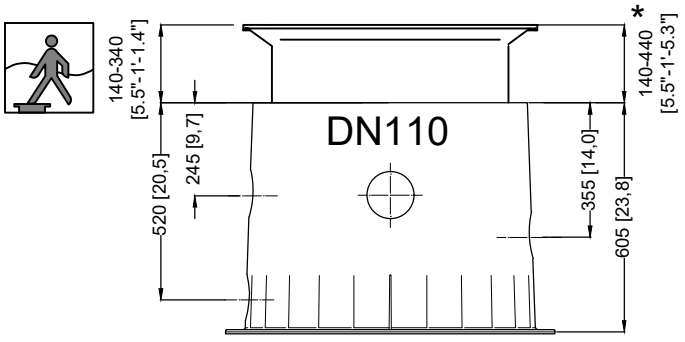
Certified according to ISO 9001:2008

DAkkS Deutsche Akkreditierungsstelle D-PL-17712-01-00

Prüfinstitut für Abwassertechnik GmbH
geprüft - tested - testé

Elmar Lancé November 2014





*

Maxi Dom (optional)

- 320 mm mehr Einbautiefe
- 320 mm more excavation depth
- 320 mm más de profundidad

320 mm plus de profondeur d'installation

D

one2clean 19 EW TD-Mini
Carat XL 13000L / 3435 gal.

Artikel-Nr. / product no. / article no. / articulo no.: 105335

GB
one2clean 19 PE TD-Mini
Carat XL 13000 L / 3435 gal.

ES
one2clean 19 HE Cúpula Mini
Carat XL 13000 L / 3435 gal.

FR
one2clean 19 EH Mini-dôme
Carat XL 13000 L / 3435 gal.

revision

gezeichnet / drawn	EWOI	Gewicht / weight	
Datum / date	2024.06.27	Toleranz / tolerance	+/- 3%
Maßstab / scale	M 1:20 / 1:40	Einheiten / units	mm [inch] gal. = US gal.

Otto Graf GmbH
Carl-Zeiss-Str. 2-6
DE-79331 Teningen
mail@graf.info
www.graf.info

mail@graf.info
www.graf.info

Installation and maintenance instructions
GRAF Infiltration tunnel / Infiltration tunnel Twin

Infiltration tunnel 300 L, black, vehicle loading
Order No. 410090

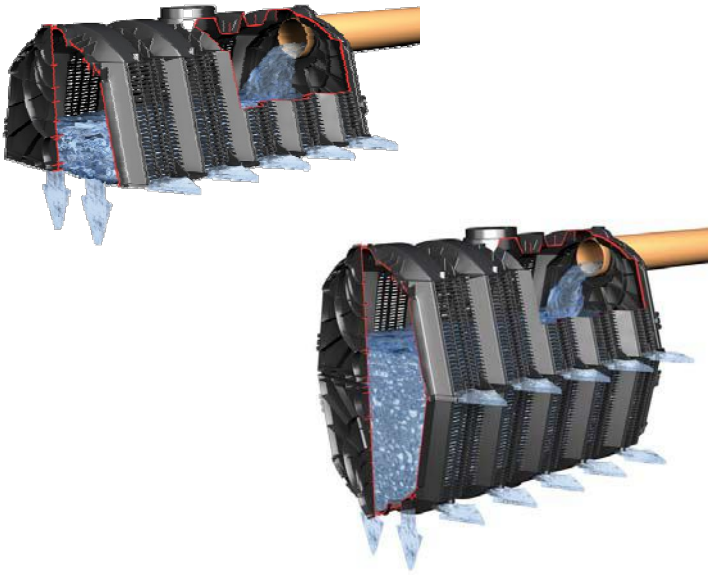
Infiltration tunnel Twin 600 L, black, vehicle loading
Order No. 410130

End plate for Infiltration Tunnel /Twin
Order No. 410091

Accessories:

Connecting elements (6 Units)
Order No. 410094

Geotextile (per m., roll width 5 m)
Order No. 231002



The points described in these instructions must be observed under all circumstances. All warranty rights are invalidated in the event of non-observance. Separate installation instructions are enclosed in the transportation packaging for all additional articles purchased from GRAF.

Missing instructions must be requested from us immediately.

The components must be checked for any damage prior to insertion into the trench under all circumstances.

Missing instructions can be downloaded on www.graf.info or can be requested from GRAF.

Table of contents

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2.	TECHNICAL DATA	8
3.	INSTALLATION CONDITIONS	9
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4.1	Connecting the inlet and venting pipes	11
4.2	Installation of the Infiltration Tunnel / Twin	11

1. General notes

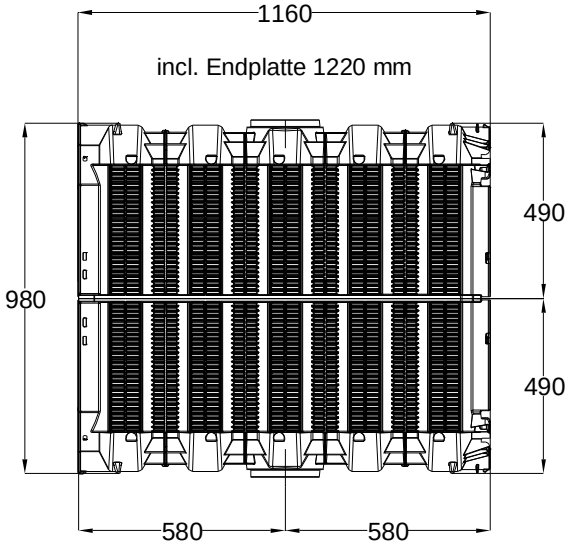
1.1 Security

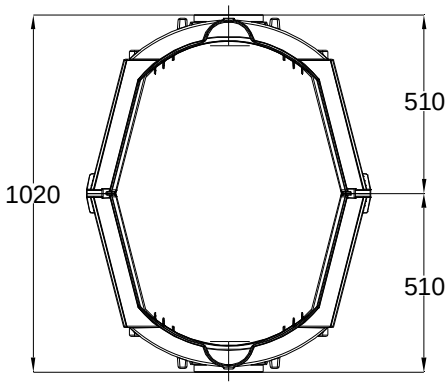
The relevant accident prevention regulations according to BGV C22 must be observed during all work.

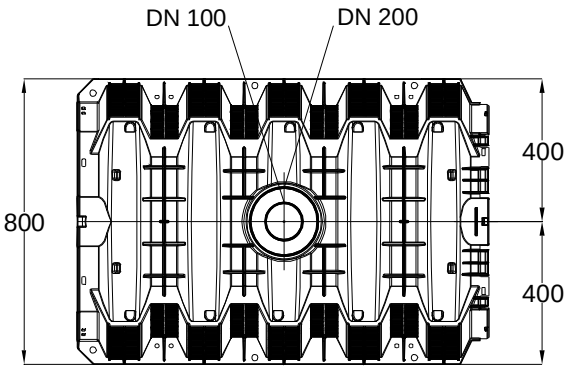
The relevant regulations and standards must additionally be taken into consideration during installation, assembly, servicing, repair, etc.

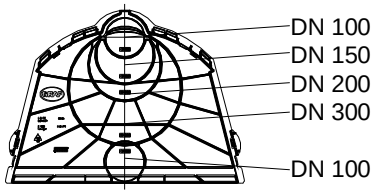
GRAF offers an extensive range of accessories, all of which are designed to match each other and which can be extended to form complete systems. The use of other accessories may lead to impediments to the system's functional capability, therefore invalidating liability for resulting damage.

2. Technical data









3. Installation conditions

3.1 Choice of location

- Distance from basement > 6 m
- Distance from ground water minimum > 1 m
- The distance from the existing or planned trees must be at least the expected spread of the trees crown.

3.2 Excavation dimensions

The measurements of the excavation is in accordance with the number of drainage blocks to be installed by multiplying the length and width dimensions.

The following table gives the required earth covering and the maximum installation depth to the lower edge of the blind drain:

Transportation loads		**Infiltration Tunnel**	**Infiltration Tunnel Twin**
Short-term		max. 10 t/m²	max. 7,5 t/m²
Long-term		max. 5 t/m²	max. 3,5 t/m²
Without traffic loads	min. Earth covering	250 mm	250 mm
	max. Earth covering*	3740 mm	1480 mm
	max. Installation depth*	4250 mm	2500 mm
Vehilce loading	min. Earth covering	250 mm	500 mm
	max. Earth covering*	3490 mm	1480 mm
	max. Installation depth*	4000 mm	2500 mm
LKW 12	min. Earth covering	500 mm	-
	max. Earth covering*	3240 mm	
	max. Installation depth*	3750 mm	
SLW 30	min. Earth covering	500 mm	-
	max. Earth covering*	2740 mm	
	max. Installation depth*	3250 mm	
SLW 40	min. Earth covering	500 mm	-
	max. Earth covering*	2490 mm	
	max. Installation depth*	3000 mm	
SLW 60	min. Earth covering	750 mm	-
	max. Earth covering*	1740 mm	
	max. Installation depth*	2250 mm	

3. Installation conditions

Technical data		**Infiltration Tunnel**	**Infiltration Tunnel Twin**
Volume	Litre	300 L	600L
Weight		11 kg	22 kg
Material		100 % polypropylene (PP)°	100 % polypropylene (PP)°
Measurements	Length excl. Endplatten	1160 mm	1160 mm
	Length incl. Endplatten	1200 mm	1200 mm
	Width	800 mm	800 mm
	Height	510 mm	1020 mm

The maximum installation depth or earth covering* is related to the ground substance with an inside angle of friction from φ = 40,0°.

°The material or raw material specification possibly contains recycled material.

4. Installation

4.1 Connecting the inlet and venting pipes

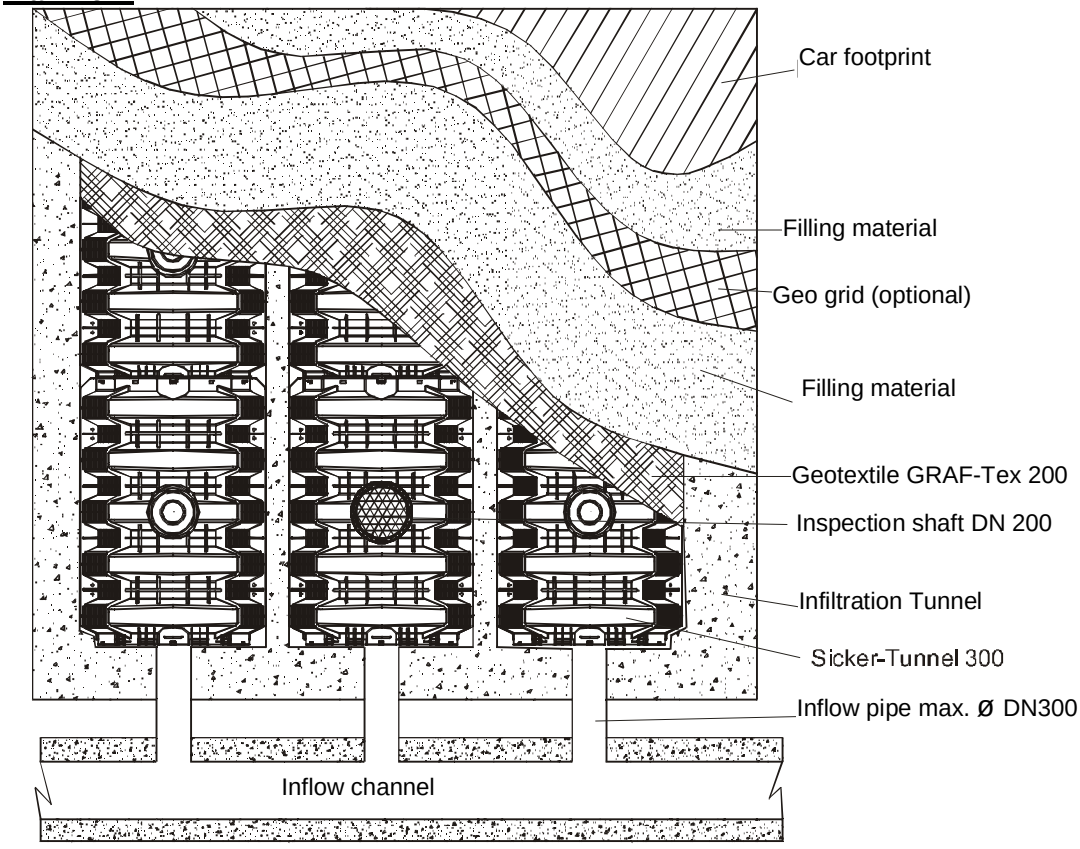
The feed pipes will be connected at the front of the end plates. For this purpose the accordingly perforated and labelled circular cut-outs will be detached. The feed pipes must extend into the tunnel modules approximately 15 cm. For assuring that the water enters into the modules in a steady way, it is essential for extensive module laying that every percolation line is equipped with its own feeding pipe. Use the connection on the upper side of the module for the deaeration / inspection end (min.1 deaeration / inspection end per line).

4.2 Installation of the Infiltration Tunnel / Twin

The horizontal, flat footprint of the excavation first has to be filled with a layer of grit (approx. 80 mm, grain size 8/16) which serves as granular sub-grade course. The Infiltration Tunnel / Twin are put on the gravel pit and connected with each other in lines (lengthwise). The percolation tunnel is covered with a geotextile fabric for protection. The first layer is gravel 20/40 and will be used to cover the Tunnel top edge completely. The material dug out during construction can then be used as filler. The filter fleece should overlap the end of the modules by at least 30-50 cm. Afterwards the excavation will be filled steadily and in layers. The terrain of the ground surface and substructure should be the expected load to be prepared. If a lawn is planted on top of the percolation surface, the system should be covered with a waterproof film or a clay layer of approx. 100 mm, as otherwise the lawn above the percolation system may faster dry up than the rest of the lawn.

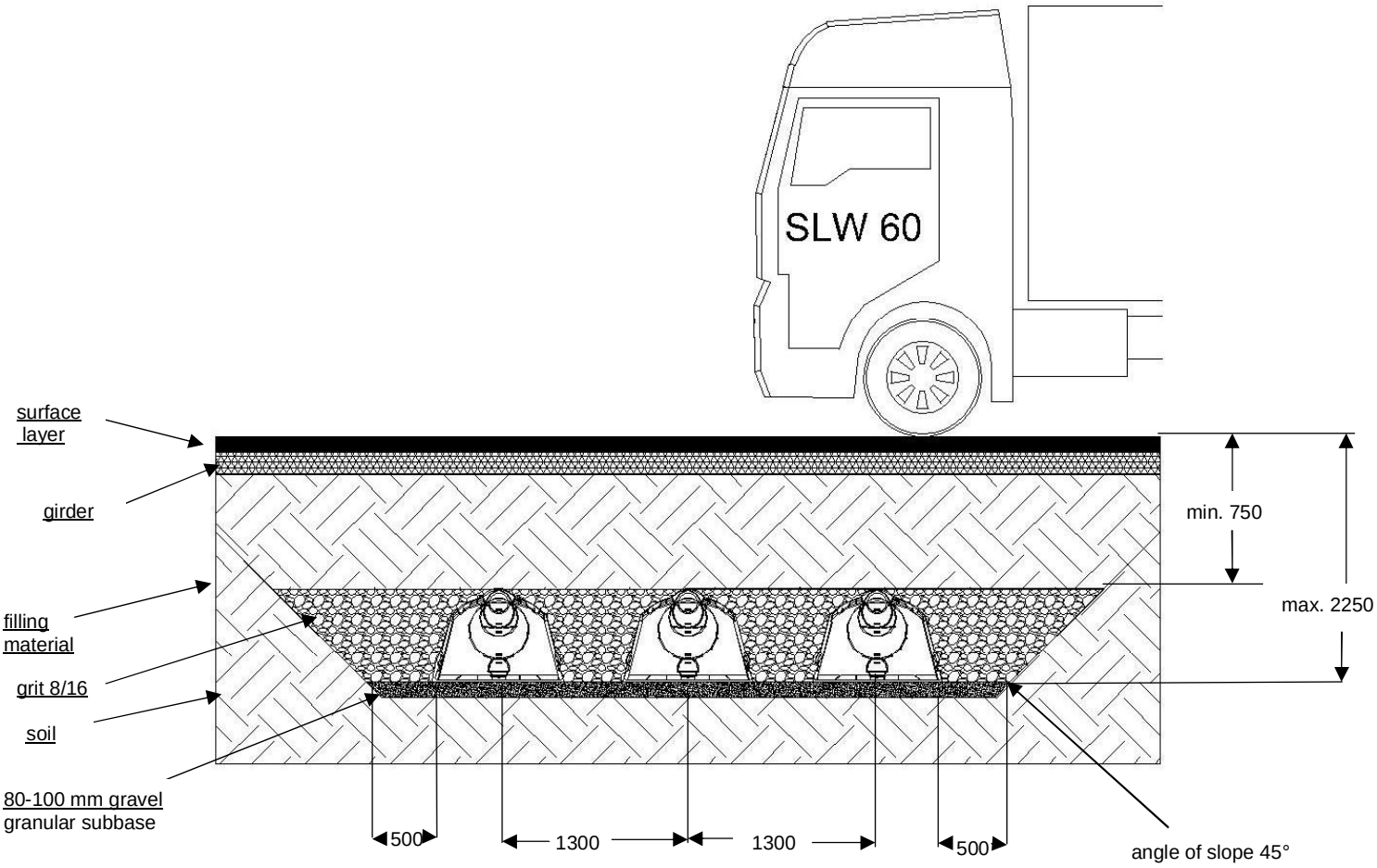
The rotting-resistant ground fence can be used as additional load distribution under trafficable areas.

Plan view:

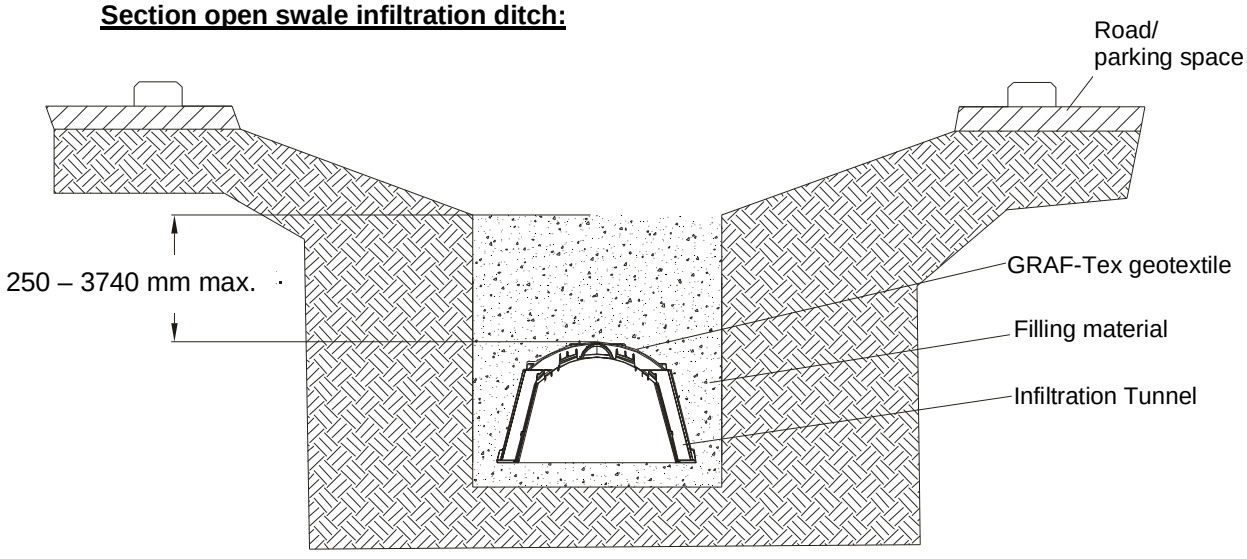


4. 4. Installation

Drawing – lorry – loading 60 to:



Section open swale infiltration ditch:



ANNEX C
GRAF Commissioning Certificate

GRAF - One2Clean Commissioning Certificate

AR Drainage / 31 Mar 2026

Complete

Site conducted	1. No Site
Customer	AR Drainage
Conducted on	31.03.2026 16:57 BST
Address	Graig Y Bedw Pontarddulais Swansea SA4 8NS ///page.suffice.insurance

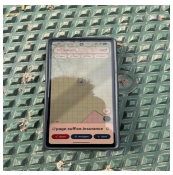


Photo 1

Commissioning Sign Off Engineer	Godfrey Bowen

Report

Size of Property

Number of Bedrooms

Unknown

Number of Occupants Unknown

Size of One2Clean treatment system

Population of One2Clean

20 population

Photo 2

Number of tanks

1 tank

Size of Tanks

13000 litres

Model of Compressor

Hiblow HP-200

System Details

Serial Number of Controller

2534-C-0284

Photo 3

Serial Number of Compressor

250400063L

Photo 4

Components Checked and Meets Installation Requirements

Type of Cabinet	External

Photo 5

The rear of the cabinet is clear of any obstruction by at least 100mm to allow sufficient air flow through the vents	Yes
The cabinet is installed in a shaded area, out of direct sunlight	No

Photo 6

Air hose duct has been sealed to prevent any odours from the tank to the external cabinet	Yes

Photo 7

Underground tank filled with water	Yes

Photo 8

The date and time set correctly	Yes

Photo 9

Discharge type	Drainage field
Is there a low level air intake vent connected (to tank turret or into discharge pipe)	Yes


Photo 10

Is there a free flowing air vent at high level connected to the system for natural ventilation (eg. soil stack)	Yes


Photo 11


Photo 12

Lifter for aeration, discharge, sludge return tested	Yes


Photo 13


Photo 14

Dosing pump (optional)	No
Pumped Outlet (optional)	No

Notes

Observations

The system appears to be working as it should.

Is there any work outstanding?	Yes

Work Outstanding

The ductwork that enters the external cabinet with the electrical cable in it has no seal around it and ground water could enter the cabinet. This needs to be sealed.


Photo 15


Photo 16

Did you use any replacement parts?	No

Photos of the System


Photo 17


Photo 18


Photo 19


Photo 20


Photo 21


Photo 22


Photo 23


Photo 24


Photo 25


Photo 26

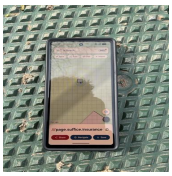


Photo 27


Photo 28


Photo 29


Photo 30

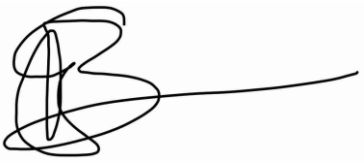

Photo 31


Photo 32


Photo 33


Photo 34

Engineer Signature



Godfrey Bowen
31.03.2026 17:06 BST

Media summary

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16

Photo 17

Photo 18

Photo 19

Photo 20

Photo 21

Photo 22

Photo 23

Photo 24

Photo 25

Photo 26

Photo 27

Photo 28

Photo 29

Photo 30

Photo 31

Photo 32

Photo 33

Photo 34

WARRANTY CERTIFICATE

Congratulations on your recent purchase from GRAF UK. We are pleased to confirm your warranty for the electrical components of your Wastewater Treatment System. GRAF UK provide free replacements of these parts during the warranty period set out below.

1 Year - Standard Warranty
3 Year - Extended Warranty
(subject to below T's & C's)*

*TERMS AND CONDITIONS:

Eligibility

To activate the 1st year of warranty, your Wastewater Treatment System must be commissioned by a GRAF Accredited Service Provider.
For the warranty to extend to 3 years, annual servicing by a GRAF Accredited Service Provider is required.
Any maintenance on the Wastewater Treatment System must be carried out in accordance with the logbook and to a standard approved by GRAF UK.
In the case of warranty claims, all commissioning and maintenance reports must be provided to GRAF UK.

Liability

If it is determined that faults or damage are due to; improper installation, misuse of the plant, lack of regular maintenance, alterations made without GRAF UK's approval or by personnel not approved by GRAF UK, the claim will not be covered by the warranty.
Should the warranty claim be honoured, only the cost of the part(s) is covered; labour and additional site costs are excluded.

Warranty valid from date of commissioning.

Graf UK Limited, Regen House, Beaumont Road,
Banbury OX16 1RH

ANNEX D
Risk Assessment Definitions

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 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 '**Contaminant Linkage**'. A contaminant 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.

Guidance provided by the Environment Agency to aid in managing risks from land contamination (Land Contamination Risk Management - LCRM), defines a 'Hazard' as:

'Hazard – *a property or situation that in particular circumstances could lead to harm'*

The term 'Risk' is widely used in different contexts and situations, but a prescriptive definition is also given in LCRM guidance:

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

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 contaminant 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 contaminant 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 contaminant 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 contaminant 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 contaminant 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 E
DR Drainage Solutions Percolation Test Results

DRAINAGE SOLUTIONS
A Solution For Every Problem

Percolation test results sheet

Site name: Graig y Bedw, Pontardullais, Swansea. Location (Post Code): SA4 8NS.

Contact Telephone number:

Storm Event (Normally 1:100 Yr): Climate Change % (Usually 40%):

(Once development has been completed) Roof area……m² Hard standing……m²

Test Pit 1

Length	Width	Depth
300mm	300mm	1m

Percolation Test (date/start time)	Time taken to drain from 75%-25%
1: 18th November 2025 - 09:10am	7 Minutes
2: 19th November 2025 - 09:13am	7 Minutes
3: 20th November 2025 - 09:22am	14 Minutes

Test Pit 2

Length	Width	Depth
300mm	300mm	1m

Percolation Test (date/start time)	Time taken to drain from 75%-25%
1: 18th November 2025 - 09:10	10:10am 1 hour to drop to 375mm (37.5%)
2: 19th November 2025 - 09:19	10:19am 1 hour to drop to 375mm (37.5%)
3: 20th November 2025 - 09:24	10:24am 1 hour to drop to 375mm (37.5%)

Test Pit 3

Length	Width	Depth
300mm	300mm	1m

Percolation Test (date/start time)	Time taken to drain from 75%-25%
1: 18th November 2025 - 09:17am	26 Minutes
2: 19th November 2025 - 09:35am	30 Minutes
3: 20th November 2025 - 09:26am	29 Minutes

Send to: info@ardrainagesolutions.com
AR Drainage Solutions. 02920 885660

terra firma

Geotechnical & Geoenvironmental Specialists

TFW Group Ltd, 5 Deryn Court, Wharfedale Road, Pentwyn, Cardiff. CF23 7HA

Tel: 033 022 36380 **Email**: hello@tfwgroup.co.uk **www.tfwgroup.co.uk**