



Swansea Bay Technology Centre

Phase 1 Ground Conditions Desk Study

*Morgan Sindall Construction and
Infrastructure Ltd*

Date: 11 November 2019

Doc ref: 11852-HYD-XX-XX-RP-G-1001

DOCUMENT CONTROL SHEET

Issued by	Hydrock Consultants Limited Castlebridge 5 5-19 Cowbridge Road East Cardiff CF11 9AB	Tel: 02920 023665 E-mail: cardiff@hydrock.com www.hydrock.com
Client	Morgan Sindall Construction and Infrastructure Ltd	
Project name	Swansea Bay Technology Centre	
Title	Phase 1 Ground Conditions Desk Study	
BIM reference	11852-HYD-XX-XX-RP-G-1001	
Project reference	C-11852-C	
Date	11/11/2019	

Document Production Record		
Status and Revision	S02 P01	Name
Prepared by	Dickon Morris BSc MSc FGS	
Checked by	Matthew Holbourn BSc (Hons) MSc FGS / Mark Lynn BSc (Hons) FGS	
Approved by	Alexandra Edwards BSc (Hons) MSc FGS	

Document Revision Record			
Status	Revision	Date	Revision Details
S02	P01	07/11/2019	First issue

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above-named client for their sole and specific use. Any third parties who use the information contained herein do so at their own risk.

CONTENTS

1.	INTRODUCTION.....	1
2.	PHASE 1 STUDY (DESK STUDY AND FIELD RECONNAISSANCE).....	3
3.	PRELIMINARY CONCEPTUAL SITE MODEL.....	15
4.	DESK STUDY CONCLUSIONS.....	18
5.	UNCERTAINTIES AND LIMITATIONS.....	19
6.	RECOMMENDATIONS FOR FURTHER WORK.....	20
7.	REFERENCES.....	21

Appendices

Appendix A	Drawings
Appendix B	Field Reconnaissance Photographs
Appendix C	Historical Ordnance Survey Maps
Appendix D	Desk Study Research Information
Appendix E	Preliminary Geotechnical Risk Register
Appendix F	Plausible Source-Pathway-Receptor Contaminant Linkages
Appendix G	Hydrock Methodologies

Tables

Table 2.1: Site referencing information	3
Table 2.2: Site description.....	4
Table 2.3: Site history review	6
Table 2.5: Geology	8
Table 2.6: Aquifer system	10
Table 2.8: Surface water features	11
Table 2.10: Surface water discharges	12
Table 2.12: Regulatory information within 500m of the site	13
Table 4.1: Possible Pollutant Linkages (for Risk Levels of Moderate or Greater)	18

Figures

Figure 2.1: Site location	3
Figure 2.2: Extract from the Ordnance Survey Map.....	3
Figure 2.3: General view of north eastern half of the site.	5
Figure 2.4: View of southern part of site.	5
Figure 2.5: Overgrown land on western edge of the site.....	5
Figure 2.6: Dried up pond in north east corner of the site.	6

Figure 2.7: Man made and natural superficial deposits	9
Figure 2.8: Solid geology.	9

EXECUTIVE SUMMARY

<i>SITE INFORMATION AND SETTING</i>	
Objectives	The objectives of the report are to formulate a preliminary conceptual site model and geotechnical risk register and to support a planning application.
Client	Morgan Sindall Construction and Infrastructure Ltd (Morgan Sindall)
Site name and location	Swansea Bay Technology Centre Central Avenue Baglan Energy Park SA12 7AX
Proposed development	Technology building with associated car parking and landscaping. Architects plans for the proposed building included in Appendix A, not showing the proposed landscaping.
<i>PHASE 1 (DESK STUDY AND SITE RECONNIASANCE)</i>	
Ground Model	The site currently comprises undulating landscaped grassed areas and an overgrown area of boggy ground in the grounds of the existing Technium Building. The site is approximately 1.8 ha in area and is broadly level set at an elevation of approximately 8m AOD. Review of historical Ordnance Survey data indicates: • In mapping from 1880 the site is indicated to be covered with saltings / saltmarsh with the high water mark of ordinary tides crossing the west corner of the site. • On mapping dating from 1899 the Rhondda and Swansea Bay Railway crosses the eastern edge of the site. Between 1899 and 1951 the high water mark gradually moves to the west until it generally follows the route of the River Neath which runs 800m northwest of the site. The site is no longer marked as saltings suggesting that it has been reclaimed from the intertidal zone. The railway has been demolished by the mid-1990s. • A branch off the Rhondda and Swansea Bay Railway is noted crossing the northeast corner of the site in mapping from 1977 and is no longer present on present day mapping. A Pre Desk Study Risk Assessment undertaken by Zetica UXO suggests that further assessment is required and recommends that a detailed desk study be undertaken by a specialist. This would need to be completed prior to carrying out any intrusive works to mitigate the potential risk of presence of UXO. The geology at the site consists of Made Ground overlying superficial Tidal Flat Deposits overlying bedrock of the South Wales Middle Coal Measures. There are worked coal seams beneath the site, however, these are too deep to pose a risk at surface and the risk posed by relic coal workings is considered to be low. The superficial Tidal Flat Deposits are indicated to host a Secondary Undifferentiated Aquifer and the bedrock of the South Wales Middle Coal Measures are indicated to host a Secondary A Aquifer. There are a number of surface water features in the vicinity of the site; ponds on site, a drain 40m to the southwest and a reservoir 80m to the east. Baglan Brook flows approximately 230m to the north and joins the River Neath 800m to the northwest of the site. The site is indicated to be in a low flood risk area with a chance of flooding of between 0.1 and 1% in any given year. The site is in a Radon Affected Area where 1-3% of homes are above the radon action level but no radon protection measures are required in buildings in line with current guidance.

ASSESSMENT AND CONCLUSIONS

Preliminary Geotechnical Hazards	The following plausible geotechnical risks are identified. • Variable Made Ground - settlement or differential settlement of foundations, floor slabs, roads and infrastructure elements. • Low strength, compressible ground – risk of shear failure and excessive settlement of foundations, roads and infrastructure elements. • Attack of buried concrete by aggressive ground conditions – the development site may contain Made Ground and potentially sulfate bearing soils. • Shrinkage/swelling of clay – settlement/heave of foundations, especially where located within the influence of trees and vegetation. • Running sands, loose Made Ground and shallow groundwater, leading to difficulty with excavation due to trench instability. • Earthworks – Low bearing capacity or settlement of new fill and impact on foundations, floor slabs, roads and infrastructure and construction plant. • Potential for unforeseen ground conditions and the risks associated with limited data.									
Preliminary Geo-environmental Conclusions	Based on historical land uses and its current operational use, the overall risk from land contamination at the site is considered to be moderate for the current development, and moderate for a redeveloped site, but would need to be confirmed by appropriate intrusive investigation, testing and assessment of the results of the investigation. It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990. The possible pollutant linkages on an unremediated site determined by desk study and walk-over are summarised below for risk levels of moderate or greater. <table><tr><th>Source(s)</th><th>◀ potential Impact on ▶</th><th>Receptor(s)</th></tr><tr><td>Metals, metalloids, PAH, petroleum hydrocarbons and asbestos in Made Ground below the site.</td><td></td><td>Site Users Surface Water</td></tr><tr><td>Ground gases (carbon dioxide and methane) from organic materials in the Made Ground below the site (backfill to settlement ponds or development platform construction) and from peat in the Tidal Flat deposits.</td><td></td><td>Site users Buildings</td></tr></table>	Source(s)	◀ potential Impact on ▶	Receptor(s)	Metals, metalloids, PAH, petroleum hydrocarbons and asbestos in Made Ground below the site.		Site Users Surface Water	Ground gases (carbon dioxide and methane) from organic materials in the Made Ground below the site (backfill to settlement ponds or development platform construction) and from peat in the Tidal Flat deposits.		Site users Buildings
Source(s)	◀ potential Impact on ▶	Receptor(s)								
Metals, metalloids, PAH, petroleum hydrocarbons and asbestos in Made Ground below the site.		Site Users Surface Water								
Ground gases (carbon dioxide and methane) from organic materials in the Made Ground below the site (backfill to settlement ponds or development platform construction) and from peat in the Tidal Flat deposits.		Site users Buildings								

FUTURE CONSIDERATIONS

Further work	In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. This investigation will need to: • determine the depth and distribution of Made Ground and natural strata across the site; • determine the soil strength/density profile beneath the site; • determine the depth/level of groundwater beneath the site; • determine the ground gas concentrations at the site; • determine CBRs to assist with pavement/road design; • assess trench stability, over break potential and 'diggability'; • allow soil infiltration rate testing; • allow sampling for chemical and geotechnical laboratory testing; • allow soil classification for geotechnical characterisation and determine suitability for reuse of soils within earthworks; • obtain information in terms of Aggressive Chemical Environment for Concrete Class (ACEC Class).
--------------	---

Following investigation, assessment will be required to:

- update the Ground Model;
- update the Geotechnical Risk Register;
- provide Geotechnical Design recommendations;
- update the Conceptual Site Model (CSM), including identification of plausible pollution linkages;
- undertake generic quantitative risk assessment of potential chemical contaminants to establish 'suitability for use' under the current planning regime;
- discuss potential environmental liabilities associated with land contamination (soil, water and gas); and
- provide outline mitigation recommendations to ensure the site is 'suitable for use'.

It will also be necessary to undertake a detailed UXO desk study prior to any intrusive ground investigation work at the site to determine the risk posed by UXO at the site.

This Executive Summary forms part of Hydrock Consultants Limited report number 11852-HYD-XX-XX-RP-G-1001 and should not be used as a separate document.

1. INTRODUCTION

1.1 Terms of reference

In September 2019, Hydrock Consultants Limited (Hydrock) was commissioned by Morgan Sindall Construction and Infrastructure Ltd (Morgan Sindall) to undertake a desk study at the site of the proposed Swansea Bay Technology Centre.

The site is currently in the grounds of the existing Technium Centre and covered with grass, trees and shrubbery.

Hydrock understands that the proposed development is to comprise a technology centre. Proposed development layouts are presented in Appendix A.

The works have been undertaken in accordance with Hydrock's proposal issued as part of the C&S proposal (15th March 2019) and the Client's instructions to proceed (email from Steve Ridout confirming redline boundary on 30th October 2019).

1.2 Objectives

The works have been commissioned to support the planning application.

The objective of the Phase 1 Ground Conditions Desk Study is to formulate a Preliminary Conceptual Ground Model of the site to identify key geo-environmental and geotechnical risks to the proposed development.

1.3 Scope

The scope of the Phase 1 Desk Study comprises:

- a field reconnaissance (walkover) to determine the nature of the site and its surroundings including current and former land uses, topography, geology and hydrology;
- acquisition and review of:
 - historical Ordnance Survey maps, to identify former potentially contaminative uses at the site and immediately surrounding it, and an assessment of the associated contamination risks;
 - a third-party environmental database search to identify flooding warning areas, local landfills, pollution incidents, abstractions, environmental permits etc. which may have had the potential to have environmental impact on the site;
 - topographical, geological and hydrogeological maps;
 - British Geological Survey (BGS) archive records;
 - regional UXB risk maps;
 - a site-specific Coal Authority 'Consultants Coal Mining Report';
 - the Coal Authority's Interactive Viewer;
 - a site-specific BGS SuDS Report;
- development of a preliminary Conceptual Site Model (CSM), including identification of potential pollution linkages;

- a qualitative assessment of any risks identified; and
- identification of plausible geotechnical hazards.

1.4 Available information

The following available information has been provided to Hydrock by Morgan Sindall for use in the preparation of this report:

- Neath and Port Talbot County Borough Council. 2018. 'Phase 2 Baglan Bay Innovation Centre', Ref: 18-0160. (Site plan showing red line boundary for proposed development)

It is assumed that Morgan Sindall has commissioned or obtained assignment of the above documents and Hydrock has full reliance on them.

1.5 Regulatory context and guidance

The geo-environmental section of this report is written in broad agreement with BS 10175:2011+A2:2017, the CLR 11 Model Procedures (Environment Agency 2004) and the AGS (2006) Good Practice Guidelines for Site Investigations. The methods used follow a risk-based approach, with the first stage being a Phase 1 desk study and field reconnaissance (this report). The potential geo-environmental risks have been assessed qualitatively using the 'source-pathway-receptor contaminant linkage' concept to assess risk as introduced in the Environmental Protection Act 1990 (EPA, 1990).

The geotechnical section of this report is undertaken in general accordance with BS EN 1997 (EC7). This report forms the Preliminary Sources Study Report (PSSR) as defined by DMRB HD22/08.

Remaining uncertainties and recommendations for further work are listed in Section 5 and Section 6.

Reference to the technical details of the approach and the methodologies adopted are provided in Appendix G.

2. PHASE 1 STUDY (DESK STUDY AND FIELD RECONNAISSANCE)

2.1 Data

A number of desk study sources have been used to assemble the following information. These are presented in Appendix D and include:

- Third party environmental database search Envirocheck report, reference 218827917_1_1);
- Historical Ordnance Survey mapping;
- BGS Archive Records;
- Zetica Pre Desk Study Risk Assessment;
- Coal Authority 'Consultants Coal Mining Report' (51002171426001);
- Coal Authority's Interactive Viewer (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>); and
- BGS SuDS report (Ref BGS_303690/4597).

2.2 Site referencing

The site is referenced in Table 2.1 and the location is indicated in Figure 2.1 and Figure 2.2 and in Hydrock Drawing 11852-HYD-XX-XX-DR-G-1000 in Appendix A.

Table 2.1: Site referencing information

Item	Brief Description
Site name	Swansea Bay Technology Centre.
Site address	Central Avenue, Baglan Energy Park, SA12 7AX.
Site location and grid reference	The site is located to the west, north and east of the existing Technium building which is located within Baglan energy park. The site is roughly centred on NGR 274020, 192950.



Figure 2.1: Site location

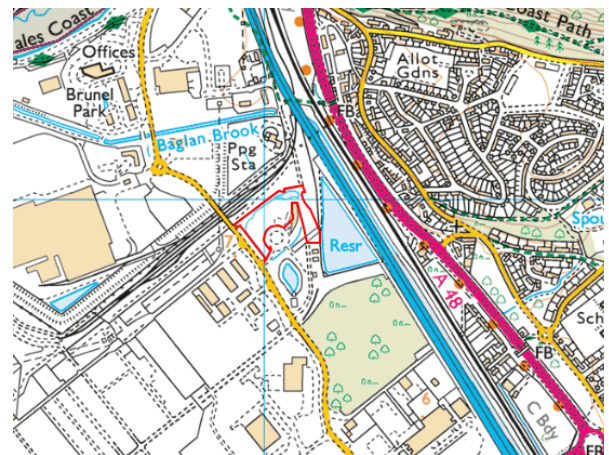


Figure 2.2: Extract from the Ordnance Survey Map.

A site location plan (Hydrock Drawing 11852-HYD-XX-XX-DR-G-1000) is presented in Appendix A.

2.3 Site description and field reconnaissance survey

A field reconnaissance survey was undertaken on 26th September 2019 to visually assess potential geotechnical hazards, contaminant sources and receptors. The weather during the field reconnaissance survey was dry and partly cloudy.

A basic site description is presented in Table 2.2 and selected photographs are presented in Figure 2.3 to Figure 2.6. Additional photographs are presented in Appendix B.

Table 2.2: Site description

Item	Brief Description
Site access	Via existing entrance to Technium office building.
Site area	The site almost completely surrounds the existing Technium building and has an area of approximately 1.8 Ha.
Elevation, topography and any geomorphic features	The site is at an elevation of approximately 8m AOD with a swale running along the west and north boundaries of the site and a reservoir a short distance to the east. The majority of the site appears to have been landscaped prior to placement of the soft landscaping at the site.
Present land use	The site is currently in use as open space / gardens around the existing Technium office building. It is bordered to the south by car parking, to the east by a reservoir, to the north by a goods railway and to the west by a road. The land along the northern, western and eastern boundaries is heavily overgrown with a ditch running along the northern and western boundaries. There is a dry pond feature in the north east corner of the site.
Vegetation	There is significant vegetation along the western edge of the site including small trees, shrubs and general scrub and isolated trees across the remainder of the site.
General site sensitivity	The site is within a generally industrial area with a large petrochemical works having been present to the east of the site until the 2000s, although this did not encroach onto the site itself (apart from a railway running to the petrochemical works in the north east corner). The area is now occupied by light industrial and technology facilities associated with the Baglan Energy Park.
Site Boundaries and surrounding land	The site is bordered by a fence to the north, west and east which is surrounded by dense undergrowth and by car parking associated with the existing Technium building to the south. The surrounding area to the west of the site generally consists of overgrown rough ground and light industrial facilities while to the east there is a reservoir with highways and a railway beyond and residential properties.

A Site Walkover Plan (Hydrock Drawing 11852-HYD-XX-XX-DR-G-1001) is presented in Appendix A.



Figure 2.3: General view of north eastern half of the site.



Figure 2.4: View of southern area of site.



Figure 2.5: Overgrown land at western perimeter of the site.



Figure 2.6: Empty pond in north east corner of the site.

2.4 Site history

A study of historical Ordnance Survey maps (**Error! Reference source not found.**) has been undertaken to identify any former land uses at the site and surrounding areas which may have geotechnical or geo-environmental implications for the proposed development. The key findings are summarised in

Table 2.3.

Table 2.3: Site history review

Reference	Key Features on Site	Key Features off Site
OS Map ¹ 1880 1:2,500 and 1884 – 1:10,560	Site occupied by saltings / saltmarsh. The high-water mark of ordinary tides for Baglan Bay crosses the west corner of the site.	Baglan Bay is located immediately west of the site. Great Western Railway is located around 150m east of the site. Swan Colliery and Glavanised Plate Works located around 200m to the north east of the site boundary. Volunteer Rifle Range located around 100m to the south of the site boundary.
OS Map 1899 1:2,500 and 1900 – 1:10,560	Rhondda and Swansea Bay Railway constructed along the eastern edge of the site. The high-water mark of ordinary tides moves 10m west of the site.	Swan Colliery and plate works no longer marked. 'Old Coal Levels' shown in the colliery's previous location suggesting that the colliery is now disused.

¹ Ordnance Survey Historical Map Information provided by Envirocheck.

Reference	Key Features on Site	Key Features off Site
		Albion Steel Works located 400m north of the site.
OS Map 1921 – 1:10,560	No visible change on site.	The high-water mark of ordinary tides for Baglan Bay is now 330m north west of the site.
OS Map 1951 – 1:10,560	No saltings markings shown on the site.	Football ground construction immediately south of the site. Reclamation of Baglan Bay to the north west of the site via trainlines. High-water mark of ordinary tides for Baglan Bay now generally follows the route of the River Neath located 500m northwest of the site.
OS Map 1964	No visible changed on site.	Baglan Brook located 100m north of the site. Steel works north of the site labelled as ‘works’.
OS Map 1977 - 1978 1:1,250 & 1980 1:10,000	Site no longer marked as saltings and new railway branch off Rhondda and Swansea Bay Railway crosses north east corner of site.	Electric substation located 300m north of the site within the ‘works’ boundary. BP petrochemicals plant now shown over a large area between 500m and 1500m to the south west. Sans et al (1995) ² state that the plant commenced operation in 1963 initially producing alcohols, styrene, olefins and benzene with vinyl chloride monomer and polyvinyl chloride (PVC) produced from the early 1970s. The construction of this petrochemicals plant and the associated infrastructure led to the reclamation of the saltings which directly affected the site. There is likely to be Made Ground on site dating from this period. Sewage pumping station now shown approximately 120m to the north of the site. Reservoir now shown approximately 50m to the east of the site sandwiched between railway embankments. Baglan Bay has been removed from the maps due because of land reclamation. The estuary is now just labelled River Neath.
OS Map 1995 1:1,250 and 1999 – 10:10,000	No changes visible on site.	M4 shown as being under construction around 80m to the east of the site boundary. The ‘works’ to the north have been demolished and are no longer shown. The electricity substation is no longer shown.
OS Map 2006 1:10,000		Majority of BP petrochemicals plant to the south west of the site has now been closed and dismantled with a small gas fired power station constructed on the northern edge of the site.

² Sans et al. (1995). Cancer incidence and mortality near the Baglan Bay petrochemical works, South Wales. *Occupational and Environmental Medicine* [Online], 52:217-224. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1128198/pdf/oenvmed00064-0001.pdf>

Reference	Key Features on Site	Key Features off Site
OS Map 2019 1:10,000	Railway in crossing north east corner of site no longer present, a pond is shown in its place.	Technium centre, part of Baglan Energy Park constructed in the central part of the site, although not on the site itself. Other buildings associated with Baglan Energy Park constructed around 50m to the south west of the site.

2.5 Unexploded ordnance (UXO)

In general accordance with CIRIA Report C681 (Stone et al 2009) a pre-desk study UXO risk assessment has been undertaken on behalf of Hydrock by Zetica UXO.

The risk assessment suggests that while the site itself is unlikely to have been subjected to direct bombing, it is known that unexploded ordnance was transported to the site in consignments of scrap metal transported to the steel works to the north of the site.

Records suggest that scrap metal dumped in the vicinity of the site has been shown to contain unexploded high explosive bombs, artillery shells and Land Service Ammunition.

It is recommended that a detailed desk study be undertaken by a UXO specialist to better understand the risk posed by the potential UXO risks at the site. This should be commissioned and completed prior to any ground investigation taking place at the site.

2.6 Geology

The general geology of the site area is shown on the British Geological Survey (BGS) 1:50,000 geological map of Swansea (Sheet 247) of which an extract is included as part of the Envirocheck report and is summarised in Table 2.4. Extracts from the map are shown in Figure 2.7 and Figure 2.8.

Table 2.4: Geology

Ref. for Figures	Location	Stratigraphic Name	Description
Superficial Deposits (Figure 2.7)			
MGR	On site	Made Ground	Variable man-made materials placed on the surface.
TFD	On site	Tidal Flat Deposits	Generally, a consolidated soft silty clay with layers of sand, gravel and peat. Deposited in the intertidal zone.
Solid Geology (Figure 2.8)			
SWMCM	On site.	South Wales Middle Coal Measures	Generally described as grey coal bearing mudstones/siltstones with seat earths and minor sandstones.



Figure 2.7: Man made and natural superficial deposits

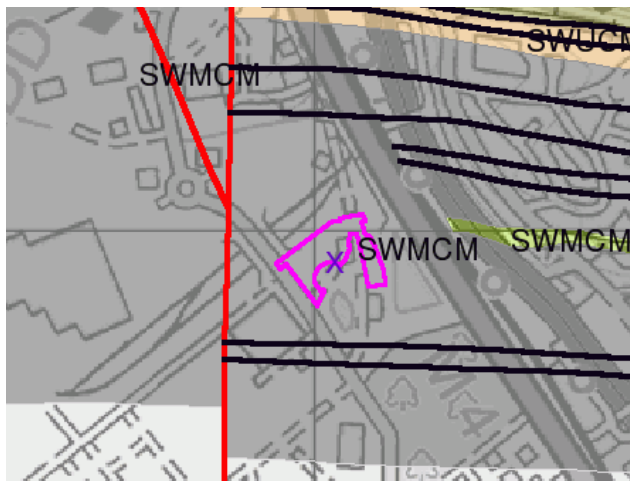


Figure 2.8: Solid geology.

A fault (Giants Grave Fault) is recorded running in a N-S alignment approximately 100m to the west of the site. The fault is downthrown to the east. A second fault (Ferry Fault) is recorded and is orientated northwest to southeast, starting from the Giants Graves Fault. The Ferry Fault is located approximately 200m northwest of the site.

Two coal seams; the Big (B) – also known as the Six Feet and the Upper Four Feet (U4) are noted to subcrop beneath the superficial deposits around 200m to the south of the site. They dip north (towards the site) at an angle of around 45 degrees and are therefore likely to be found beneath the site. This is discussed further in Section 2.10 below.

A number of BGS borehole logs are located around 100m to the east of the site boundary relating to the construction of the M4. The two closest records of significant depth are detailed below:

- SS79SW175, located around 125m to the east of the site boundary (NGR 274200E, 193040N), drilled to a depth of 14.60m and recorded:
 - Loose sandy silt between ground level and 2.50m below ground level (bgl);
 - clayey peat between 2.50m and 3.25m bgl;

- firm to stiff silty slightly sandy clay between 3.25m and 6.20m bgl (Till); and
- weak to moderately strong mudstone and siltstone between 6.20m and 14.60m bgl (probable South Wales Middle Coal Measures).
- SS79SW176, located around 150m to the east of the site boundary (NGR 274244E, 193000N), drilled to a depth of 15.60m and recorded:
 - Soft very silty clay between ground level and 0.70m bgl;
 - very loose clayey sandy silt between 0.70m and 2.70m bgl;
 - stiff silty sandy clay between 2.70m and 7.40m bgl; and
 - very weak to weak mudstone between 7.40m and 15.60m bgl.

2.7 Groundwater system

2.7.1 Aquifer designations

Based on the inferred geological sequence presented in Section 2.6 and the Environment Agency's interactive aquifer designation map, the aquifer system presented in Table 2.5 applies. Additional information on the hydraulic characteristics of the geological units has been abstracted from Jones et al (2000).

Table 2.5: Aquifer system

Stratum	Aquifer Designation	Hydraulic Characteristics
Made Ground (Imported Fill)	N/A	Likely to be of highly variable porosity due to unsorted nature and range of materials present.
Tidal Flat Deposits	Secondary undifferentiated Aquifer	Intergranular permeability likely to be low overall with a large proportion of the material being silt or clay. Permeability likely to be controlled by bands of coarser material within the succession.
South Wales Middle Coal Measures	Secondary A Aquifer	Sandstones within the Coal Measures are very dense and well cemented and consequently intergranular porosity is low. Permeability is dominated by fracture flow along tectonic discontinuities within the bedrock and also conduit flow along abandoned coal workings.

2.7.2 Groundwater abstraction

There are no active licensed groundwater abstractions within 1000m of the site.

2.7.3 Groundwater source protection zones and groundwater vulnerability

The site is not within a groundwater Source Protection Zone (SPZ).

2.7.4 Groundwater quality

The groundwater body beneath the site (Swansea Carboniferous Coal Measures) is currently (2016 Cycle 2) classified under the Water Framework Directive as 'poor'.

The water body is currently poor status due to being of poor chemical status. However, it should be noted that this waterbody covers a very large area with number of catchments and therefore the resolution of the data is very coarse.

2.7.5 Groundwater levels, recharge, and flow

It is considered likely that there will be isolated lenses of groundwater found within bands of coarser material within the Tidal Flat Deposits and fracture flow in the South Wales Middle Coal Measures underlying the Tidal Flat Deposits. Due to the altitude of the site and proximity to the coast it is considered likely that all groundwater bodies will be in hydraulic connectivity with the sea, with flow likely to be in that direction.

The BGS SuDS report suggests that groundwater is likely to be less than 3m below the surface for at least part of the year. The BGS SuDS report suggests that groundwater levels may rise in response to high river or tide levels resulting in inundation of subsurface infiltration drainage infrastructure.

As noted previously flow through the superficial aquifer is likely to be dominated by flow along bands of coarser material within the Tidal Flat Deposits and flow through the bedrock aquifer is likely to be dominated by fracture flow along joints and faults and by conduit flow along any abandoned mineworkings.

The BGS SuDS report suggests that there will be significant constraints for infiltration drainage at the site mainly due to the potential for high groundwater and extensive Made Ground deposits. Infiltration systems built in Made Ground raise the possibility of mobilising any contaminants within the Made Ground deposits.

2.8 Surface Water System

2.8.1 Hydrology and drainage

The surface water features in the vicinity of the site are listed in Table 2.6.

Table 2.6: Surface water features

Feature	Location Relative to Site
Ponds	On site
Drain	40m south west
Reservoir	40m east
Baglan Brook	230m north
River Neath	800m north west.

The site is located on land that has been reclaimed from saltmarsh in the past. The reservoir to the east is on land that was never fully reclaimed from saltmarsh and was surrounded by railway embankments during the industrial development of the area.

Drainage from the low-lying site is via drains and other waterways to the coast.

2.8.2 Surface water abstractions and discharges

There are no active licensed surface water abstractions within 1km of the site.

There is one active licensed surface water discharge within 1km of the site as detailed in Table 2.7.

Table 2.7: Surface water discharges

Location Relative to Site	Nature of Discharge
832m W This is considered to be discharge via Baglan Brook from the pumping station noted around 120m to the north of the site for which there is an expired discharge consent located to a point 135m north of the site.	Sewage discharge to saline estuary.

2.8.3 Surface water quality

Reference to the Natural Resource Wales web site shows the site is located within the Tawe to Cadoxton catchment, with the specific river water body being Baglan Brook – headwaters to confluence with River Neath. The current (2016 cycle 2) overall status under the Water Framework Directive is ‘moderate’.

The water body is currently ‘moderate’ status due to phosphate levels, ammonia and dissolved oxygen.

2.8.4 Surface water flooding

The desk study information indicates the proposed development is in a low flood risk area (a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%)).

Land to the immediate east of the site is indicated to be at a higher risk of flooding but benefits from flood defences.

This is due to the fact that the land that the site is located upon is slightly higher than that to the east as it has been built up by the construction of railways in the past which the land to the east was not developed in this way.

No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regard to drainage and flooding.

2.9 Coastal / Tidal Waters

The nearest coastal waterbody (Swansea Bay) is located approximately 2km to the south west of the site. The overall status of the waterbody is moderate but it is considered to fail chemical standards. This is due to the significant amount of past and present industry operating in the vicinity.

2.10 Mining or mineral extraction

The site is located within a Coal Authority Development High Risk Area and therefore the risk posed by past coal mining has been assessed. The following sources of information have been used in undertaking this assessment;

- British Geological Survey. 2011. 1:50,000 Geological Map for Swansea, Sheet no 247
- Coal Authority Interactive Map Viewer
- Coal Authority Consultants Coal Mining Report no. 51002171426001

This information indicates that the site is in a development high risk area and that there are two seams; the Big (B) – also known as the Six Foot and the Upper Four Feet (U4) located beneath the site which subcrop beneath the superficial deposits around 200m to the south of the site boundary. Based on the available data, bedrock is dipping to the north at 45 degrees as indicated by the consultants mining report, which suggests that these coal seams are likely to be around 200m below rockhead within the site boundary. If the superficial deposits are assumed to be 5-10m (based upon the thickness of superficial deposits recorded in boreholes to the east) this would indicate that the coal seams are in excess of 200m beneath the site.

This is in broad agreement with the consultants mining report which suggests that the Six Foot seam is located around 240m beneath the site and was last worked from Baglan Hall Colliery in 1887 with a worked thickness of 183cm.

If a reasonable assumption is made that, with bulking factors, workings within the seam would be able to migrate a distance of 10 times the seam thickness, it can be assumed that a void across the full thickness of the seam would be able to migrate around 20m up through the succession.

Based on the above information it is considered that any coal workings beneath the site will be too deep to pose a risk to the proposed development and therefore the risk posed by coal workings does not need to be considered further.

2.11 Natural ground instability

The site is underlain by Tidal Flat Deposits which can often comprise soft clays and silts of very poor bearing capacity. It should also be noted that the presence of drainage channels within such deposits can make them highly variable with the infilled channels representing 'soft spots' within the superficial deposits.

2.12 Waste management

There are no current or historical waste management sites recorded within 250m of the site.

2.13 Regulatory consultation

Information in the Envirocheck Report (Appendix D), relating to various regulatory controls has been reviewed, with a summary presented below in Table 2.8.

Table 2.8: Regulatory information within 500m of the site

Regulatory Data	Distance from Site	Details	Potential Risk	Comment
Local Authority Pollution Prevention	498m W	Producing paper or board in volumes greater than 20T/D	No	Due to distance from site and being low risk activity

Regulatory Data	Distance from Site	Details	Potential Risk	Comment
and Controls				
Trade Directory Entries	76m SW	Active Hydraulic engineer	No	Due to small volumes of potential contaminants
	79m SW	Active Distribution Services	No	
	177m SW	Active Forklift trucks	No	
	376m N	Active Car dealers and service station	No	Due to distance from site and relative impermeability of underlying deposits
	412m NW	Active Hygiene and cleaning services	No	
	496m E	Active General Engineering	No	
Fuel Station Entries	384m N	Open Petrol station	No	Due to distance from site

2.14 Radon

The radon risk is reported in the environmental data report.

This indicates that the site is in a Radon Affected Area where recorded radon levels in 1-3% of homes are above the action level but no radon protection measures are required for new buildings at this location in line with current guidance. However, consideration should be given to fitting basic protection measures on the 'as low as reasonably practicable' principle in view of advice given to householders and the legal responsibilities of rental landlords and employers with commercial properties (see reference in Appendix G for further details).

2.15 Soil Chemistry

The BGS Measured Urban Soil Chemistry given in the Envirocheck Report is noted to be higher than the Estimated Soil Chemistry (i.e. what would be expected based upon the geology of the area). This is considered to be indicative of the fact that the soil chemistry of the area has been altered by industrial processes occurring in the area.

3. PRELIMINARY CONCEPTUAL SITE MODEL

3.1 Ground model

The preliminary ground model is presented in Section 2 which forms the understanding of the ground conditions that inform the preliminary geotechnical hazard assessment (Section 3.2) and the preliminary geo-environmental exposure model (Section 3.3).

3.2 Geotechnical hazard identification

The preliminary geotechnical hazard identification has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15.

The following section sets out the identified geotechnical hazards and the development elements potentially affected (see Table E.1 in Appendix E for further detail).

3.2.1 *Plausible geotechnical hazards*

Plausible geotechnical hazards identified at the site are:

- Uncontrolled Made Ground (variable strength and compressibility).
- Soft / loose compressible ground (low strength and high settlement potential).
- Shrink swell of the clay fraction of soils under the influence of vegetation.
- Variable lateral and vertical changes in ground conditions.
- Attack of buried concrete by aggressive ground conditions.
- Adverse chemical ground conditions, (e.g. expansive slag).
- High groundwater.
- Changing groundwater conditions.
- Risk from erosion or flooding.
- Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls.
- Earthworks – poor bearing capacity of new fill.
- Earthworks – unsuitability of site won material to be reused as fill.

3.2.2 *Potential development elements affected*

Development elements affected by potential geotechnical Hazards are:

- Buildings – foundations.
- Buildings – floor Slabs
- Roads and pavements.
- Services.
- Construction staff, vehicles and plant operators.
- Concrete below ground.

Health and safety risks to site Contractors and maintenance workers have not been assessed during these works and will need to be considered separately during design.

The above plausible geotechnical hazards and development elements affected will need to be carried forward for investigation and assessment.

3.3 Geo-environmental exposure model

The preliminary exposure model is based on information presented in Section 2 and is used for geo-environmental hazard identification and establishing potential contaminant linkages based on the contaminant-pathway-receptor approach.

A pollutant linkage requires all the elements (S-P-R) to be present. If only one or two are present, there is likely to be no linkage and further assessment is not required.

3.3.1 *Potential contaminants*

For the purpose of this assessment the potential contaminants have been separated according to whether they are likely to have originated from on-site or off-site sources.

Potential on-site sources of contamination

- S 1. General Made Ground associated with reclamation of saltmarsh and railway in north east corner of the site. Contaminants may include metals, metalloids, petroleum hydrocarbons, poly cyclic aromatic hydrocarbons and asbestos.
- S 2. Ground gases (carbon dioxide and methane) generated from organic materials within the Made Ground and peat within Tidal Flat Deposits.

Potential off-site sources of contamination

- S 3. Railways and highways located within 100m of the site boundary Contaminants may include metals, metalloids, petroleum hydrocarbons, polycyclic aromatic hydrocarbons and asbestos.
- S 4. Petrochemicals plant located to the south west of the site, demolished in the early 2000s. metals, metalloids, petroleum hydrocarbons and polycyclic aromatic hydrocarbons.

3.3.2 *Potential pathways*

The following potential pathways have been identified.

- P 1. Humans: ingestion, skin contact, inhalation of dust and outdoor air.
- P 2. Buildings: methane ingress via permeable soils and/or construction gaps.
- P 3. Plant life: root uptake.
- P 4. Underlying groundwater: migration of contaminants into the underlying secondary undifferentiated aquifer.

P 5. Surface water: overland flow into surrounding surface waterbodies.

3.3.3 *Potential receptors*

The following potential receptors in relation to the proposed land use have been identified.

- R 1. Humans (neighbours, site end users).
- R 2. Development end use (buildings, utilities and landscaping).
- R 3. Groundwater: Secondary undifferentiated aquifer status of the Tidal Flat Deposits.
- R 4. Surface water: ponds on site, reservoir to the east of the site and Baglan Brook to the north.

An assessment of the Source-Pathway-Receptor linkages has been undertaken and is presented in Appendix F (Table F.2) and the conclusions of the assessment are discussed in Section 4.

Health and safety risks to site Contractors and maintenance workers have not been assessed during these works and will need to be considered separately.

A summary of the plausible linkages is presented on the Preliminary Conceptual Site Model provided in Appendix A (Hydrock Drawing 11852-HYD-XX-XX-DR-G-1002).

4. DESK STUDY CONCLUSIONS

4.1 Geotechnical conclusions

The following plausible geotechnical risks are identified.

- Variable Made Ground - settlement or differential settlement of foundations, floor slabs, roads and infrastructure elements.
- Low strength, compressible ground – risk of shear failure and excessive settlement of foundations, roads and infrastructure elements.
- Attack of buried concrete by aggressive ground conditions – the development site may contain Made Ground and potentially sulfate bearing soils.
- Shrinkage/swelling of clay – settlement/heave of foundations, especially where located within the influence of trees and vegetation.
- Running sands, loose Made Ground and shallow groundwater, leading to difficulty with excavation due to trench instability.
- Potential for obstructions and the risk of instability of excavations with the impact on construction staff, vehicles and plant operators.
- Earthworks – Low bearing capacity or settlement of new fill and impact on foundations, floor slabs, roads and infrastructure and construction plant.
- Potential for unforeseen ground conditions and the risks associated with limited data.

These plausible risks require further investigation and assessment (see Section 6).

4.2 Geo-environmental conclusions

Based on historical and current land uses and in accordance with the processes set out in Appendix G:

- It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990.
- The overall risk from land contamination to the proposed development is considered to be moderate due to the fact that extensive Made Ground deposits of unknown origin are expected across the site. The possibility of peat lenses in the natural deposits are also of significant concern.

The possible pollutant linkages (for risk levels of moderate or greater) on an unremediated redeveloped site, as determined by the desk study and walk-over, are summarised in Table 4.1:

Table 4.1: Possible Pollutant Linkages (for Risk Levels of Moderate or Greater)

Source(s)	◀ potential Impact on ▶	Receptor(s)
Metals, metalloids, PAH, petroleum hydrocarbons and asbestos in Made Ground below the site.		Site users Surface water
Carbon dioxide and methane generated by organic material in underlying Made Ground and peat deposits.		Site users

These possible pollutant linkages require further investigation and assessment (see Section 6).

5. UNCERTAINTIES AND LIMITATIONS

5.1 Site-specific comments

Parts of the site, in particular the northern and western boundaries are heavily overgrown. This means that we could not view the area during the site walkover. Vegetation clearance will be necessary to allow access for ground investigation.

5.2 General comments

Hydrock Consultants Limited (Hydrock) has prepared this report in accordance with the instructions of Morgan Sindall (the Client), by email dated 30th October 2019 under the terms of appointment for Hydrock. Hydrock shall not be responsible for any use of the report or its contents for any purpose other than that for which it was prepared and provided.

This report details the findings of work carried out in September 2019. The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, not all potential environmental constraints or liabilities associated with the site may have been revealed.

Information provided by third parties has been used in good faith and is taken at face value. However, Hydrock cannot guarantee its accuracy or completeness.

Where the existing report(s) prepared by others have been provided by the Client, it is assumed that these have been either commissioned by the Client, or can be assigned to the Client, and can be relied upon by Hydrock. Should this not be the case Hydrock should be informed immediately as additional work may be required. Hydrock is not responsible for any factual errors or omissions in the supplied data, or for the opinions and recommendations of others. It is possible that the conditions described may have since changed through natural processes or recent activities.

The work has been carried out in general accordance with recognised best practice. The various methodologies used are referenced in Appendix G.

Unless otherwise stated, no assessment has been made for the presence of radioactive substances or unexploded ordnance.

Please note that notwithstanding any site observations concerning the presence or otherwise of archaeological sites, asbestos-containing materials or invasive weeds, this report does not constitute a formal survey of these potential hazards and specialist advice should be sought.

Whilst the preliminary risk assessment process has identified potential risks to construction workers, consideration of occupational health and safety issues is beyond the scope of this report.

Any site boundary line depicted on plans does not imply legal ownership of land.

6. RECOMMENDATIONS FOR FURTHER WORK

In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. This investigation will need to:

- determine the depth and distribution of Made Ground and natural strata across the site both laterally and vertically with a focus on the proposed building footprint;
- determine the soil strength/density profile beneath the site;
- determine the depth/level of groundwater beneath the site;
- determine the ground gas concentrations beneath the site;
- determine CBRs to assist with pavement design;
- assess trench stability, over break potential and 'diggability';
- allow soil infiltration rate testing;
- allow sampling for chemical and geotechnical laboratory testing;
- allow soil classification to allow geotechnical characterisation and foundation design and determine suitability for reuse of soils within earthworks;
- obtain information in terms of Aggressive Chemical Environment for Concrete Class (ACEC Class).

Following investigation, assessment will be required to:

- update the Ground Model;
- update the Geotechnical Risk Register;
- provide Geotechnical Design recommendations;
- update the Conceptual Site Model (CSM), including identification of plausible pollution linkages;
- undertake generic quantitative risk assessment of potential chemical contaminants to establish 'suitability for use' under the current planning regime;
- discuss potential environmental liabilities associated with land contamination (soil, water and gas); and
- provide outline mitigation recommendations to ensure the site is 'suitable for use'.

It will also be necessary to undertake a detailed UXO desk study to assess the risk posed by UXO at the site prior to any ground investigation work.

7. REFERENCES

- ASSOCIATION OF GROUND INVESTIGATION SPECIALISTS. 2006. Guidelines for Good Practice in Site Investigation. Issue 2. AGS, Beckenham.
- BRITISH STANDARDS INSTITUTION. 2004. Eurocode 7 – Geotechnical design - Part 1: General rules. BS EN 1997-1. Incorporating Corrigendum No.1. BSI, London.
- BRITISH STANDARDS INSTITUTION. 2007. Eurocode 7 – Geotechnical design - Part 2: Geotechnical investigation and testing. BS EN 1997-2. BSI, London.
- BRITISH STANDARDS INSTITUTION. 2011. Code of Practice for Investigation of Potentially Contaminated sites. BS 10175 Incorporating Amendment No. 2:2017. BSI, London.
- BRITISH STANDARDS INSTITUTION. 2015. Code of practice for ground investigations. BS 5930. BSI, London.
- CARD, G., WILSON, S. and MORTIMER, S. 2012. A pragmatic approach to ground gas risk assessment. CL:AIRE Research Bulletin RB17. CL:AIRE, London.
- CLAYTON, C. R. I. 2001. Managing Geotechnical Risk. Improving productivity in UK building and construction. Thomas Telford, London.
- DCLG. March 2012. National Planning Policy Framework. DCLG, London.
- ENVIRONMENT AGENCY. 2004. Model procedures for the management of land contamination. Contaminated Land Report (CLR) 11. The Environment Agency.
- THE HIGHWAYS AGENCY. 2008. Design Manual for Roads and Bridges. Volume 4, Geotechnics and Drainage. Section 1 Earthworks, Part 2, Managing Geotechnical Risk. HD 22/08
- THE HIGHWAYS AGENCY. 2015. Design Manual, Road and Bridges: Volume 4, Geotechnics and Drainage; Section 1, Earthworks; Part 3, HD 41/15, Maintenance of highway geotechnical assets. HD 41/15.
- JONES, H. K., MORRIS, B. L., CHENEY, C. S., BREWERTON, L. J., MERRIN, P. D., LEWIS, M. A., MACDONALD, A. M., COLEBY, L. M., TALBOT, J. C., MCKENZIE, A. A., BIRD, M. J., CUNNINGHAM, J. and ROBINSON, V. K. 2000. The physical properties of minor aquifers in England and Wales. British Geological Survey Technical Report WD/00/04. 234pp. Environment Agency R and D Publication 68.
- MILES, J. C. H., APPLETON, J. D., REES, D. M., GREEN, B. M. R., ADLAM, K. A. M. and MYRES, A. H. 2007. Indicative Atlas of Radon in England and Wales. Health Protection Agency and British Geological Survey. Report HPA-RPD-033.
- MINISTRY OF HOUSING, COMMUNITIES and LOCAL GOVERNMENT (MHCLG). Internet published Planning practice guidance <https://www.gov.uk/government/collections/planning-practice-guidance>. MHCLG. London
- RAWLINS, B. G., McGRATH, S. P., SCHEIB, A. J., CAVE, N., LISTER, T. R., INGHAM, M., GOWING, C. and CARTER, S. 2012. The advanced geochemical atlas of England and Wales. British Geological Survey, Keyworth.

SCIVYER, C. 2015. Radon: Guidance on protective measures for new buildings. Building Research Establishment Report BR 211. BRE, Garston.

SHAND, P., EDMUNDS, W.M., LAWRENCE, A.R., SMEDLEY, PAULINE, BURKE, S. 2007. The natural (baseline) quality of groundwater in England and Wales. Environment Agency, 72pp. (RR/07/006)

STONE, K., MURRAY, A., COOKE, S., FORAN, J. and GOODERHAM, L. 2009. Unexploded ordnance (UXO), a guide to the construction industry. CIRIA Report C681. Contaminated Land: Applications in Real Environments, London.

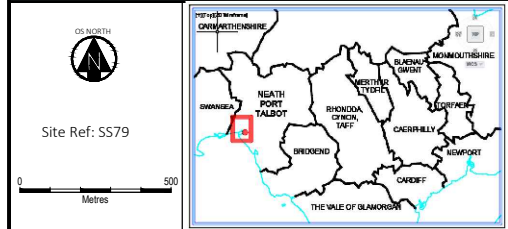
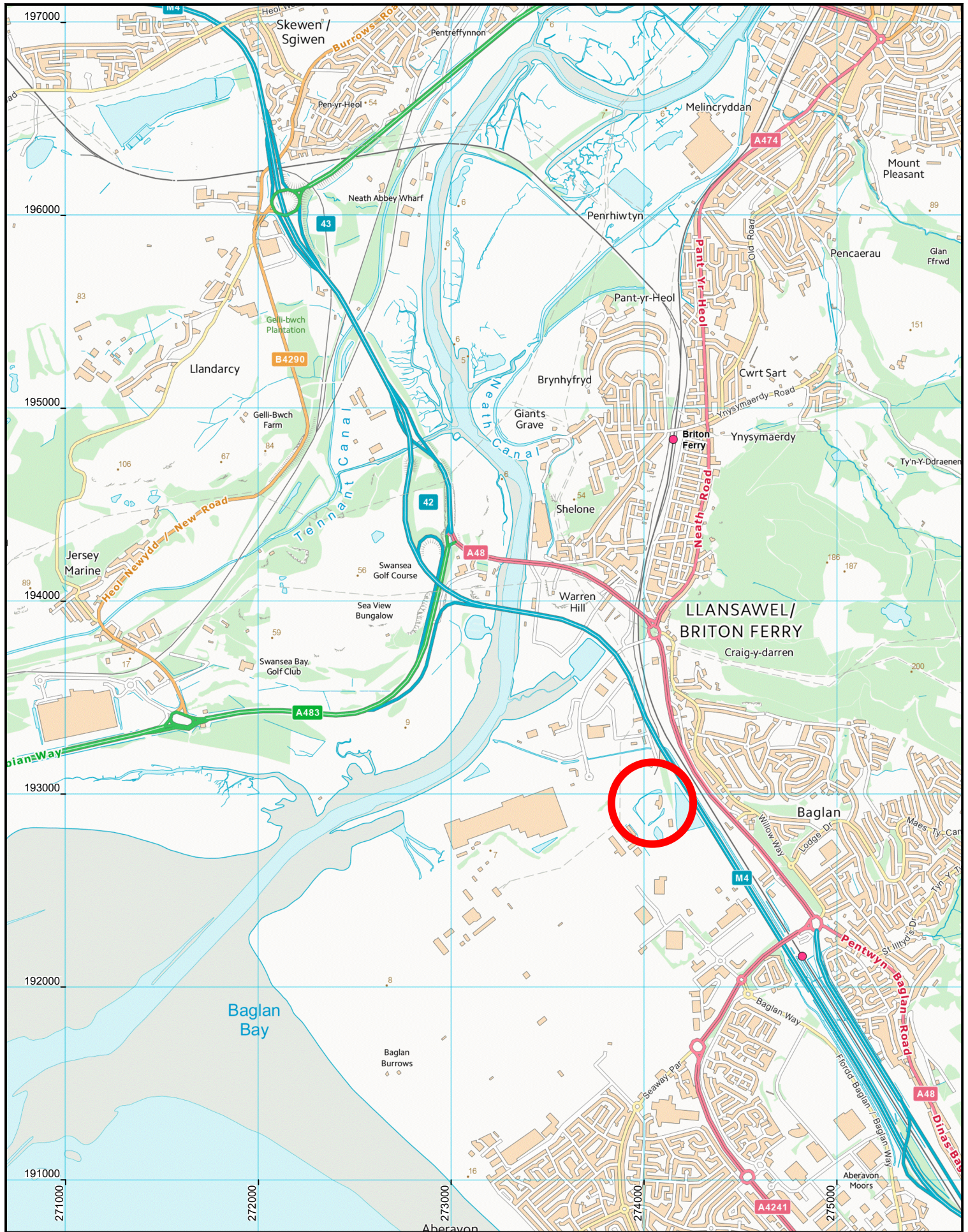
WATER UK HBF. January 2014. Contaminated Land Assessment Guidance. Water UK and the Home Builders Federation.

WELSH ASSEMBLY GOVERNMENT. July 2004. Development and flood risk. Planning Policy Wales, Technical Advice Note 15.

WILSON, S., OLIVER, S., MALLETT, H., HUTCHINGS, H. and CARD, G. 2007. Assessing risks posed by hazardous ground gases to buildings. CIRIA Report C665. Contaminated Land: Applications in Real Environments, London.

Appendix A

Drawings



P1		FIRST ISSUE			
EP	03/10/19	DM	03/10/19	AE	18/10/19
REVISION NOTES/COMMENTS					
REV.	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY DATE



5-19 Cowbridge Road East
Cardiff
CF11 9AB
t: +44(0) 2020 023 665
e: cardiff@hydrock.com

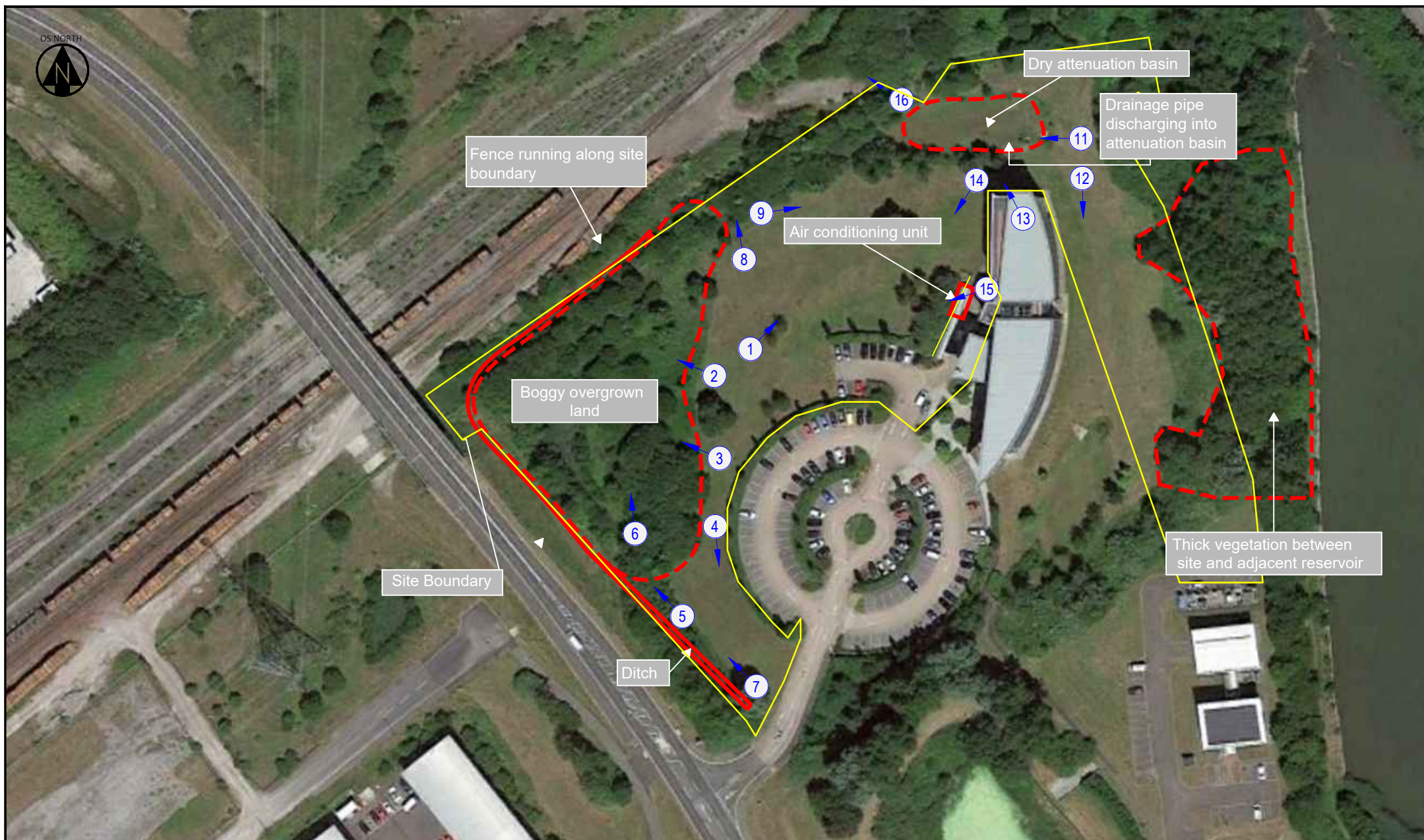
CLIENT

MORGAN SINDALL

PROJECT

SWANSEA BAY TECHNOLOGY CENTRE

TITLE	
SITE LOCATION PLAN	
HYDROCK PROJECT NO. C-11852-C	SCALE @ A4 1:25,000
PURPOSE OF ISSUE SUITABLE FOR INFORMATION	STATUS S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 11852-HYD-XX-XX-DR-G-1000	REVISION P1

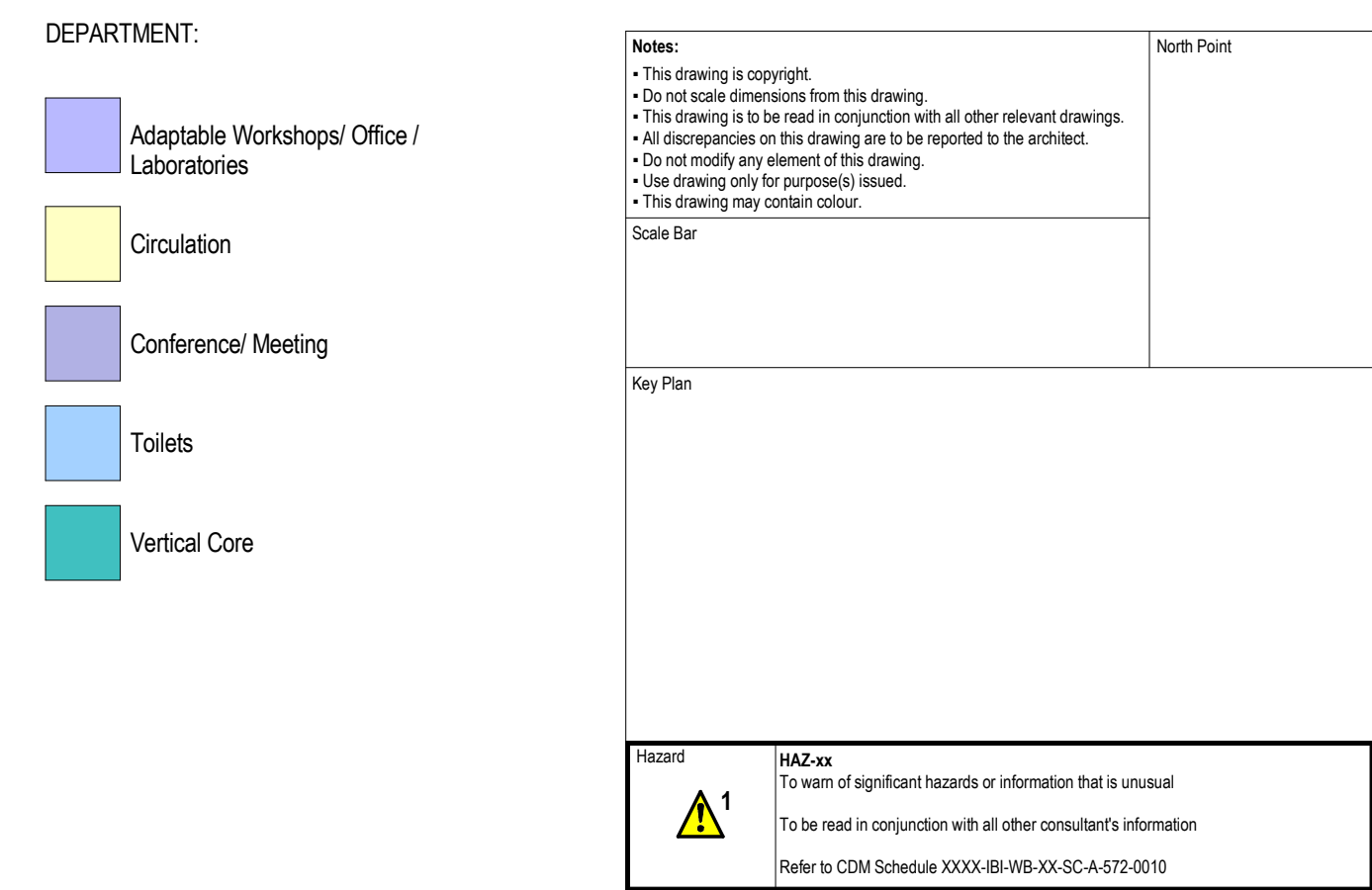




WIP - Area Level 0						
Number	Name	Department	Volume	Area		
				Achieved	Required	Area Difference
LEVEL 00						
	STAIR 2	Vertical Core	49.88 m²	20.8 m²		
	STAIR 1	Vertical Core	64.07 m²	26.7 m²		
	LIFT	Vertical Core	28.69 m²	12 m²		
L00.01	Exhibition	Circulation	503.37 m²	209.7 m²		
L00.02	RECEPTION	Circulation	50.22 m²	20.9 m²		
L00.03	RECEPTION/ OFFICE	Circulation	25.46 m²	10.6 m²		
L00.04	Room	Adaptable Workshops/ Office / Laboratories	134.27 m²	55.9 m²		
L00.05	Room	Adaptable Workshops/ Office / Laboratories	134.27 m²	55.9 m²		
L00.06	Room	Adaptable Workshops/ Office / Laboratories	134.27 m²	55.9 m²		
L00.07	Room	Adaptable Workshops/ Office / Laboratories	163.36 m²	68.1 m²		
L00.08	Atrium Exhibition	Circulation	360.25 m²	150.1 m²		
L00.09	Room	Adaptable Workshops/ Office / Laboratories	150.32 m²	62.6 m²		
L00.10	Room	Adaptable Workshops/ Office / Laboratories	385.53 m²	160.6 m²		
L00.11	CAFE/ BREAK OUT	Coffee Shop	155.93 m²	65 m²		
L00.12	Room	Toilets	48.76 m²	20.3 m²		
L00.13	Meeting Booth 1	Meeting Wall	6.41 m²	2.7 m²		
L00.14	Meeting Booth 2	Meeting Wall	6.16 m²	2.6 m²		
L00.15	Meeting Booth 3	Meeting Wall	6.16 m²	2.6 m²		
L00.16	Meeting Booth 4	Meeting Wall	6.16 m²	2.6 m²		
L00.17	Meeting Booth 5	Meeting Wall	6.41 m²	2.7 m²		
L00.18	Meeting Booth 6	Meeting Wall	7.95 m²	3.3 m²		
L00.19	Meeting Booth 7	Meeting Wall	7.95 m²	3.3 m²		
				1014.9 m²	0 m²	0 m²
22				1014.9 m²	0 m²	0 m²

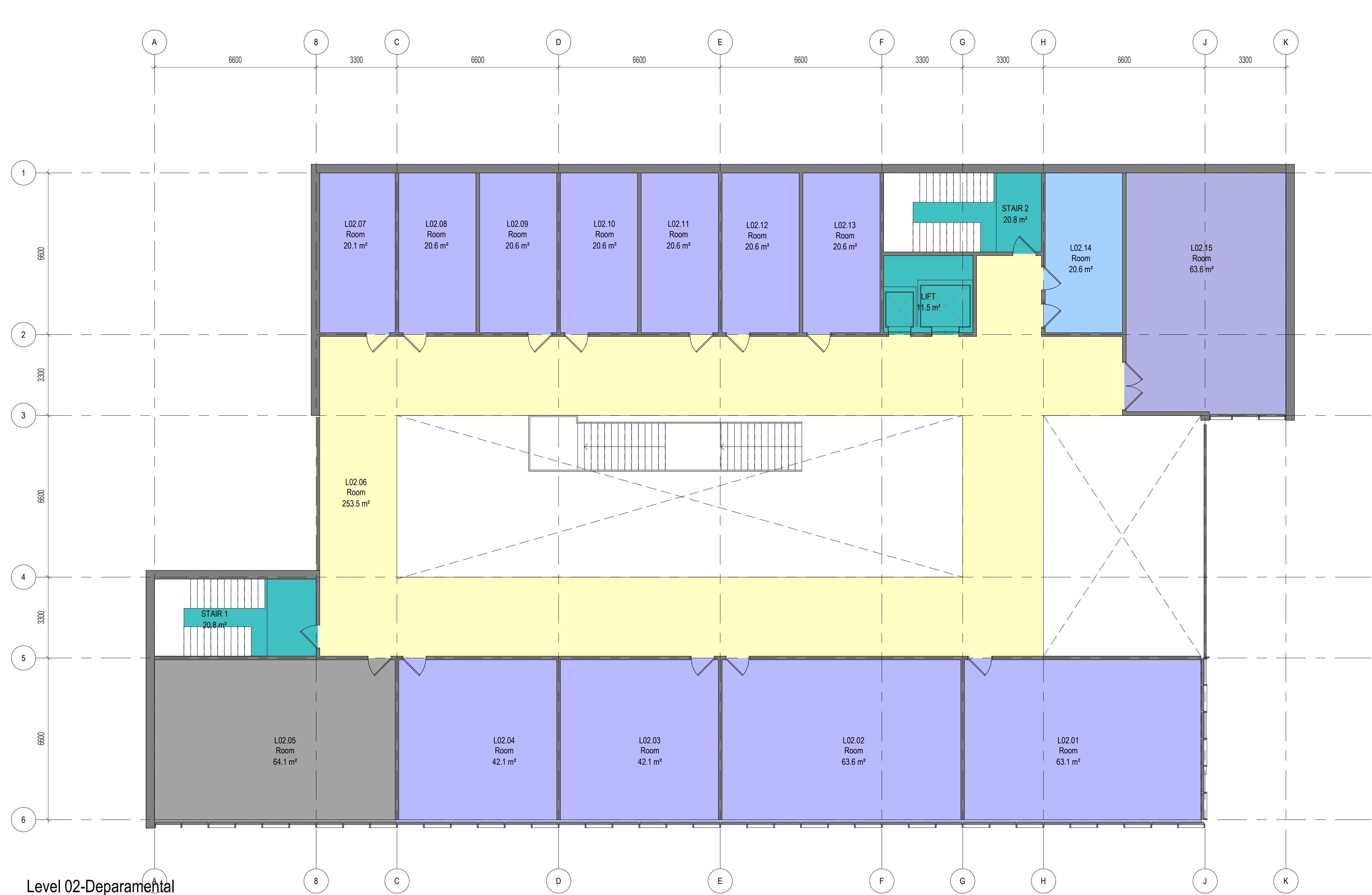
WIP - Area					
Number	Name	Department	Area		
			Achieved	Required	Area Difference
LEVEL 00					
	STAIR 2	Vertical Core	20.8 m²		
	STAIR 1	Vertical Core	26.7 m²		
	LIFT	Vertical Core	12 m²		
L00.01	Exhibition	Circulation	209.7 m²		
L00.02	RECEPTION	Circulation	20.9 m²		
L00.03	RECEPTION/ OFFICE	Circulation	10.6 m²		
L00.04	Room	Adaptable Workshops/ Office / Laboratories	55.9 m²		
L00.05	Room	Adaptable Workshops/ Office / Laboratories	55.9 m²		
L00.06	Room	Adaptable Workshops/ Office / Laboratories	55.9 m²		
L00.07	Room	Adaptable Workshops/ Office / Laboratories	68.1 m²		
L00.08	Atrium Exhibition	Circulation	150.1 m²		
L00.09	Room	Adaptable Workshops/ Office / Laboratories	62.6 m²		
L00.10	Room	Adaptable Workshops/ Office / Laboratories	160.6 m²		
L00.11	CAFE/ BREAK OUT	Coffee Shop	65 m²		
L00.12	Room	Toilets	20.3 m²		
L00.13	Meeting Booth 1	Meeting Wall	2.7 m²		
L00.14	Meeting Booth 2	Meeting Wall	2.6 m²		
L00.15	Meeting Booth 3	Meeting Wall	2.6 m²		
L00.16	Meeting Booth 4	Meeting Wall	2.6 m²		
L00.17	Meeting Booth 5	Meeting Wall	2.7 m²		
L00.18	Meeting Booth 6	Meeting Wall	3.3 m²		
L00.19	Meeting Booth 7	Meeting Wall	3.3 m²		
			1014.9 m²	0 m²	0 m²
LEVEL 01					
	STAIR 2	Vertical Core	20.5 m²		
	LIFT	Vertical Core	11.6 m²		
	STAIR 1	Vertical Core	20.6 m²		
L01.01	Room	Adaptable Workshops/ Office / Laboratories	64.1 m²		
L01.02	Room	Adaptable Workshops/ Office / Laboratories	63.6 m²		
L01.03	Room	Adaptable Workshops/ Office / Laboratories	42.1 m²		
L01.04	Room	Adaptable Workshops/ Office / Laboratories	42.1 m²		
L01.05	Room	Adaptable Workshops/ Office / Laboratories	64.1 m²		
L01.06	Room	Circulation	243.2 m²		
L01.07	Room	Adaptable Workshops/ Office / Laboratories	20.1 m²		
L01.08	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L01.09	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L01.10	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L01.11	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L01.12	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L01.13	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L01.14	Room	Toilets	20.8 m²		
L01.15	Room	Conference/ Meeting	74.3 m²		
			810.4 m²	0 m²	0 m²
LEVEL 2					
	STAIR 2	Vertical Core	20.8 m²		
	STAIR 1	Vertical Core	20.8 m²		
	LIFT	Vertical Core	11.5 m²		
L02.01	Room	Adaptable Workshops/ Office / Laboratories	63.1 m²		
L02.02	Room	Adaptable Workshops/ Office / Laboratories	63.6 m²		
L02.03	Room	Adaptable Workshops/ Office / Laboratories	42.1 m²		
L02.04	Room	Adaptable Workshops/ Office / Laboratories	42.1 m²		
L02.05	Room	Plant	64.1 m²		
L02.06	Room	Circulation	253.5 m²		
L02.07	Room	Adaptable Workshops/ Office / Laboratories	20.1 m²		
L02.08	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L02.09	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L02.10	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L02.11	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L02.12	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L02.13	Room	Adaptable Workshops/ Office / Laboratories	20.6 m²		
L02.14	Room	Toilets	20.6 m²		
L02.15	Room	Conference/ Meeting	63.6 m²		
			809.1 m²	0 m²	0 m²
58			2634.4 m²	0 m²	0 m²

Notes: - This drawing is copyright. - Do not scale dimensions from this drawing. - This drawing is to be read in conjunction with all other relevant drawings. - All discrepancies on this drawing are to be reported to the architect. - Do not modify any element of this drawing - Use drawing only for purpose(s) issued. - This drawing may contain colour. North Point					
Scale Bar					
Key Plan					
Hazard HAZ-xx To warn of significant hazards or information that is unusual To be read in conjunction with all other consultant's information Refer to CDM Schedule XXXX-IBI-WB-XX-SC-A-572-0010					
The following external model files are included within this drawing:					
Rev	Date	Revision Notes			Drawn / Review
Logos					
(INSERT CLIENT / CONTRACTOR LOGO OR NAME HERE (IF REQUIRED))					
Intelligence Buildings Infrastructure www.ibigroup.com					
Project					
SWANSEA BAY TECHNOLOGY CENTRE					
Drawing Title					
Level 00- Area schedule					
Job Number	Date	Security Classification	Drawn By		
122092	17/10/19		Author		
Scale@A1	Purpose		Reviewed By		
1 : 100			Checker		
Drawing Number	Revision	Suitability			
122092-IBI-B1-00-DR-A-251-0001				S0	



The following external model files are included within this drawing:

Rev	Date	Revision Notes	Drawn	Review
Logos				
[INSERT CLIENT / CONTRACTOR LOGO OR NAME HERE (IF REQUIRED)]				
		Intelligence Buildings Infrastructure		
Project		www.ibigroup.com		
SWANSEA BAY TECHNOLOGY CENTRE				
Drawing Title				
Level 01- Area Schedule				
Job Number 122092	Date 17/10/9	Security Classification	Drawn By Author	
Scale@A1 1 : 100	Purpose		Reviewed By Checker	
Drawing Number 122092-IBI-B1-01-DR-A-251-0001	Revision	Suitability S0		



Level 02-Deparmental
1 : 100

WIP - Area Level 2						
Number	Name	Department	Volume	Area		
				Achieved	Required	Area Difference
LEVEL 2						
	STAIR 2	Vertical Core	49.88 m³	20.8 m²		
	STAIR 1	Vertical Core	49.9 m³	20.8 m²		
	LIFT	Vertical Core	27.56 m³	11.5 m²		
L02.01	Room	Adaptable Workshops/ Office / Laboratories	151.51 m³	63.1 m²		
L02.02	Room	Adaptable Workshops/ Office / Laboratories	152.69 m³	63.6 m²		
L02.03	Room	Adaptable Workshops/ Office / Laboratories	101.01 m³	42.1 m²		
L02.04	Room	Adaptable Workshops/ Office / Laboratories	101.01 m³	42.1 m²		
L02.05	Room	Plant	153.86 m³	64.1 m²		
L02.06	Room	Circulation	608.28 m³	253.5 m²		
L02.07	Room	Adaptable Workshops/ Office / Laboratories	48.15 m³	20.1 m²		
L02.08	Room	Adaptable Workshops/ Office / Laboratories	49.33 m³	20.6 m²		
L02.09	Room	Adaptable Workshops/ Office / Laboratories	49.33 m³	20.6 m²		
L02.10	Room	Adaptable Workshops/ Office / Laboratories	49.33 m³	20.6 m²		
L02.11	Room	Adaptable Workshops/ Office / Laboratories	49.33 m³	20.6 m²		
L02.12	Room	Adaptable Workshops/ Office / Laboratories	49.33 m³	20.6 m²		
L02.13	Room	Adaptable Workshops/ Office / Laboratories	49.33 m³	20.6 m²		
L02.14	Room	Toilets	49.41 m³	20.6 m²		
L02.15	Room	Conference/ Meeting	152.69 m³	63.6 m²		
				809.1 m²	0 m²	0 m²
18				809.1 m²	0 m²	0 m²

DEPARTMENT:

Adaptable Workshops/ Office / Laboratories

Circulation

Conference/ Meeting

Plant

Toilets

Vertical Core

Notes:

- This drawing is copyright.
- Do not scale dimensions from this drawing.
- This drawing is to be read in conjunction with all other relevant drawings.
- All discrepancies on this drawing are to be reported to the architect.
- Do not modify any element of this drawing.
- Use drawing only for purpose(s) issued.
- This drawing may contain colour.

Scale Bar

North Point

Key Plan

Hazard

1

HAZ-xx

To warn of significant hazards or information that is unusual

To be read in conjunction with all other consultant's information

Refer to CDM Schedule XXXX-IBI-WB-XX-SC-A-572-0010

The following external model files are included within this drawing:

Rev

Date

Revision Notes

Drawn

Review

Logos

[INSERT CLIENT / CONTRACTOR LOGO OR NAME HERE (IF REQUIRED)]

IBI

Intelligence Buildings Infrastructure

www.ibigroup.com

Project

SWANSEA BAY TECHNOLOGY CENTRE

Drawing Title

Level 02- Are Schedule

Job Number

122092

Date

17/10/19

Security Classification

Drawn By

Author

Scale@A1

1 : 100

Purpose

Reviewed By

Checker

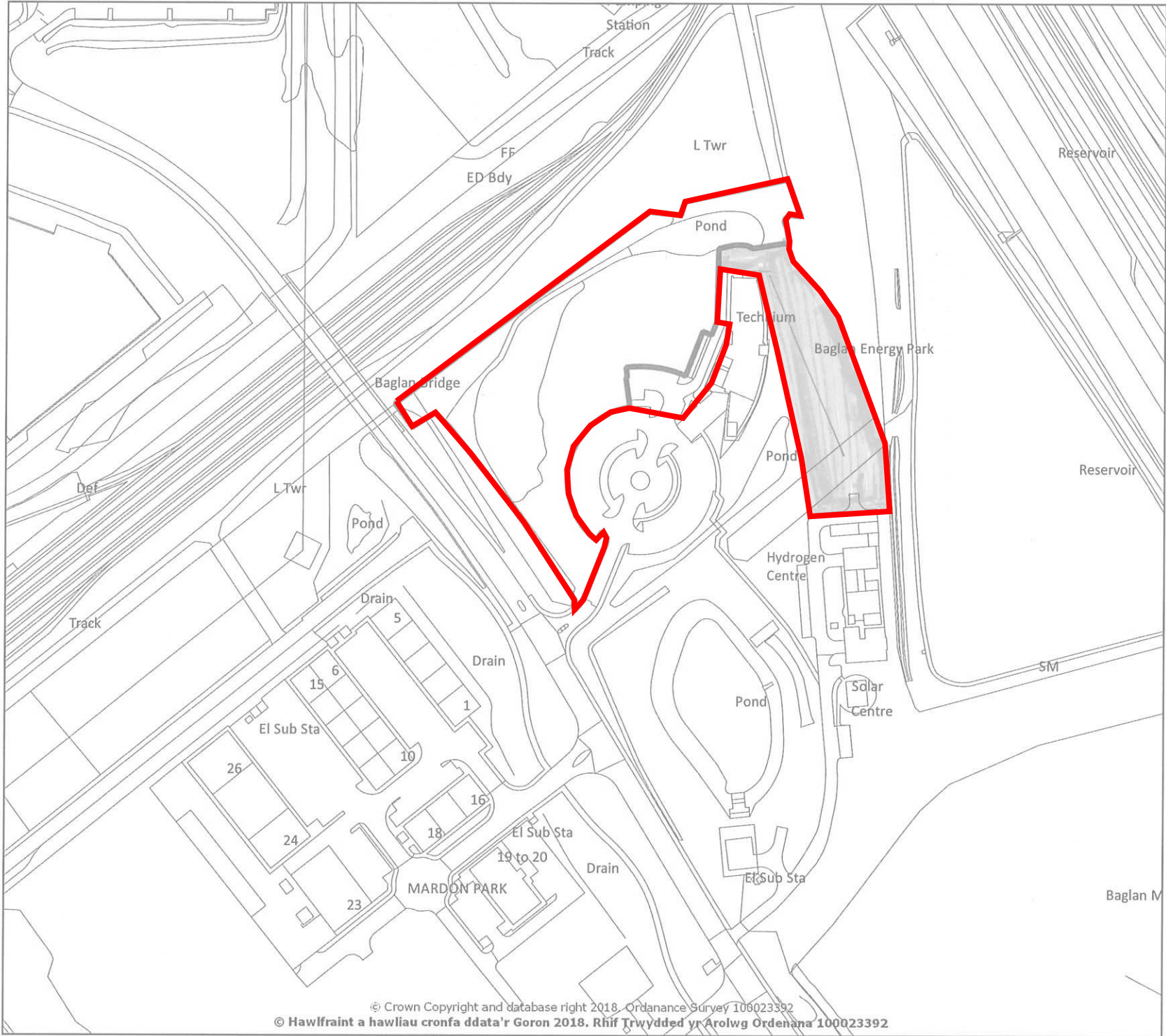
Drawing Number

122092-IBI-B1-02-DR-A-251-0001

Revision

Suitability

S0



NOTES NODIADAU



Property & Regeneration
Eiddo ac Adfywio

Gareth Nutt B.Sc (hons)
M.Sc., DMS, FRICS
Director of Environment
The Quays, Brunel Way
Baglan Energy Park
Neath SA11 2GG
www.npt.gov.uk

Gareth Nutt B.Sc (hons)
M.Sc., DMS, FRICS
Cyfarwyddwr Yr Amgylchedd
Y Celau, Ffordd Brunel
Parc Ynni Baglan
Castell-nedd SA11 2GG

Project Prosiect

Drawing Teitl Lluniadu

Phase 2
Baglan Bay Innovation Centre

Scales Dafol
A4 @ 1:2500

Drawing No. Rhif gan Dynnu
18-0160



Appendix B

Field Reconnaissance Photographs

Desk Study Photograph 1	
Date: 26/09/2019	
Direction Photograph Taken: North east.	
Description: Looking across northern half of site.	

Desk Study Photograph 2	
Date: 26/09/2019	
Direction Photograph Taken: n/a.	
Description: Plastic pipe sticking upright out of ground, purpose unknown.	

Desk Study Photograph 3	
Date: 26/09/2019	
Direction Photograph Taken: North west.	
Description: Overgrown boggy ground in western part of the site.	

Desk Study Photograph 4	
Date: 26/09/2019	
Direction Photograph Taken: South.	
Description: Looking across southern part of site.	

Desk Study Photograph 5	
Date: 26/09/2019	
Direction Photograph Taken: North west.	
Description: Ditch running along western boundary of the site.	

Desk Study Photograph 6	
Date: 26/09/2019	
Direction Photograph Taken: n/a.	
Description: Steel post on concrete base indicative of Made Ground suspected to be present across the site.	

Desk Study Photograph 7	
Date: 26/09/2019	
Direction Photograph Taken: North west.	
Description: Southern portion of the site.	

Desk Study Photograph 8	
Date: 26/09/2019	
Direction Photograph Taken: North.	
Description: Looking towards northern site boundary with vegetation and fence beyond.	

Desk Study Photograph 9	
Date: 26/09/2019	
Direction Photograph Taken: East.	
Description: Looking across northern edge of site.	

Desk Study Photograph 10	
Date: 26/09/2019	
Direction Photograph Taken: North west.	
Description: Disused gate onto adjacent railway land.	

Desk Study Photograph 11	
Date: 26/09/2019	
Direction Photograph Taken: West.	
Description: Dry attenuation basin in northern part of site.	

Desk Study Photograph 12	
Date: 26/09/2019	
Direction Photograph Taken: South.	
Description: Looking south along east side of Technium building.	

Desk Study Photograph 13	
Date: 26/09/2019	
Direction Photograph Taken: North west.	
Description: Drainage outlet into dry attenuation basin (black pipe in foreground).	

Desk Study Photograph 14	
Date: 26/09/2019	
Direction Photograph Taken: South west.	
Description: Looking across centre of site.	

Desk Study Photograph 15	
Date: 26/09/2019	
Direction Photograph Taken: n/a.	
Description: Air conditioning units.	

Appendix C

Historical Ordnance Survey Maps

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

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

1:10,000 Raster Mapping

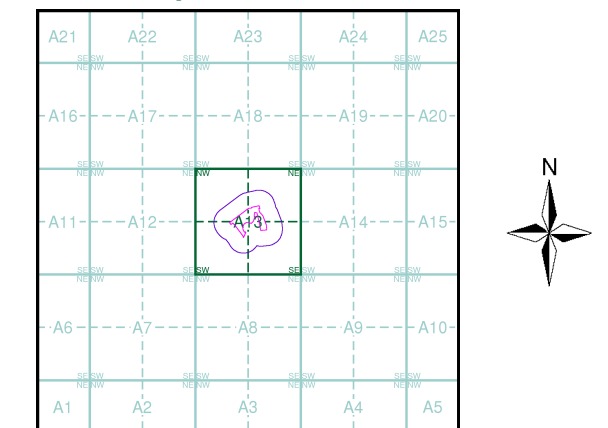
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil,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

Hydrock

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1921	6
Glamorganshire	1:10,560	1936	7
Glamorganshire	1:10,560	1938 - 1952	8
Historical Aerial Photography	1:10,560	1949	9
Glamorganshire	1:10,560	1951	10
Ordnance Survey Plan	1:10,000	1964	11
Ordnance Survey Plan	1:10,000	1974	12
Swansea	1:10,000	1976	13
Ordnance Survey Plan	1:10,000	1980	14
Ordnance Survey Plan	1:10,000	1996	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2019	18

Historical Map - Slice A



Order Details

Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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

Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Fireproof Building Prominent Fireproof Building

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

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

Power Station, drawn to scale Hydroelectric Power Station

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

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

Pit Oil Deposit or Well Oil Seepage

Tailings Pile Fuel Storage Tanks Natural Gas Tank

Bench Mark Drill Hole Burial Mound Triangulation Point on Burial Mound

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

Coniferous Forest Deciduous Forest Mixed Forest

Lawns Citrus Orchard Wet Ground Scattered Vegetation

243.8 Values for prominent elevations

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

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

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

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

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

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Partly Demolished Buildings Demolished Buildings

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

Individual Fireproof Building Prominent Industrial Building

Individual Dwelling, Fireproof Ruins of an Individual Dwelling

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

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

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

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

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

Bench Mark Bench Mark (monumented) Telegraph Office Telephone Station

Radio Station Radio Tower Airfield or Seaplane Base Landing Strip

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

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

Shore Embankment River or Ditch with Embankment Water Gauge Water Level Mark

Well Water Reservoir or Rain Water Pit Spring Isobath with value

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

Coniferous Deciduous Mixed Scrub

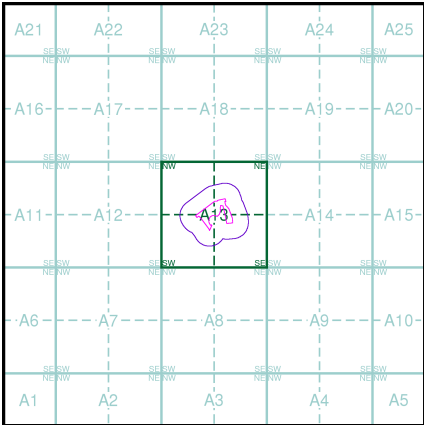
Key to Numbers on Mapping



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1921	6
Glamorganshire	1:10,560	1936	7
Glamorganshire	1:10,560	1938 - 1952	8
Historical Aerial Photography	1:10,560	1949	9
Glamorganshire	1:10,560	1951	10
Ordnance Survey Plan	1:10,000	1964	11
Ordnance Survey Plan	1:10,000	1974	12
Swansea	1:10,000	1976	13
Ordnance Survey Plan	1:10,000	1980	14
Ordnance Survey Plan	1:10,000	1996	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2019	18

Russian Map - Slice A



Order Details

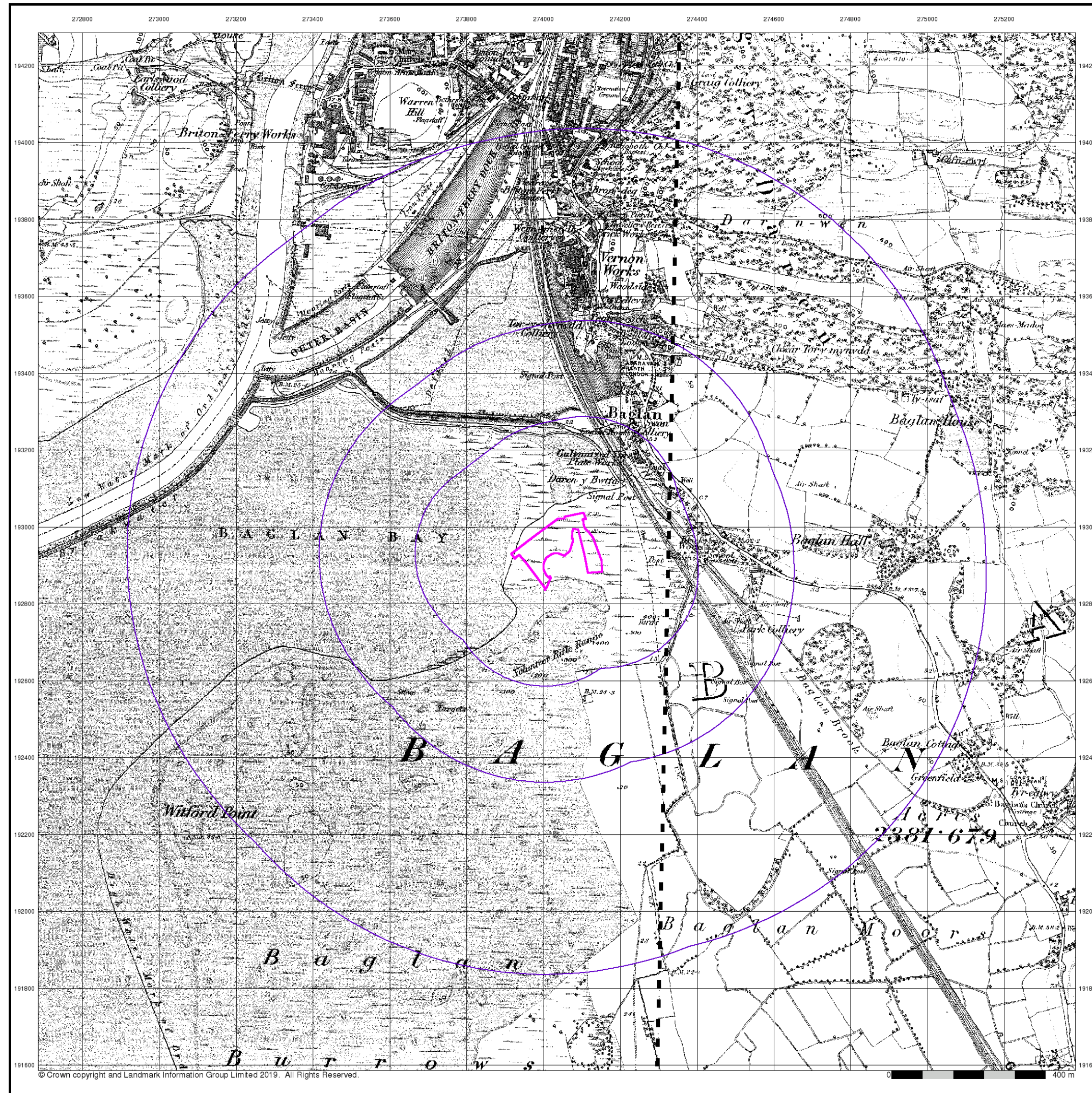
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



Hydrock

Glamorganshire

Published 1884

Source map scale - 1:10,560

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

Map Name(s) and Date(s)

02400 1884 1:10,560		02500 1884 1:10,560
---------------------------	--	---------------------------

Historical Map - Slice A

N

Order Details

Order Number:	224161277_1_1
Customer Ref:	C-11852-C
National Grid Reference:	274040, 192930
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

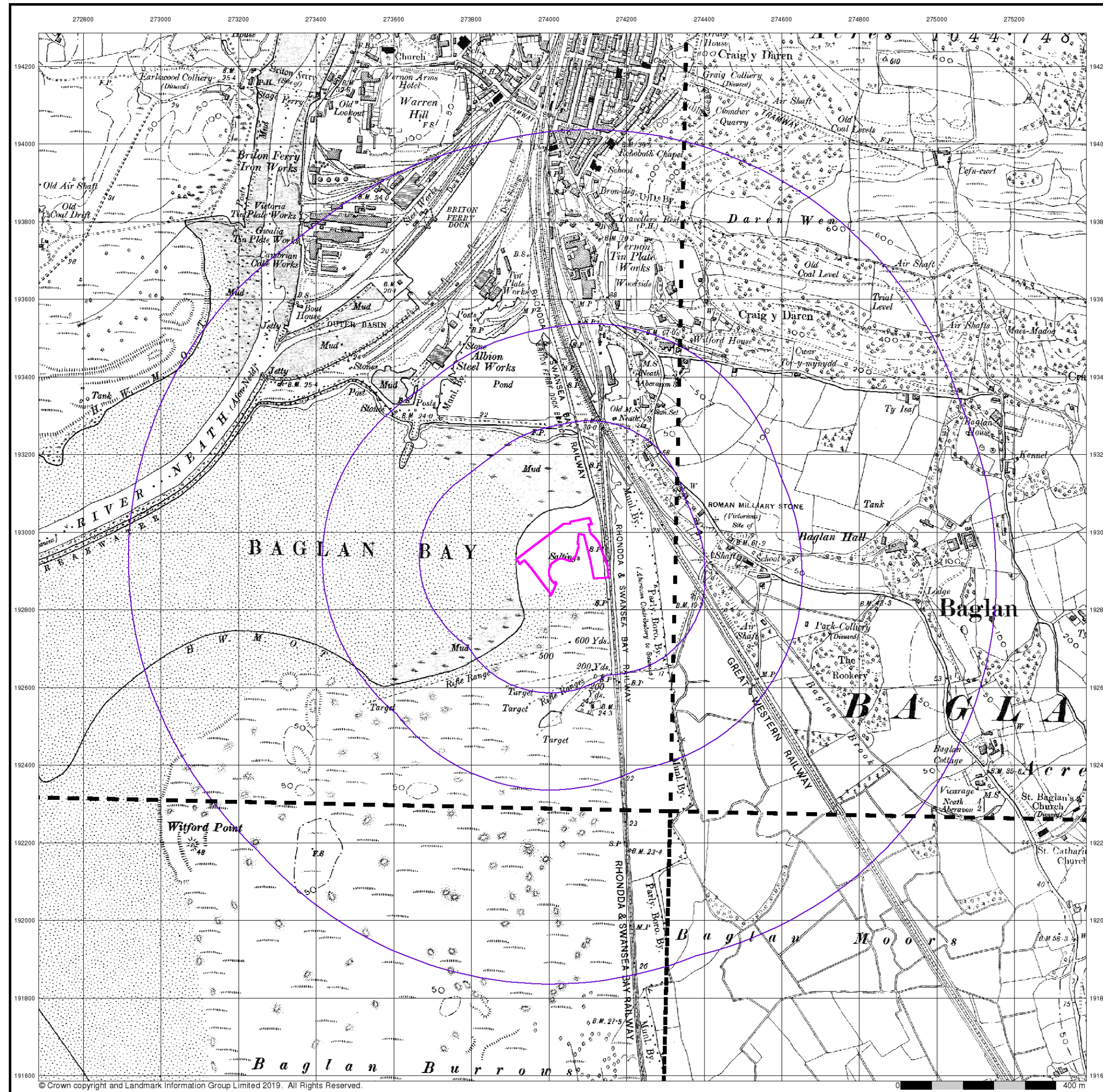
Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark

INFORMATION GROUP

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

A Landmark Information Group Service v50.0 07-Nov-2019 Page 3 of 18





Hydrock

Glamorganshire

Published 1900

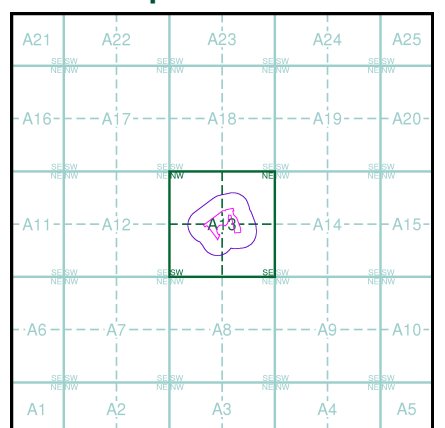
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

024NE 1900 1:10,560	025NW 1900 1:10,560
024SE 1900 1:10,560	025SW 1900 1:10,560

Historical Map - Slice A



Order Details

Order Number:	224161277_1_1
Customer Ref:	C-11852-C
National Grid Reference:	274040, 192930
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

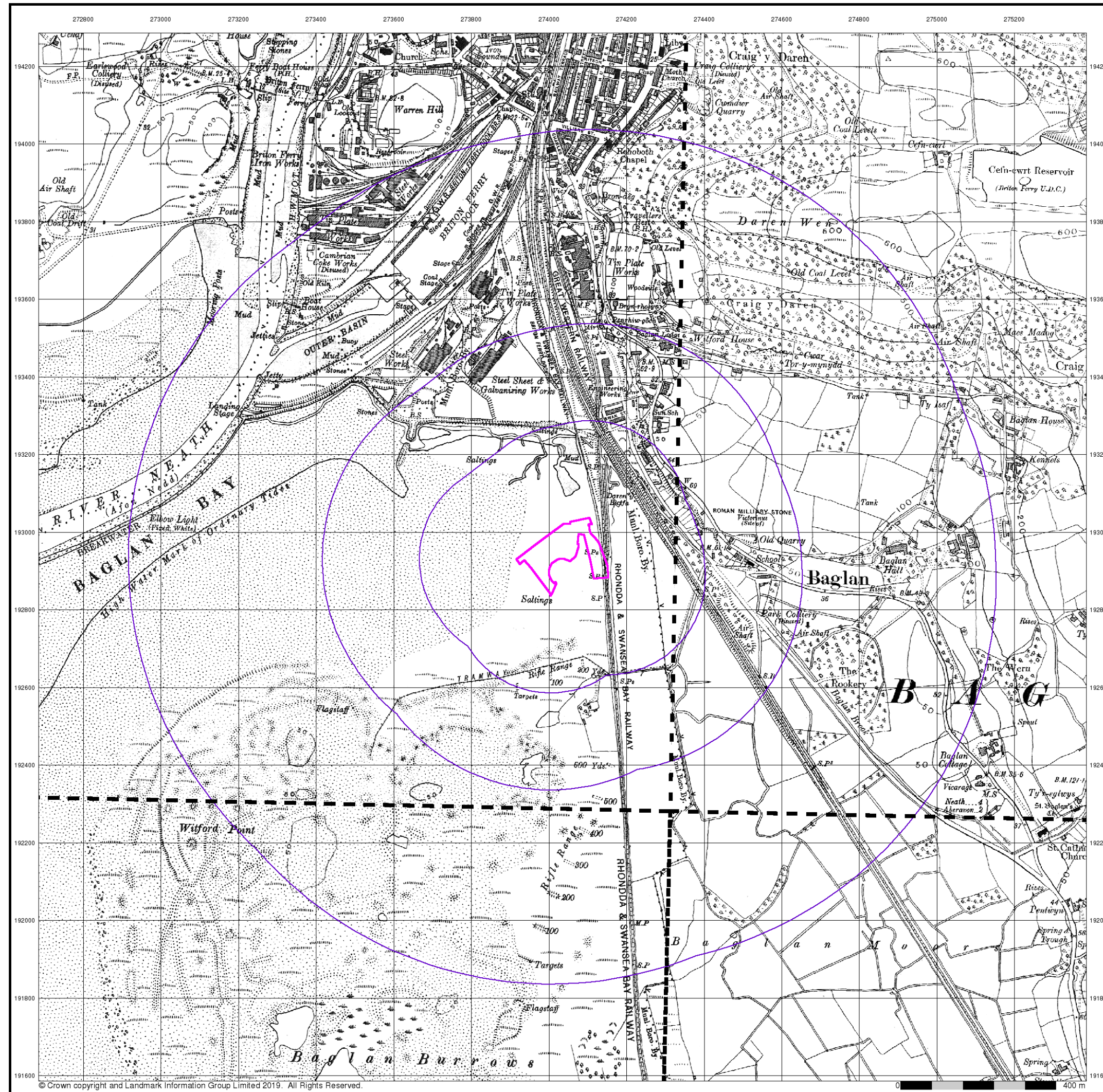
Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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

© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

A Landmark Information Group Service v50.0 07-Nov-2019 Page 4 of 18



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.



Hydrock

Glamorganshire

Published 1921

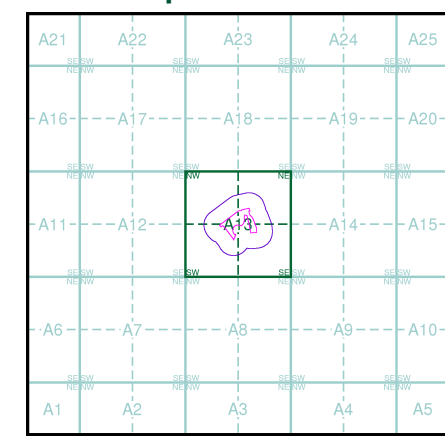
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

024NE 1921 1:10,560	025NW 1921 1:10,560
024SE 1921 1:10,560	025SW 1921 1:10,560

Historical Map - Slice A



Order Details

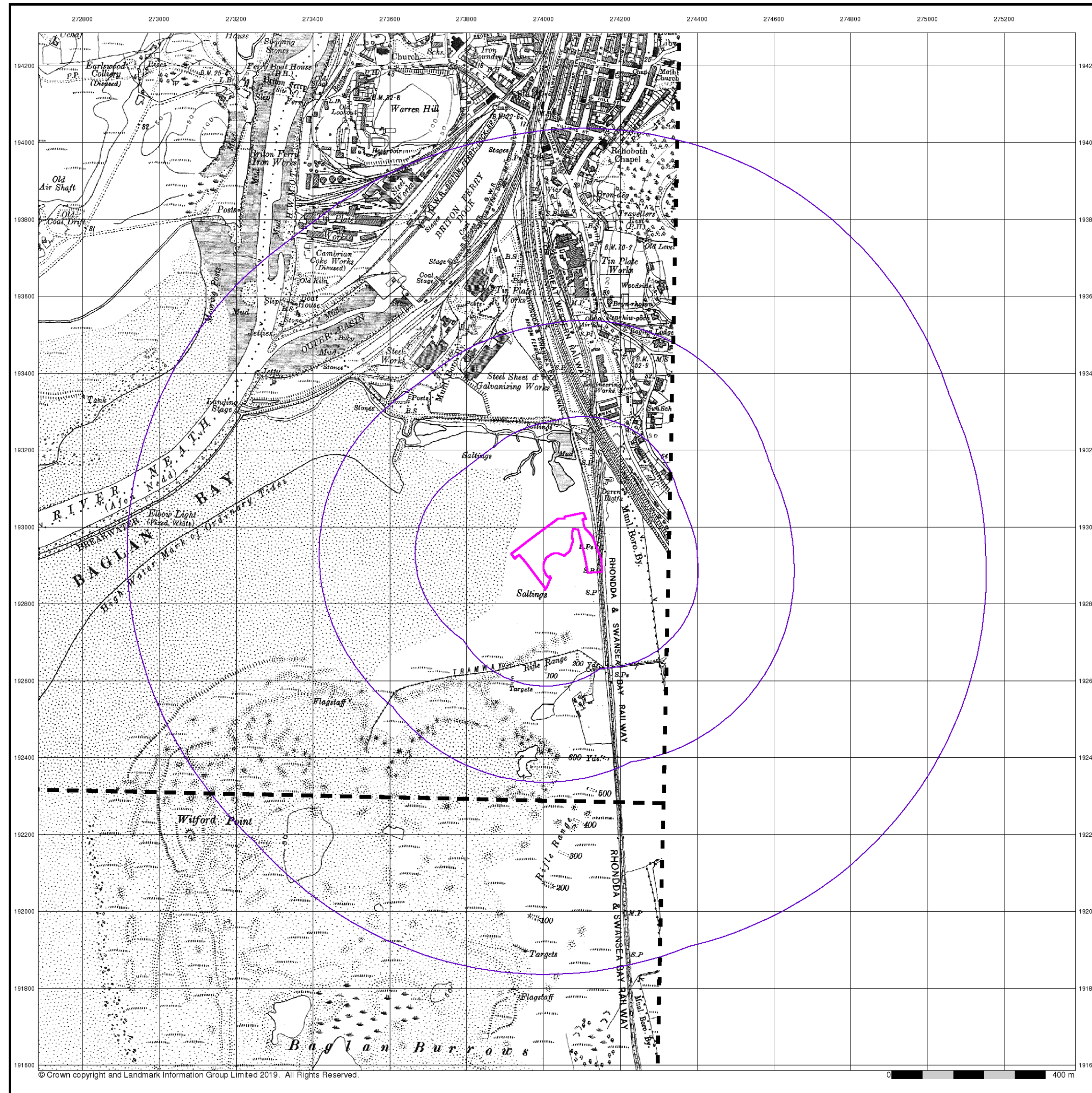
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



Hydrock

Glamorganshire

Published 1921

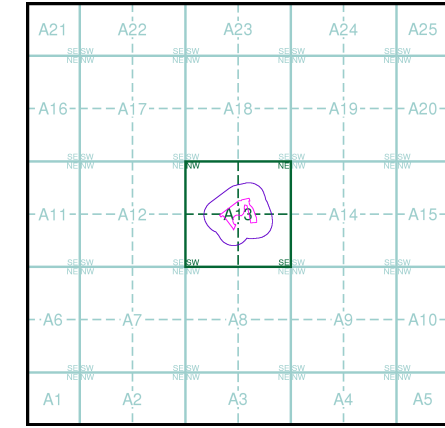
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

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

Historical Map - Slice A



Order Details

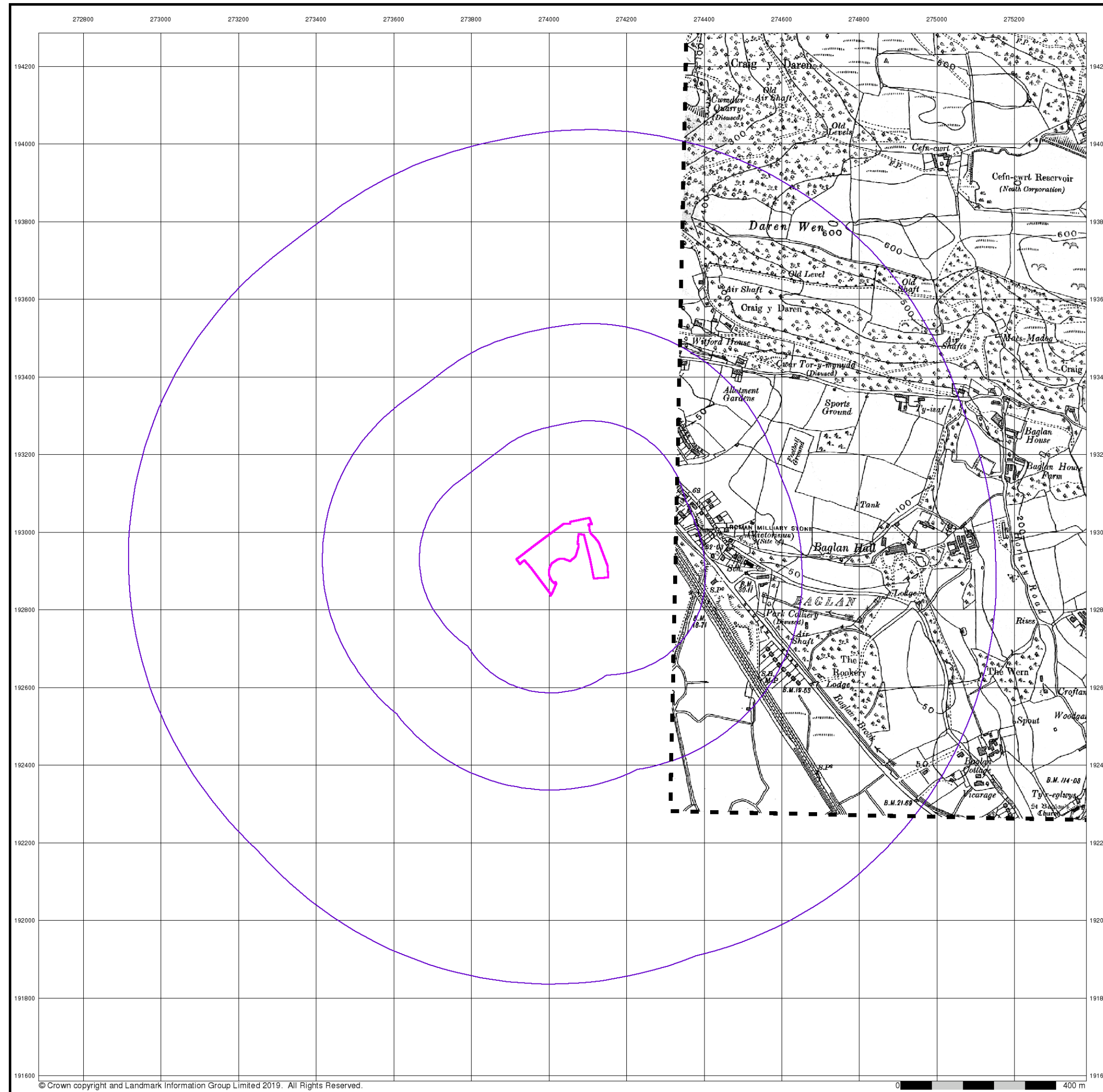
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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





Hydrock

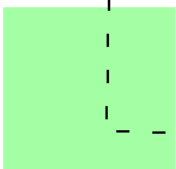
Glamorganshire

Published 1936

Source map scale - 1:10,560

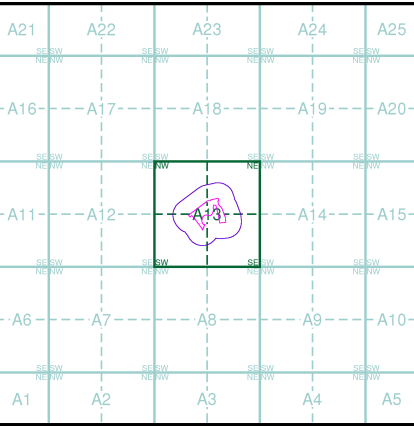
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

Map Name(s) and Date(s)



025NW
1936
1:10,560

Historical Map - Slice A



Order Details

Order Number:	224161277_1_1
Customer Ref:	C-11852-C
National Grid Reference:	274040, 192930
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

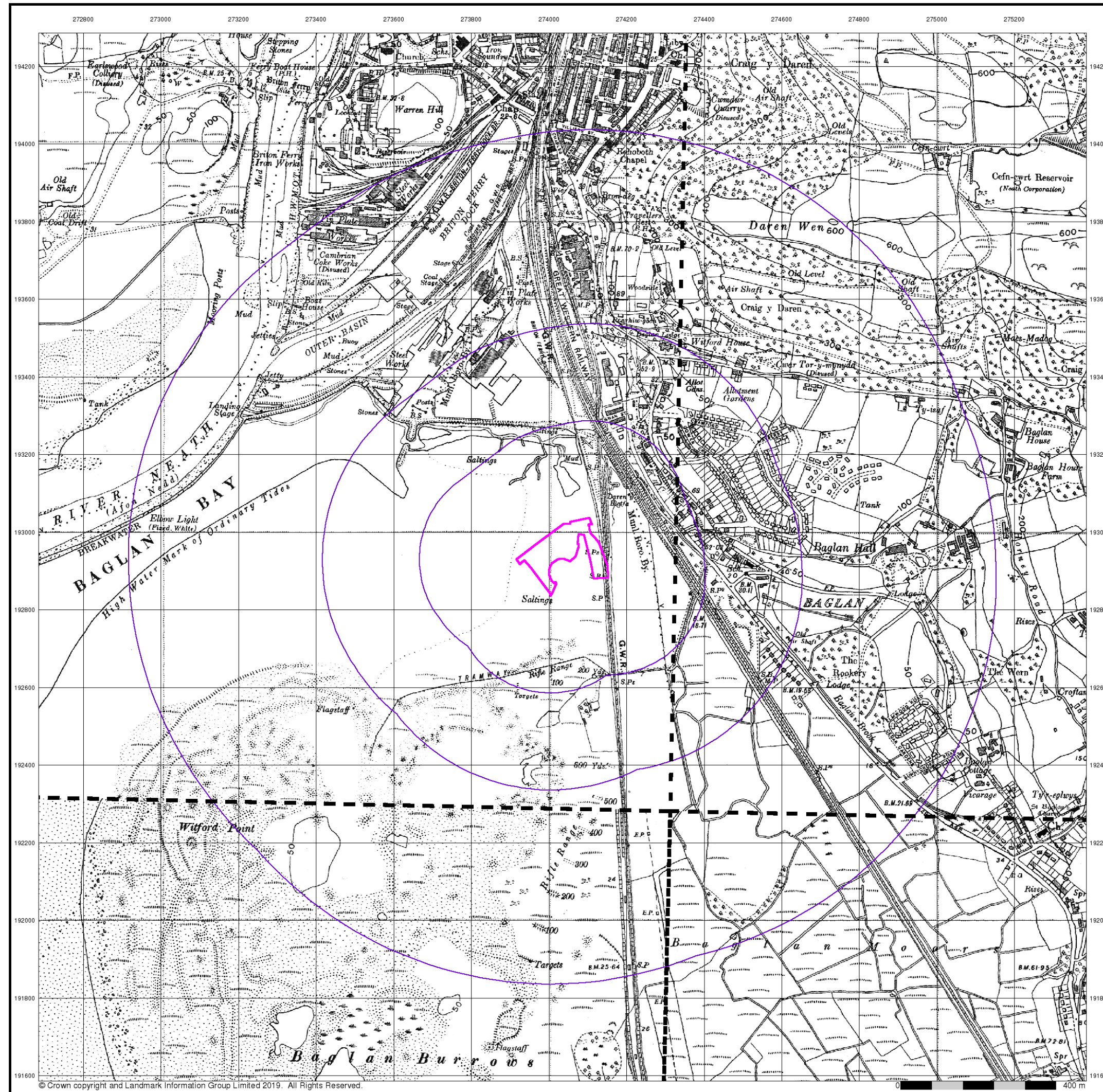


Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

0 400 m

A Landmark Information Group Service v50.0 07-Nov-2019 Page 7 of 18





Hydrock

Glamorganshire

Published 1938 - 1952

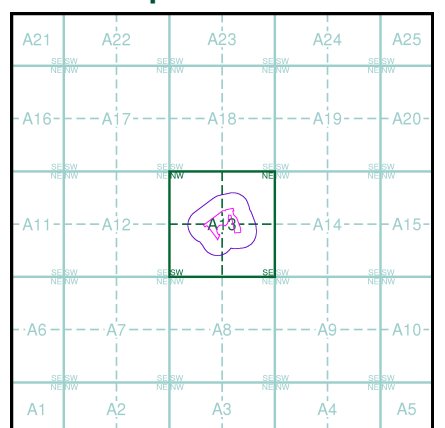
Source map scale - 1:10,560

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)

024NE 1938 1:10,560	025NW 1951 1:10,560
024SE 1951 1:10,560	025SW 1952 1:10,560

Historical Map - Slice A



Order Details

Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

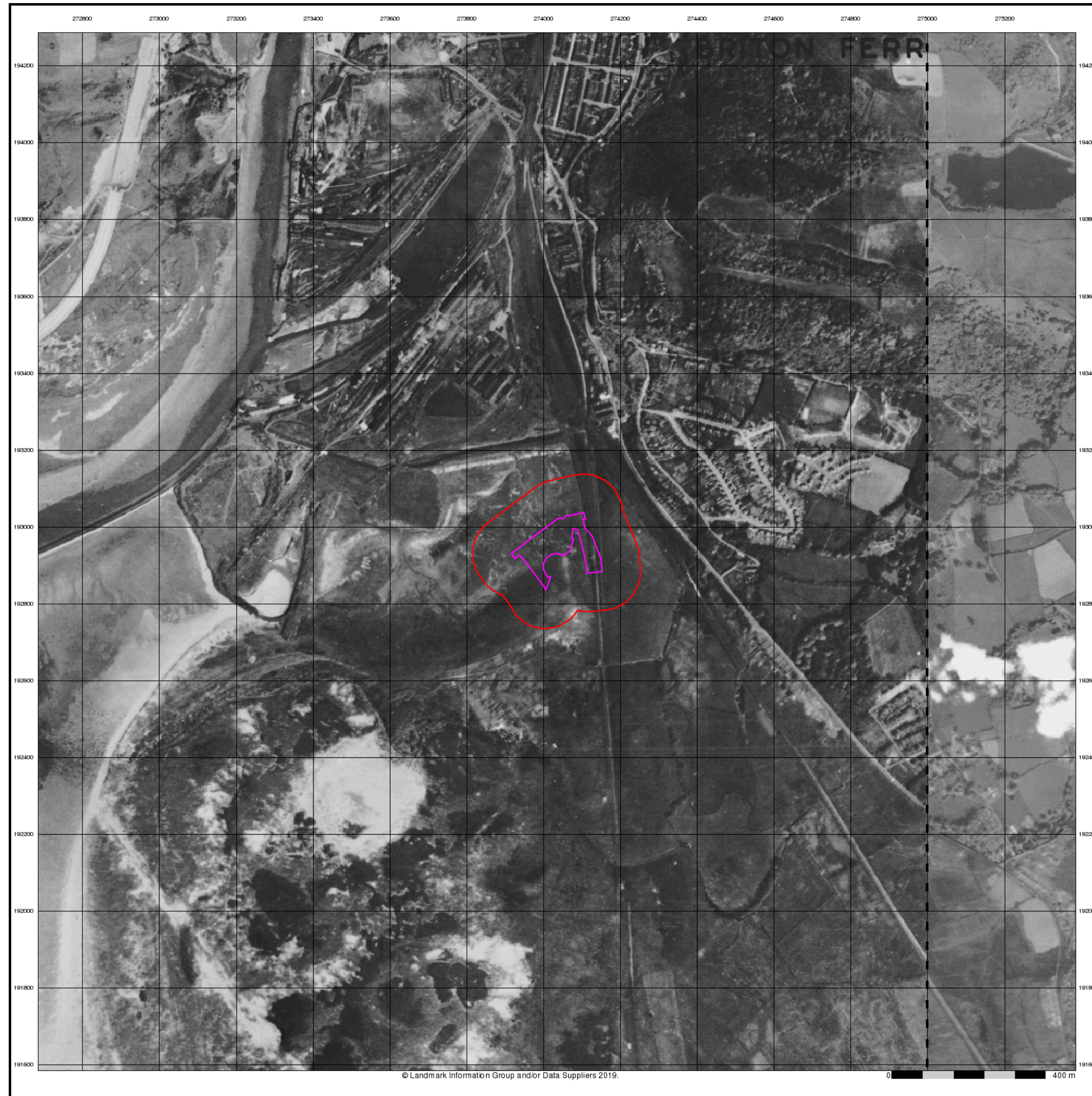


Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Landmark INFORMATION GROUP

© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

A Landmark Information Group Service v50.0 07-Nov-2019 Page 8 of 18



© Landmark Information Group and/or Data Suppliers 2019.

0 400 m



Hydrock

Historical Aerial Photography

Published 1949

Source map scale - 1:10,560

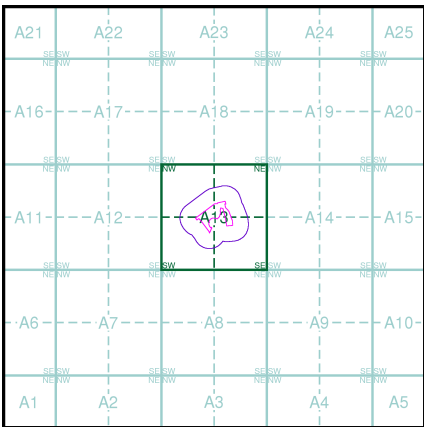
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the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

© Landmark Information Group and/or Data Suppliers 2010.

Map Name(s) and Date(s)

SS79SW 1949 1:10,560	SS79SE 1949 1:10,560
----------------------------	----------------------------

Historical Aerial Photography - Slice A



LIBRARY
HSILIRB

Order Details

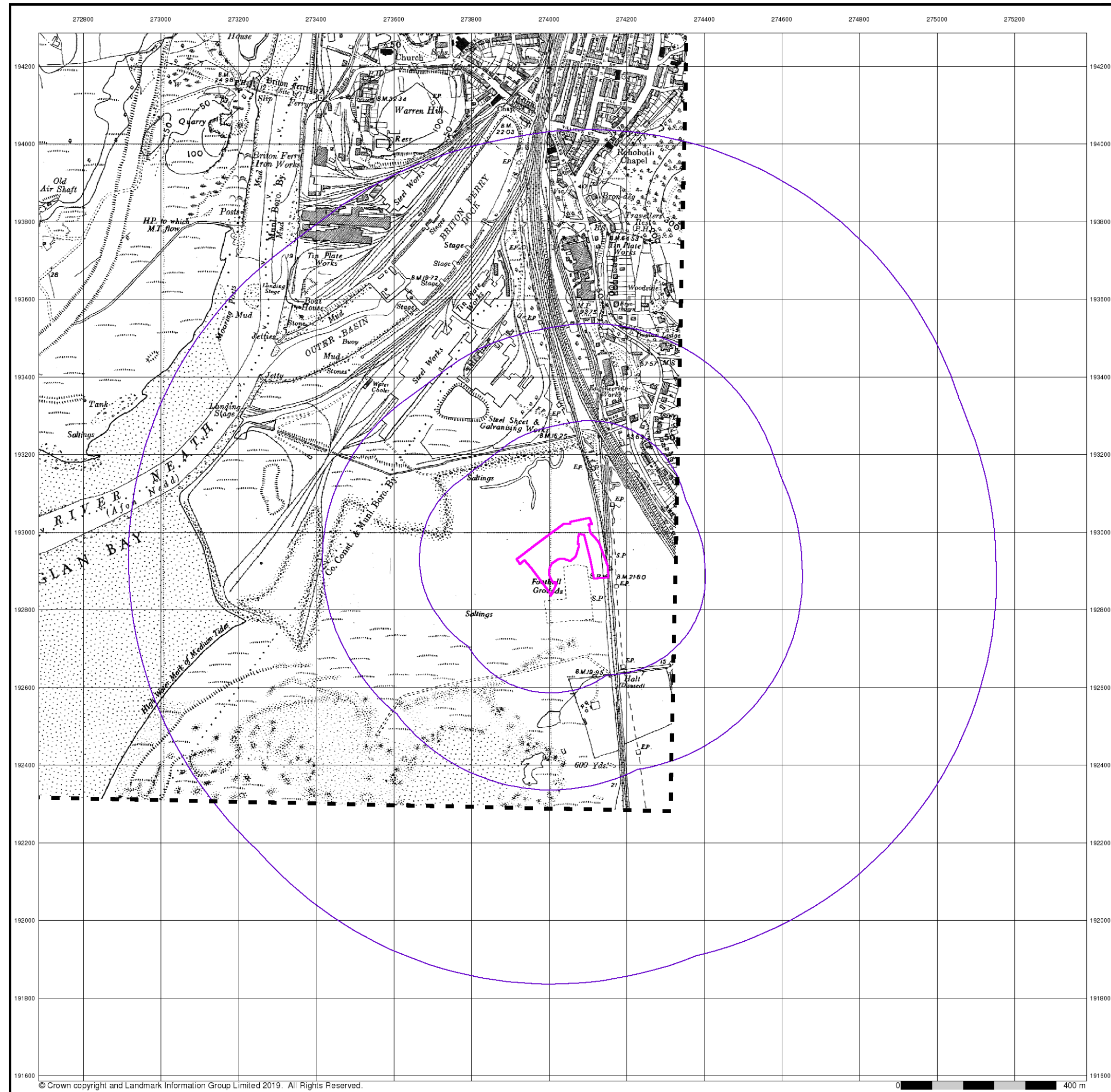
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

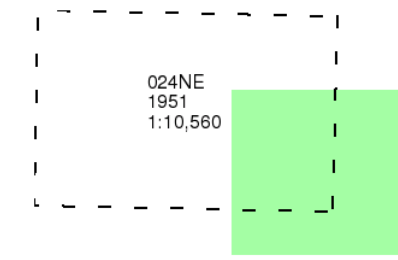
Glamorganshire

Published 1951

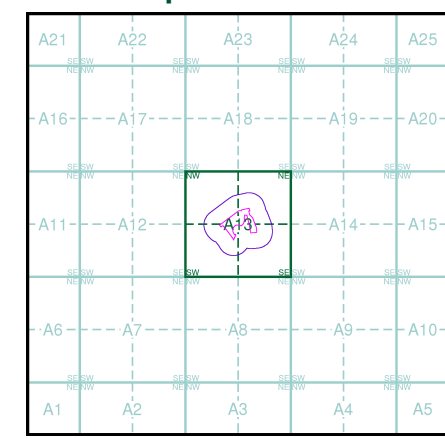
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

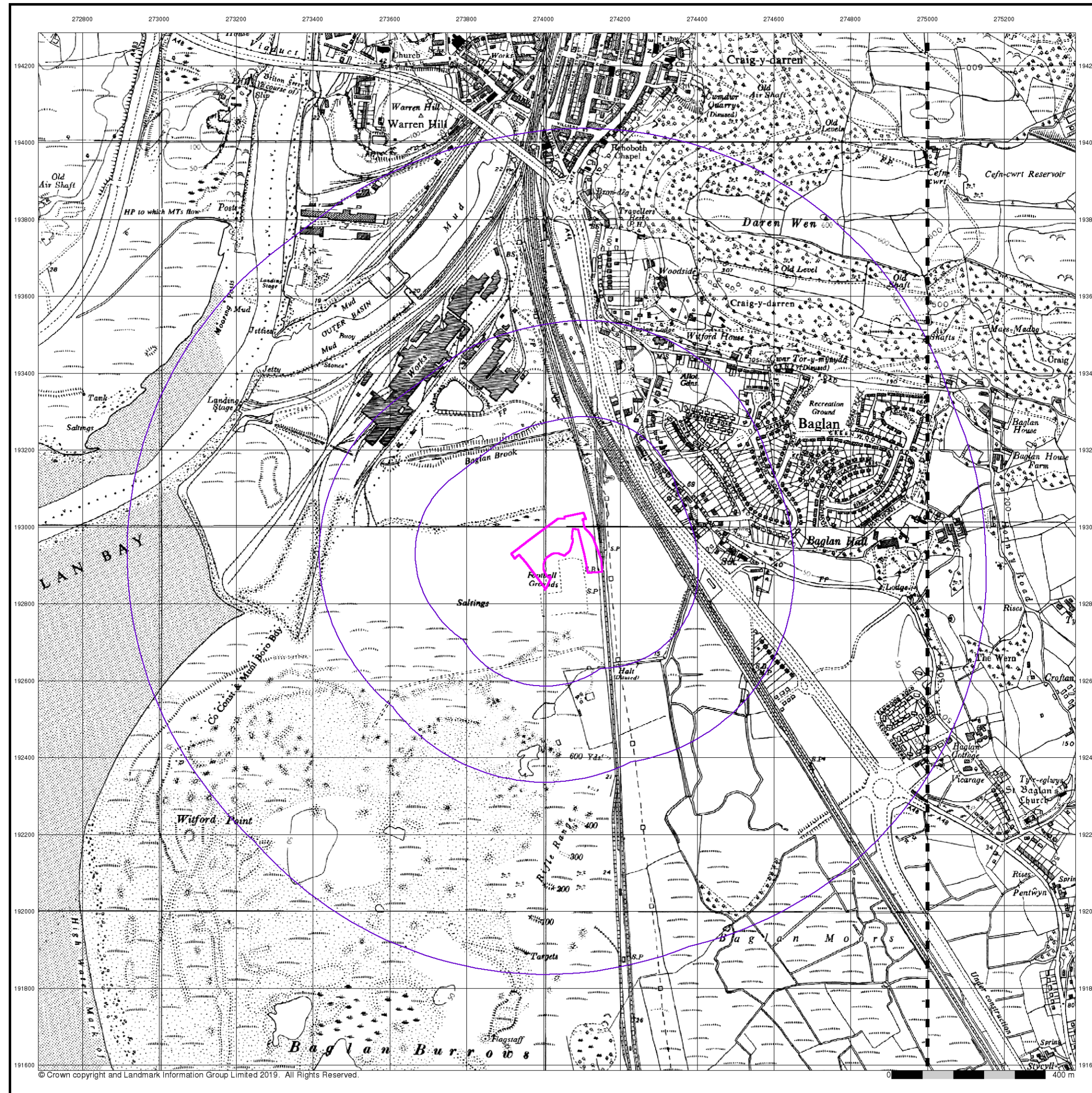
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



Hydrock

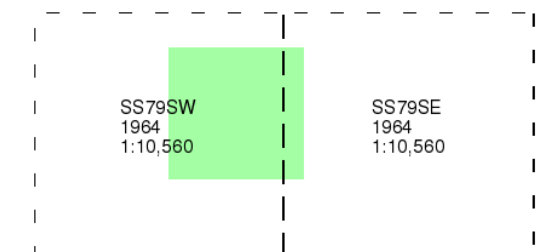
Ordnance Survey Plan

Published 1964

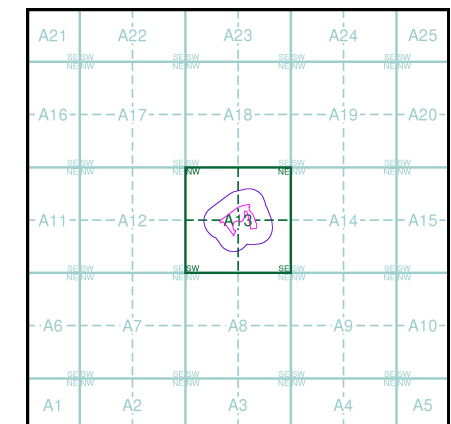
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

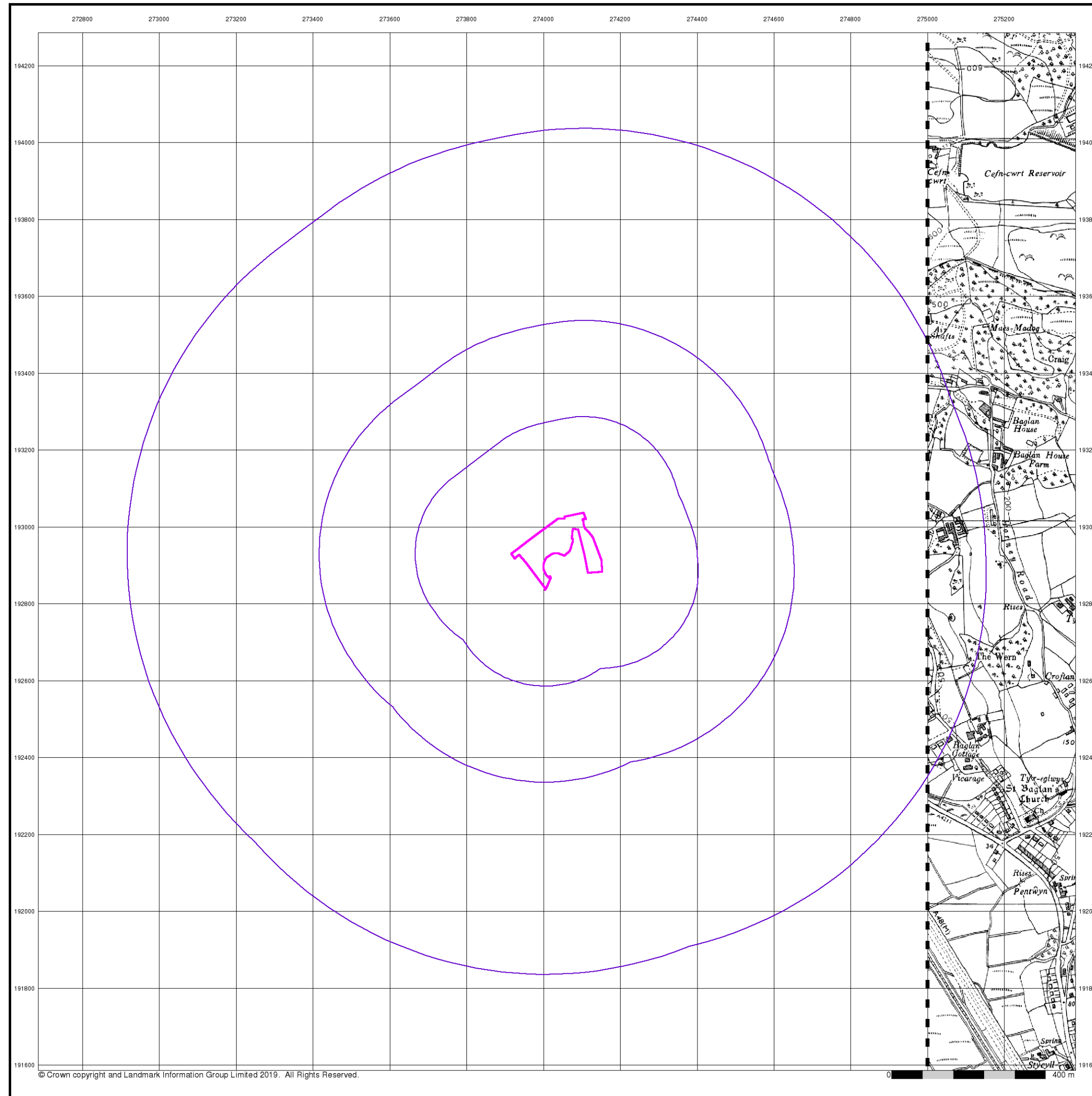
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

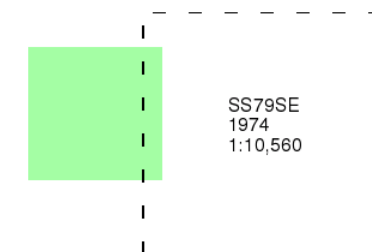
Ordnance Survey Plan

Published 1974

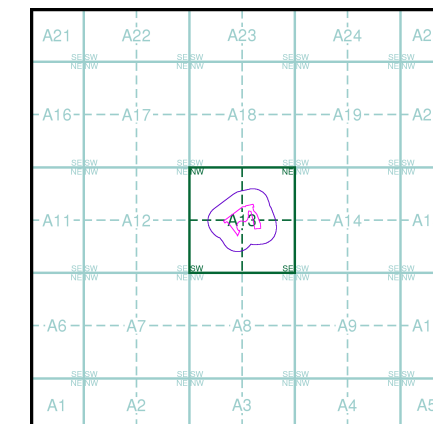
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

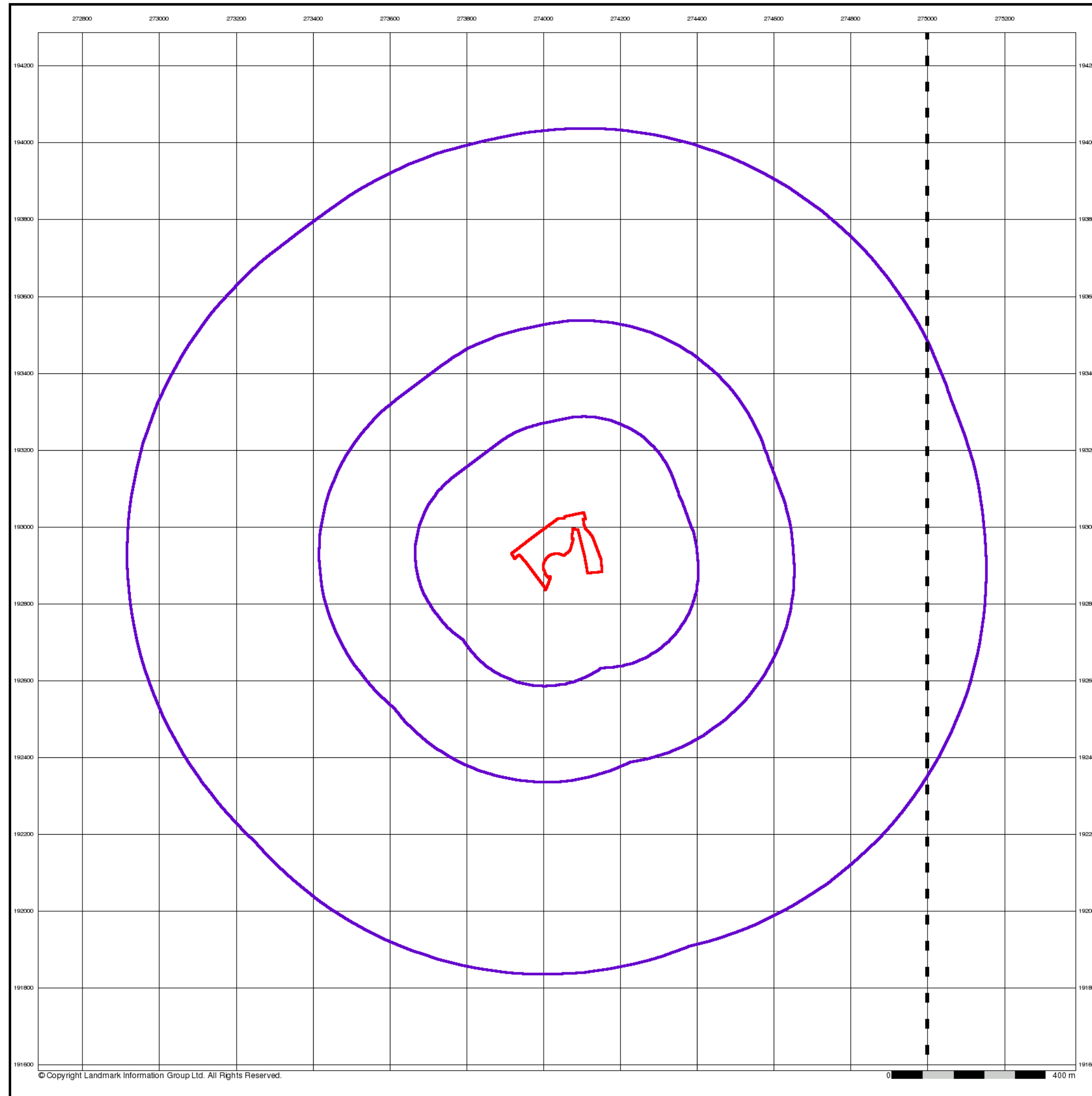
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

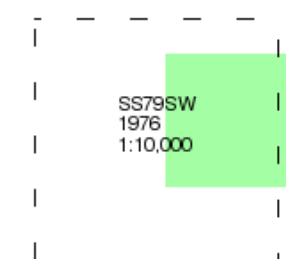
Swansea

Published 1976

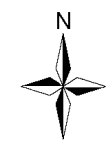
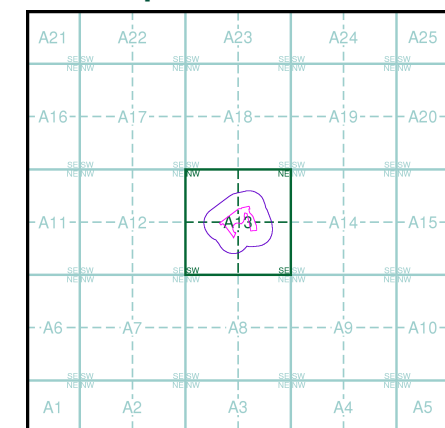
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Russian Map - Slice A



Order Details

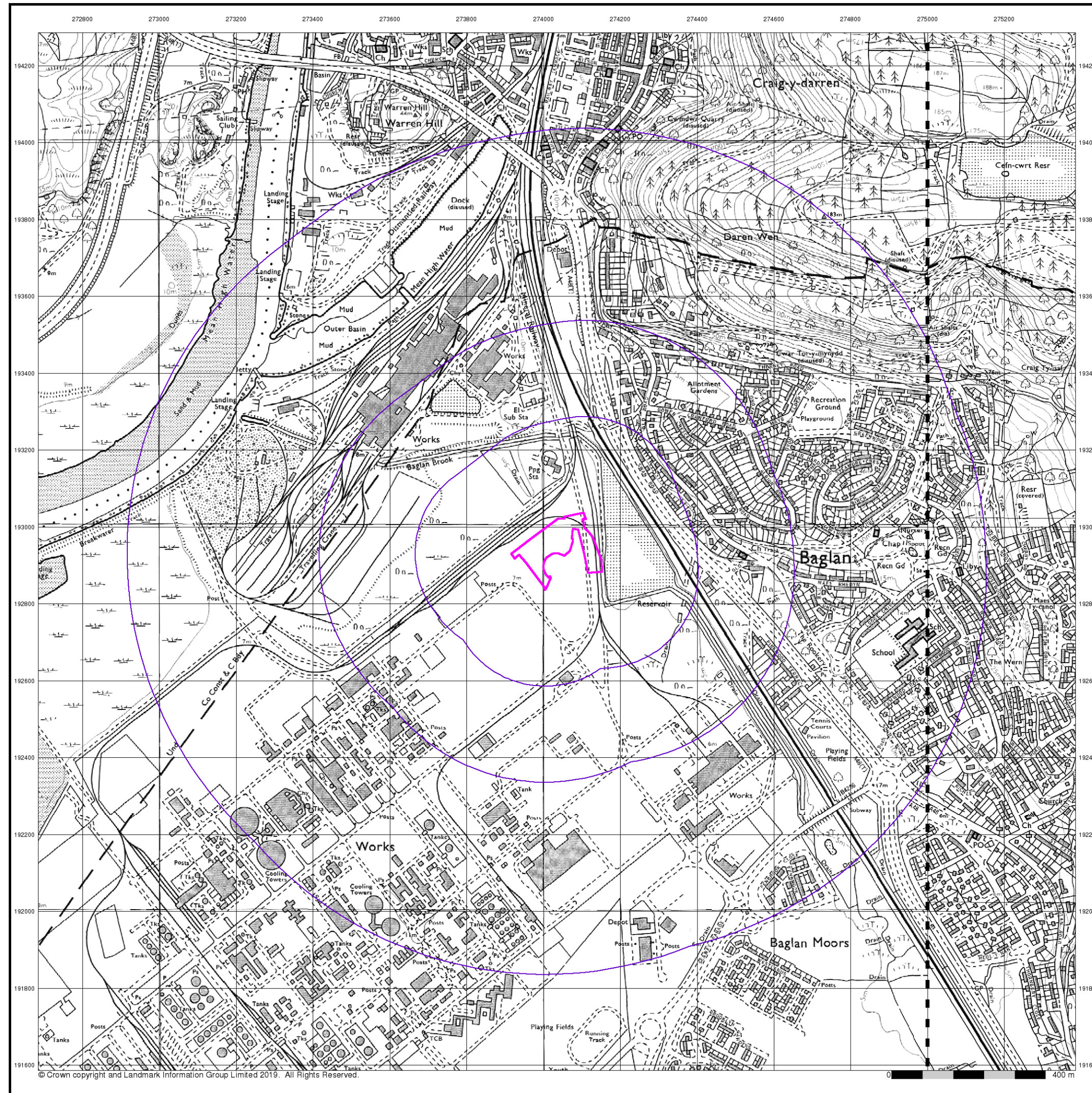
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



Hydrock

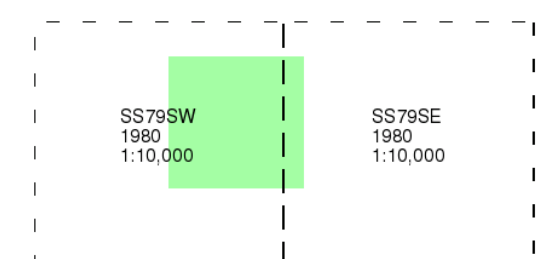
Ordnance Survey Plan

Published 1980

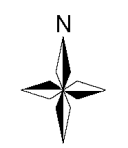
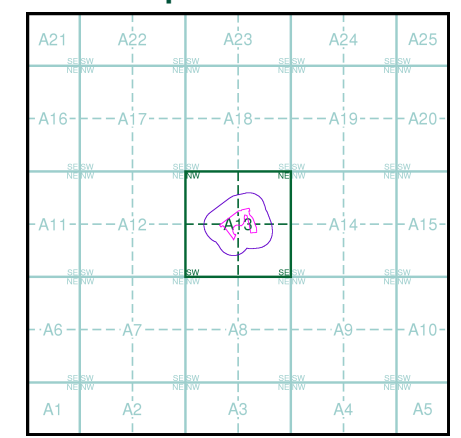
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

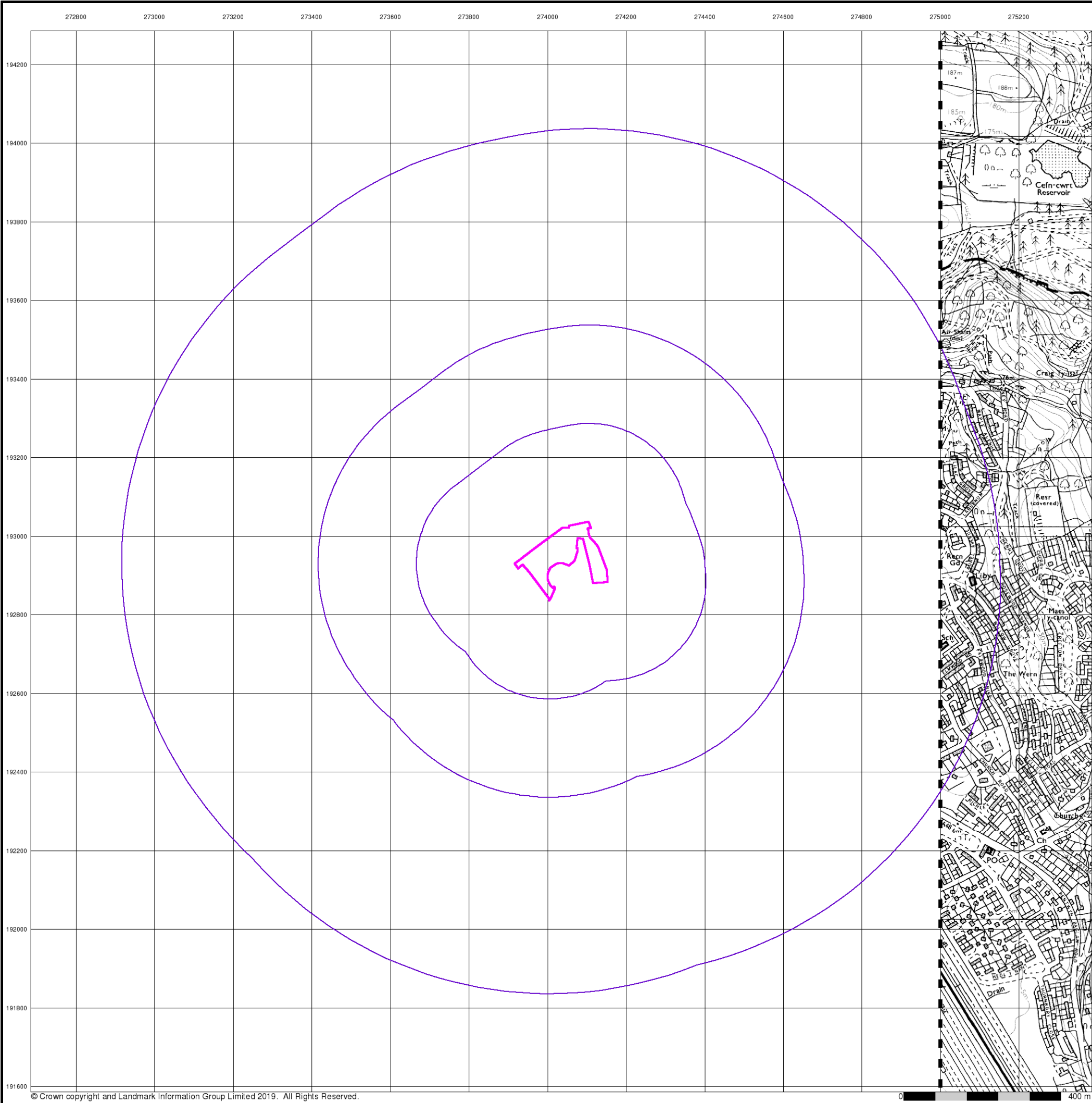
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

0 400 m



Hydrock

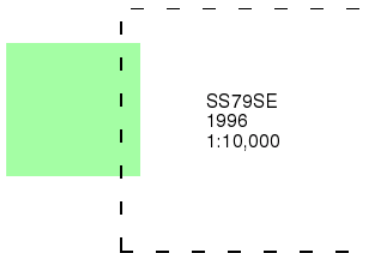
Ordnance Survey Plan

Published 1996

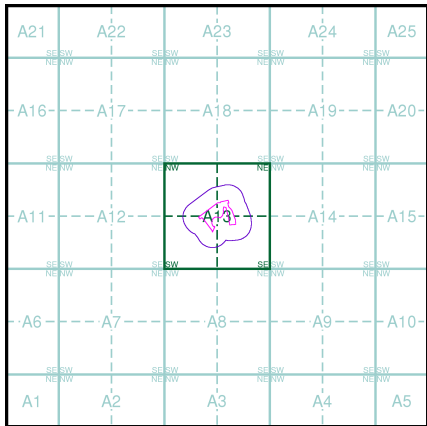
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

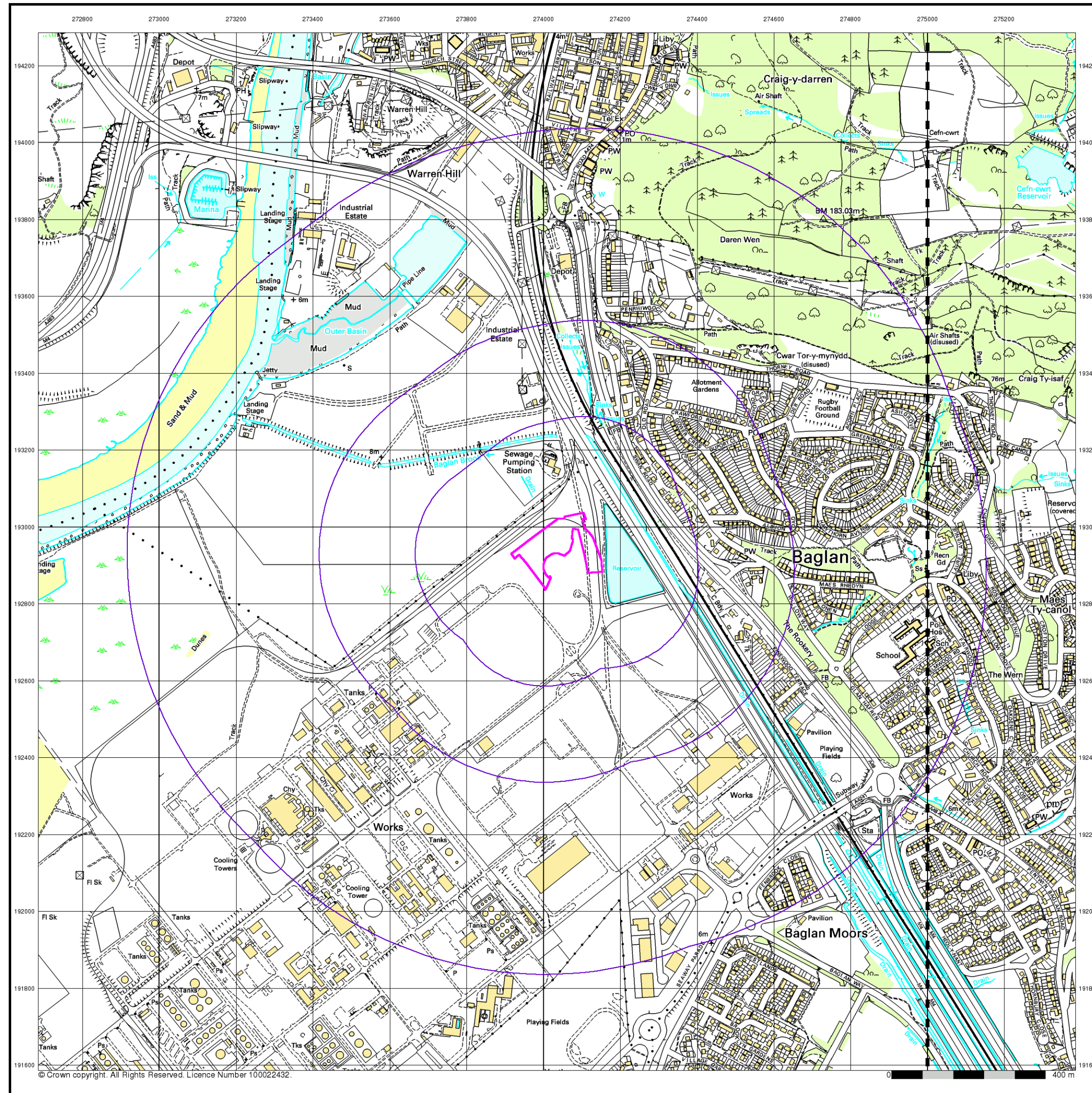
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

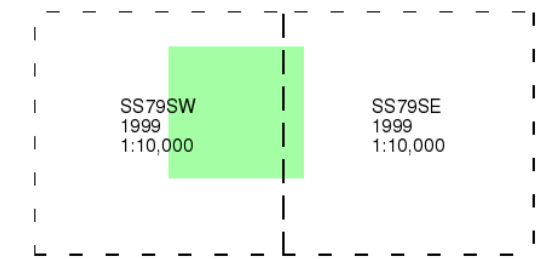
10k Raster Mapping

Published 1999

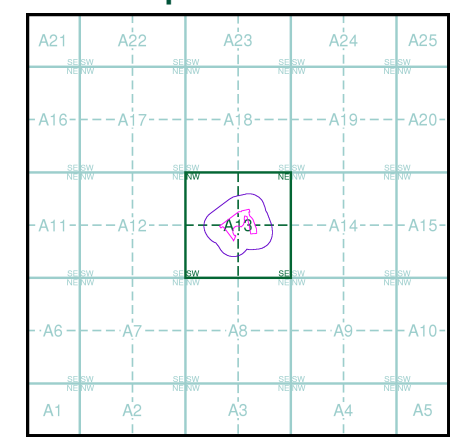
Source map scale - 1:10,000

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)



Historical Map - Slice A



Order Details

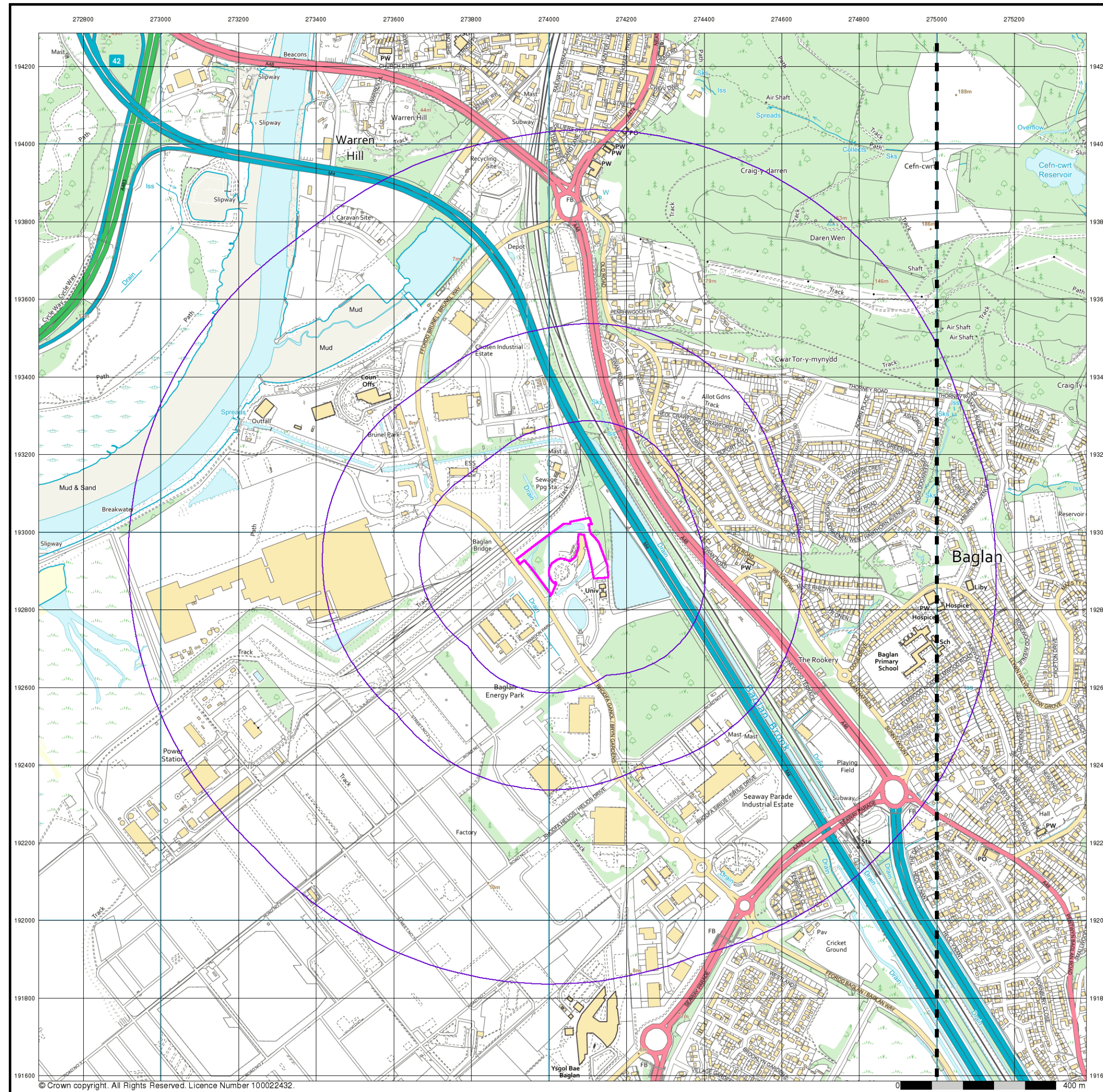
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



© Crown copyright. All Rights Reserved. Licence Number 100022432.



Hydrock

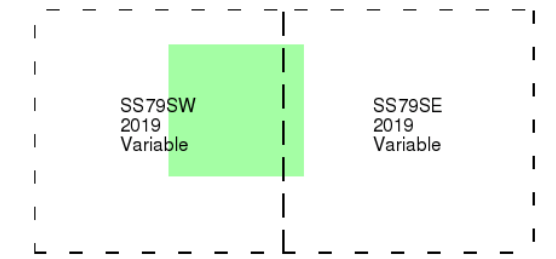
VectorMap Local

Published 2019

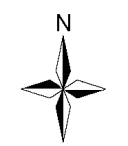
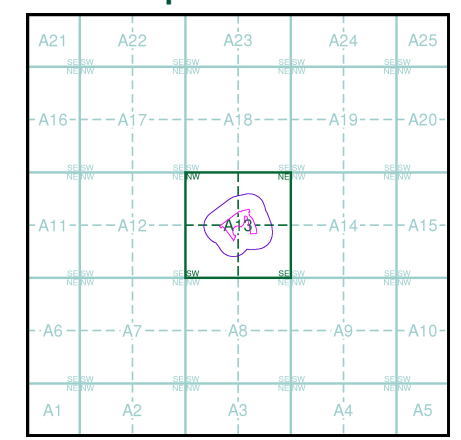
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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

Historical Mapping Legends

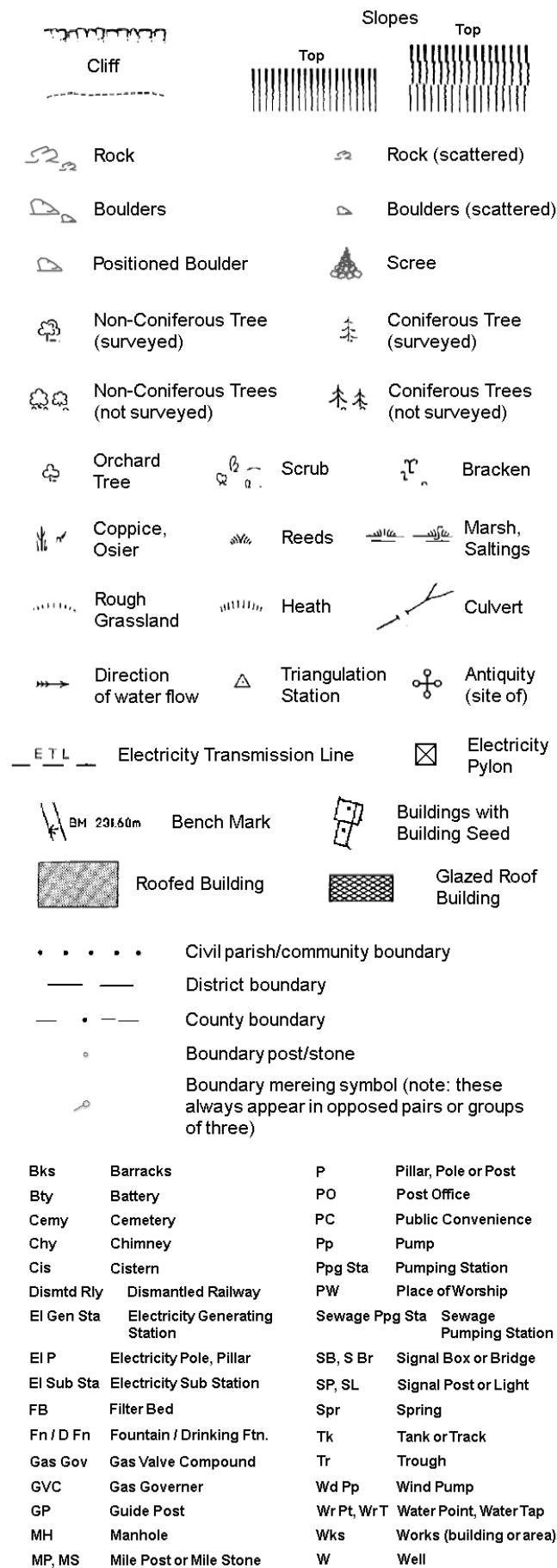
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



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

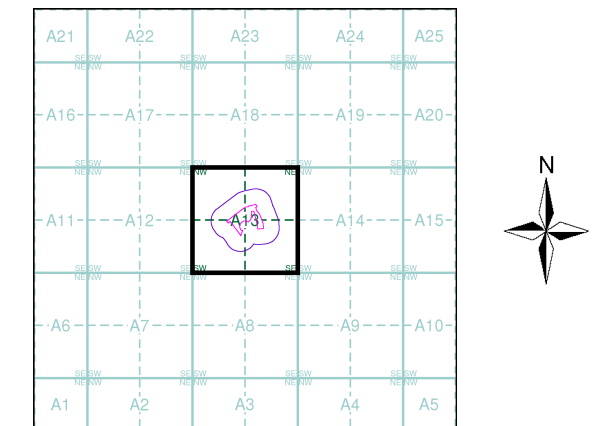


Hydrock

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1880 - 1881	2
Glamorganshire	1:2,500	1899	3
Glamorganshire	1:2,500	1918 - 1919	4
Glamorganshire	1:2,500	1936 - 1937	5
Ordnance Survey Plan	1:1,250	1950 - 1978	6
Ordnance Survey Plan	1:1,250	1957 - 1961	7
Ordnance Survey Plan	1:1,250	1963 - 1969	8
Ordnance Survey Plan	1:2,500	1969 - 1970	9
Ordnance Survey Plan	1:1,250	1969	10
Additional SIMs	1:1,250	1977	11
Additional SIMs	1:2,500	1986	12
Additional SIMs	1:1,250	1986 - 1992	13
Large-Scale National Grid Data	1:1,250	1993	14
Large-Scale National Grid Data	1:1,250	1993 - 1995	15
Large-Scale National Grid Data	1:1,250	1995	16
Historical Aerial Photography	1:2,500	2000	17

Historical Map - Segment A13



Order Details

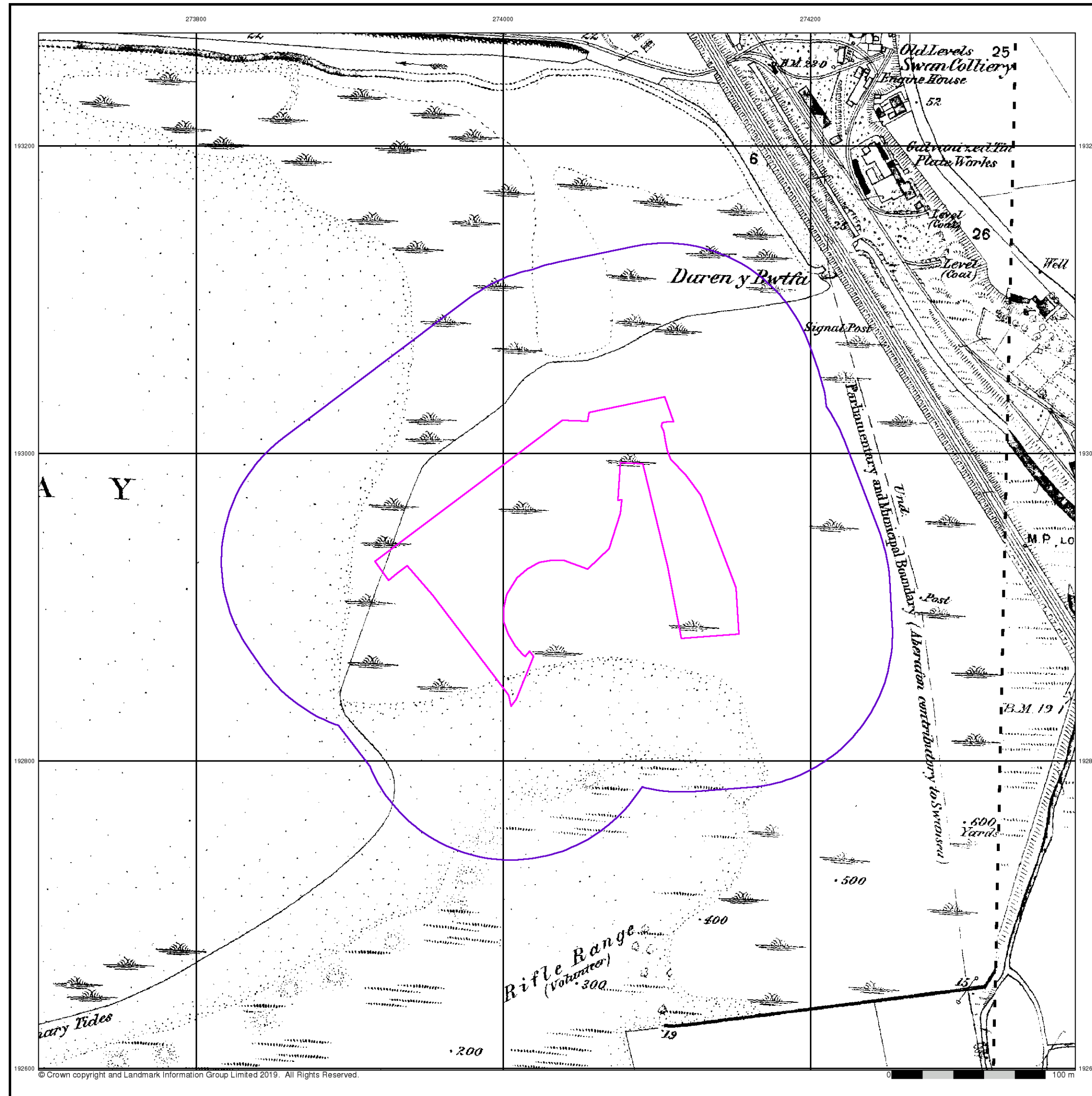
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

Glamorganshire

Published 1880 - 1881

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)

024_08
1880
1:2,500

025_05
1881
1:2,500

Historical Map - Segment A13

A21A22A23A24A25

A16A17A18A19A20

A11A12A13A14A15

A6A7A8A9A10

A1A2A3A4A5

N

Order Details

Order Number: 224161277_1_1

Customer Ref: C-11852-C

National Grid Reference: 274040, 192930

Slice: A

Site Area (Ha): 1.79

Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN

ENERGY PARK, SA12 7AX

Landmark

INFORMATION GROUP

Tel: 0844 844 9952

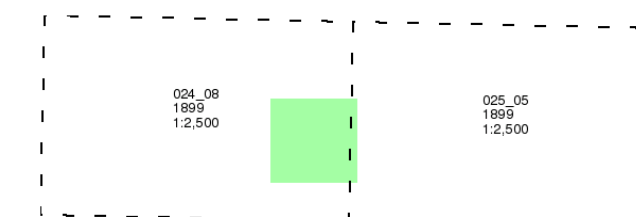
Fax: 0844 844 9951

Web: www.envirocheck.co.uk

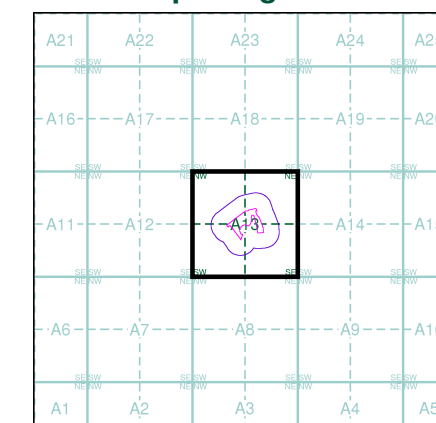
A Landmark Information Group Service v50.0 07-Nov-2019 Page 2 of 17

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

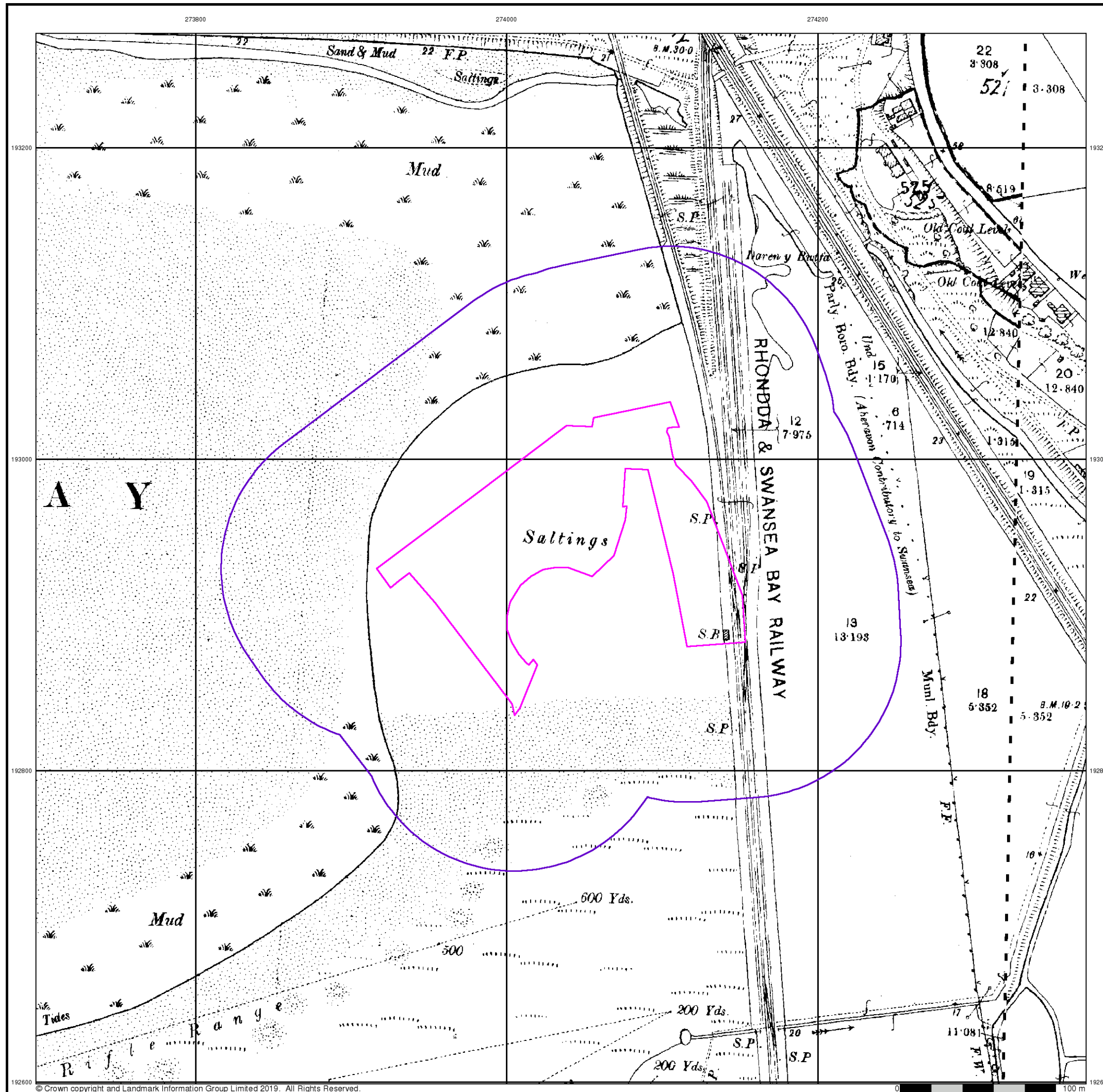


Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX



Hydrock

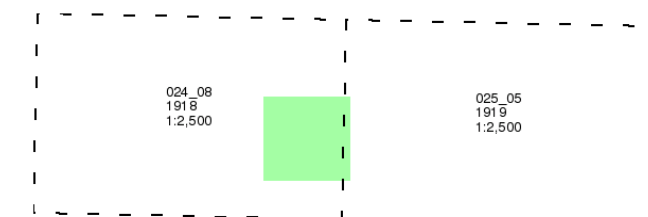
Glamorganshire

Published 1918 - 1919

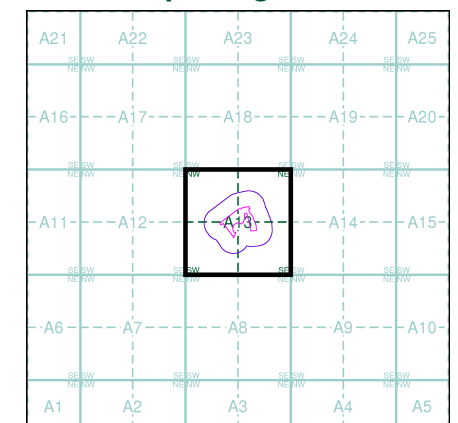
Source map scale - 1:2,500

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: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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

Hydrock

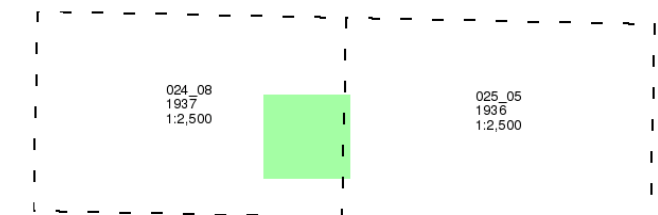
Glamorganshire

Published 1936 - 1937

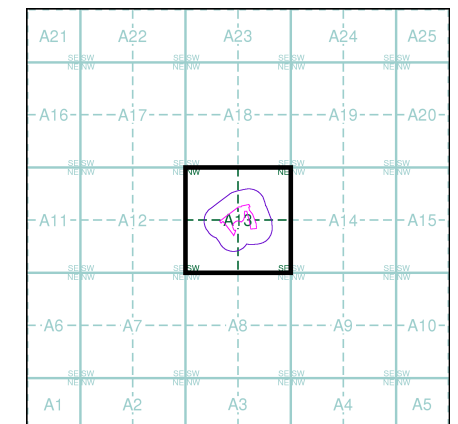
Source map scale - 1:2,500

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: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

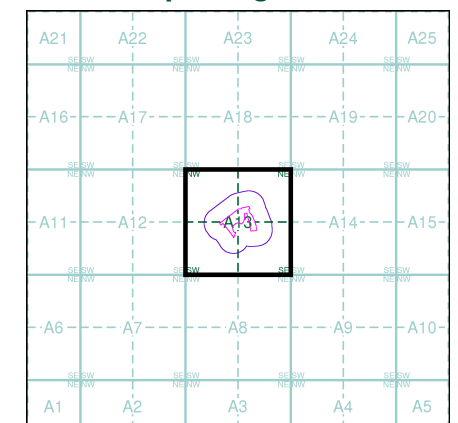
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Map Name(s) and Date(s)

SS7393SE 1951 1:1,250	SS7493SW 1950 1:1,250
SS7392NE 1978 1:1,250	SS7492NW 1966 1:1,250

Historical Map - Segment A13



Order Details

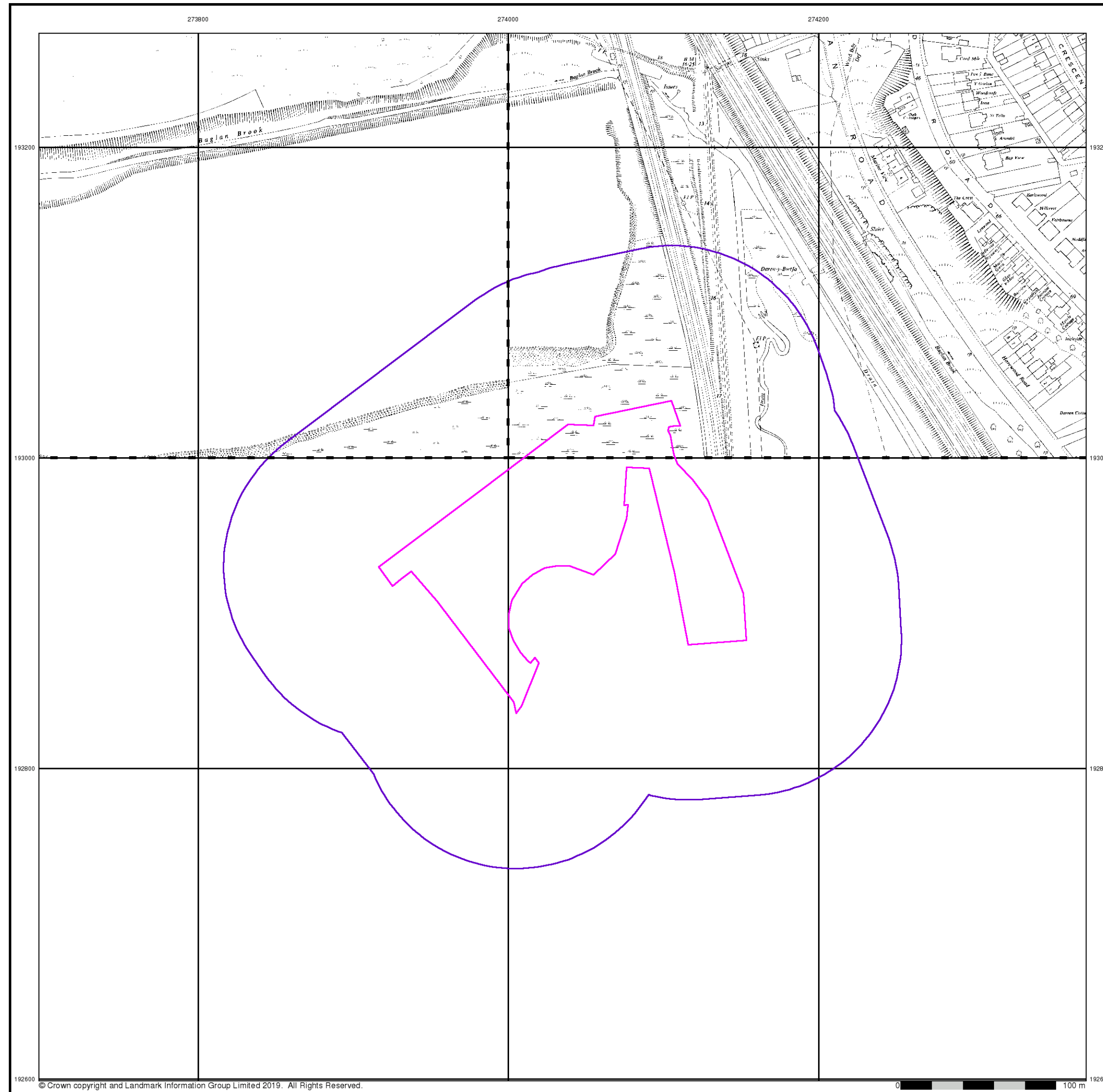
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark®
INFORMATION GROUP

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



Hydrock

Ordnance Survey Plan

Published 1957 - 1961

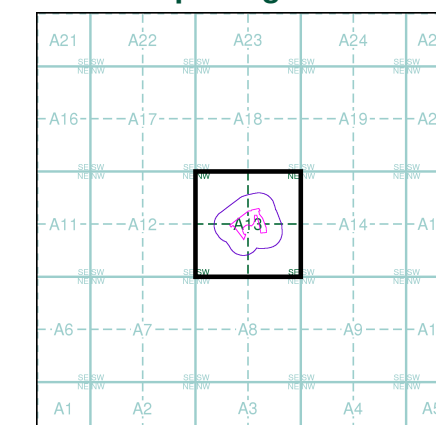
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SS7393SE	SS7493SW
1961	1957
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

Ordnance Survey Plan

Published 1963 - 1969

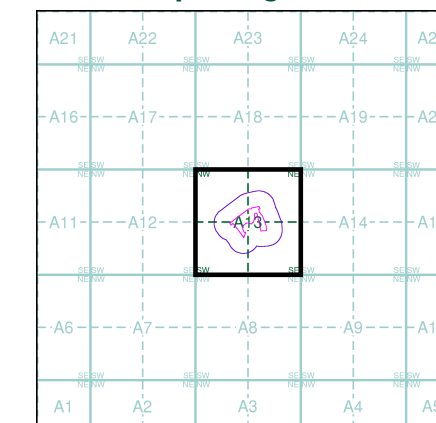
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SS7393SE	SS7493SW
1969	1963
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

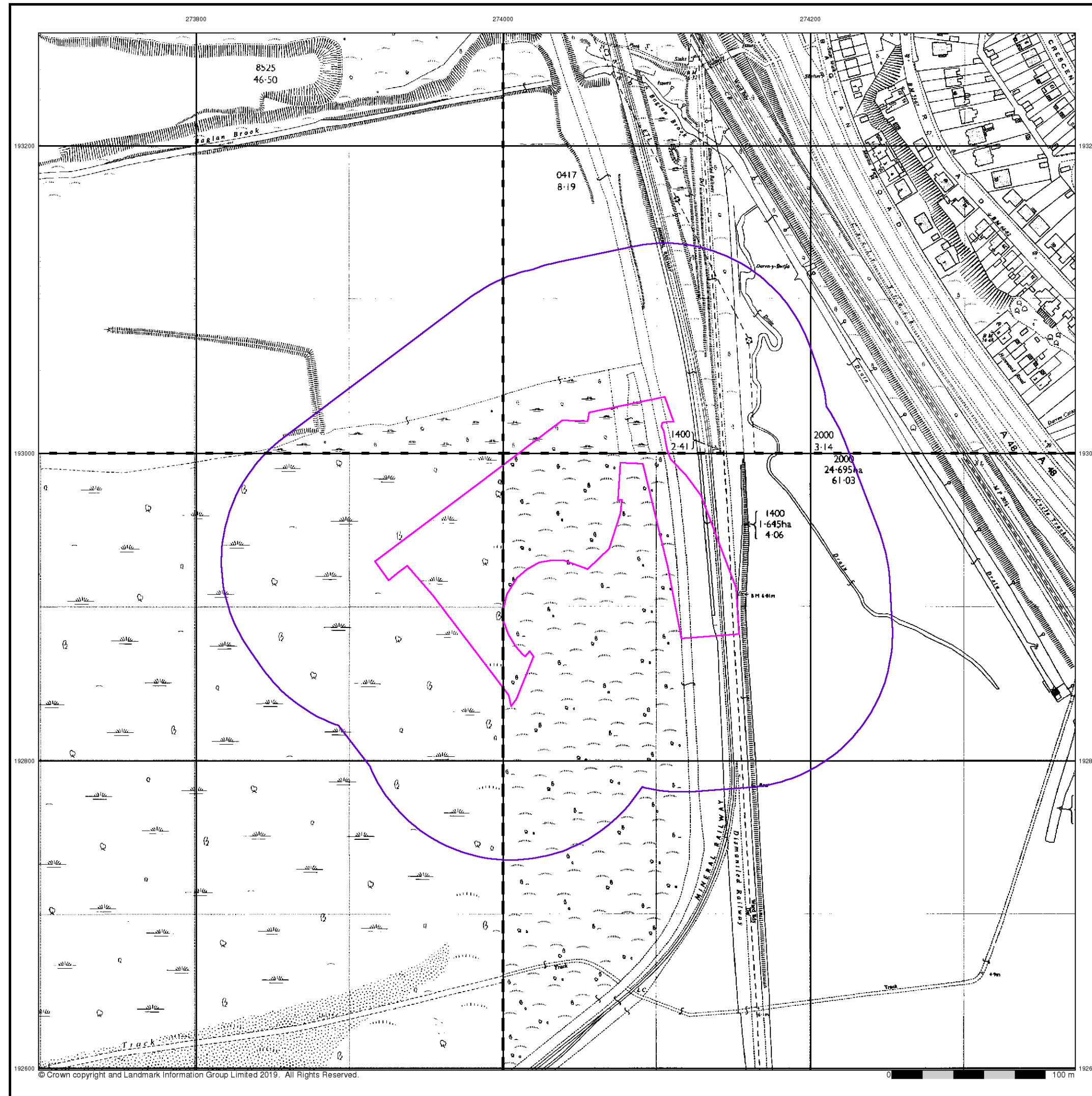
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

Ordnance Survey Plan

Published 1969 - 1970

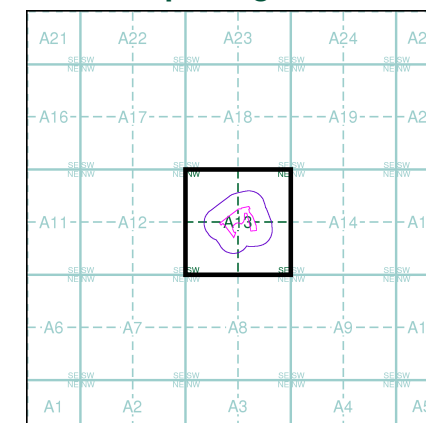
Source map scale - 1:2,500

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)

SS7393 1970 12,500	SS7493 1970 12,500
SS7392 1969 12,500	SS7492 1970 12,500

Historical Map - Segment A13



Order Details

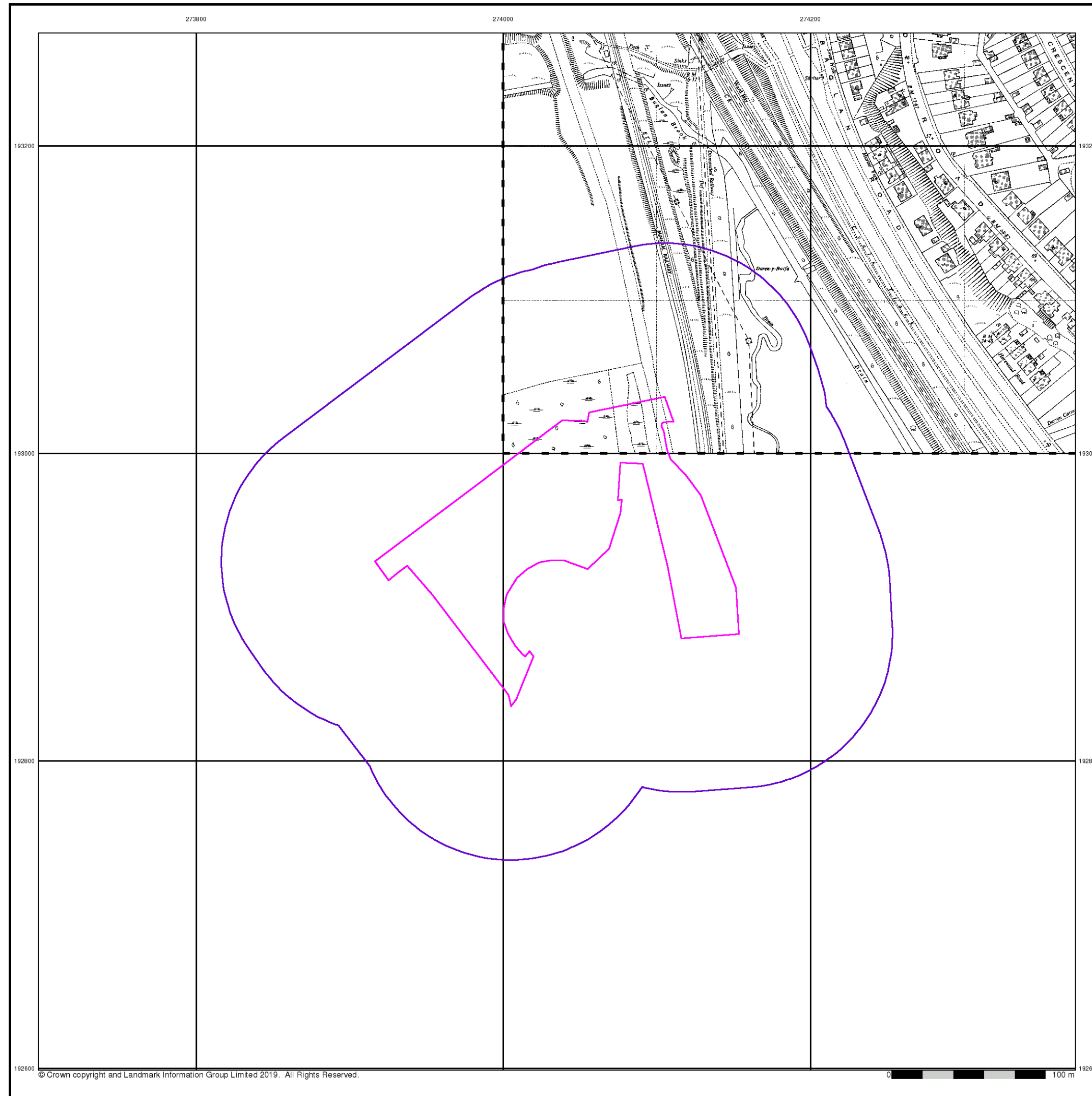
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

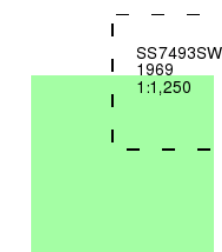
Ordnance Survey Plan

Published 1969

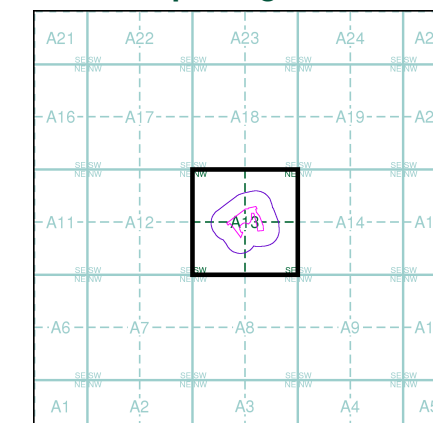
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

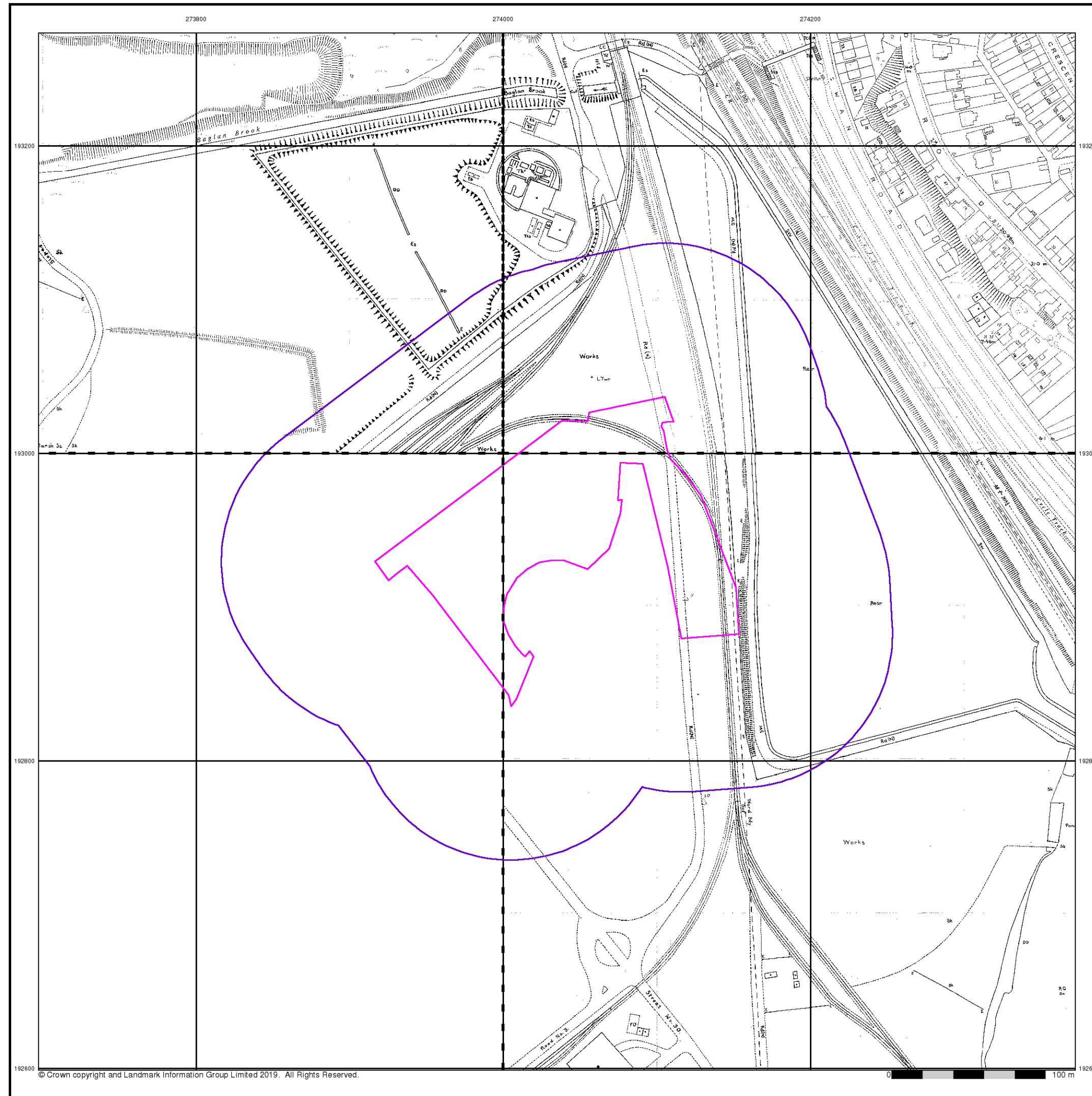
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



Hydrock

Additional SIMs

Published 1977

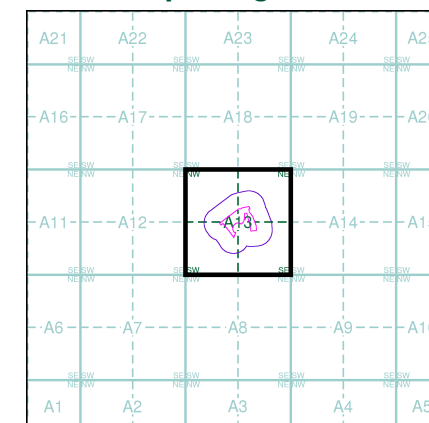
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SS7393SE 1977 1:1,250	SS7493SW 1977 1:1,250
SS7492NW 1977 1:1,250	

Historical Map - Segment A13



Order Details

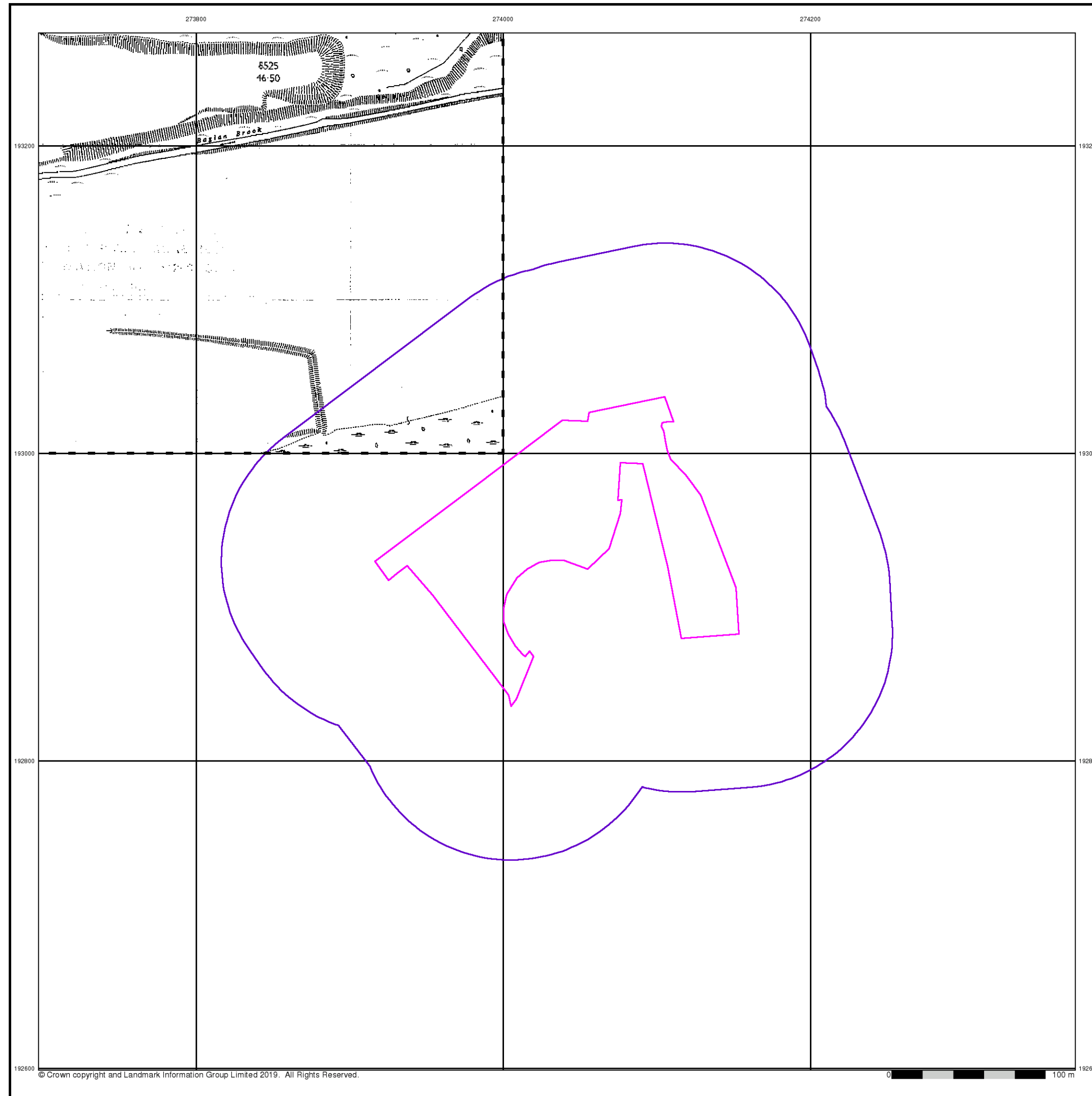
Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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



Hydrock

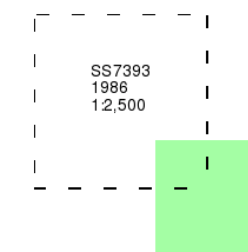
Additional SIMs

Published 1986

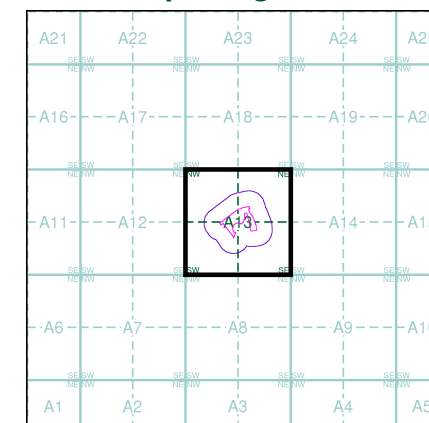
Source map scale - 1:2,500

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: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

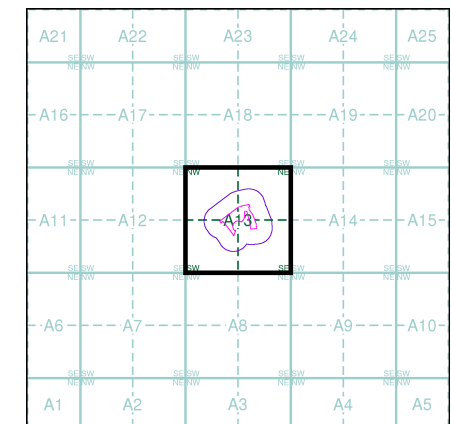
Landmark
INFORMATION GROUP

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

Map Name(s) and Date(s)

SS7393SE 1986 1:1,250	SS7493SW 1989 1:1,250
SS7492NW 1992 1:1,250	

Historical Map - Segment A13



Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX

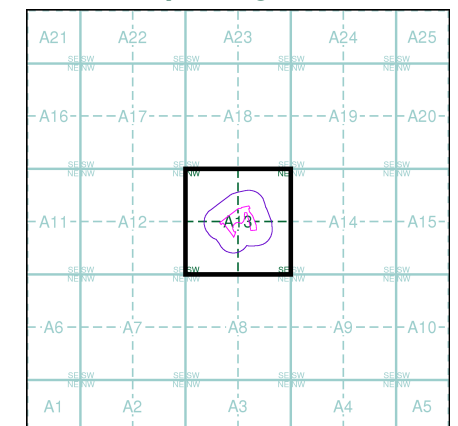


'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic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

Map Name(s) and Date(s)

SS7393SE 1993 1:1,250	SS7493SW 1993 1:1,250
SS7392NE 1993 1:1,250	SS7492NW 1993 1:1,250

Historical Map - Segment A13



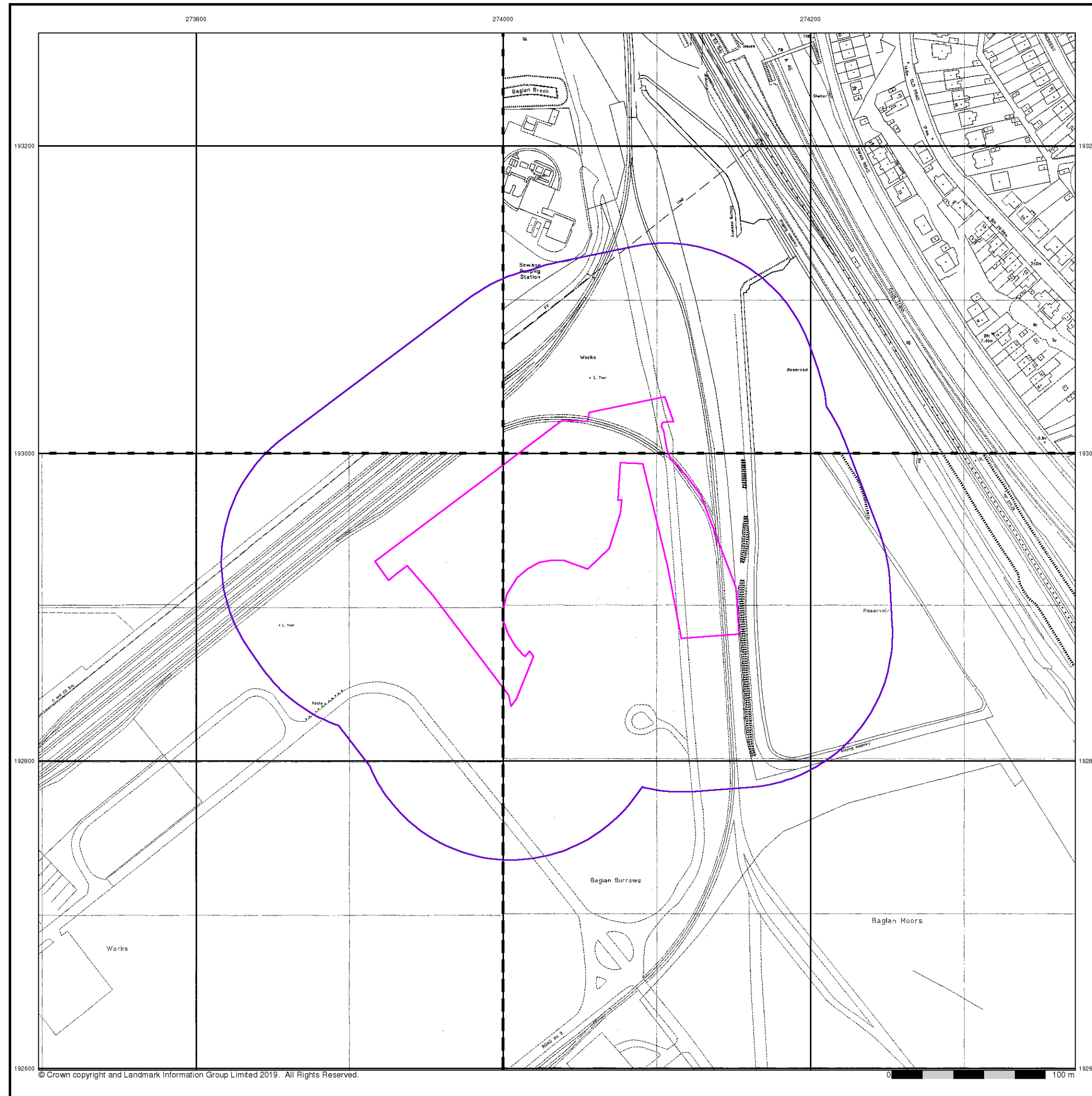
Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX





Hydrock

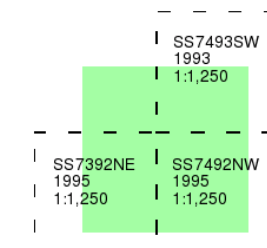
Large-Scale National Grid Data

Published 1993 - 1995

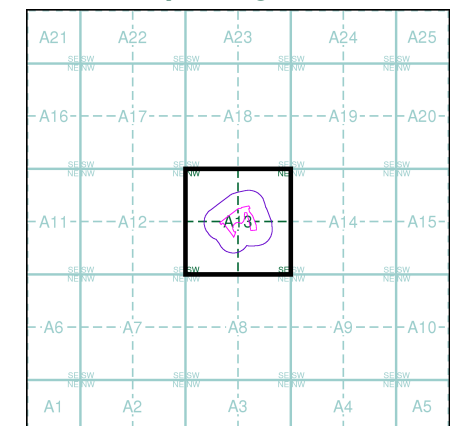
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

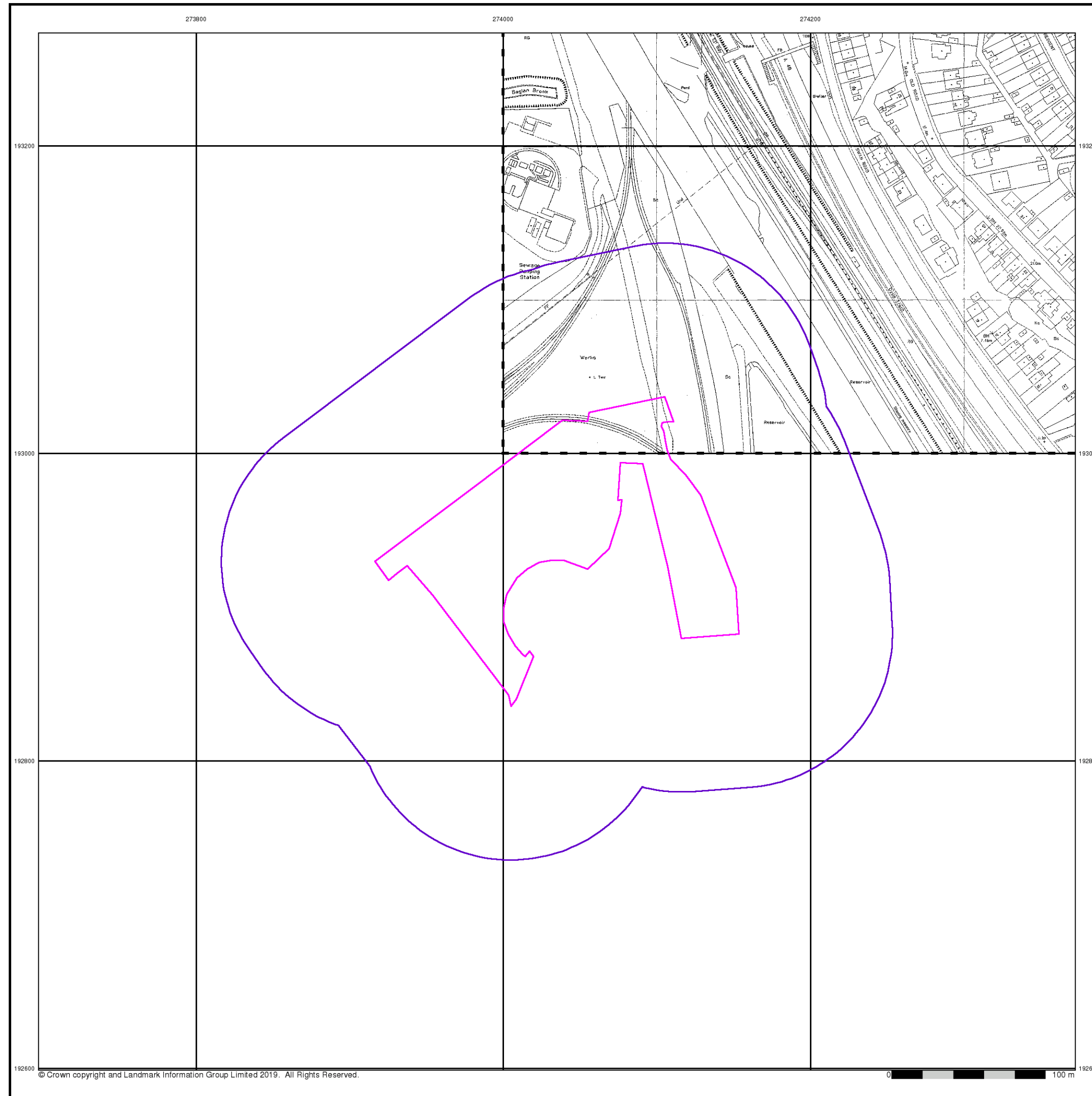
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



Hydrock

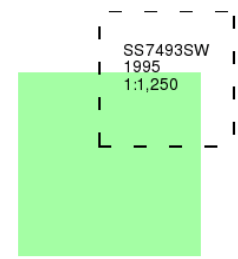
Large-Scale National Grid Data

Published 1995

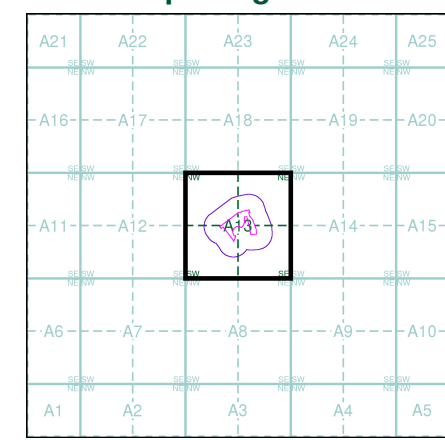
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13

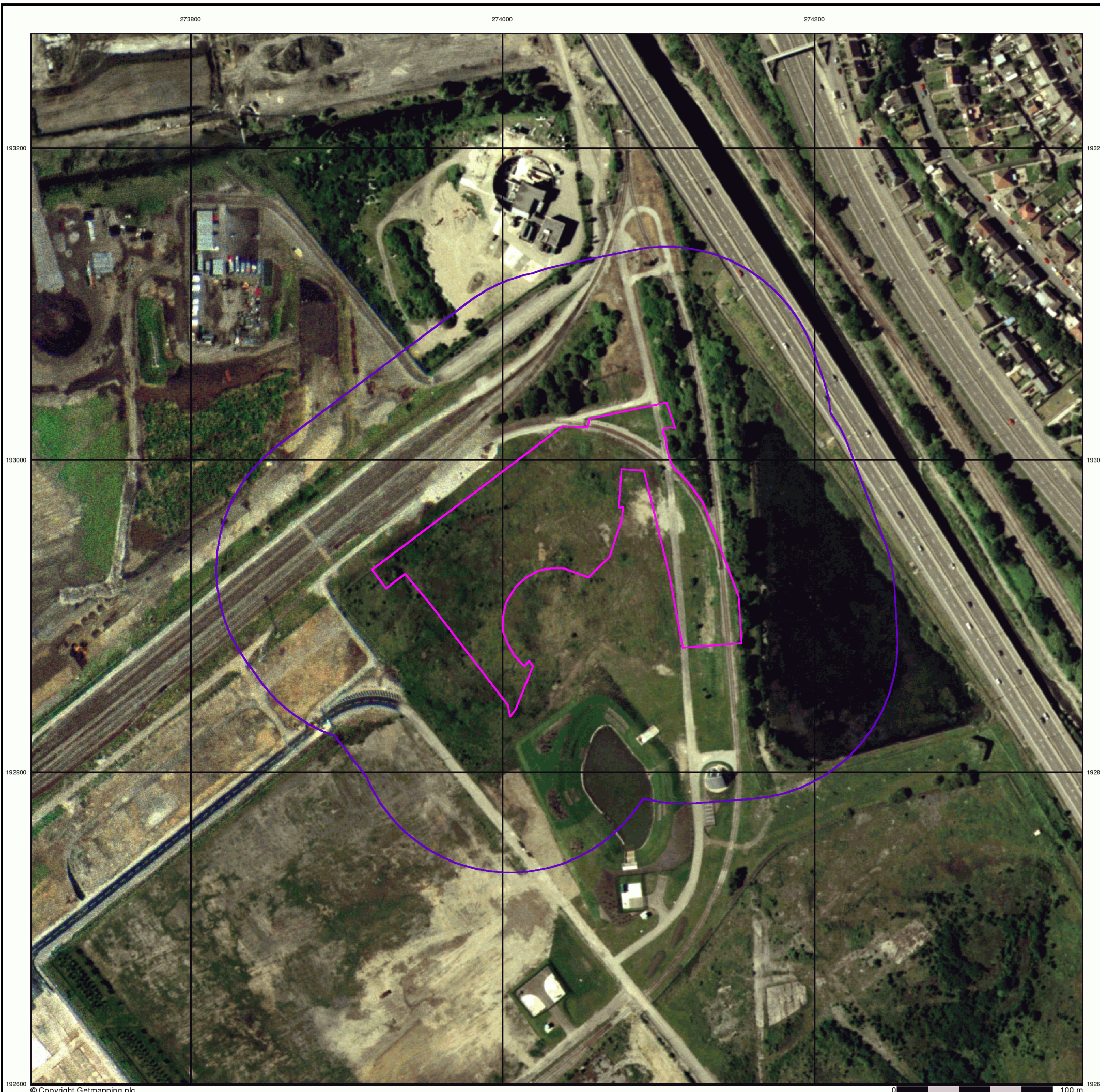


Order Details

Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



© Copyright Getmapping plc

0 100 m



Hydrock

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

A21	A22	A23	A24	A25
A16	A17	A18	A19	A20
A11	A12	A13	A14	A15
A6	A7	A8	A9	A10
A1	A2	A3	A4	A5



Order Details

Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 100

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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

A Landmark Information Group Service v50.0 07-Nov-2019 Page 17 of 17

Appendix D

Desk Study Research Information

Envirocheck

Database Report

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

224161277_1_1

Customer Reference:

C-11852-C

National Grid Reference:

274040, 192930

Slice:

A

Site Area (Ha):

1.79

Search Buffer (m):

1000

Site Details:

Swansea Bay Energy Centre
Central Avenue
BAGLAN ENERGY PARK
SA12 7AX

Client Details:

Mr R Swayne
Hydrock Consultants
Over Court Barns
Over Lane
Almondsbury
Bristol
BS32 4DF

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	33
Hazardous Substances	38
Geological	39
Industrial Land Use	47
Sensitive Land Use	65
Data Currency	67
Data Suppliers	72
Useful Contacts	73

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.

Copyright Notice

© Landmark Information Group Limited 2019. The Copyright on the information and data and its format as contained in this Envirocheck® Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency/Natural Resources Wales and Natural England, and must not be reproduced in whole or in part by photocopying or any other method. The Report is supplied under Landmark's Terms and Conditions accepted by the Customer. A copy of Landmark's Terms and Conditions can be found with the Index Map for this report. Additional copies of the Report may be obtained from Landmark, subject to Landmark's charges in force from time to time. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and /or other Data providers, whose Copyright material has been included in this Report.

© Environment Agency & United Kingdom Research and Innovation 2019. © Natural Resources Wales & United Kingdom Research and Innovation 2019.

Natural England Copyright Notice

Site of Special Scientific Interest, National Nature Reserve, Ramsar, Special Protection Area, Special Conservation Area, Marine Nature Reserve data (derived from Ordnance Survey 1:10000 raster) is provided by, and used with the permission of, Natural England who retain the copyright and Intellectual Property Rights for the data.

Scottish Natural Heritage Copyright

Contains SNH information licensed under the Open Government Licence v3.0.

Ove Arup Copyright Notice

The Mining Instability data was obtained on licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The supplied Mining Instability data is derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Peter Brett Associates Copyright Notice

The cavity data presented has been extracted from the PBA enhanced version of the original DEFRA national cavity databases. PBA/DEFRA retain the copyright & intellectual property rights in the data. Whilst all reasonable efforts are made to check that the information contained in the cavity databases is accurate we do not warrant that the data is complete or error free. The information is based upon our own researches and those collated from a number of external sources and is continually being augmented and updated by PBA. In no event shall PBA/DEFRA or Landmark be liable for any loss or damage including, without limitation, indirect or consequential loss or damage arising from the use of this data.

Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England.

Natural Resources Wales Copyright Notice

Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Contains Ordnance Survey Data. Ordnance Survey Licence number 100019741. Crown Copyright and Database Right. Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Some features of this information are based on digital spatial data licensed from the Centre for Ecology & Hydrology © NERC (CEH). Defra, Met Office and DARD Rivers Agency © Crown copyright. © Cranfield University. © James Hutton Institute. Contains OS data © Crown copyright and database right 2019. Land & Property Services © Crown copyright and database right.

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	pg 2			1	
Discharge Consents	pg 2		3		18
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 7				12
Integrated Pollution Prevention And Control	pg 9			4	11
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 12		1	2	2
Local Authority Pollution Prevention and Control Enforcements	pg 12				1
Nearest Surface Water Feature		Yes			
Pollution Incidents to Controlled Waters	pg 13			3	5
Prosecutions Relating to Authorised Processes	pg 14				1
Registered Radioactive Substances	pg 14				1
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 14		1		
Water Abstractions	pg 15				(*5)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 16	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 16	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 16	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 16	Yes	Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 21		Yes	n/a	n/a
Areas Benefiting from Flood Defences	pg 24		Yes	n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 24	1	10	10	45

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)	pg 33				5
Local Authority Landfill Coverage	pg 34	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 34		1	6	8
Potentially Infilled Land (Water)	pg 35	1	1	11	27
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites	pg 37				2
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 38				3
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)	pg 38				1
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 39	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 39	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 42			1	5
BGS Urban Soil Chemistry	pg 43			Yes	Yes
BGS Urban Soil Chemistry Averages	pg 44	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 45	Yes	n/a	n/a	n/a
Mining Instability	pg 45	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 45		Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 45	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 45	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 45	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 45	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 46	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 47		5	12	46
Fuel Station Entries	pg 52			3	
Points of Interest - Commercial Services	pg 53		3	3	11
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 54		2	7	85
Points of Interest - Public Infrastructure	pg 62		1	5	5
Points of Interest - Recreational and Environmental	pg 63			2	5
Gas Pipelines					
Underground Electrical Cables	pg 64		1	5	

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 65			2	22
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: Potential for Groundwater Flooding to Occur at Surface	A13SE (NE)	0	1	274045 192933
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	114	1	274100 193150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	164	1	274050 193200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	168	1	273850 193100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	170	1	274300 193000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	214	1	274050 193250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	217	1	274350 193000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	264	1	274050 193300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	269	1	274045 193300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	277	1	273800 192650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	309	1	273700 193150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	338	1	274400 193200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (NE)	360	1	274350 193300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	365	1	274400 193250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	368	1	274045 193400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (N)	377	1	274000 193400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	382	1	274450 193200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	414	1	274050 193450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (N)	417	1	274045 193450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	451	1	274600 192950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A17SE (NW)	457	1	273650 193300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (N)	464	1	274100 193500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	486	1	274250 193500
1	Contaminated Land Register Entries and Notices Location: Shell Pinetree, Baglan Dual Carriageway, Baglan, Port Talbot. Sa12 8bh. Notice Type: Revocation of Notice of Determination Reference: E4/2/30 Dated: 18th November 2004 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A14SW (E)	376	2	274505 192751
2	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp028780101 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: 20th February 2004 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Controlled Sea Receiving Water: Swansea Bay Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Manually positioned within the geographical locality	A13NW (N)	135	3	274022 193157
2	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Sso Northern Boundary Baglan Ps Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bw0201801 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 31st March 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Neath Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A13NW (N)	183	3	274000 193200
2	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Sso Northern Boundary Baglan Ps Authority: Natural Resources Wales Catchment Area: River Neath Reference: BW0201801 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Neath Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m	A13NW (N)	183	3	274000 193200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	Discharge Consents Operator: The Occupier Property Type: Undefined Or Other Location: Baglan Whitford House Penrhiwgoch W, Whitford House Penrhiwgoch W Gla, Penrhiwgoch W Glam Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0040901 Permit Version: 1 Effective Date: 10th March 1987 Issued Date: 10th March 1987 Revocation Date: 11th July 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: To Land Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A18SE (N)	597	3	274300 193600
4	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Baglan Ps Sso Authority: Natural Resources Wales Catchment Area: River Neath Reference: BW0201901 Permit Version: 1 Effective Date: 2nd April 1973 Issued Date: 2nd April 1973 Revocation Date: 12th January 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Saline Estuary Environment: Receiving Water: Neath Estuary Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 100m	A12NW (W)	766	3	273200 193200
5	Discharge Consents Operator: Neath Borough Council Property Type: Undefined Or Other Location: New Discharge From Ps Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4003501 Permit Version: 1 Effective Date: 2nd April 1973 Issued Date: 2nd April 1973 Revocation Date: 2nd April 1973 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Neath S. Of Outer Dock E Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A12NW (W)	789	3	273200 193260
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Briton Ferry Drainage Area 7 Briton, Briton Ferry Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064301 Permit Version: 3 Effective Date: 29th March 1996 Issued Date: 28th March 1996 Revocation Date: 31st December 1997 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A17SW (W)	798	3	273200 193280

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Briton Ferry Drainage Area 7 Briton, Briton Ferry Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064301 Permit Version: 2 Effective Date: 28th November 1992 Issued Date: 28th August 1992 Revocation Date: 28th March 1996 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A17SW (W)	798	3	273200 193280
5	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Briton Ferry Drainage Area 7 Briton, Briton Ferry Neath Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bp0064301 Permit Version: 1 Effective Date: 23rd November 1987 Issued Date: 23rd November 1987 Revocation Date: 27th November 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Estuarial Waters Of River Neat Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A17SW (W)	798	3	273200 193280
6	Discharge Consents Operator: Stillman & Sons Property Type: Dealing In Scrap Metals Location: Dockside Yard Briton Ferry Neath, Warren Hill, Briton Ferry, Sa11 2hz Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0339301 Permit Version: 1 Effective Date: 24th February 2005 Issued Date: 25th February 2005 Revocation Date: 7th August 2008 Discharge Type: Trade Discharges - Site Drainage Discharge: Freshwater Stream/River Environment: Receiving Water: River Neath Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	800	3	273530 193640
7	Discharge Consents Operator: The Port Talbot Plant Ltd Property Type: Undefined Or Other Location: Roof Water From Workshops At D Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bb3003301 Permit Version: 1 Effective Date: 5th April 1967 Issued Date: 5th April 1967 Revocation Date: 7th December 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Afan Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	815	3	274510 192150

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp028790101 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Neath Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A12NW (W)	831	3	273150 193250
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Environment Agency, Welsh Region Catchment Area: Not Supplied Reference: Bp028790102 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Neath Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A12NW (W)	831	4	273150 193250
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0287901 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Neath Status: Effective Positional Accuracy: Located by supplier to within 10m	A12NW (W)	831	3	273150 193250
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0287901 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Neath Status: Effective Positional Accuracy: Located by supplier to within 10m	A12NW (W)	831	3	273150 193250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0287901 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Neath Status: Effective Positional Accuracy: Located by supplier to within 10m	A12NW (W)	831	3	273150 193250
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0287901 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Neath Status: Effective Positional Accuracy: Located by supplier to within 10m	A12NW (W)	831	3	273150 193250
8	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Baglan Sps Briton Ferry Neath, Briton Ferry Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp028790101 Permit Version: 1 Effective Date: 1st December 2000 Issued Date: 1st December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Neath Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A12NW (W)	831	3	273150 193250
9	Discharge Consents Operator: Hanson Aggregates Property Type: Manufacture Of Cement, Lime Plaster Location: Concrete Batching Plant Riverside W, Riverside Wharf Briton Ferry Authority: Natural Resources Wales Catchment Area: River Neath Reference: BM0006001 Permit Version: 1 Effective Date: 12th June 1980 Issued Date: 12th June 1980 Revocation Date: 24th June 2009 Discharge Type: Trade Effluent Discharge: Freshwater Stream/River Environment: Receiving Water: River Neath Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	875	3	273310 193560

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: North Of Gwalia Tin Plate Wks Point, Point M Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4000501 Permit Version: 2 Effective Date: 14th March 1994 Issued Date: 14th March 1994 Revocation Date: 6th November 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Neath Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	932	3	273270 193600
10	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: North Of Gwalia Tin Plate Wks Point, Point M Authority: Natural Resources Wales Catchment Area: River Neath Reference: Bb4000501 Permit Version: 1 Effective Date: 8th November 1972 Issued Date: 8th November 1972 Revocation Date: 13th March 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Neath Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	932	3	273270 193600
11	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BP Authority: Environment Agency, Welsh Region Permit Reference: Bk8524 Dated: 25th June 2001 Process Type: IPC minor (non-substantial) variation to previous variation Description: 1.3 A (A) Combustion processes within the Fuel & Power Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A8SW (S)	863	4	273834 191990
12	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BP Authority: Environment Agency, Welsh Region Permit Reference: Bl4524 Dated: 7th September 2001 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	914	4	274504 192039
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BP Authority: Environment Agency, Welsh Region Permit Reference: BD9637 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 1.1 A (B) Gasification and associated processes within the Fuel & Power Industry Status: Authorisation revoked Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	988	4	273504 191985
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BL Authority: Environment Agency, Welsh Region Permit Reference: AQ9006 Dated: 27th March 1995 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	988	4	273494 191990

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BP Authority: Environment Agency, Welsh Region Permit Reference: BD5992 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	992	4	273504 191980
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BL Authority: Environment Agency, Welsh Region Permit Reference: BH7008 Dated: 21st December 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation revoked Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	993	4	273489 191988
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BL Authority: Environment Agency, Welsh Region Permit Reference: AP4696 Dated: 27th March 1995 Process Type: IPC minor (non-substantial) variation to previous variation Description: 1.3 A (A) Combustion processes within the Fuel & Power Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	995	4	273489 191985
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BP Authority: Environment Agency, Welsh Region Permit Reference: BD6000 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	996	4	273504 191975
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BL Authority: Environment Agency, Welsh Region Permit Reference: BF1599 Dated: 28th January 1999 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	997	4	273489 191983
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BL Authority: Environment Agency, Welsh Region Permit Reference: AL1415 Dated: 29th June 1994 Process Type: IPC application for process that was regulated by HMIP for air releases under previous legislation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	997	4	273494 191980
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BR Authority: Environment Agency, Welsh Region Permit Reference: BF1491 Dated: 28th January 1999 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.1 A (B) Petrochemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	998	4	273484 191985

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Integrated Pollution Controls Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BR Authority: Environment Agency, Welsh Region Permit Reference: BF1629 Dated: 28th January 1999 Process Type: IPC minor (non-substantial) variation to previous variation Description: 1.3 A (A) Combustion processes within the Fuel & Power Industry Status: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	1000	4	273489 191980
14	Integrated Pollution Prevention And Control Name: Intertissue Limited Location: Intertissue Limited, Intertissue Ltd, Briton Ferry Industrial Estate,,Briton Ferry, NEATH, West Glamorgan, SA11 2HZ Authority: Natural Resources Wales Permit Reference: WP3230FE Original Permit Ref: Bu2489it Effective Date: 11th January 2012 Status: Effective Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 6.1 A(1) (B) Activity Description: Paper, Pulp And Board; Producing Paper/Board Greater Than 20T/D Primary Activity: Y	A12SE (W)	497	3	273421 192907
14	Integrated Pollution Prevention And Control Name: Intertissue Limited Location: Intertissue Limited, Intertissue Ltd, Briton Ferry Industrial Estate,,Briton Ferry, NEATH, West Glamorgan, SA11 2HZ Authority: Natural Resources Wales Permit Reference: MP3337KS Original Permit Ref: Bu2489it Effective Date: 22nd February 2010 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 6.1 A(1) (B) Activity Description: Paper, Pulp And Board; Producing Paper/Board Greater Than 20T/D Primary Activity: Y	A12SE (W)	497	3	273421 192907
14	Integrated Pollution Prevention And Control Name: Intertissue Limited Location: Intertissue Limited, Intertissue Ltd, Briton Ferry Industrial Estate,,Briton Ferry, NEATH, West Glamorgan, SA11 2HZ Authority: Natural Resources Wales Permit Reference: GP3636XZ Original Permit Ref: Bu2489it Effective Date: 8th May 2008 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 6.1 A(1) (B) Activity Description: Paper, Pulp And Board; Producing Paper/Board Greater Than 20T/D Primary Activity: Y	A12SE (W)	497	3	273421 192907
14	Integrated Pollution Prevention And Control Name: Intertissue Limited Location: Briton Ferry Industrial Estate, Briton Ferry, Neath, West Glamorgan, SA11 2HZ Authority: Natural Resources Wales Permit Reference: FP3631UQ Original Permit Ref: Bu2489it Effective Date: 22nd August 2007 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 6.1 A(1) (B) Activity Description: Paper, Pulp And Board; Producing Paper/Board Greater Than 20T/D Primary Activity: Y	A12SE (W)	497	3	273421 192907

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	Integrated Pollution Prevention And Control Name: Intertissue Neath Location: Brunel Way, Baglan Energy Park, Neath, Neath Port Talbot, SA11 2HZ Authority: Natural Resources Wales Permit Reference: Bu2489it Original Permit Ref: Not Supplied Effective Date: 3rd June 2016 Status: Effective Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 5.4 PART A (1) A) (II) Activity Description: Not Supplied Primary Activity: N Activity Code: 6.1 PART A (1) B) Activity Description: Not Supplied Primary Activity: Y	A12NW (W)	580	3	273338 192970
16	Integrated Pollution Prevention And Control Name: Baglan Operations Limited Location: Baglan Power Station, Old Road Briton Ferry, NEATH, West Glamorgan, SA11 2SL Authority: Natural Resources Wales Permit Reference: EP3834GA Original Permit Ref: Bj7891it Effective Date: 30th January 2009 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Manually positioned within the geographical locality Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A18NE (N)	609	3	274145 193644
17	Integrated Pollution Prevention And Control Name: Baglan Operations Limited Location: Baglan Power Station, Old Road Briton Ferry, Neath, West Glamorgan, SA11 2SL Authority: Natural Resources Wales Permit Reference: Bx8823if Original Permit Ref: Bj7891it Effective Date: 3rd August 2004 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Located by supplier to within 10m Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A7NE (SW)	724	3	273530 192290
17	Integrated Pollution Prevention And Control Name: Baglan Operations Limited Location: Baglan Power Station, Old Road Briton Ferry, Neath, West Glamorgan, SA11 2SL Authority: Natural Resources Wales Permit Reference: Br8026iz Original Permit Ref: Bj7891it Effective Date: 12th June 2002 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A7NE (SW)	724	3	273530 192290
18	Integrated Pollution Prevention And Control Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, Port Talbot, West Glamorgan, Sa12 7bp Authority: Environment Agency, Welsh Region Permit Reference: Bv5874 Original Permit Ref: Bv5874 Effective Date: Not Supplied Status: Open Enquiry (Application received by the Authority but is not yet authorised) Application Type: Not Supplied App. Sub Type: Not Supplied Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: Not Supplied	A8SE (S)	776	4	274360 192135

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	Integrated Pollution Prevention And Control Name: Intertissue Limited Location: Briton Ferry Industrial Estate, Briton Ferry, Neath, West Glamorgan, SA11 2HZ Authority: Natural Resources Wales Permit Reference: DP3931LA Original Permit Ref: Bu2489it Effective Date: 13th September 2006 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Manually positioned within the geographical locality Activity Code: 6.1 A(1) (B) Activity Description: Paper, Pulp And Board; Producing Paper/Board Greater Than 20T/D Primary Activity: Y	A17NE (NW)	868	3	273518 193715
20	Integrated Pollution Prevention And Control Name: Baglan Operations Limited Location: Baglan Power Station, Old Road Briton Ferry, Neath, West Glamorgan, SA11 2SL Authority: Natural Resources Wales Permit Reference: Ap3430bw Original Permit Ref: Bj7891it Effective Date: 8th November 2004 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Manually positioned to the address or location Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A7NW (SW)	881	3	273245 192358
21	Integrated Pollution Prevention And Control Name: Baglan Operations Limited Location: Baglan Power Station, Old Road, Briton Ferry, Neath, West Glamorgan, SA11 2SL Authority: Natural Resources Wales Permit Reference: MP3937LE Original Permit Ref: Bj7891it Effective Date: 31st October 2006 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Manually positioned within the geographical locality Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A7NW (SW)	966	3	273154 192336
22	Integrated Pollution Prevention And Control Name: Baglan Power Station Location: Baglan Power Station, Baglan, PORT TALBOT, West Glamorgan, SA12 7GE Authority: Natural Resources Wales Permit Reference: Bj7891it Original Permit Ref: Bp3932zk Effective Date: 1st January 2016 Status: Effective Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 1.1 A(1) (A) Activity Description: Not Supplied Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Not Supplied Primary Activity: N	A7NW (SW)	977	3	273111 192378
22	Integrated Pollution Prevention And Control Name: Baglan Operations Limited Location: Baglan Power Station, Baglan, PORT TALBOT, West Glamorgan, SA12 7GE Authority: Natural Resources Wales Permit Reference: BP3932ZK Original Permit Ref: Bj7891it Effective Date: 11th March 2013 Status: Effective Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A7NW (SW)	982	3	273110 192370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Integrated Pollution Prevention And Control Name: Baglan Operations Limited Location: Baglan Power Station, Baglan Power Station, Baglan, PORT TALBOT, West Glamorgan, SA12 7GE Authority: Natural Resources Wales Permit Reference: VP3331HD Original Permit Ref: Bj7891it Effective Date: 16th June 2011 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Located by supplier to within 10m Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A7NW (SW)	982	3	273110 192370
23	Local Authority Pollution Prevention and Controls Name: South Wales Industrial Equipment Ltd Location: Unit 23 Mardon Estate, Baglan Energy Park, Neath, Sa12 7ax Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/133 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	176	2	273888 192705
24	Local Authority Pollution Prevention and Controls Name: Ecolab Limited Location: Plot 7a Baglan Energy Park, Baglan, Port Talbot, Sa11 2hz Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/128 Dated: 28th January 2008 Process Type: Local Authority Pollution Prevention and Control Description: PG6/43 Formulation and finishing of pharmaceutical products Status: Permitted Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	426	2	273772 193353
25	Local Authority Pollution Prevention and Controls Name: Shell UK Limited Location: Pinetree Filling Station, Pinewood Terrace, PORT TALBOT, West Glamorgan, SA12 8BH Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/70 Dated: 15th December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A14SW (E)	460	2	274581 192714
26	Local Authority Pollution Prevention and Controls Name: Hanson Aggregates South Wales Limited Location: Briton Ferry Premix Plant, Briton Ferry Industrial Estate, Briton Ferry, NEATH, West Glamorgan, SA11 2HZ Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: E3/1/54 Dated: 1st August 1992 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorised Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	917	2	273429 193710
27	Local Authority Pollution Prevention and Controls Name: Graham Hunt Location: Riverside Wharf, Briton Ferry, NEATH, West Glamorgan, SA11 2HZ Authority: Neath Port Talbot County Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	983	2	273433 193795
28	Local Authority Pollution Prevention and Control Enforcements Location: Briton Ferry Premix Plant, Briton Ferry Industrial Estate, Briton Ferry, Neath Port Talbot Type: Air Pollution Control Enforcement Notice Reference: E3/1/54 Date Issued: 10th June 2004 Enforcement Date: Not Supplied Details: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	917	2	273429 193710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nearest Surface Water Feature	A13NW (NW)	0	-	274007 192989
29	Pollution Incidents to Controlled Waters Property Type: Warehouses Location: Sub-Station Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Vandalism Incident Date: 10th October 1994 Incident Reference: 21653 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18SW (N)	280	4	274000 193300
30	Pollution Incidents to Controlled Waters Property Type: Road (Lost Load) Location: A48 Westbound Authority: Environment Agency, Welsh Region Pollutant: Sewage - Septic Tank Effluent Note: Mechanical Failure Incident Date: 29th October 1991 Incident Reference: 3536 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Burst Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	328	4	274300 193300
31	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Work Carried Out At, No14 Cement Slurry Dumped In, River Opposite No 11 Authority: Environment Agency, Welsh Region Pollutant: Cement/Mortar Note: Baglan Brook; Direct Introduction Incident Date: 1st May 1998 Incident Reference: 35502 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Deliberate Act Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	455	4	274600 192800
32	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Behind Lodge Drive, BAGLAN Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 5th February 1992 Incident Reference: 3699 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	748	4	274900 192900
33	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Junction Of M4, And A48 At, BAGLAN Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 2nd September 1994 Incident Reference: 20924 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	A9NW (SE)	799	4	274700 192300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Quay Iron, Works Wharf, BRITON FERRY Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Deliberate Act Incident Date: 2nd January 1991 Incident Reference: 2026 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	840	4	273300 193500
35	Pollution Incidents to Controlled Waters Property Type: Road (Lost Load) Location: Sunnycroft Roundabout, BAGLAN Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 12th June 1991 Incident Reference: 807 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	871	4	274800 192300
36	Pollution Incidents to Controlled Waters Property Type: Other Transport Location: Bp Chemicals Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 4th November 1994 Incident Reference: 21837 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	977	4	273500 192000
37	Prosecutions Relating to Authorised Processes Location: Briton Ferry, Port Talbot, Swansea, SA11 Prosecution Text: Ea Nws Release, 18/09/00, Illegally Burning Waste. Fire Contained Wood, Plastics And Car Tyres. Prosecution Act: Ea90 Hearing Date: 14th September 2000 Verdict: Guilty Fine: 350 Costs: 400 Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	570	4	273636 193431
38	Registered Radioactive Substances Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BL Authority: Natural Resources Wales Permit Reference: AM2158 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation either revoked or cancelled Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	998	3	273479 191988
39	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 1st September 2017 Incident Reference: 1704680 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils And Fuel: Mixed/Waste Oils	A13NE (N)	216	3	274052 193246

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Hope Cement Limited Licence Number: Wa/058/0072/0009 Permit Version: Not Supplied Location: Neath Canal - Hope Cement, Wharf Road, Briton Ferry, Neath, Neath Port Talbot, Sa11 2lp Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1239	3	273419 194094
	Water Abstractions Operator: Tarmac Trading Limited Licence Number: Wa/058/0072/0009 Permit Version: Not Supplied Location: Neath Canal - Neath, Wharf Road, Briton Ferry, Neath, Neath Port Talbot, Sa11 2lp Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1239	3	273419 194094
	Water Abstractions Operator: Hope Construction Materials Limited Licence Number: 21/58/72/0036 Permit Version: 3 Location: Inland Water The Neath Canal Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th December 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1240	3	273410 194090
	Water Abstractions Operator: Lafarge Spv Limited Licence Number: 21/58/72/0036 Permit Version: 2 Location: Inland Water The Neath Canal Authority: Natural Resources Wales Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th November 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1240	3	273410 194090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 21/58/72/0036 Permit Version: 1 Location: Inland Water The Neath Canal Authority: Environment Agency, Welsh Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 3rd February 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1240	4	273410 194090
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: No Data	A13SW (W)	0	3	274000 192933
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: No Data	A13SE (NE)	0	3	274045 192933
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial Patchiness: <90% Superficial Thickness: >10m Superficial Recharge: No Data	A13NE (N)	0	3	274045 193000
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (NE)	0	3	274045 192933
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SE (NE)	0	3	274045 192933
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (NE)	0	3	274045 192933

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/Tidal Models Boundary Accuracy: As Supplied	A13SE (E)	13	3	274166 192931
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	66	3	274183 193022
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	85	3	274140 193114
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	89	3	274143 193117
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	97	3	274146 193124
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	107	3	274197 193090
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	107	3	274202 193084
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	107	3	274202 193081
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	108	3	274191 193102
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	109	3	274190 193105
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	109	3	274206 193076
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	110	3	274187 193109
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	110	3	274160 193131
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	111	3	274182 193115
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	111	3	274209 193072
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	112	3	274214 193064

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	113	3	274179 193121
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	113	3	274217 193058
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	115	3	274176 193126
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	116	3	274223 193048
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	118	3	274226 193045
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	120	3	274229 193037
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	121	3	274233 193033
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	121	3	274254 192817
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	123	3	274244 193013
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	124	3	274248 193006
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	124	3	274244 193016
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	125	3	274247 193010
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	126	3	274243 193052
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	126	3	274254 192995
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	127	3	274253 193001
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13NE (N)	129	3	274123 193164

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	130	3	274261 192989
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	132	3	274198 193130
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	136	3	274191 193142
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	146	3	274258 192782
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	147	3	274288 192965
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	154	3	274171 193175
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	162	3	274164 193187
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	169	3	274156 193198
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	175	3	274305 192796
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	180	3	274147 193211
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	181	3	274320 192814
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	191	3	274138 193225
	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 (N)	198	3	274035 193243
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	200	3	274036 193226
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (N)	201	3	274038 193228
	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 (N)	201	3	274031 193226

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 (N)	202	3	274027 193226
	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 (N)	204	3	274015 193226
	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 (N)	205	3	274010 193226
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	207	3	274001 193226
	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 (N)	207	3	273995 193224
	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 (N)	208	3	273989 193223
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	210	3	273977 193221
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	210	3	273970 193220
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	212	3	273962 193218
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	213	3	273955 193217
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	217	3	273938 193214
	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 (N)	218	3	274028 193243
	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 (N)	218	3	274031 193243
	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 (N)	219	3	274025 193243
	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 (N)	221	3	274021 193245
	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 (N)	222	3	274016 193245

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	223	3	274012 193245
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	223	3	274320 192734
	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)	224	3	273917 193209
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	226	3	273914 193209
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	226	3	273915 193210
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	233	3	273898 193206
	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)	238	3	273886 193203
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	239	3	273883 193203
	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)	242	3	273872 193199
	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)	247	3	273865 193199
	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)	249	3	273857 193196
	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)	250	3	273847 193190
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	4	3	274145 192964
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	27	3	274167 192946
	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)	59	3	274143 193081
	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)	68	3	274171 193059

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)	68	3	274165 193070
	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)	70	3	274156 193084
	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)	76	3	274141 193103
	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)	85	3	274140 193114
	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)	102	3	274147 193130
	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)	121	3	274232 193034
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	123	3	274244 193013
	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)	126	3	274216 193096
	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)	127	3	274222 193085
	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)	127	3	274212 193105
	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)	128	3	274227 193076
	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)	128	3	274206 193115
	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)	130	3	274197 193129
	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)	133	3	274236 193064
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	134	3	274278 192953
	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)	137	3	274243 193052

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)	138	3	274185 193148
	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)	140	3	274251 193040
	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)	140	3	274248 193048
	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)	143	3	274257 193034
	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)	144	3	274177 193160
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	147	3	274288 192965
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	148	3	274269 193018
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	151	3	274278 193004
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (E)	153	3	274304 192913
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	153	3	274284 192995
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	157	3	274293 192982
	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)	157	3	274165 193181
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	164	3	274305 192821
	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)	167	3	274156 193195
	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)	176	3	274147 193207
	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)	186	3	274140 193219

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	A13NW (N)	197	3	274035 193228
	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)	198	3	274131 193232
	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)	204	3	274118 193240
	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)	208	3	274108 193245
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (N)	211	3	274065 193245
	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)	213	3	274035 193243
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (E)	219	3	274369 192851
	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	A14SW (E)	225	3	274375 192849
	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	A14SW (E)	235	3	274384 192841
	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	A14SW (E)	240	3	274387 192832
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A13NE (E)	4	3	274145 192964
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A13NE (NE)	123	3	274243 193043
	Flood Water Storage Areas None				
	Flood Defences None				
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 277.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NW (NW)	0	5	274010 192993
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 59.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SE (SE)	14	5	274071 192874

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SW (SW)	59	5	273927 192841
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SW (SW)	75	5	273911 192842
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NW (NW)	93	5	273971 193087
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 70.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13SW (S)	99	5	273990 192739
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1163.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A13NE (NE)	114	5	274232 193048
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 68.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A13NW (N)	206	5	274035 193235
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (N)	207	5	274103 193243
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 206.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A13NW (N)	209	5	274033 193235
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 63.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A13NE (N)	236	5	274156 193267

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 156.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A13NW (NW)	270	5	273832 193203
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	280	5	274125 193315
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	302	5	274120 193338
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 157.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	302	5	274120 193338
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.3 Watercourse Level: Underground Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A12NE (NW)	343	5	273677 193175
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 787.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SE (N)	348	5	274119 193384
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 93.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A12NE (NW)	353	5	273662 193173
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.7 Watercourse Level: Underground Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A12NE (NW)	417	5	273570 193162
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 333.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A12NE (NW)	436	5	273551 193167

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 129.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (NW)	498	5	273715 193401
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 189.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SW (E)	575	5	274707 192728
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 184.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SW (E)	575	5	274707 192728
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (NW)	579	5	273698 193489
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 50.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A18SW (NW)	605	5	273713 193531
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 66.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	612	5	274632 192502
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 189.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	616	5	274632 192495
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 187.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NW (SE)	650	5	274633 192445
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 135.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SE (E)	701	5	274851 192822

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A12NW (NW)	762	5	273237 193274
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.2 Watercourse Level: Underground Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A17SW (NW)	786	5	273213 193281
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	797	5	274730 192333
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 2	A9NE (SE)	797	5	274729 192332
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NE (E)	799	5	274950 192942
74	OS Water Network Lines Watercourse Form: Foreshore Watercourse Length: 4.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A17SW (NW)	799	5	273202 193287
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 131.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NE (E)	802	5	274952 192946
76	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 6.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A17SW (NW)	804	5	273198 193289
77	OS Water Network Lines Watercourse Form: Foreshore Watercourse Length: 7.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A17SW (NW)	810	5	273192 193292

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SE (E)	811	5	274963 192898
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SE (E)	812	5	274964 192931
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SE (E)	812	5	274964 192931
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14SE (E)	814	5	274966 192917
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 264.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NE (E)	816	5	274967 192939
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SW (SE)	816	5	274438 192118
84	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 29.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A17SW (NW)	817	5	273185 193294
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	831	5	274747 192302
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 60.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NE (E)	837	5	274972 193076

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 571.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A17SW (NW)	840	5	273214 193391
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	843	5	274725 192263
89	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A9NE (SE)	843	5	274725 192263
90	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 741.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Nedd Catchment Name: Neath Primacy: 1	A17SW (W)	845	5	273156 193297
91	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	846	5	274755 192288
92	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 194.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A9NE (SE)	862	5	274763 192274
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 186.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A14NE (E)	874	5	274998 193129
94	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 146.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SE (SE)	891	5	274710 192188
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 210.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SE (SE)	911	5	274760 192204

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 199.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SE (SE)	950	5	274747 192141
97	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	951	5	274877 192267
98	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (E)	970	5	275042 193300
99	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A19SE (E)	970	5	275042 193300
100	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 153.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9SE (SE)	971	5	274807 192164
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 113.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A10NW (E)	971	5	275077 192585
102	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A9NE (SE)	973	5	274950 192326
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 227.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Neath Primacy: 1	A9NE (SE)	973	5	274950 192326
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A9NE (SE)	990	5	274962 192313

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baglan Brook Catchment Name: Neath Primacy: 1	A9NE (SE)	997	5	274967 192308

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
106	Licensed Waste Management Facilities (Locations) Licence Number: 34075 Location: Unit 1, Briton Ferry Industrial Estate, Briton Ferry, Neath, SA11 2HZ Operator Name: Precious Metals Industries (Wales) Ltd Operator Location: Unit 1 / 3, Briton Ferry Industrial Estate, Briton Ferry, Neath, SA11 2HZ Authority: Environment Agency Wales, South West Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Issued Issued: 14th September 1993 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	587	4	273700 193500
107	Licensed Waste Management Facilities (Locations) Licence Number: MP3098FQ Location: Triple E Recycling Limited, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2HZ Operator Name: Triple E Recycling Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Not Supplied Licence Status: Expired Issued: 14th September 1993 Last Modified: Not Supplied Expires: 9th June 2015 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SW (N)	595	3	273839 193582
107	Licensed Waste Management Facilities (Locations) Licence Number: QB3493HQ Location: E3 Recycling Limited, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2HZ Operator Name: E3 Recycling Limited Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Not Supplied Licence Status: Effective Issued: 14th September 1993 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SW (N)	595	3	273839 193582
108	Licensed Waste Management Facilities (Locations) Licence Number: MP3698FF Location: Stillman Brothers, Briton Ferry, Neath, N P T, Neath Port Talbot, SA11 2HZ Operator Name: Kerry V Stillman Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Not Supplied Licence Status: Revoked Issued: 16th November 1993 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 18th October 2013 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	802	3	273583 193681

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	Licensed Waste Management Facilities (Locations) Licence Number: 34082 Location: Dock Side Yard, Briton Ferry, Neath, N P T, SA11 2HZ Operator Name: Stillman Kerry V Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Mixed) Licence Status: Revoked Issued: 16th November 1993 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 18th October 2013 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	802	3	273583 193681
	Local Authority Landfill Coverage Name: Neath Port Talbot County Borough Council - Has supplied landfill data		0	2	274045 192933
109	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A13NE (E)	199	9	274331 192997
110	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14NW (E)	270	9	274420 192941
111	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A18SE (N)	295	9	274158 193327
112	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14SW (SE)	330	9	274457 192755
113	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14SW (E)	330	9	274466 192778
114	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14NW (E)	356	9	274500 192981
115	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14SW (E)	397	9	274541 192798
116	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14SW (E)	526	9	274663 192755
117	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A14NE (E)	635	9	274755 193107
118	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A19NW (NE)	687	9	274447 193633
119	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A18NE (N)	713	9	274059 193752
120	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A18NE (N)	729	9	274253 193750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A9NE (SE)	790	9	274851 192513
122	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A19NE (NE)	904	9	274754 193666
123	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1980	A19SE (NE)	988	9	274917 193598
124	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A13NW (W)	0	9	273961 192965
125	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14SW (E)	230	9	274377 192827
126	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A13SE (SE)	280	9	274335 192670
127	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A18SE (N)	310	9	274114 193346
128	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A13SE (SE)	337	9	274360 192617
129	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A18SE (N)	348	9	274211 193367
130	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8NE (SE)	381	9	274331 192546
131	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8NE (SE)	388	9	274336 192541
132	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A14SW (E)	407	9	274557 192834
133	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A14SW (E)	420	9	274559 192776
134	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9NW (SE)	436	9	274415 192534
135	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A18SW (N)	454	9	274002 193478
136	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1900	A17SE (NW)	469	9	273659 193322
137	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9NW (SE)	503	9	274524 192544
138	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A18SE (NE)	554	9	274313 193549
139	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A14SW (E)	562	9	274684 192700
140	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18SW (NW)	565	9	273784 193525

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A18SW (N)	567	9	273864 193561
142	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A9NW (SE)	580	9	274646 192578
143	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A18SE (N)	599	9	274277 193610
144	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8NE (SE)	636	9	274346 192277
145	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A18NE (N)	643	9	274129 193679
146	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9NW (SE)	657	9	274393 192271
147	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9NW (SE)	665	9	274478 192303
148	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18NE (N)	697	9	274171 193730
149	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9NW (SE)	728	9	274550 192273
150	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8SE (S)	735	9	274350 192175
151	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	746	9	273616 192200
152	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A8SE (S)	755	9	274362 192157
153	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A9NE (SE)	755	9	274819 192527
154	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A9SW (SE)	823	9	274637 192217
155	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A9NE (SE)	835	9	274755 192305
156	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A9NE (SE)	859	9	274815 192336
157	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9SW (SE)	873	9	274627 192150
158	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1952	A9SW (SE)	875	9	274676 192181
159	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14SE (E)	900	9	275033 192698
160	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	937	9	273570 192006
161	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1936	A9NE (SE)	940	9	274867 192271

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
162	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9SW (SE)	972	9	274533 191988
163	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A9SW (SE)	980	9	274495 191965
164	Registered Waste Treatment or Disposal Sites Licence Holder: Simsmetal Uk (South West) Ltd Licence Reference: NBSC 3 Site Location: 1 Briton Ferry Industrial Estate, Briton Ferry, NEATH, West Glamorgan, SA11 1NJ Operator Location: Allied House, Beaufort Square, CHEPSTOW, Gwent, NP6 5EP Authority: Environment Agency Wales, South West Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 14th September 1993 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned within the geographical locality Boundary Quality: Not Supplied Authorised Waste: Computer Hardware Max.Stor Drosses/Slags Cont.Precious Metals Electronic Component Manuf. Waste Electronic Component Scrap Max.Stor Maximum Waste Permitted By Licence Nicad Batteries Max.Stor	A18SW (N)	626	4	273800 193600
165	Registered Waste Treatment or Disposal Sites Licence Holder: K V Stillman Licence Reference: NBSC 5 Site Location: Dockside Yard, Briton Ferry, NEATH, West Glamorgan, SA11 2HZ Operator Location: 82 Giant's Grave Road, Briton Ferry, NEATH, West Glamorgan, SA11 2LN Authority: Environment Agency Wales, South West Area Site Category: Scrapyard Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 16th November 1995 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Batteries Max.Stor Electrical Scrap Max.Stor Ferrous Metal Scrap Max.Stor Non-Ferrous Metal Scrap Max.Stor Scrap Vehicles Max.Stor Swarf Max.Stor Prohibited Waste: Elemental Sodium/Potassium Percussive/Explosive/Similar Waste Special Wastes N.O.S. Sub'S Control. Radioactive Subs Act'60 Waste Cont. Flam.Solvent (Exc.Petrol) Waste Containing Liquid Pcb's Waste In Fine Powder Form Waste N.O.S.	A17NE (NW)	767	4	273600 193650

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
166	Control of Major Accident Hazards Sites (COMAH) Name: B P Chemicals Limited Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BP Reference: Not Supplied Type: Upper Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Unknown	A8SW (SW)	679	6	273730 192215
167	Control of Major Accident Hazards Sites (COMAH) Name: BP Chemicals Ltd Location: Seaway Parade, Port Talbot, West Glamorgan, SA12 7BP Reference: Not Supplied Type: Upper Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Automatically positioned to the address	A7SE (SW)	994	6	273458 192006
167	Control of Major Accident Hazards Sites (COMAH) Name: Bp Chemicals Ltd Location: Baglan Bay Works, Seaway Parade, Port Talbot, West Glamorgan, SA12 7BP Reference: 1287 Type: Upper Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Automatically positioned to the address	A7SE (SW)	994	6	273458 192006
168	Notification of Installations Handling Hazardous Substances (NIHHS) Name: B P Chemicals Limited Location: Baglan Bay Works, Seaway Parade, PORT TALBOT, West Glamorgan, SA12 7BP Status: Not Active Positional Accuracy: Unknown	A8SW (SW)	673	6	273735 192220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Pennine Middle Coal Measures Formation And South Wales Middle Coal Measures Formation (Undifferentiated)	A13SE (NE)	0	1	274045 192933
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 15 - 25 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A13NE (N)	0	1	274045 193000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A13SE (NE)	0	1	274045 192933
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A13SE (S)	63	1	274068 192788
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A13NE (NE)	140	1	274202 193139
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A13NE (E)	170	1	274287 193033
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 35 - 45 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A13NE (E)	171	1	274300 193000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13NE (E)	219	1	274352 193000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14NW (NE)	365	1	274420 193222
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SE (N)	415	1	274124 193453
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14NW (NE)	419	1	274500 193175
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SE (N)	485	1	274173 193516
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SW (E)	555	1	274706 192841

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19SW (NE)	580	1	274500 193461
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NE (N)	697	1	274299 193706
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18NE (N)	751	1	274271 193769
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SW (W)	902	1	273064 192636
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 25 - 35 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A11SE (W)	962	1	273000 192637
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic 35 - 45 mg/kg Concentration: Cadmium 1.8 - 2.2 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A6NE (W)	975	1	273000 192598

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
169	BGS Recorded Mineral Sites Site Name: Park Colliery Location: Baglan, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156594 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: South Wales Middle Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NW (E)	372	1	274516 192983
170	BGS Recorded Mineral Sites Site Name: Travellers Rest Location: Briton Ferry, Port Talbot, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156448 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NE (N)	728	1	274255 193749
171	BGS Recorded Mineral Sites Site Name: Albion Wharf Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10843 Type: Wharf Status: Ceased Operator: British Dredging Aggregates Ltd Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	776	1	273240 193310
172	BGS Recorded Mineral Sites Site Name: Craig Y Daren Location: Baglan, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156566 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	834	1	274637 193678
173	BGS Recorded Mineral Sites Site Name: Briton Ferry Wharf Location: Briton Ferry, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 10845 Type: Wharf Status: Ceased Operator: Tarmac Quarry Materials - West Operator Location: Not Supplied Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	909	1	273350 193640
174	BGS Recorded Mineral Sites Site Name: Craig Y Daren Location: Baglan, Neath, West Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 156567 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llynfi Member, Rhondda Member And Brithdir Member (Undifferentiated) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	984	1	274913 193597

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274250, 193250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 42.50 mg/kg Concentration: Cadmium Measured 1.90 mg/kg Concentration: Chromium Measured 157.70 mg/kg Concentration: Lead Measured 253.90 mg/kg Concentration: Nickel Measured 41.70 mg/kg Concentration:	A13NE (NE)	258	1	274250 193250
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273760, 193220 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 20.60 mg/kg Concentration: Cadmium Measured 1.00 mg/kg Concentration: Chromium Measured 69.00 mg/kg Concentration: Lead Measured 85.00 mg/kg Concentration: Nickel Measured 32.40 mg/kg Concentration:	A13NW (NW)	326	1	273760 193220
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274770, 193270 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 32.40 mg/kg Concentration: Cadmium Measured 0.80 mg/kg Concentration: Chromium Measured 58.70 mg/kg Concentration: Lead Measured 77.50 mg/kg Concentration: Nickel Measured 24.30 mg/kg Concentration:	A14NE (NE)	705	1	274770 193270
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274250, 193770 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 141.90 mg/kg Concentration: Cadmium Measured 0.60 mg/kg Concentration: Chromium Measured 88.30 mg/kg Concentration: Lead Measured 410.30 mg/kg Concentration: Nickel Measured 65.20 mg/kg Concentration:	A18NE (N)	748	1	274250 193770
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273210, 193250 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 61.30 mg/kg Concentration: Cadmium Measured 1.00 mg/kg Concentration: Chromium Measured 458.20 mg/kg Concentration: Lead Measured 256.10 mg/kg Concentration: Nickel Measured 225.40 mg/kg Concentration:	A12NW (W)	776	1	273210 193250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274670, 192170 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 16.10 mg/kg Concentration: Cadmium Measured 0.40 mg/kg Concentration: Chromium Measured 67.70 mg/kg Concentration: Lead Measured 88.40 mg/kg Concentration: Nickel Measured 21.20 mg/kg Concentration:	A9SW (SE)	881	1	274670 192170
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 273670, 193830 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 17.50 mg/kg Concentration: Cadmium Measured 0.50 mg/kg Concentration: Chromium Measured 67.80 mg/kg Concentration: Lead Measured 65.90 mg/kg Concentration: Nickel Measured 25.10 mg/kg Concentration:	A17NE (NW)	889	1	273670 193830
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 274750, 193770 Soil Sample Type: Topsoil Sample Area: Swansea Arsenic Measured 79.00 mg/kg Concentration: Cadmium Measured 0.20 mg/kg Concentration: Chromium Measured 58.30 mg/kg Concentration: Lead Measured 164.10 mg/kg Concentration: Nickel Measured 25.20 mg/kg Concentration:	A19NE (NE)	977	1	274750 193770
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: Swansea Count Id: 368 Arsenic Minimum 8.00 mg/kg Concentration: Arsenic Average 79.00 mg/kg Concentration: Arsenic Maximum 2161.00 mg/kg Concentration: Cadmium Minimum 0.10 mg/kg Concentration: Cadmium Average 2.90 mg/kg Concentration: Cadmium Maximum 61.90 mg/kg Concentration: Chromium Minimum 13.00 mg/kg Concentration: Chromium Average 72.00 mg/kg Concentration: Chromium Maximum 562.00 mg/kg Concentration: Lead Minimum 23.00 mg/kg Concentration: Lead Average 413.00 mg/kg Concentration: Lead Maximum 10000.00 mg/kg Concentration: Nickel Minimum 8.00 mg/kg Concentration: Nickel Average 52.00 mg/kg Concentration: Nickel Maximum 384.00 mg/kg Concentration:	A13SE (NE)	0	1	274045 192933

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SE (NE)	0	7	274045 192933
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SE (NE)	0	-	274045 192933
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	134	1	274214 193115
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	274060 192888
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	158	1	274263 193085
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	175	1	274277 193089
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	226	1	274335 193063
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A14NW (E)	248	1	274391 192977
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	274060 192888
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	158	1	274263 193085
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	73	1	274071 192777
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	274048 192876
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933

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	A13SE (S)	0	1	274048 192876
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	274045 192933

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
175	Contemporary Trade Directory Entries Name: Fluid Power Solutions Location: Unit 3, Mardon Park, Central Avenue, Baglan, Port Talbot, SA12 7AX Classification: Hydraulic Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (SW)	76	-	273933 192810
175	Contemporary Trade Directory Entries Name: Roberts Direct Location: Unit 5, Mardon Park, Central Avenue, Baglan, PORT TALBOT, West Glamorgan, SA12 7AX Classification: Distribution Services Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (SW)	78	-	273914 192832
175	Contemporary Trade Directory Entries Name: Sack Trucks 4 Sale Location: Unit 10, Mardon Park, Central Avenue, Baglan, Port Talbot, West Glamorgan, SA12 7AX Classification: Materials Handling Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	110	-	273920 192767
176	Contemporary Trade Directory Entries Name: South Wales Industrial Equipment Location: Unit 23, Mardon Park, Central Avenue, Baglan, Port Talbot, West Glamorgan, SA12 7AX Classification: Fork Lift Trucks Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	177	-	273890 192702
176	Contemporary Trade Directory Entries Name: Swie-Lift Location: Unit 23, Mardon Park, Central Avenue, Baglan, Port Talbot, West Glamorgan, SA12 7AX Classification: Fork Lift Trucks Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (SW)	177	-	273890 192702
177	Contemporary Trade Directory Entries Name: West End Car Sales Location: Baglan Road, Port Talbot, West Glamorgan, SA12 8HY Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	276	-	274426 192847
178	Contemporary Trade Directory Entries Name: Baglan Motor Co Location: 40, Swan Road, Baglan, Port Talbot, West Glamorgan, SA12 8LA Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A18SE (N)	334	-	274179 193362
178	Contemporary Trade Directory Entries Name: Van Value Location: 38 Swan Road, Baglan, Port Talbot, West Glamorgan, SA12 8LA Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (N)	375	-	274202 193399
178	Contemporary Trade Directory Entries Name: 3as Caravans Location: 38, Swan Road, Baglan, Port Talbot, West Glamorgan, SA12 8LA Classification: Caravan Dealers & Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SE (N)	375	-	274202 193399
178	Contemporary Trade Directory Entries Name: B B C Car Sales Location: 38, Swan Road, Baglan, Port Talbot, West Glamorgan, SA12 8LA Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	376	-	274202 193399
178	Contemporary Trade Directory Entries Name: Marks Star Service Station Location: 38, Swan Road, Baglan, Port Talbot, West Glamorgan, SA12 8LA Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	376	-	274202 193399

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
178	Contemporary Trade Directory Entries Name: Baglan Service Station Location: 38, Swan Road, Baglan, Port Talbot, West Glamorgan, SA12 8LA Classification: Petrol Filling Stations Status: Active Positional Accuracy: Manually positioned to the address or location	A18SE (N)	376	-	274202 193399
178	Contemporary Trade Directory Entries Name: Baglan Car Centre Location: 38, Swan Road, Baglan, PORT TALBOT, West Glamorgan, SA12 8LA Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	376	-	274202 193399
179	Contemporary Trade Directory Entries Name: Ecolab Location: Baglan Energy Park, Brunel Way, Briton Ferry, Neath, SA11 2GA Classification: Hygiene & Cleansing Services Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	412	-	273752 193321
180	Contemporary Trade Directory Entries Name: Tankclean Location: Rutherglen Centre, Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, SA12 7BR Classification: Tank Cleaning & Repairing Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	475	-	274380 192466
181	Contemporary Trade Directory Entries Name: B P Engineering Location: 115, Albion Road, Baglan, Port Talbot, SA12 8DD Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (E)	492	-	274593 193134
181	Contemporary Trade Directory Entries Name: B P Engineering Location: 115, Albion Road, Port Talbot, West Glamorgan, SA12 8DD Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	492	-	274593 193134
182	Contemporary Trade Directory Entries Name: Car Buyers Wales Com Location: A48 West Bound Baglan, Port Talbot, West Glamorgan, SA12 8BH Classification: Car Dealers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A14SW (SE)	507	-	274604 192651
183	Contemporary Trade Directory Entries Name: Celvac Vacuum Location: Rutherglen Centre, Seaway Parade Industrial Estate, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A9NW (SE)	540	-	274397 192401
183	Contemporary Trade Directory Entries Name: H I - Speed Tyres Location: Rutherglen Centre, Seaway Parade, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A9NW (SE)	540	-	274397 192401
184	Contemporary Trade Directory Entries Name: Ecolab Ltd Location: The Quays, Brunel Way, Briton Ferry, Neath, SA11 2GG Classification: Cleaning Materials & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	561	-	273545 193350
185	Contemporary Trade Directory Entries Name: Fia Management Footwear Location: Unit 6, Rutherglen Centre, Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, SA12 7BR Classification: Footwear Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	588	-	274531 192433

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
186	Contemporary Trade Directory Entries Name: R & J Metals Location: Docks Yard Estate, Briton Ferry Industrial Estate, Briton Ferry, Neath, West Glamorgan, SA11 2HZ Classification: Scrap Metal Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (N)	600	-	273804 193573
186	Contemporary Trade Directory Entries Name: Triple E Recycling Ltd Location: Briton Ferry Industrial Estate, Briton Ferry, Neath, SA11 2HZ Classification: Metal Industries - Primary Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	632	-	273817 193613
186	Contemporary Trade Directory Entries Name: Triple E Recycling Location: Briton Ferry Industrial Estate, Briton Ferry, Neath, SA11 2HZ Classification: Recycling Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	632	-	273817 193613
187	Contemporary Trade Directory Entries Name: University Of Glamorgan Hydrogen Centre Location: Baglan Energy Park, Central Avenue, Baglan, Port Talbot, SA12 7AX Classification: Laboratories Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	622	-	274177 192238
187	Contemporary Trade Directory Entries Name: Sarpak Location: Baglan Energy Park, Central Avenue, Baglan, Port Talbot, SA12 7AX Classification: Polythene & Plastic Sheeting Supplies Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	622	-	274177 192238
187	Contemporary Trade Directory Entries Name: Montagne Jeunesse Location: Baglan Energy Park, Central Avenue, Baglan, Port Talbot, SA12 7AX Classification: Toiletries Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	622	-	274177 192238
188	Contemporary Trade Directory Entries Name: Cape Scaffolding Ltd Location: Rutherglen Centre, Seaway Parade, Port Talbot, West Glamorgan, SA12 7BL Classification: Scaffolding & Work Platforms Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (SE)	637	-	274358 192280
189	Contemporary Trade Directory Entries Name: Wyndham (Uk) Ltd Location: Baglan Old Rd, Briton Ferry, Neath, West Glamorgan, SA11 2YW Classification: Engineering Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	741	-	274153 193776
190	Contemporary Trade Directory Entries Name: Nolan Roadmarking Ltd Location: Seaway Parade Industrial Estate, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Road Construction Equipment Manufacturers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	774	-	274301 192121
190	Contemporary Trade Directory Entries Name: Ariazone Location: Princess of Wales Court, Seaway Parade Industrial Estate, Port Talbot, SA12 7BT Classification: Air Conditioning Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	774	-	274270 192109
190	Contemporary Trade Directory Entries Name: W Doyle Location: Princess of Wales Court, Seaway Parade Industrial Estate, Port Talbot, SA12 7BT Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	774	-	274270 192109

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
190	Contemporary Trade Directory Entries Name: Aggreko UK Ltd Location: Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, SA12 7BR Classification: Generators - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	786	-	274263 192093
190	Contemporary Trade Directory Entries Name: Aggreko UK Ltd Location: Seaway Parade Industrial Estate, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Power Transmission Equipment Status: Active Positional Accuracy: Manually positioned to the address or location	A8SE (S)	787	-	274263 192093
191	Contemporary Trade Directory Entries Name: Hope Construction Materials Location: Old Iron Works, Church Road, Briton Ferry, Neath, West Glamorgan, SA11 2HZ Classification: Sand, Gravel & Other Aggregates Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	825	-	273519 193663
192	Contemporary Trade Directory Entries Name: Lloyds British Location: Unit 12, Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Classification: Lifting Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	834	-	274356 192074
192	Contemporary Trade Directory Entries Name: Speedy Hire Centre Location: Unit 12, Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Classification: Lifting Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	834	-	274356 192074
192	Contemporary Trade Directory Entries Name: Speedy Services Location: Unit 12, Seaway Parade Industrial Estate, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Lifting Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	837	-	274359 192072
192	Contemporary Trade Directory Entries Name: Sa12 Energy Services Ltd Location: Unit 14, Seaway Drive, Seaway Parade Industrial Estate, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Energy Efficient Products and Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (S)	842	-	274400 192078
192	Contemporary Trade Directory Entries Name: Extreme Products Location: 13-14, Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, SA12 7BR Classification: Sports Equipment Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (S)	842	-	274400 192078
192	Contemporary Trade Directory Entries Name: Creative In Colour Location: Unit 14, Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, SA12 7BR Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (S)	842	-	274400 192078
193	Contemporary Trade Directory Entries Name: Scrap Yard In Port Talbot Htt Location: Unit 1a Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, sa12 7br Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	838	-	274345 192067

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
193	Contemporary Trade Directory Entries Name: I P L Structural Services Ltd Location: 1-2 Sirius Drive, Port Talbot, West Glamorgan, SA12 7BR Classification: Stainless Steel Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	838	-	274345 192067
193	Contemporary Trade Directory Entries Name: Love 2 Recycle Location: Unit 10a, Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Classification: Waste Disposal Services Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	847	-	274332 192055
193	Contemporary Trade Directory Entries Name: M M Engineering Location: Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	857	-	274302 192032
194	Contemporary Trade Directory Entries Name: Neutro Zone Ltd Location: 29, Ashgrove, Port Talbot, West Glamorgan, SA12 8PP Classification: Hygiene & Cleansing Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	839	-	274933 193217
195	Contemporary Trade Directory Entries Name: Swansea Bay Location: One Talbot Gateway, Seaway Parade Industrial Estate, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Hospitals Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	845	-	274487 192107
196	Contemporary Trade Directory Entries Name: Rhino Heating Location: Unit 14, Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	862	-	274417 192062
196	Contemporary Trade Directory Entries Name: Baglan Automotive Location: 10a Seaway Pde Ind Est, Port Talbot, West Glamorgan, SA12 7BR Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9SW (S)	895	-	274412 192026
196	Contemporary Trade Directory Entries Name: E E S Precision Engineering Ltd Location: Seaway Parade Indust Est, Port Talbot, West Glamorgan, SA12 7BR Classification: Precision Engineers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9SW (S)	895	-	274411 192026
197	Contemporary Trade Directory Entries Name: Autolec Diesel Services Location: Unit 7A, Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, SA12 7BR Classification: Diesel Fuel Injection Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	915	-	274262 191958
198	Contemporary Trade Directory Entries Name: S & M Pallets Location: Briton Ferry Industrial Estate, Briton Ferry, NEATH, West Glamorgan, SA11 2HZ Classification: Pallets, Crates & Packing Cases Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	944	-	273750 193920
199	Contemporary Trade Directory Entries Name: Sven Interiors & Costumes Location: 35, Church Road, Baglan, Port Talbot, SA12 8SU Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address	A9NE (SE)	945	-	275016 192499

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
200	Contemporary Trade Directory Entries Name: P Davies Location: Princess of Wales Court, Seaway Dr, Port Talbot, West Glamorgan, SA12 7BR Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	951	-	274286 191928
200	Contemporary Trade Directory Entries Name: Total Water Products Location: Unit 6, Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Classification: Chemical Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A3NE (S)	966	-	274265 191906
200	Contemporary Trade Directory Entries Name: Spectrum Glass Location: Unit 5, Seaway Parade Industrial Estate, Baglan, Port Talbot, West Glamorgan, SA12 7BR Classification: Glass Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A3NE (S)	979	-	274267 191893
200	Contemporary Trade Directory Entries Name: G E Turner Location: Seaway Parade Industrial Estate, Port Talbot, West Glamorgan, SA12 7BR Classification: Hose, Tubing & Fittings Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NE (S)	979	-	274267 191893
200	Contemporary Trade Directory Entries Name: Foredowel Location: Unit 4, Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A3NE (S)	995	-	274267 191876
201	Contemporary Trade Directory Entries Name: Briton Ferry Auto'S Location: Sand Lane, Briton Ferry, Neath, West Glamorgan, SA11 2EX Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A23SE (N)	961	-	274064 193997
201	Contemporary Trade Directory Entries Name: Sand Lane Tyres Location: 1, Sand Lane, Briton Ferry, Neath, West Glamorgan, SA11 2EX Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SE (N)	963	-	274083 193999
201	Contemporary Trade Directory Entries Name: J S Hygiene Ltd Location: 43, Neath Road, Briton Ferry, Neath, SA11 2DX Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	967	-	274125 194003
202	Contemporary Trade Directory Entries Name: Speedy Hire Centre Location: Briton Ferry Industrial Estate, Briton Ferry, Neath, SA11 2HZ Classification: Generators - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SW (N)	994	-	273791 193984
203	Fuel Station Entries Name: West End Service Station Location: Baglan Road , Baglan , Port Talbot, Neath Port Talbot, SA12 8HY Brand: Texaco Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A14SW (E)	276	-	274426 192847
204	Fuel Station Entries Name: Baglan Service Station Location: Swan Road , Baglan , Port Talbot, Neath Port Talbot, SA12 8LA Brand: Murco Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A18SE (N)	384	-	274173 193414

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	Fuel Station Entries Name: Shell Pinetree Location: A48 Baglan , Baglan , Port Talbot, Neath Port Talbot, SA12 8BH Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Located by supplier to within 100m	A14SW (E)	409	-	274557 192822
206	Points of Interest - Commercial Services Name: Roberts Direct Location: Unit 4-5 Mardon Park, Central Avenue, Baglan, Port Talbot, SA12 7AX Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13SW (SW)	77	8	273925 192820
207	Points of Interest - Commercial Services Name: Swie-lift Location: Unit 23 Mardon Park, Central Avenue, Baglan, Port Talbot, SA12 7AX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	177	8	273890 192702
207	Points of Interest - Commercial Services Name: Leftfield Environmental Ltd Location: Crown House Mardon Park, Central Avenue, Baglan, Port Talbot, SA12 7AX Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A13SW (SW)	195	8	273897 192674
208	Points of Interest - Commercial Services Name: West End Service Station Location: Baglan Road, Port Talbot, SA12 8HY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	276	8	274426 192847
208	Points of Interest - Commercial Services Name: West End Service Station Location: Baglan Road, Port Talbot, SA12 8HY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	276	8	274426 192847
209	Points of Interest - Commercial Services Name: Hi - Speed Tyres Location: Rutherglen Centre Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, SA12 7BR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (S)	500	8	274227 192388
210	Points of Interest - Commercial Services Name: R & J Metals Location: Docks Yard Estate, Briton Ferry Industrial Estate, Briton Ferry, Neath, SA11 2HZ Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A18SW (N)	600	8	273804 193573
211	Points of Interest - Commercial Services Name: Ariazone MOT Centre Location: Princess of Wales Court Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, SA12 7BT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	774	8	274270 192109
211	Points of Interest - Commercial Services Name: Ariazone M O T Centre Location: Princess of Wales Court Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, SA12 7BT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	775	8	274270 192108
211	Points of Interest - Commercial Services Name: W Doyle Transport Location: Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, SA12 7BR Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SE (S)	786	8	274263 192093

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
211	Points of Interest - Commercial Services Name: Love 2 Recycle Location: Unit 10a, Seaway Parade Industrial Estate, Baglan, Port Talbot, SA12 7BR Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SE (S)	847	8	274332 192055
212	Points of Interest - Commercial Services Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	781	8	273574 193649
212	Points of Interest - Commercial Services Name: Scrap Yard Location: SA11 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	781	8	273574 193649
213	Points of Interest - Commercial Services Name: Autolec Diesel Services Location: Unit 7A Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, SA12 7BR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	915	8	274262 191958
213	Points of Interest - Commercial Services Name: Autolec Diesel Services Location: Unit 7a Seaway Drive, Seaway Parade Industrial Estate, Port Talbot, SA12 7BR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	915	8	274262 191958
214	Points of Interest - Commercial Services Name: FCC Environment Location: Briton Ferry Household Waste Recycling Centre, Briton Ferry Industrial Estate, Briton Ferry, Neath, SA11 2HZ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A18NW (N)	917	8	273872 193924
215	Points of Interest - Commercial Services Name: Briton Ferry Automobile Auto 's Automobile Body Repairs Location: 1 Sand Lane, Briton Ferry, Neath, SA11 2EX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A23SE (N)	963	8	274083 193999
216	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	14	8	273992 193004
216	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NE (N)	36	8	274055 193063
217	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	298	8	273749 192678
218	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	356	8	274213 193375

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
219	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	396	8	274518 192731
220	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	484	8	274387 192459
220	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	497	8	274378 192440
220	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	548	8	274378 192383
221	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	489	8	273662 192487
221	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	500	8	273692 192446
221	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	520	8	273696 192418
222	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	523	8	274250 192369
222	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A8NE (S)	524	8	274242 192367
222	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A8NE (S)	526	8	274244 192365
223	Points of Interest - Manufacturing and Production Name: Tanks Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	544	8	273550 192524
223	Points of Interest - Manufacturing and Production Name: Tanks Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	550	8	273572 192497

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
224	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A7NE (SW)	561	8	273648 192404
224	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	561	8	273648 192404
224	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	590	8	273656 192361
224	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	617	8	273585 192384
224	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	626	8	273591 192367
224	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	627	8	273605 192353
225	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	595	8	273449 192562
226	Points of Interest - Manufacturing and Production Name: Briton Ferry Industrial Estate Location: SA11 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	598	8	273809 193573
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	606	8	273554 192431
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	618	8	273576 192392
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	651	8	273474 192449
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	660	8	273466 192444

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	664	8	273455 192449
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	672	8	273462 192431
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	691	8	273490 192375
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	700	8	273496 192355
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	702	8	273425 192425
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	710	8	273493 192345
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	714	8	273446 192389
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	717	8	273493 192334
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	732	8	273427 192382
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	733	8	273434 192374
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	734	8	273407 192398
227	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	737	8	273476 192323

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	739	8	273488 192308
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	754	8	273404 192374
227	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	761	8	273429 192339
228	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (SW)	627	8	273759 192259
228	Points of Interest - Manufacturing and Production Name: Works Location: SA12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (SW)	627	8	273759 192259
229	Points of Interest - Manufacturing and Production Name: Tanks Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	650	8	274035 193683
230	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	665	8	273676 192258
230	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (SW)	691	8	273704 192214
230	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	747	8	273643 192183
230	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (SW)	758	8	273707 192139
230	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	784	8	273696 192116
231	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	669	8	274562 192354

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
232	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	727	8	273754 192154
232	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	744	8	273783 192126
233	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	732	8	273913 192110
234	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	754	8	273375 192403
234	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	757	8	273384 192389
235	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	772	8	273727 192116
235	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	797	8	273707 192097
235	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	828	8	273692 192070
235	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	832	8	273646 192086
235	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	849	8	273715 192038
235	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	865	8	273692 192030
235	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	874	8	273696 192018

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
235	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	877	8	273639 192039
236	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	820	8	274514 192147
237	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	835	8	273850 192016
237	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	843	8	273878 192003
237	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	886	8	273906 191956
237	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	915	8	273926 191924
238	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	842	8	273386 192265
238	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	844	8	273395 192253
238	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	865	8	273402 192216
238	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	876	8	273394 192208
238	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	907	8	273370 192189
239	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	849	8	273432 192209

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
239	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	893	8	273464 192126
239	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	895	8	273447 192137
239	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	899	8	273483 192104
239	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	900	8	273470 192112
239	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	914	8	273439 192118
239	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	945	8	273424 192091
240	Points of Interest - Manufacturing and Production Name: Briton Ferry Workshops Industrial Estate Location: SA11 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	861	8	273529 193715
240	Points of Interest - Manufacturing and Production Name: Workshops Location: SA11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	868	8	273516 193714
241	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	866	8	273588 192077
242	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	896	8	273430 193685
242	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	914	8	273435 193711
242	Points of Interest - Manufacturing and Production Name: Tank Location: SA11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	943	8	273417 193734

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
243	Points of Interest - Manufacturing and Production Name: Seaway Parade Industrial Estate Location: SA12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	903	8	274441 192027
244	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	949	8	273235 192267
245	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	953	8	273274 192222
245	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	957	8	273296 192194
245	Points of Interest - Manufacturing and Production Name: Tank Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	958	8	273302 192185
245	Points of Interest - Manufacturing and Production Name: Tanks Location: SA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	981	8	273278 192177
246	Points of Interest - Public Infrastructure Name: Sewage Pumping Station Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	100	8	274018 193119
247	Points of Interest - Public Infrastructure Name: Car Value Location: 38 Swan Road, Baglan, Port Talbot, SA12 8LA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18SE (N)	376	8	274202 193399
247	Points of Interest - Public Infrastructure Name: Mr Car Value Location: 38 Swan Road, Baglan, Port Talbot, SA12 8LA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18SE (N)	376	8	274202 193399
247	Points of Interest - Public Infrastructure Name: Baglan Service Station Location: Swan Road, Baglan, Port Talbot, SA12 8LA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18SE (N)	376	8	274202 193399
247	Points of Interest - Public Infrastructure Name: Baglan Service Station Location: Swan Road, Baglan, Port Talbot, SA12 8LA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18SE (N)	384	8	274173 193414
247	Points of Interest - Public Infrastructure Name: GB Oils Baglan Location: Swan Road, Baglan, Port Talbot, SA12 8LA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18SE (N)	387	8	274162 193419

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
248	Points of Interest - Public Infrastructure Name: Outfall Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	763	8	273233 193269
248	Points of Interest - Public Infrastructure Name: Outfall Location: SA11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	799	8	273189 193259
249	Points of Interest - Public Infrastructure Name: Recycling Centre / Canolfan Ailgylchu Location: Nr Kennel Row, SA11 Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A18NW (N)	909	8	273856 193913
250	Points of Interest - Public Infrastructure Name: Baglan Rail Station Location: SA12 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A9SE (SE)	951	8	274809 192194
250	Points of Interest - Public Infrastructure Name: Baglan Station Location: Nr Seaway Parade, SA12 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A9SE (SE)	951	8	274809 192194
251	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	490	8	274620 193053
251	Points of Interest - Recreational and Environmental Name: Playground Location: Albion Road (Heol Albion), SA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	490	8	274620 193053
252	Points of Interest - Recreational and Environmental Name: Playground Location: Elder Road (Heol Ysgawen), SA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A19SW (NE)	624	8	274668 193305
252	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	625	8	274668 193306
253	Points of Interest - Recreational and Environmental Name: Playground Location: Lodge Drive, SA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14SE (E)	785	8	274938 192876
254	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9SE (SE)	970	8	274847 192205
254	Points of Interest - Recreational and Environmental Name: Playground Location: Nr Seaway Parade, SA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9SE (SE)	975	8	274854 192206

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
255	Underground Electrical Cables Unique Feature Identifier: 270328 Cable Status: Commissioned Cable Type: Pilot (Communication) Record Last Updated: 4th June 2013	A13NW (W)	53	9	273896 192982
256	Underground Electrical Cables Unique Feature Identifier: 257830 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 8th May 2014	A13NW (NW)	269	9	273904 193254
257	Underground Electrical Cables Unique Feature Identifier: 279695 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 16th January 2015	A13NW (N)	274	9	273922 193269
258	Underground Electrical Cables Unique Feature Identifier: 279694 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 16th January 2015	A18SW (N)	281	9	273919 193276
259	Underground Electrical Cables Unique Feature Identifier: 257829 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 8th May 2014	A18SW (N)	284	9	273920 193279
260	Underground Electrical Cables Unique Feature Identifier: 270329 Cable Status: Commissioned Cable Type: Pilot (Communication) Record Last Updated: 4th June 2013	A13NW (NW)	293	9	273846 193242

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
261	Ancient Woodland Name: Not Supplied Reference: 13971 Area(m ²): 4202.86 Type: Ancient and Semi-Natural Woodland	A14NW (E)	362	3	274512 192946
262	Ancient Woodland Name: Not Supplied Reference: 13973 Area(m ²): 41441.93 Type: Ancient and Semi-Natural Woodland	A18SE (N)	484	3	274255 193497
263	Ancient Woodland Name: Not Supplied Reference: 13970 Area(m ²): 4023.34 Type: Ancient and Semi-Natural Woodland	A14NW (E)	520	3	274670 192947
264	Ancient Woodland Name: Not Supplied Reference: 13967 Area(m ²): 7872.66 Type: Ancient and Semi-Natural Woodland	A14SW (E)	556	3	274679 192702
265	Ancient Woodland Name: Not Supplied Reference: 10334 Area(m ²): 17024.2 Type: Restored Ancient Woodland Site	A19SW (NE)	625	3	274402 193586
266	Ancient Woodland Name: Not Supplied Reference: 39763 Area(m ²): 10841.13 Type: Plantation on Ancient Woodland	A19SW (NE)	651	3	274544 193518
267	Ancient Woodland Name: Not Supplied Reference: 13974 Area(m ²): 1538.83 Type: Ancient and Semi-Natural Woodland	A19NW (NE)	652	3	274384 193626
268	Ancient Woodland Name: Not Supplied Reference: 8864 Area(m ²): 347.82 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	652	3	274549 193513
269	Ancient Woodland Name: Not Supplied Reference: 41091 Area(m ²): 21.37 Type: Plantation on Ancient Woodland	A19SW (NE)	676	3	274593 193504
270	Ancient Woodland Name: Not Supplied Reference: 10333 Area(m ²): 40632.64 Type: Restored Ancient Woodland Site	A19SW (NE)	692	3	274617 193501
271	Ancient Woodland Name: Not Supplied Reference: 8866 Area(m ²): 174943.76 Type: Ancient and Semi-Natural Woodland	A18NE (N)	740	3	274312 193747
272	Ancient Woodland Name: Not Supplied Reference: 8864 Area(m ²): 13064.27 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	752	3	274690 193508
273	Ancient Woodland Name: Not Supplied Reference: 21382 Area(m ²): 2174.19 Type: Restored Ancient Woodland Site	A19NW (NE)	755	3	274493 193683
274	Ancient Woodland Name: Not Supplied Reference: 8862 Area(m ²): 3122.35 Type: Ancient and Semi-Natural Woodland	A19SE (NE)	780	3	274767 193450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
275	Ancient Woodland Name: Not Supplied Reference: 13974 Area(m ²): 12.77 Type: Ancient and Semi-Natural Woodland	A19SW (NE)	816	3	274686 193609
276	Ancient Woodland Name: Not Supplied Reference: 40178 Area(m ²): 10834.2 Type: Plantation on Ancient Woodland	A19NW (NE)	818	3	274497 193754
277	Ancient Woodland Name: Not Supplied Reference: 39765 Area(m ²): 16069.08 Type: Plantation on Ancient Woodland	A18NE (N)	826	3	274354 193824
278	Ancient Woodland Name: Not Supplied Reference: 21381 Area(m ²): 1486.26 Type: Restored Ancient Woodland Site	A19SE (NE)	874	3	274781 193589
279	Ancient Woodland Name: Not Supplied Reference: 7875 Area(m ²): 73126.59 Type: Ancient and Semi-Natural Woodland	A19NW (N)	877	3	274398 193863
280	Ancient Woodland Name: Not Supplied Reference: 40177 Area(m ²): 7563.93 Type: Plantation on Ancient Woodland	A19SE (NE)	886	3	274915 193393
281	Ancient Woodland Name: Not Supplied Reference: 41091 Area(m ²): 1668.07 Type: Plantation on Ancient Woodland	A19SE (NE)	895	3	274939 193360
282	Ancient Woodland Name: Not Supplied Reference: 42567 Area(m ²): 533.54 Type: Plantation on Ancient Woodland	A19NW (NE)	916	3	274690 193741
283	Ancient Woodland Name: Not Supplied Reference: 39764 Area(m ²): 16157.91 Type: Plantation on Ancient Woodland	A19NW (NE)	928	3	274518 193868
284	Ancient Woodland Name: Not Supplied Reference: 8865 Area(m ²): 7959.49 Type: Ancient and Semi-Natural Woodland	A19NW (NE)	930	3	274584 193833

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	January 2015 March 2015	Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Welsh Region Natural Resources Wales	August 2014 July 2019	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Welsh Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - Welsh Region	October 2008	Variable
Integrated Pollution Prevention And Control Natural Resources Wales Environment Agency - Welsh Region	April 2019 July 2019	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Swansea Bay Port Health Authority Neath Port Talbot County Borough Council - Environmental Health Department City and County of Swansea - Environmental Health Department	April 2014 August 2012 June 2014	Variable Variable Variable
Local Authority Pollution Prevention and Controls Swansea Bay Port Health Authority City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	April 2014 June 2014 March 2014	Annually Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Swansea Bay Port Health Authority City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	April 2014 June 2014 March 2014	Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	September 2019	
Pollution Incidents to Controlled Waters Environment Agency - Welsh Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	Annual Rolling Update Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	Annual Rolling Update Annual Rolling Update
Registered Radioactive Substances Natural Resources Wales Environment Agency - Welsh Region	January 2015 June 2016	Annually
Substantiated Pollution Incident Register Environment Agency Wales - South West Area Natural Resources Wales	July 2019 July 2019	Quarterly Quarterly
Water Abstractions Environment Agency - Welsh Region Natural Resources Wales	July 2019 July 2019	Quarterly Quarterly
Water Industry Act Referrals Natural Resources Wales Environment Agency - Welsh Region	July 2019 October 2017	Quarterly Quarterly
Groundwater Vulnerability Map Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations Natural Resources Wales	January 2018	Annually

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations Natural Resources Wales	January 2018	Annually
Source Protection Zones Natural Resources Wales	November 2016	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	August 2019	Quarterly
Flooding from Rivers or Sea without Defences Natural Resources Wales	August 2019	Quarterly
Areas Benefiting from Flood Defences Natural Resources Wales	August 2019	Quarterly
Flood Water Storage Areas Natural Resources Wales	August 2019	Quarterly
Flood Defences Natural Resources Wales	August 2019	Quarterly
OS Water Network Lines Ordnance Survey	July 2019	Quarterly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	October 2013	Annually
Surface Water Suitability Natural Resources Wales	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Natural Resources Wales	July 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - South West Area Natural Resources Wales	July 2018 July 2018	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency Wales - South West Area Natural Resources Wales	July 2019 July 2019	Quarterly Quarterly
Local Authority Landfill Coverage City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	May 2000 May 2000	Not Applicable Not Applicable
Local Authority Recorded Landfill Sites City and County of Swansea - Environmental Health Department Neath Port Talbot County Borough Council - Environmental Health Department	May 2000 September 2003	Not Applicable Not Applicable
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements City and County of Swansea - Planning Department Neath Port Talbot County Borough Council - Planning Department	January 2016 October 2015	Variable Variable
Planning Hazardous Substance Consents City and County of Swansea - Planning Department Neath Port Talbot County Borough Council - Planning Department	January 2016 October 2015	Variable Variable

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

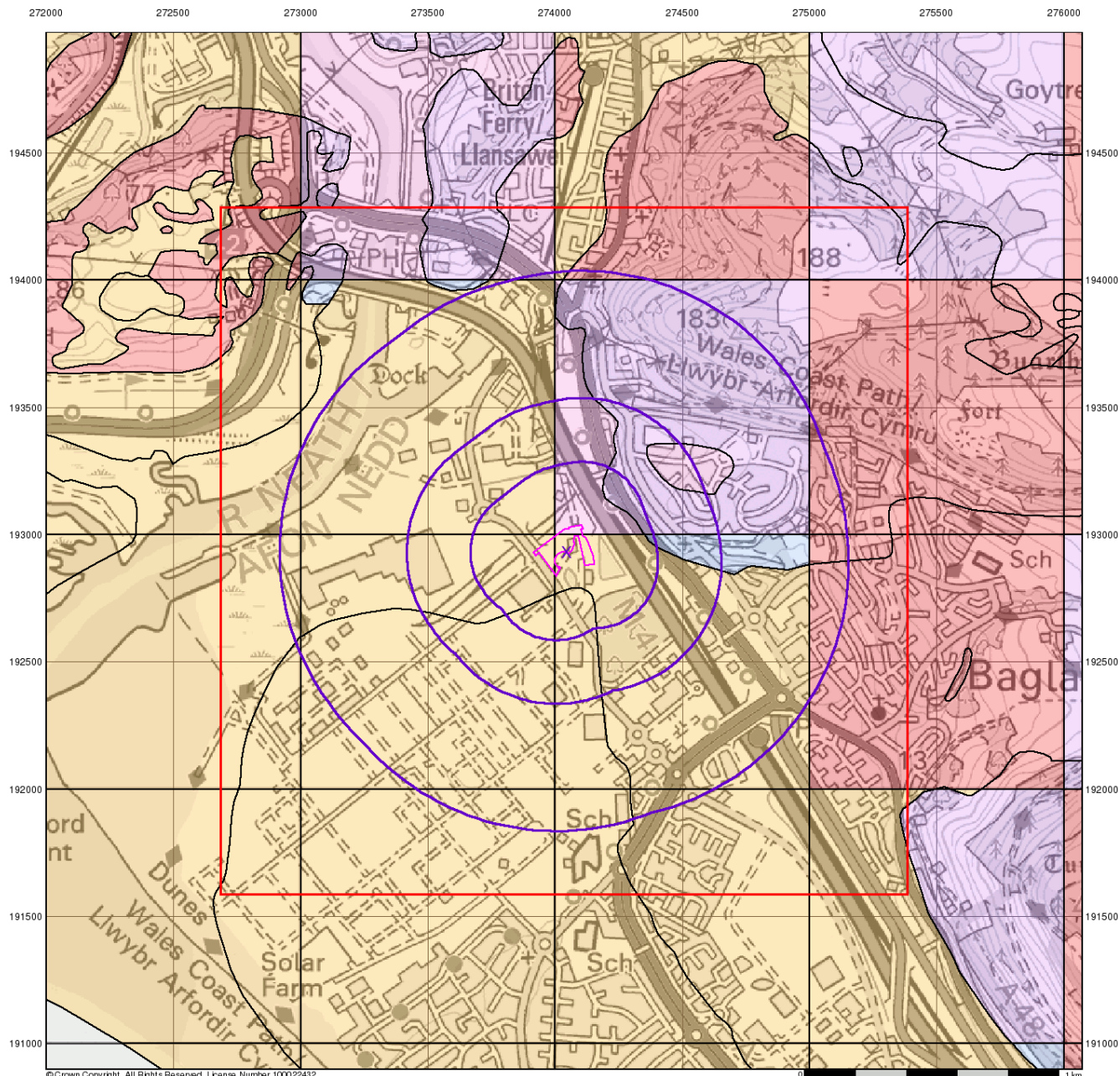
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	July 2019	Quarterly
Fuel Station Entries Catalist Ltd - Experian	September 2019	Quarterly
Gas Pipelines National Grid	July 2014	
Points of Interest - Commercial Services PointX	September 2019	Quarterly
Points of Interest - Education and Health PointX	September 2019	Quarterly
Points of Interest - Manufacturing and Production PointX	September 2019	Quarterly
Points of Interest - Public Infrastructure PointX	September 2019	Quarterly
Points of Interest - Recreational and Environmental PointX	September 2019	Quarterly
Underground Electrical Cables National Grid	December 2015	
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural Resources Wales	August 2018	Bi-Annually
Areas of Adopted Green Belt City and County of Swansea	March 2019	As notified
Areas of Outstanding Natural Beauty Natural Resources Wales	June 2019	Bi-Annually
Environmentally Sensitive Areas The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves City and County of Swansea Neath Port Talbot County Borough Council	August 2018 August 2018	Bi-Annually Bi-Annually
Marine Nature Reserves Natural Resources Wales	August 2018	Bi-Annually
National Nature Reserves Natural Resources Wales	June 2019	Bi-Annually
National Parks Natural Resources Wales	August 2018	Annually
Nitrate Vulnerable Zones Natural Resources Wales The National Assembly for Wales - GI Services (Department of Planning & Countryside)	July 2019 October 2005	Bi-Annually
Ramsar Sites Natural Resources Wales	July 2019	Bi-Annually
Sites of Special Scientific Interest Natural Resources Wales	March 2019	Bi-Annually
Special Areas of Conservation Natural Resources Wales	August 2018	Bi-Annually
Special Protection Areas Natural Resources Wales	August 2018	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Neath Port Talbot County Borough Council - Environmental Health Department Room 322, Neath Civic Centre, Neath, West Glamorgan, SA11 3QZ	Telephone: 01639 763333 Fax: 01693 763444 Website: www.neath-porttalbot.gov.uk
3	Natural Resources Wales Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
4	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	Health and Safety Executive 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
7	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
8	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk
10	Neath Port Talbot County Borough Council Civic Centre, Port Talbot, West Glamorgan, SA13 1PJ	Telephone: 01639 763333 Fax: 01693 763444 Website: www.neath-porttalbot.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Groundwater Vulnerability

General

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

Agency and Hydrological

Bedrock Aquifers

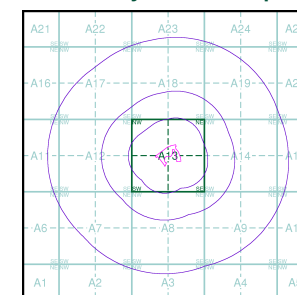
- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Superficial Aquifers

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

- Unproductive Aquifer
- Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

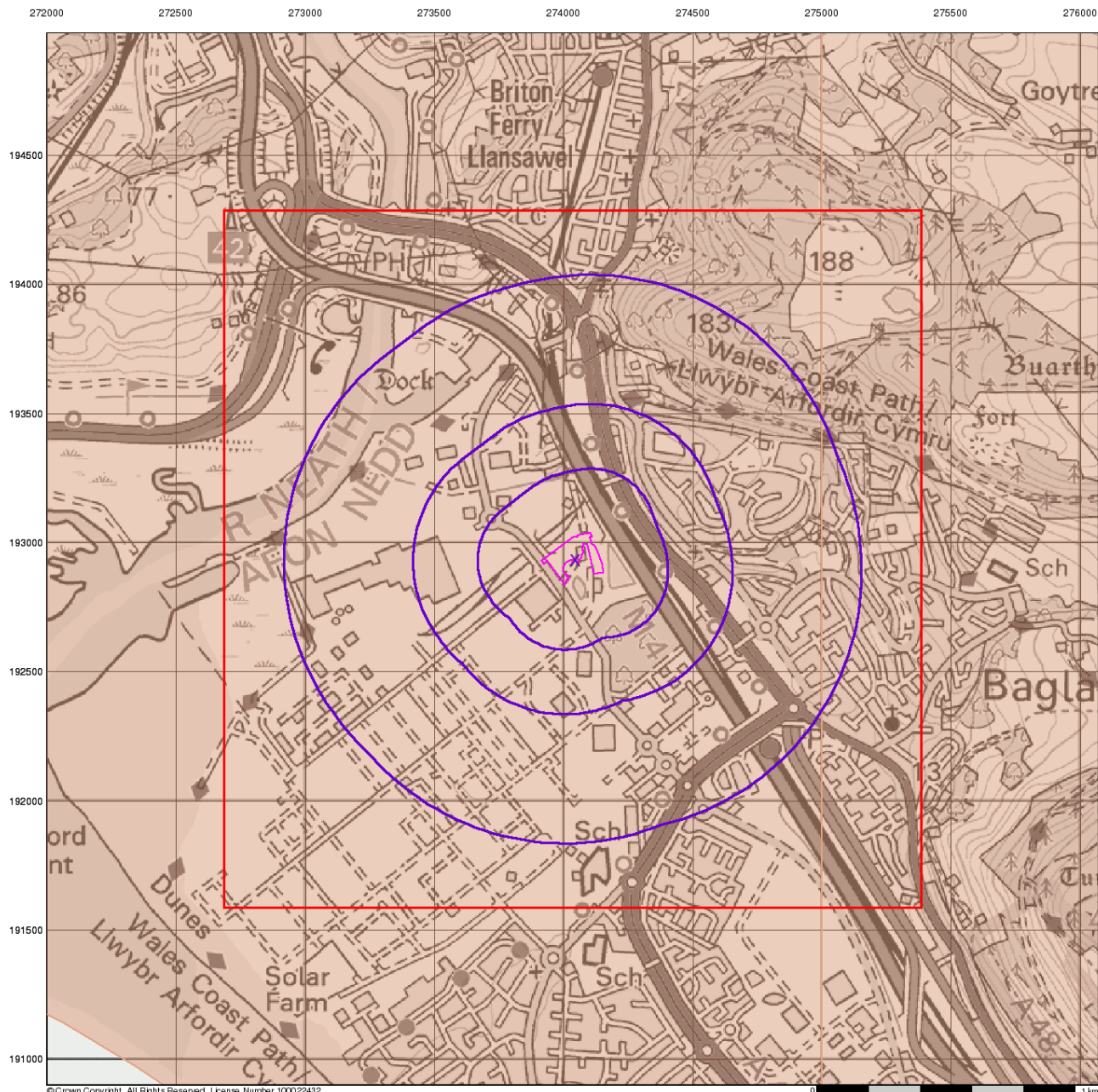
Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

0 1 km

Hydrock

Bedrock Aquifer Designation

General

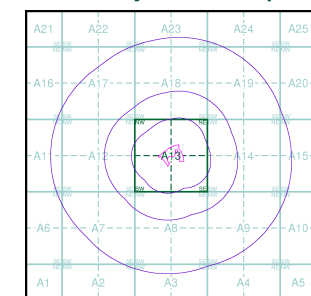
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

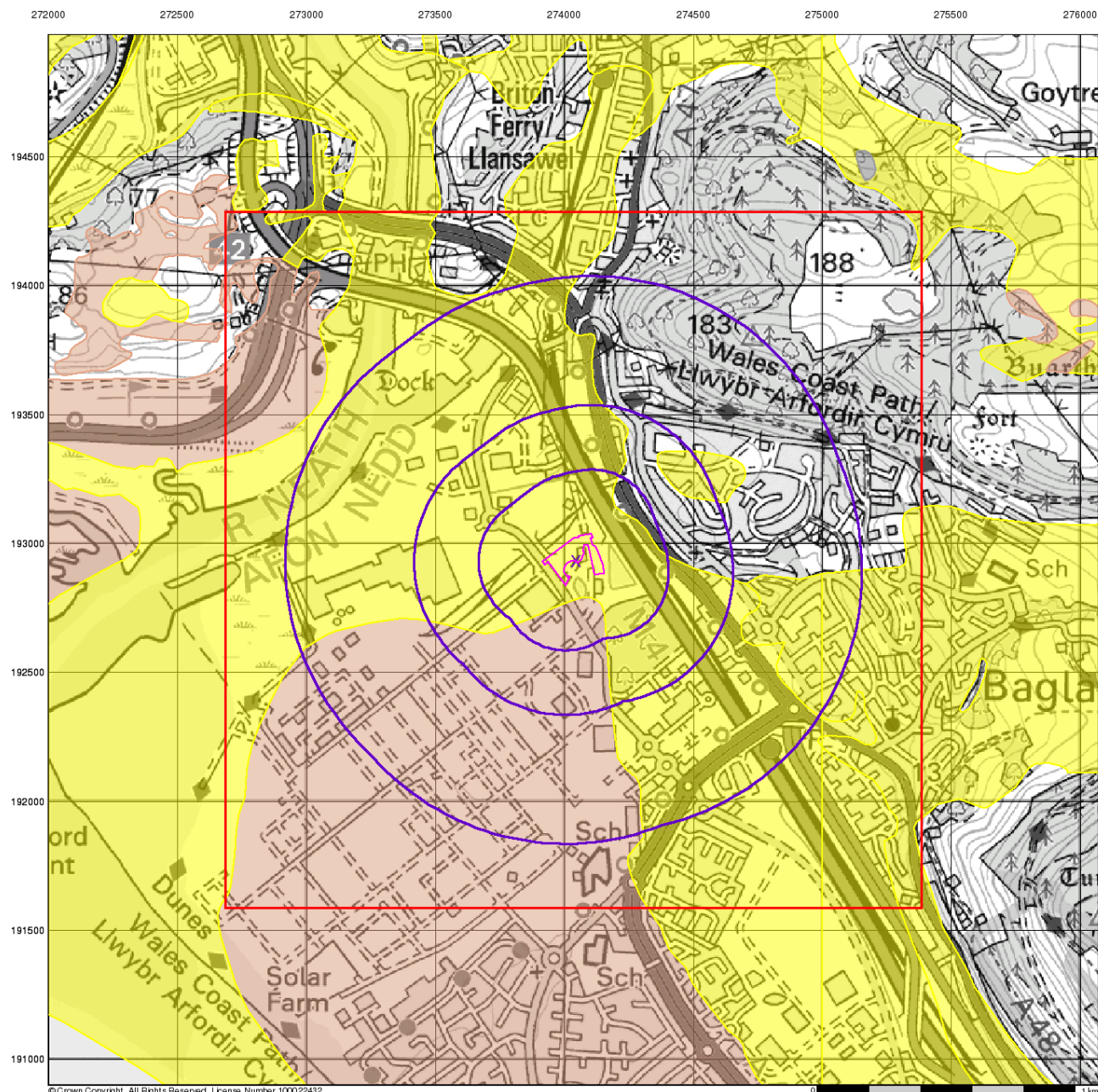
Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Superficial Aquifer Designation

General

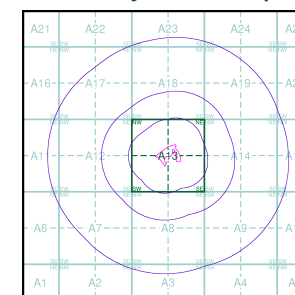
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

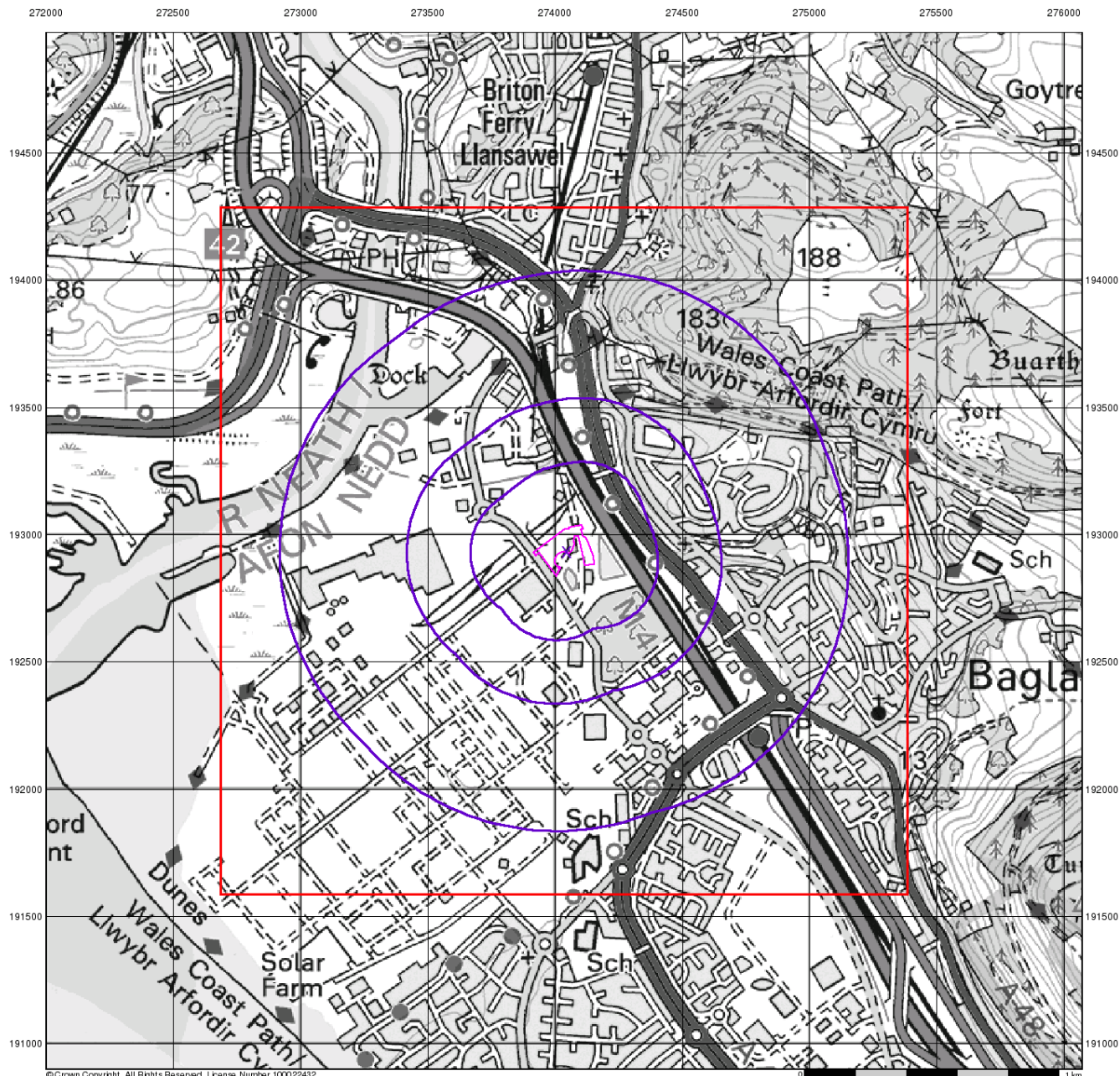
Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Source Protection Zones

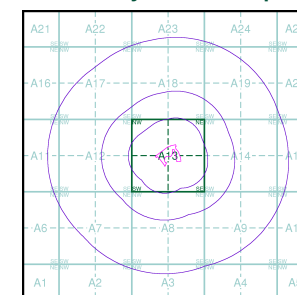
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

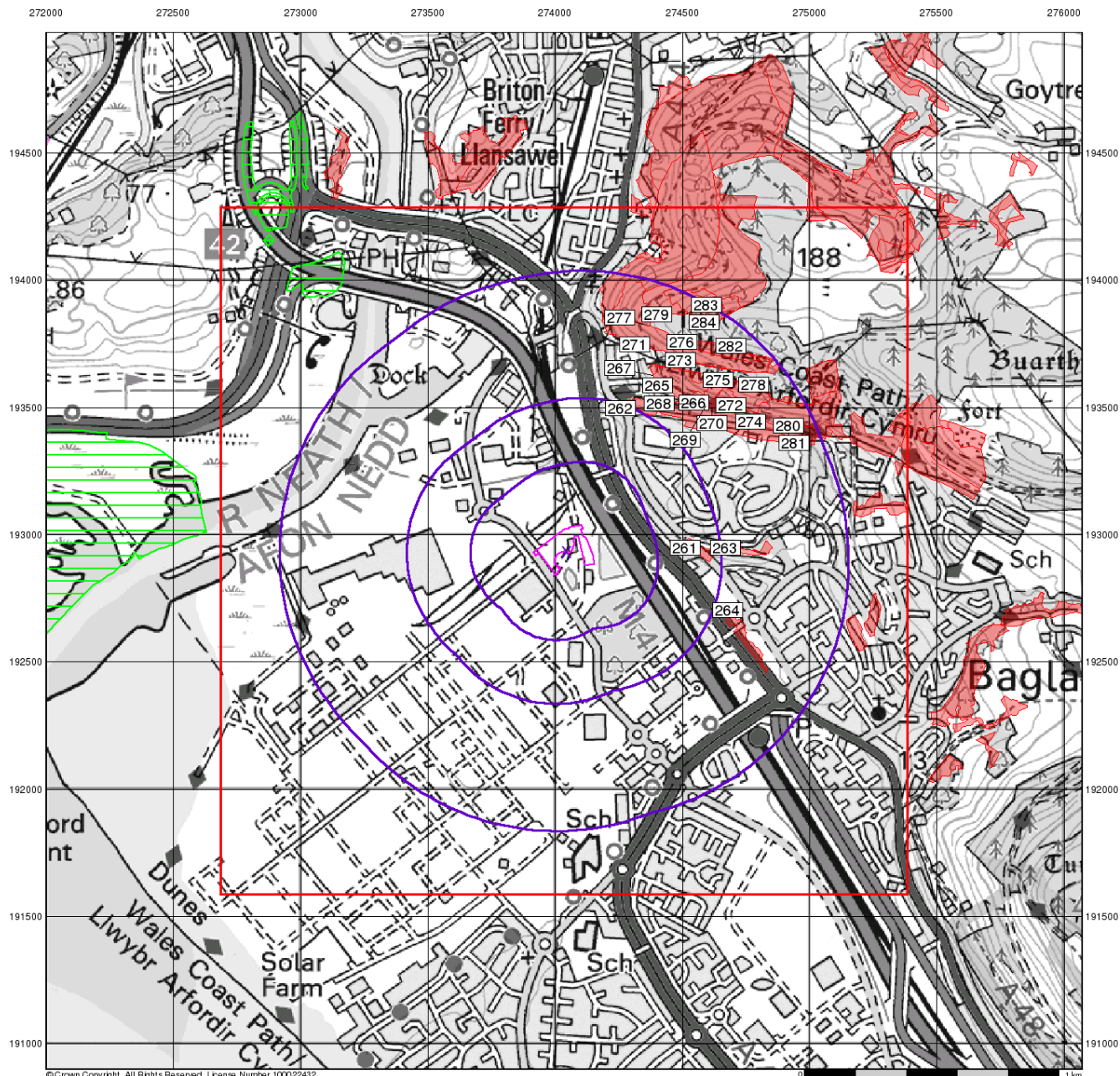
Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Sensitive Land Uses

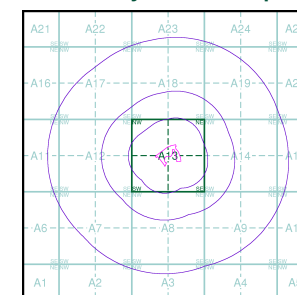
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

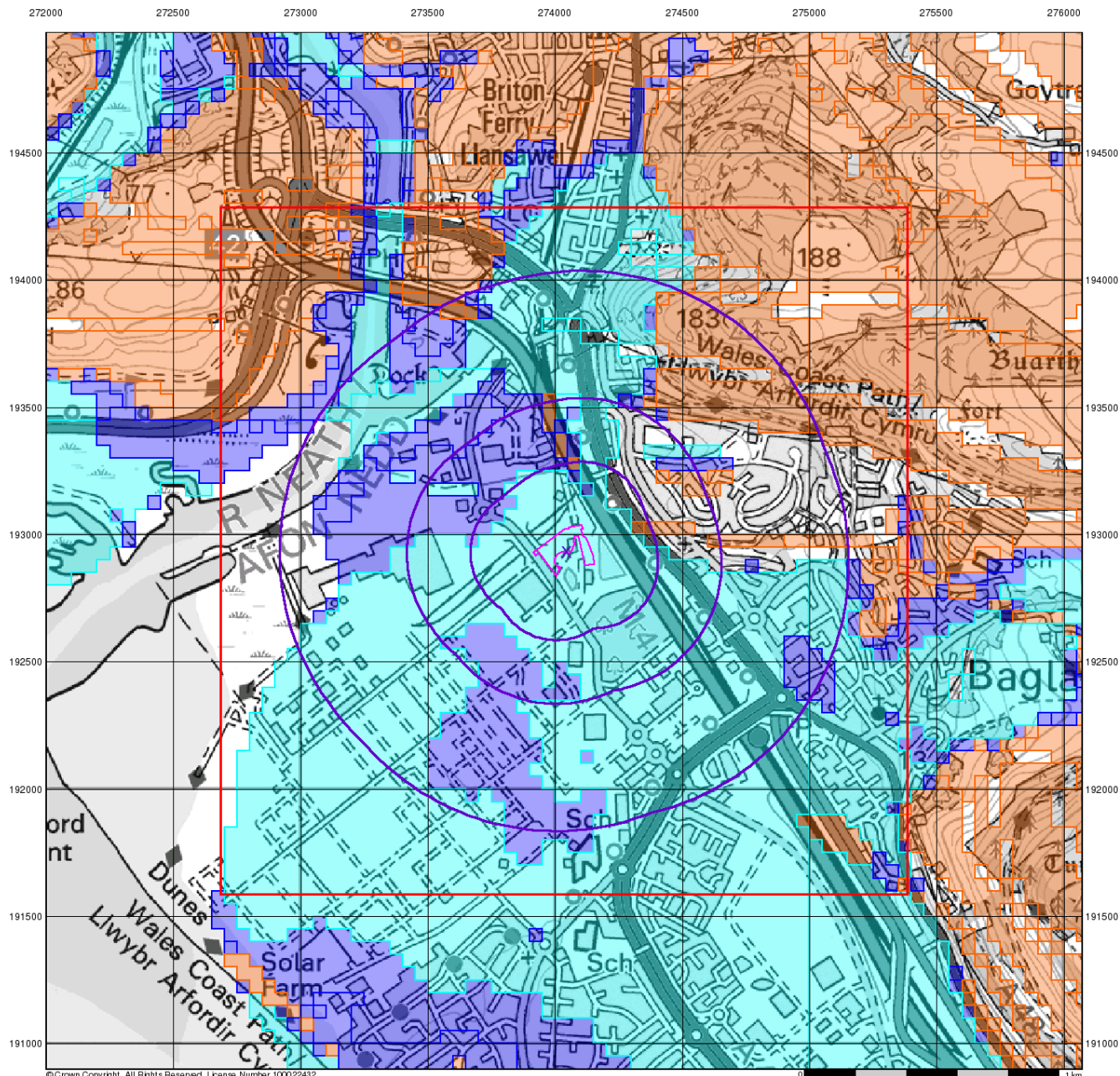
Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

BGS Flood GFS Data

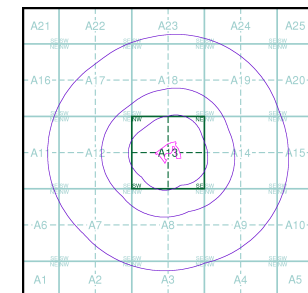
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

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

Superficial Geology

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

Bedrock and Faults

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

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

Hydrock

Geology 1:50,000 Maps

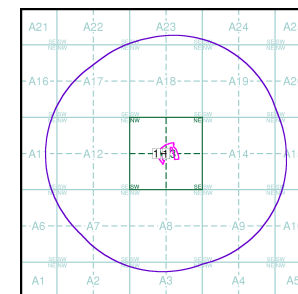
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published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

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	247
Map Name:	Swansea
Map Date:	2011
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A

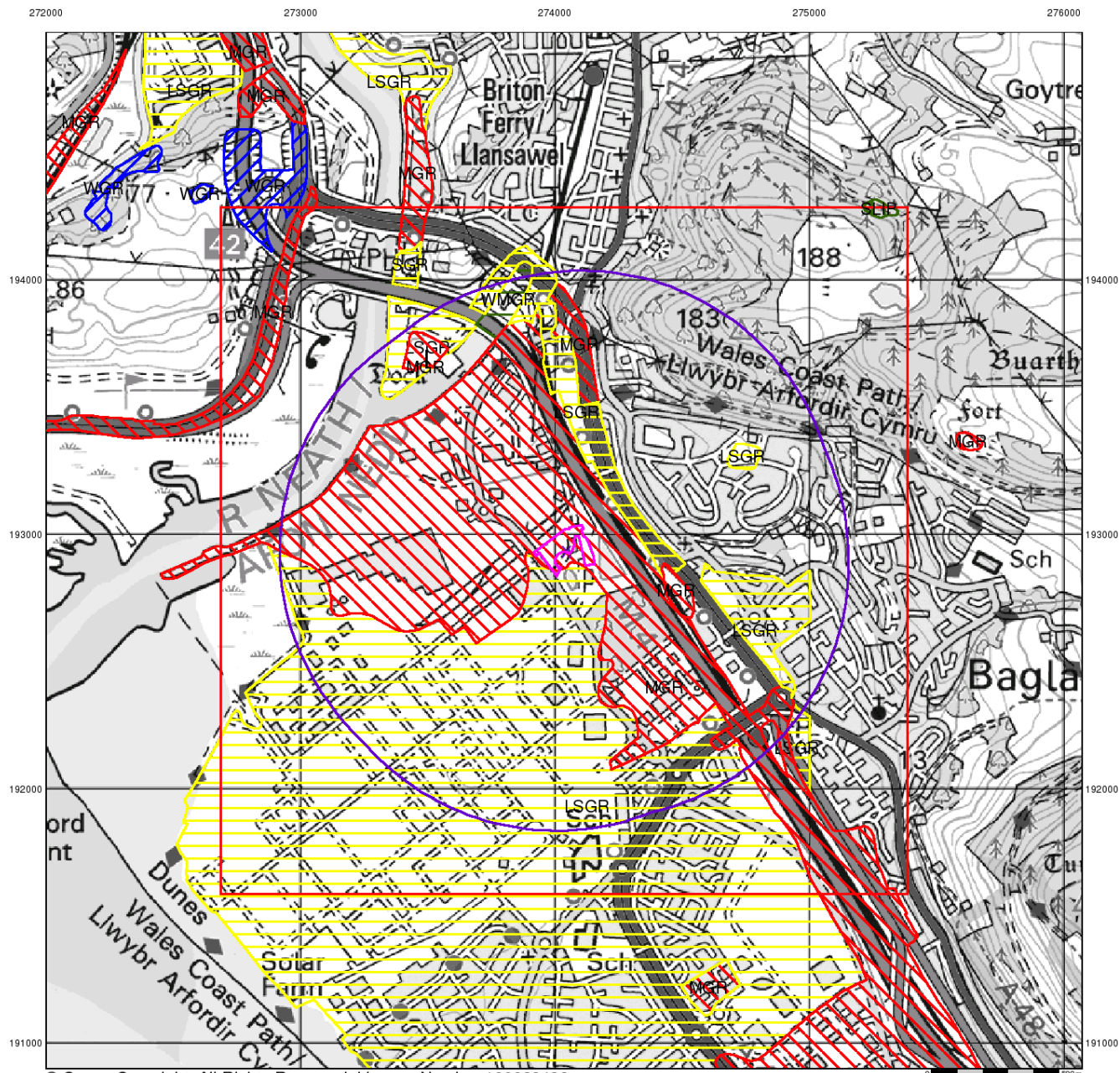


Order Details:

Order Number:	224161277_1_1
Customer Reference:	C-11852-C
National Grid Reference:	274040, 192930
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details:

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Artificial Ground and Landslip

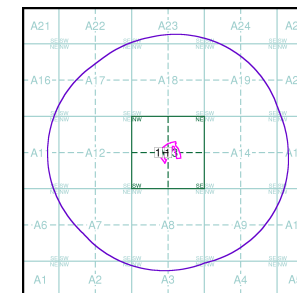
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 224161277_1_1
 Customer Reference: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details:

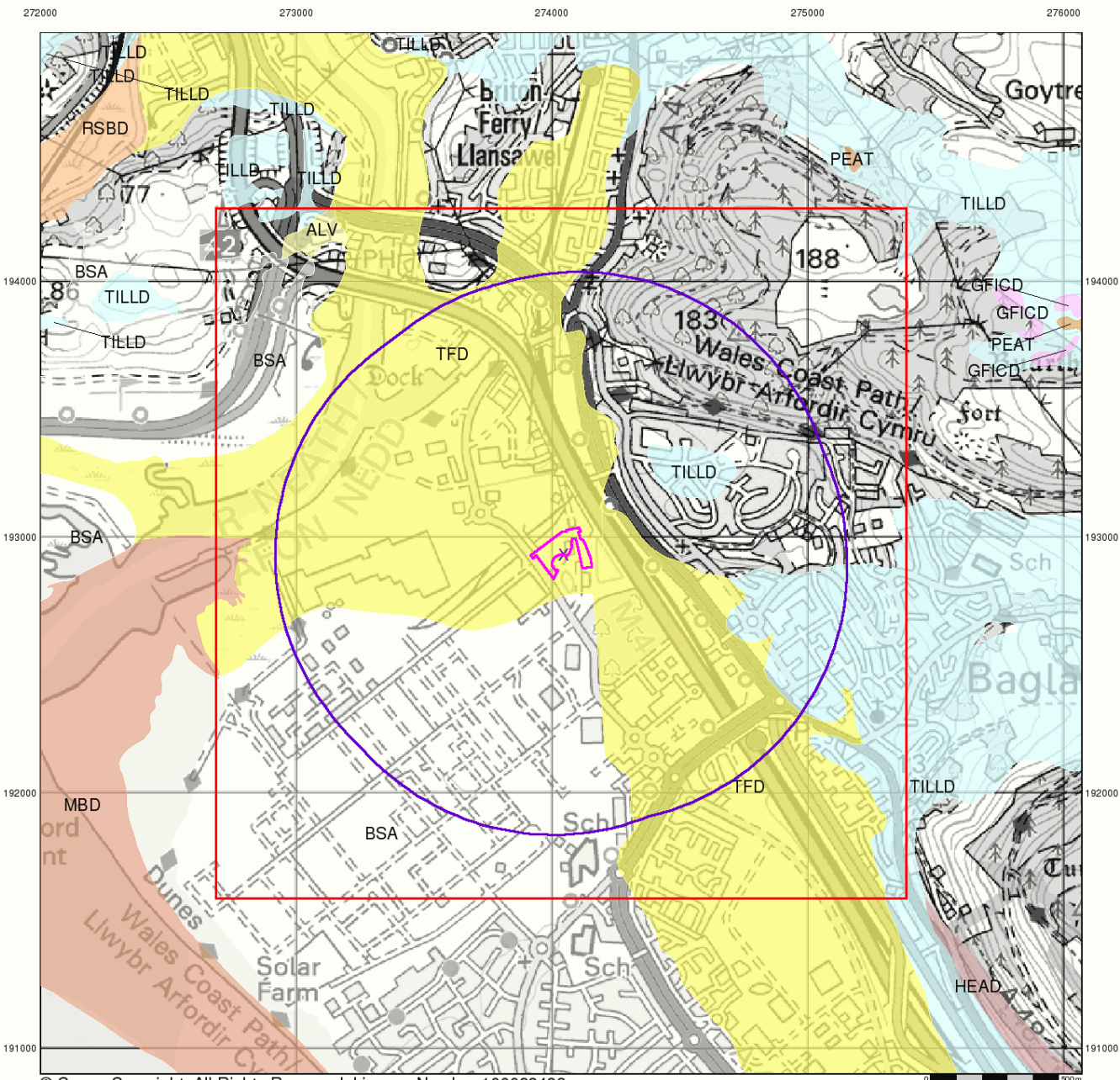
Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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

v15.0 07-Nov-2019

Page 2 of 5



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

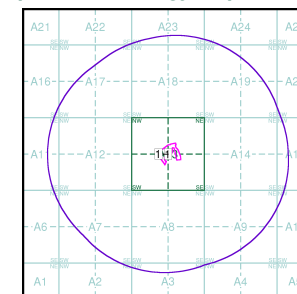
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



Order Details:

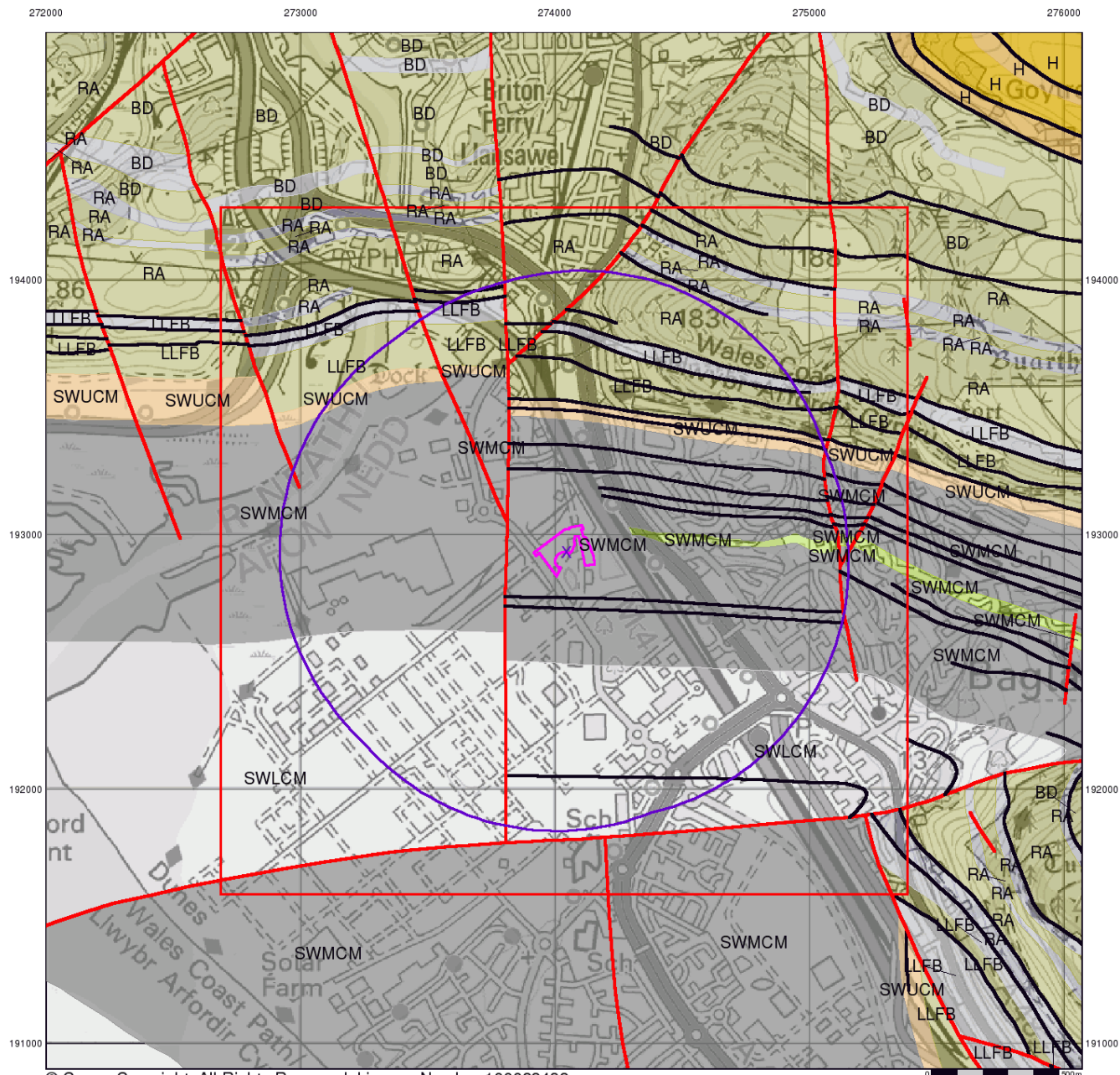
Order Number: 224161277_1_1
 Customer Reference: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details:

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Bedrock and Faults

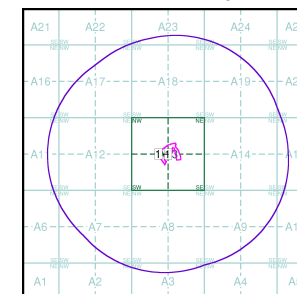
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



Order Details:

Order Number: 224161277_1_1
 Customer Reference: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details:

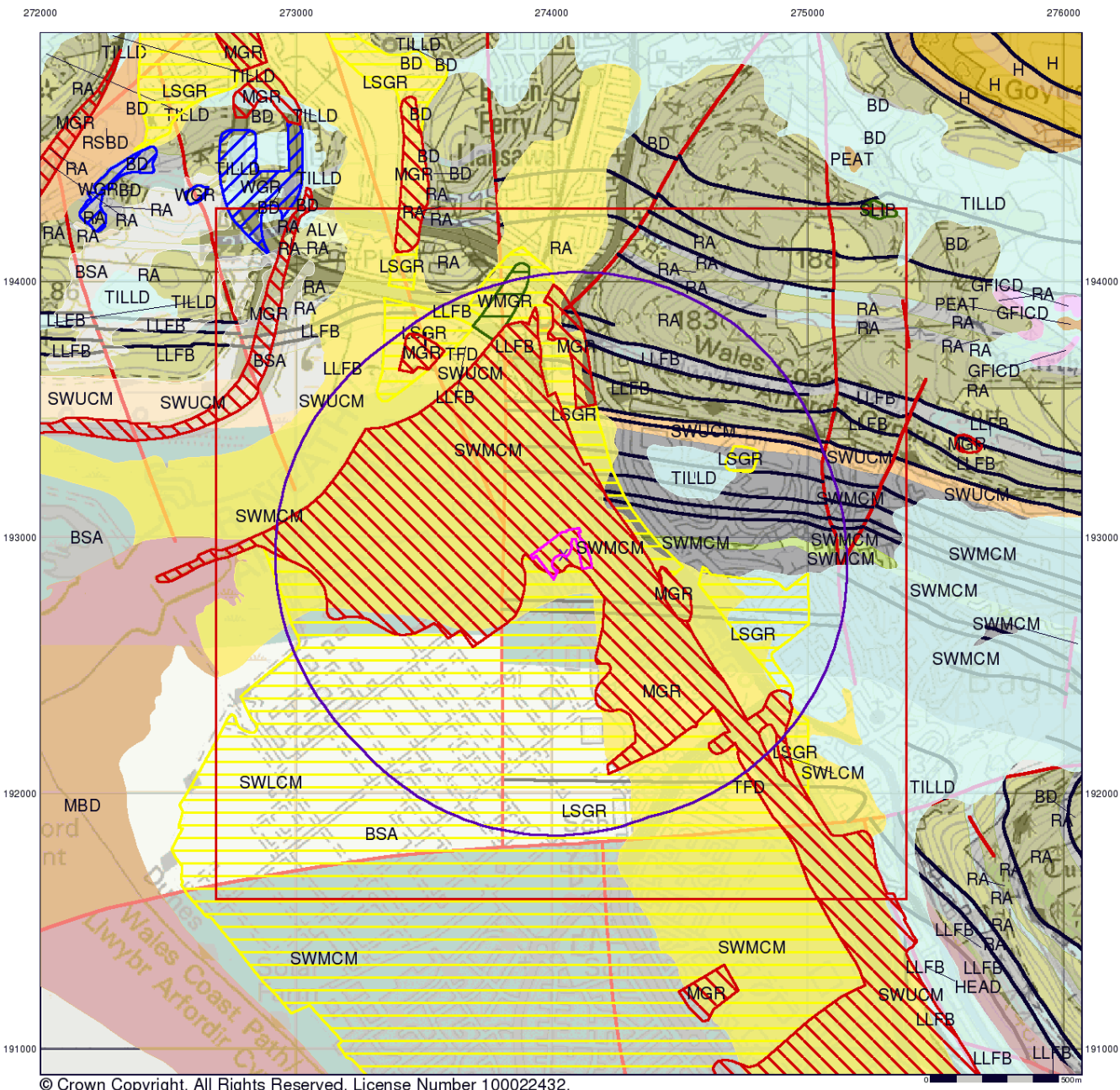
Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

Landmark
 INFORMATION GROUP

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

v15.0 07-Nov-2019

Page 4 of 5



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Combined Surface Geology

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

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

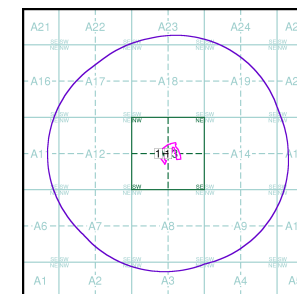
Additional Information

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

Contact

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

Combined Geology Map - Slice A



Order Details:

Order Number: 224161277_1_1
Customer Reference: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details:

Swansea Bay Energy Centre, Central Avenue, BAGLAN ENERGY PARK, SA12 7AX

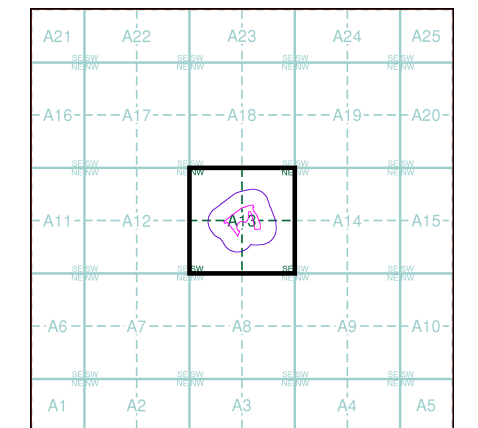
Landmark
INFORMATION GROUP

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

General

- | | |
|---|---|
| <ul style="list-style-type: none"> Specified Site Specified Buffer(s) Several of Types at Location Contaminated Land Register Entry or Notice (Location) Discharge Consent Enforcement or Prohibition Notice Integrated Pollution Control Integrated Pollution Prevention Control Local Authority Integrated Pollution Prevention and Control Local Authority Pollution Prevention and Control Enforcement Pollution Incident to Controlled Waters Prosecution Relating to Authorised Processes Prosecution Relating to Controlled Waters Registered Radioactive Substance River Network or Water Feature River Quality Sampling Point Substantiated Pollution Incident Register Water Abstraction Water Industry Act Referral | <ul style="list-style-type: none"> Bearing Reference Point Overhead Transmission Line BGS Recorded Landfill Site (Location) EA Historic Landfill (Buffered Point) EA Historic Landfill (Polygon) Integrated Pollution Control Registered Waste Site Licensed Waste Management Facility (Landfill Boundary) Licensed Waste Management Facility (Location) Local Authority Recorded Landfill Site (Location) Local Authority Recorded Landfill Site Potentially Infilled Land (Non-water) Potentially Infilled Land (Non-water) Potentially Infilled Land (Water) Potentially Infilled Land (Water) Potentially Infilled Land (Water) Registered Landfill Site Registered Landfill Site (Location) Registered Landfill Site (Point Buffered to 100m) Registered Landfill Site (Point Buffered to 250m) Registered Waste Transfer Site (Location) Registered Waste Transfer Site Registered Waste Treatment or Disposal Site (Location) Registered Waste Treatment or Disposal Site |
|---|---|
- ## Agency and Hydrological
- ## Waste
- ## 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

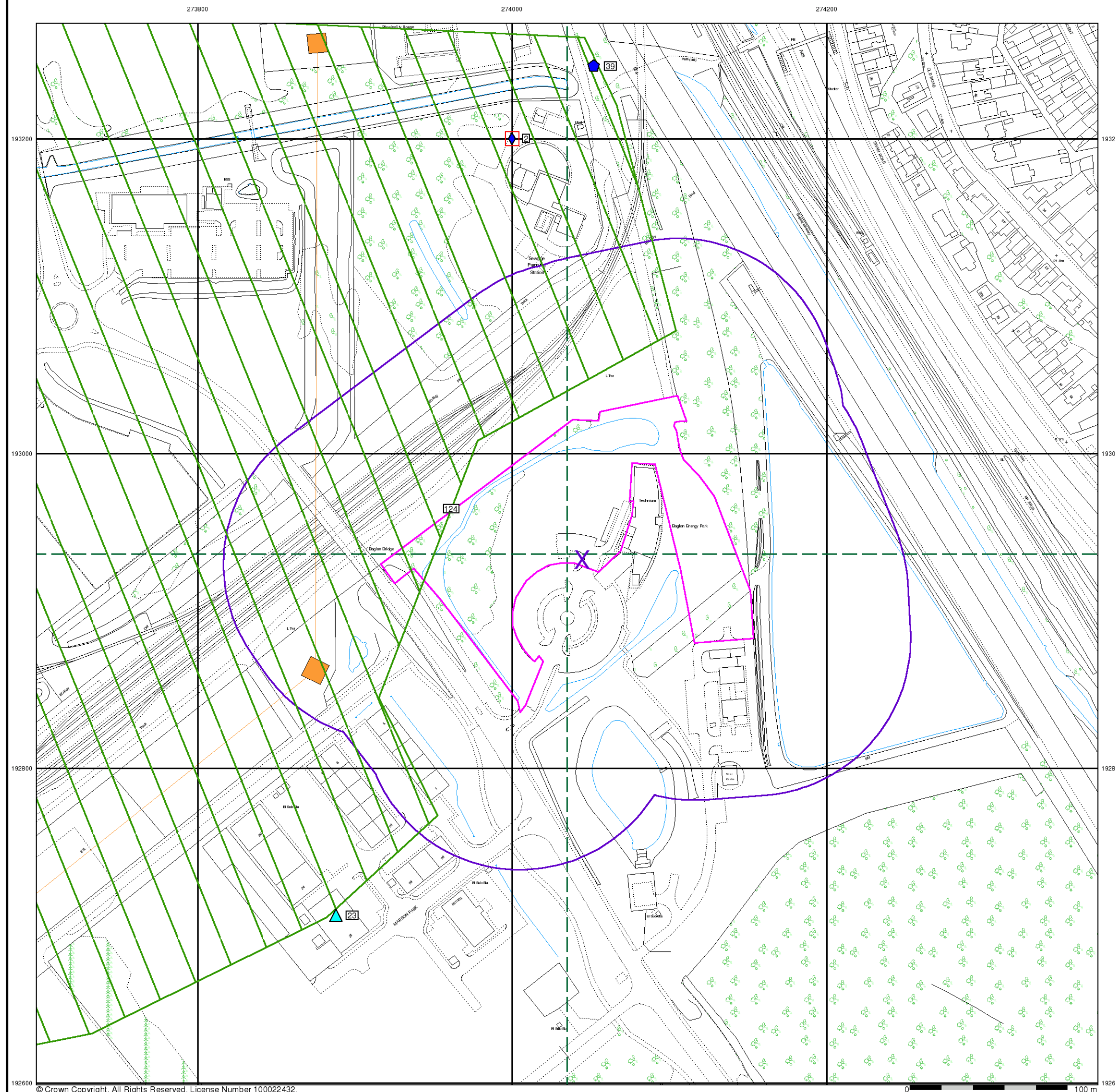


Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Plot Buffer (m): 100

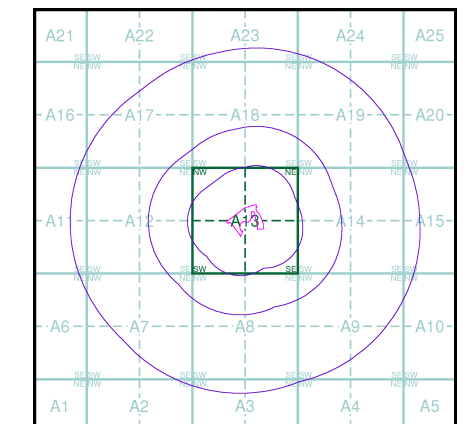
Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX



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

Site Sensitivity Map - Slice A

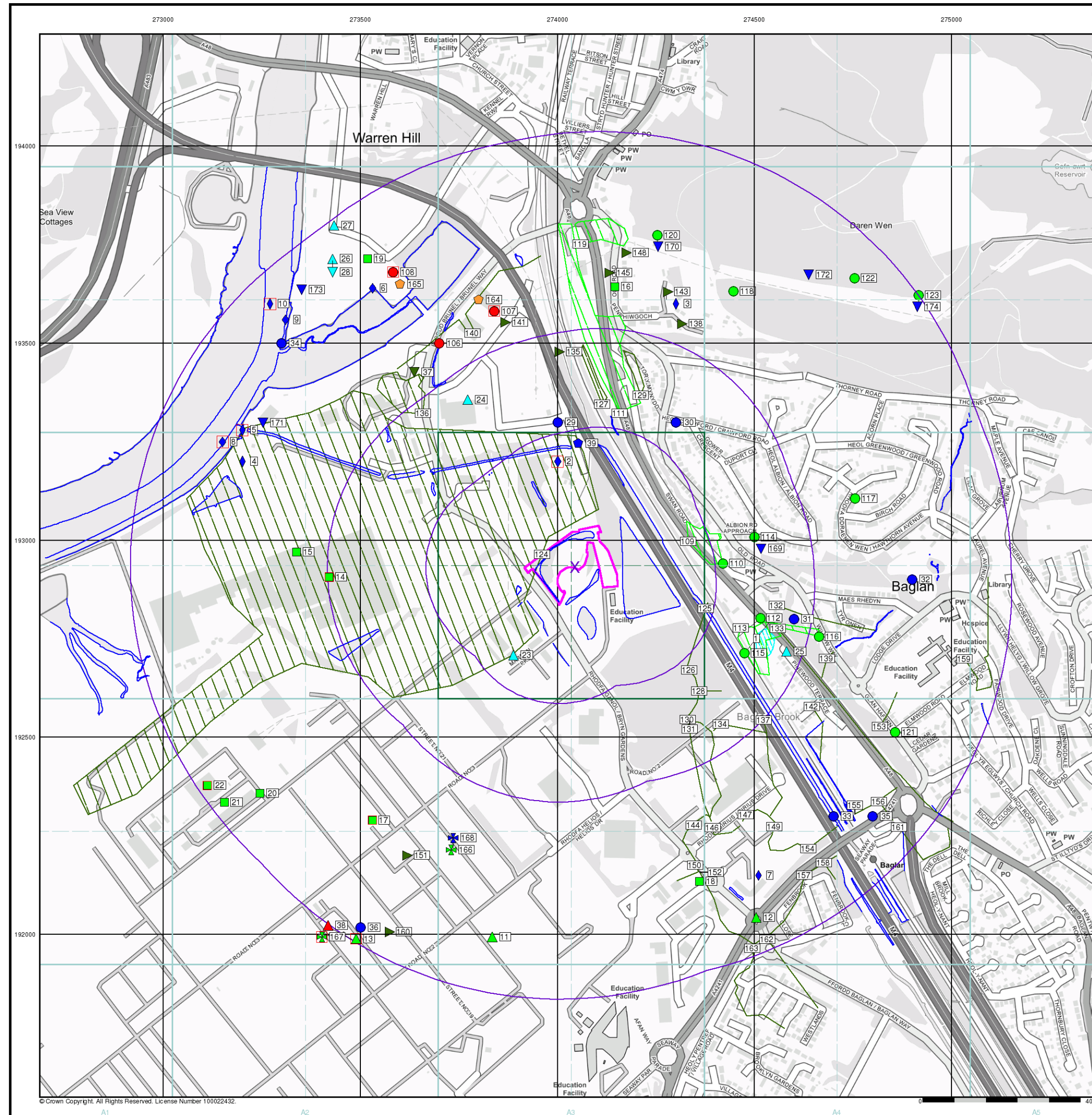


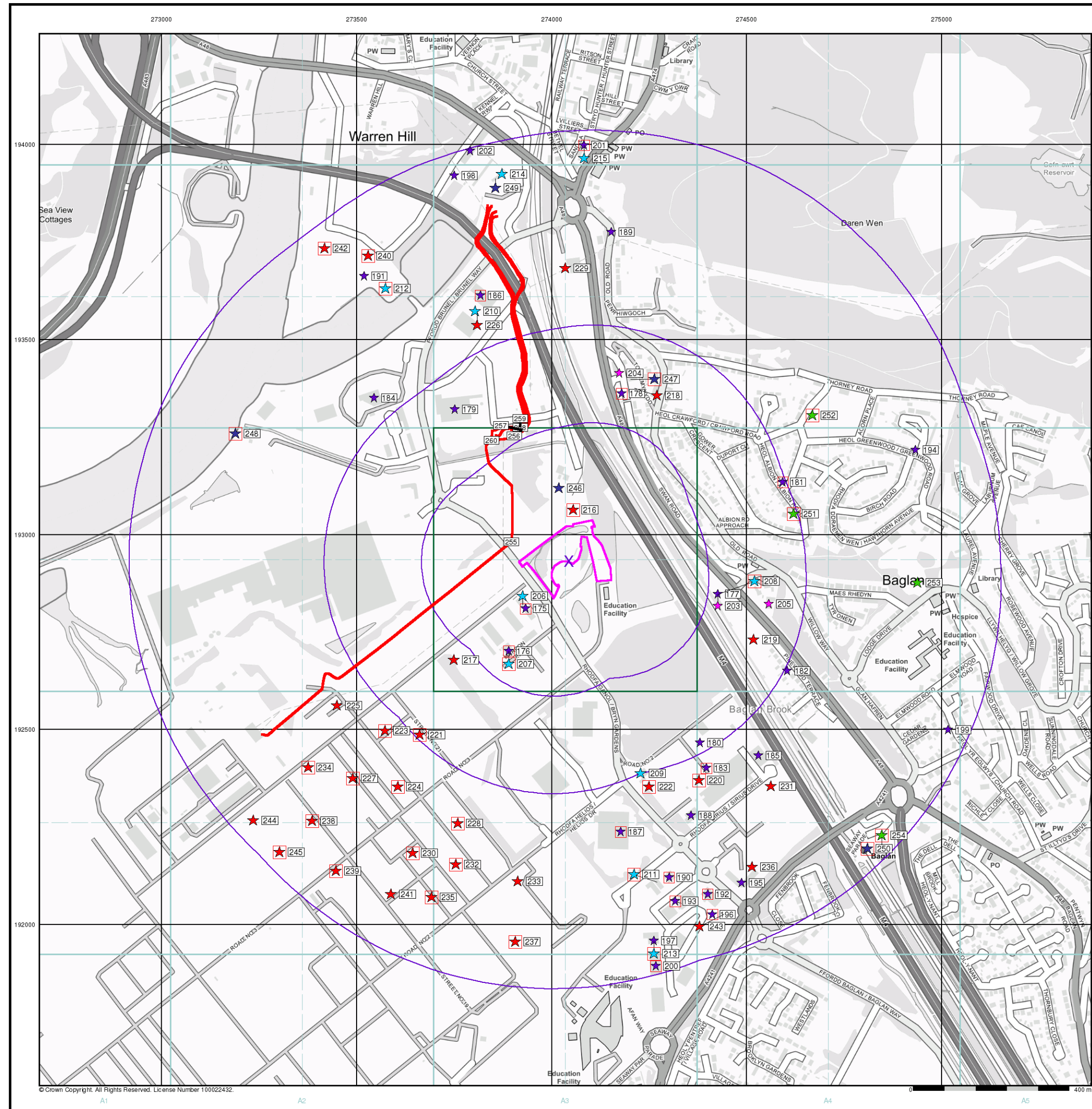
Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX





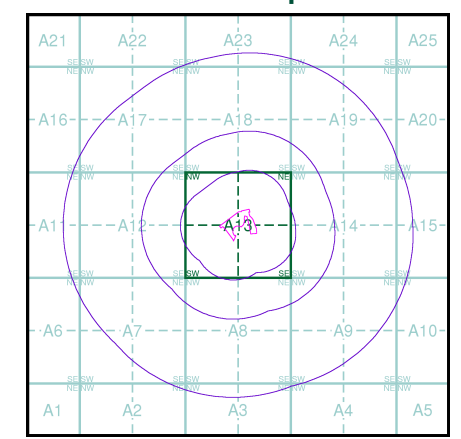
© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

Industrial Land Use Map

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Slice
 - Map ID
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry
 - Gas Pipeline
 - Points of Interest - Commercial Services
 - Points of Interest - Education and Health
 - Points of Interest - Manufacturing and Production
 - Points of Interest - Public Infrastructure
 - Points of Interest - Recreational and Environmental
 - Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

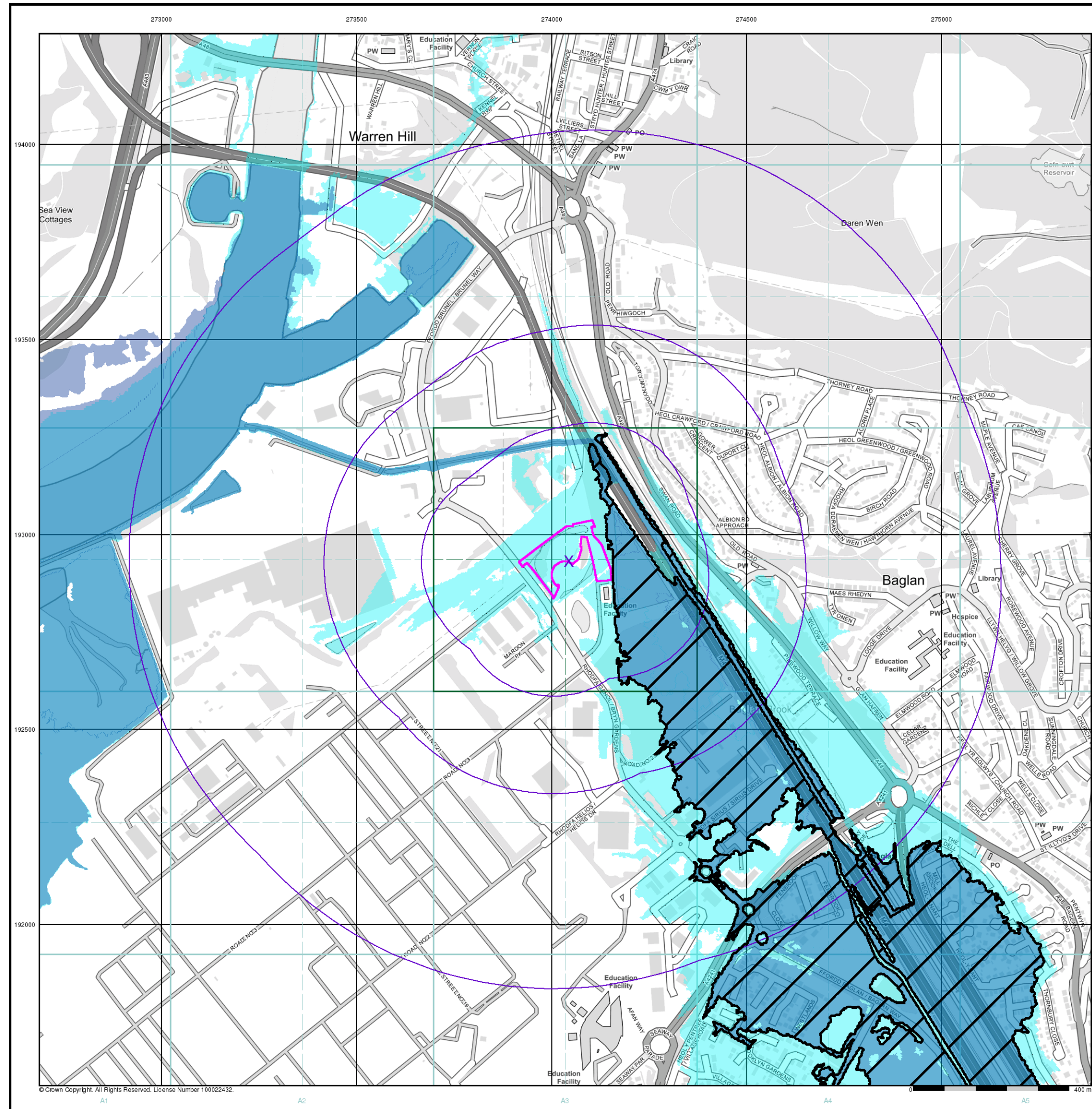
Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

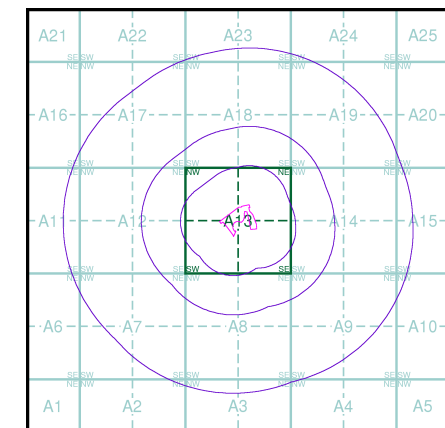
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



Order Details

Order Number: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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

General

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

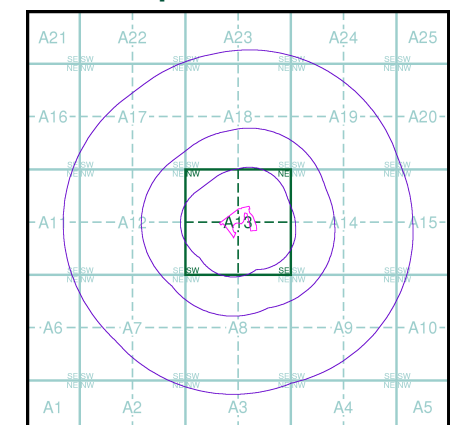
Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A

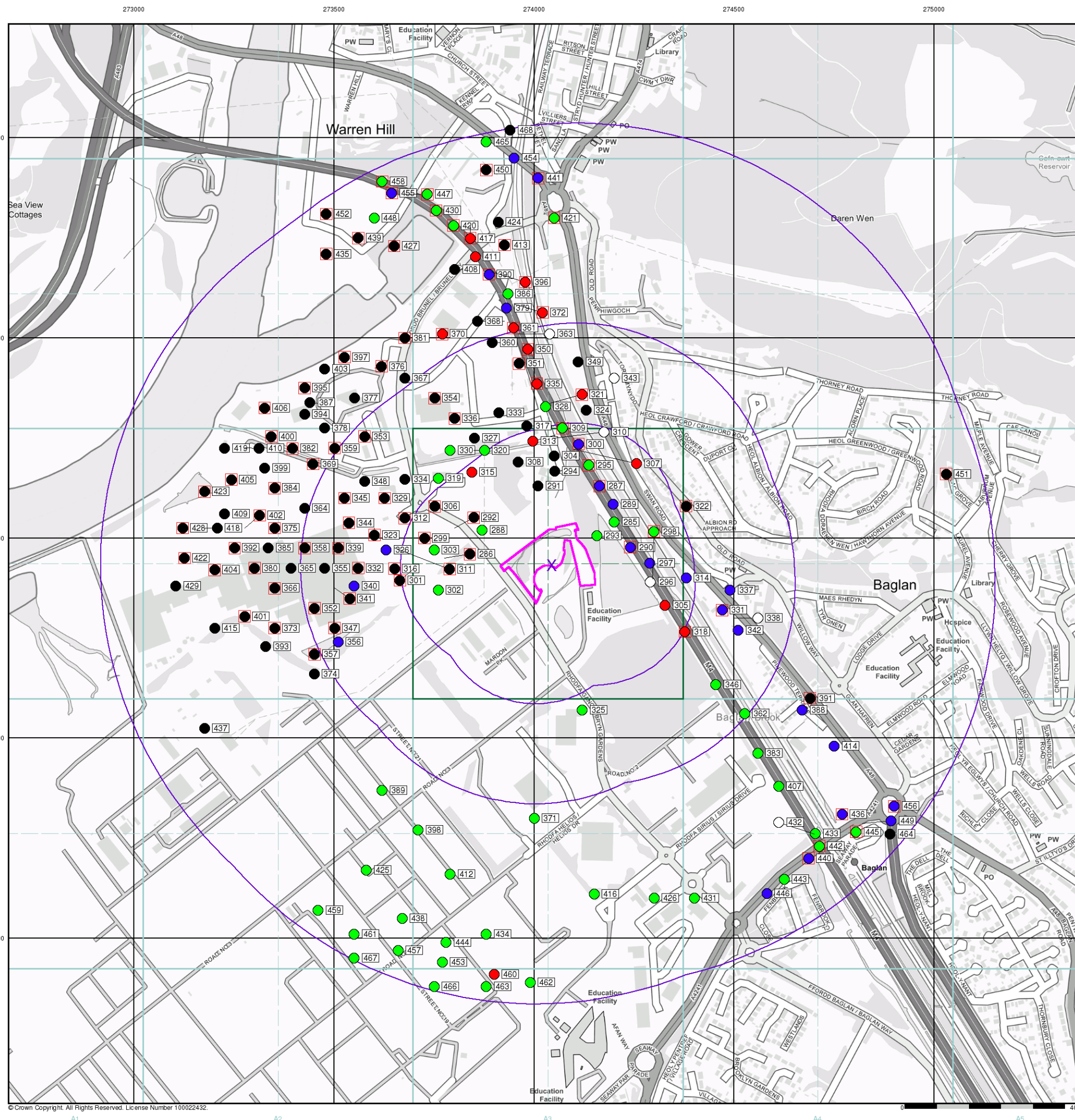


Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX



General

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

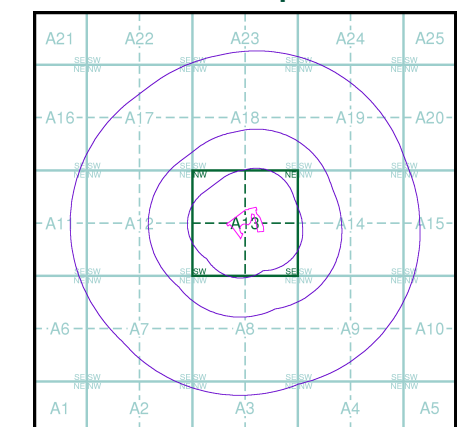
OS Water Network Data

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

Contours (height in meters)

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

OS Water Network Map - Slice A

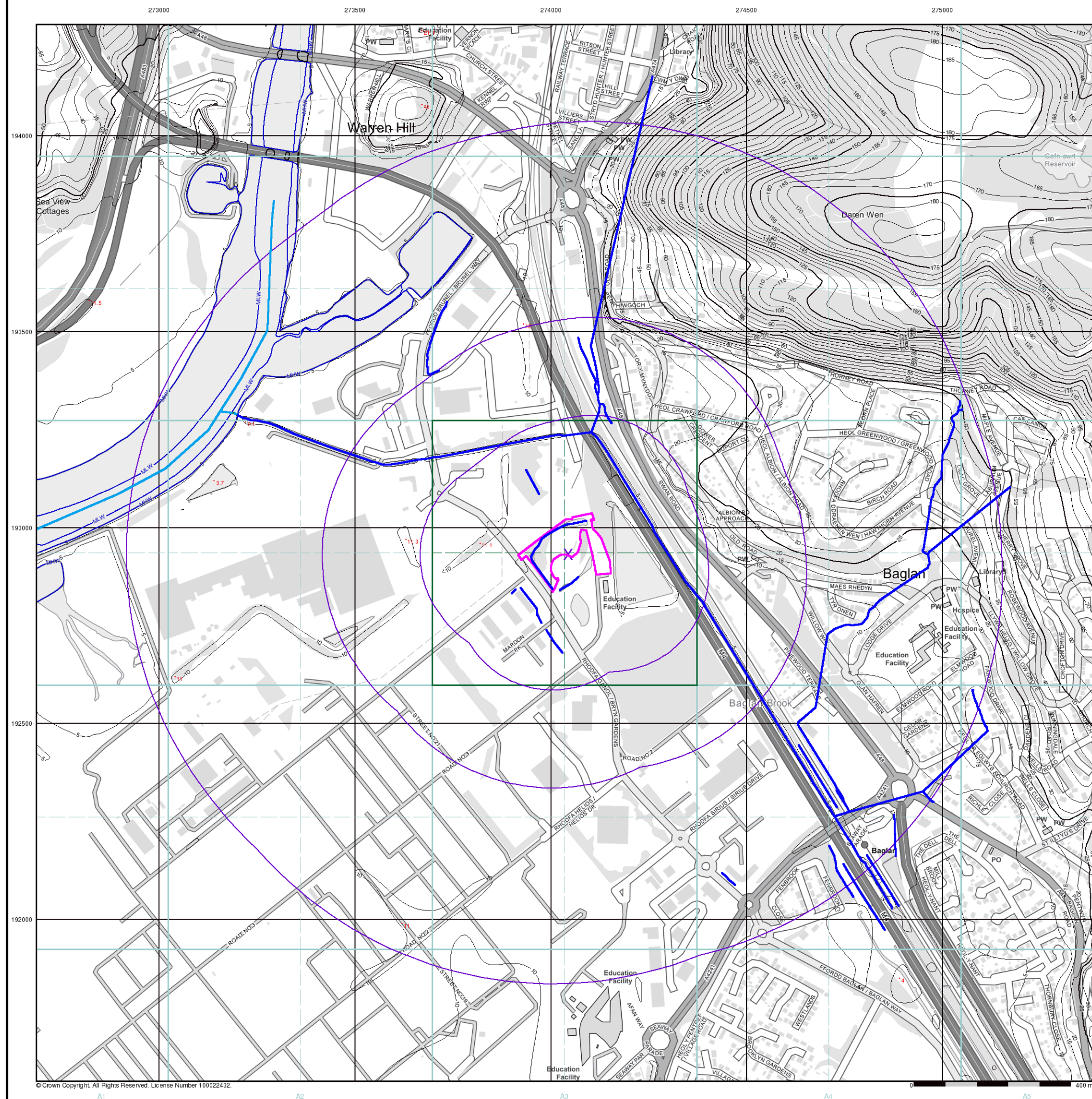


Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX



General

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

Risk of Flooding from Surface Water

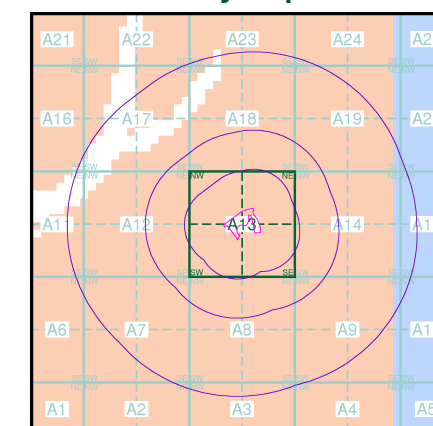
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EANRW Suitability Map - Slice A

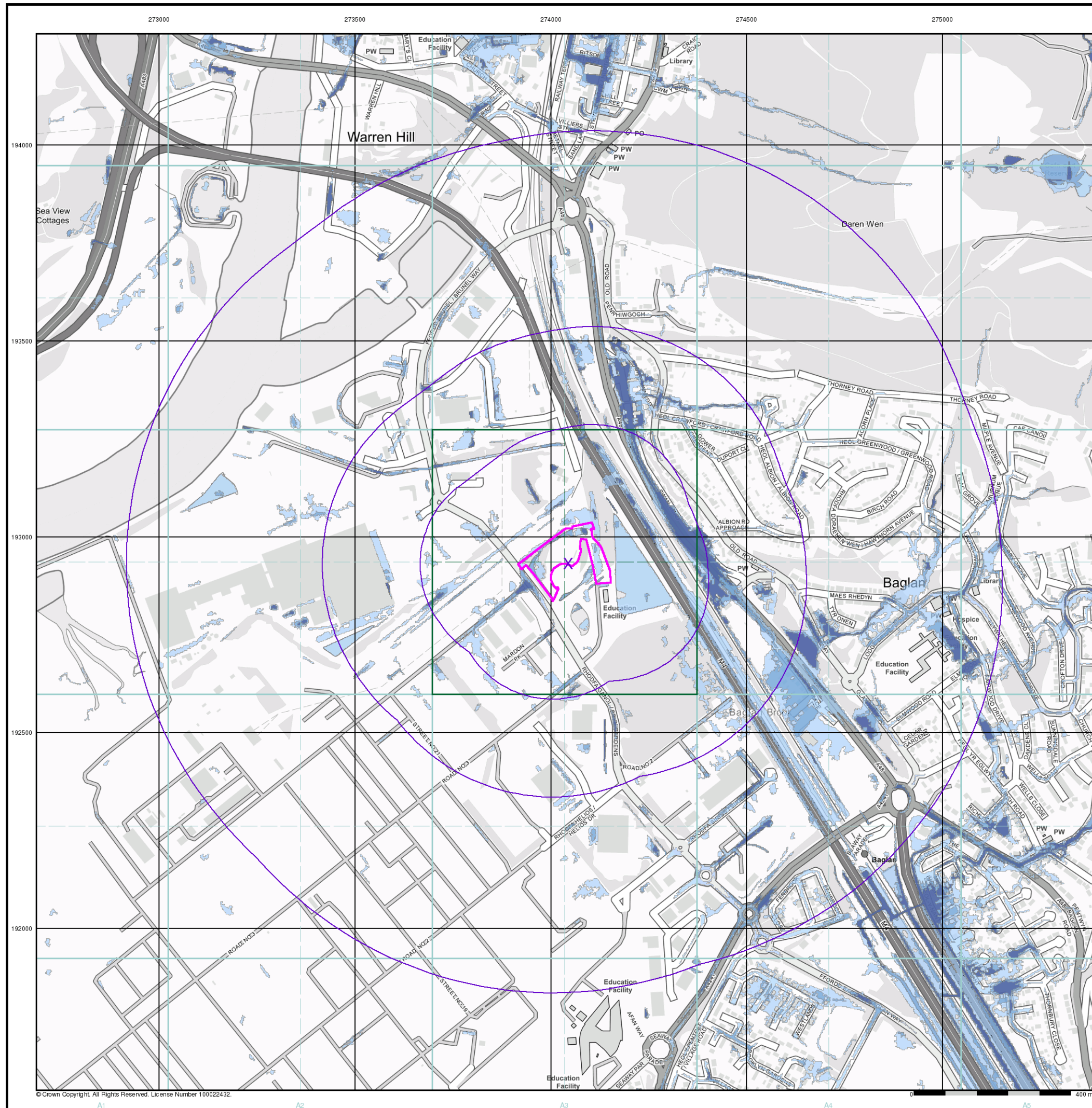


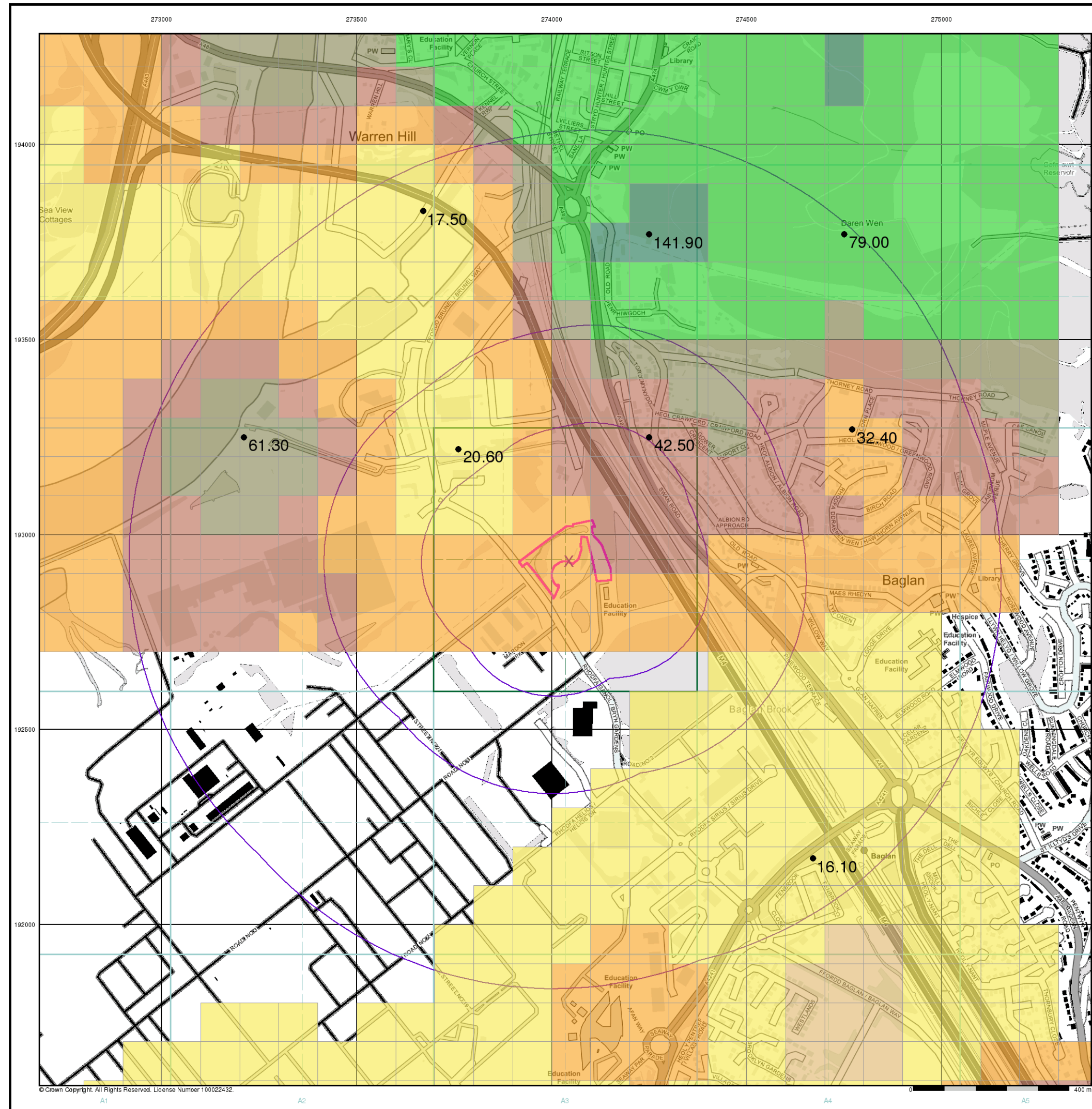
Order Details

Order Number: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search Buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX





© Crown Copyright. All Rights Reserved. License Number 100022432.



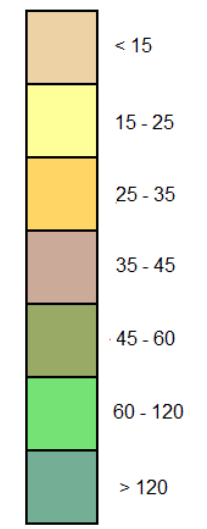
General

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

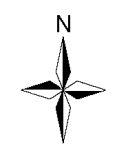
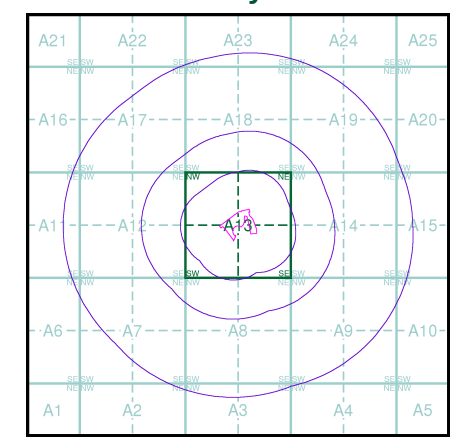
Urban Soil Chemistry Arsenic

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

Arsenic Concentrations mg/kg



Urban Soil Chemistry Arsenic - Slice A



Order Details

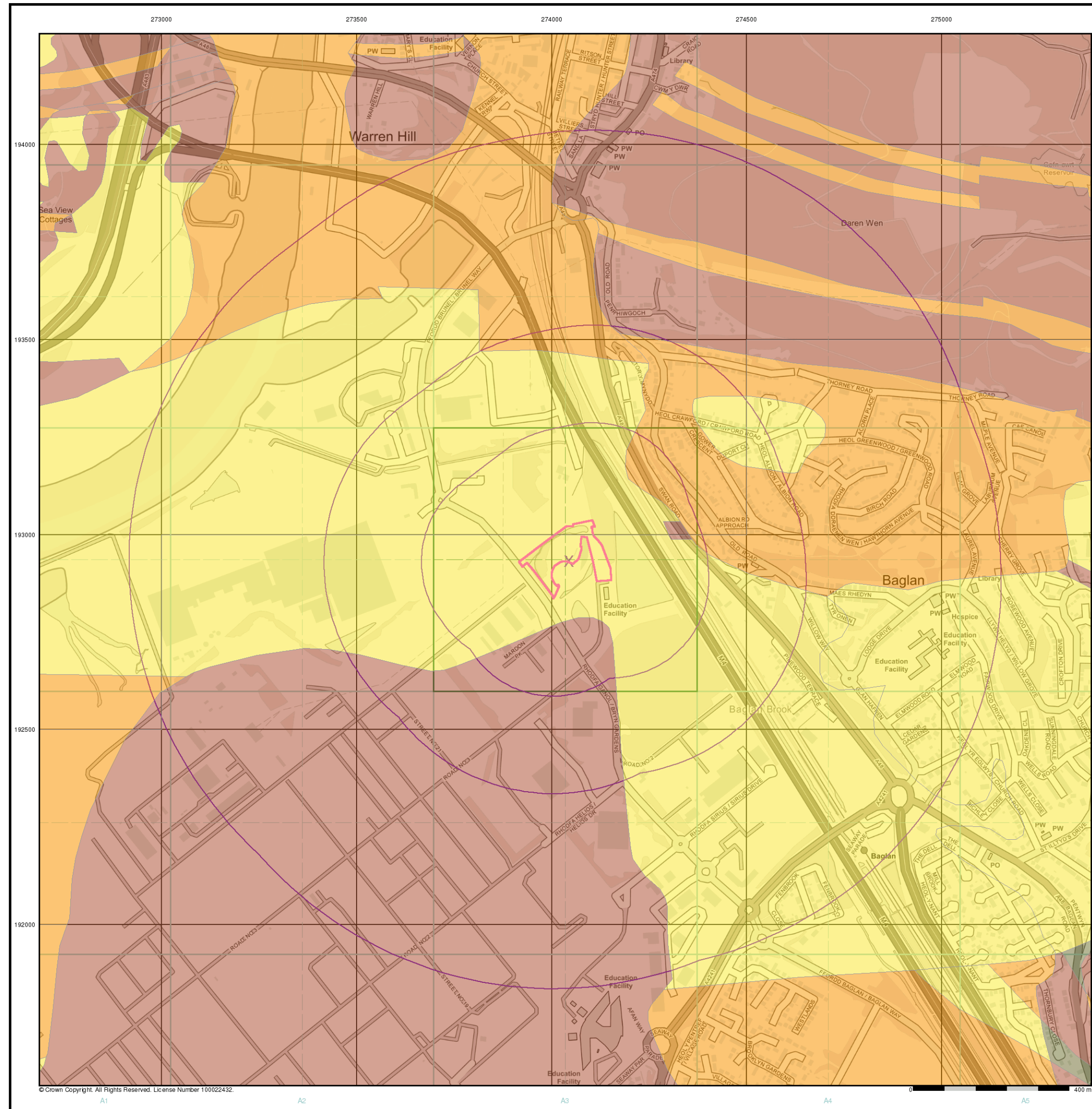
Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



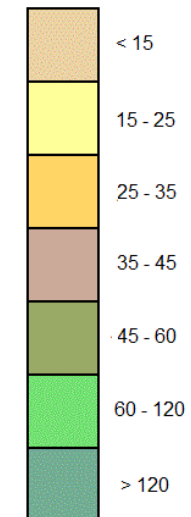
Hydrock

General

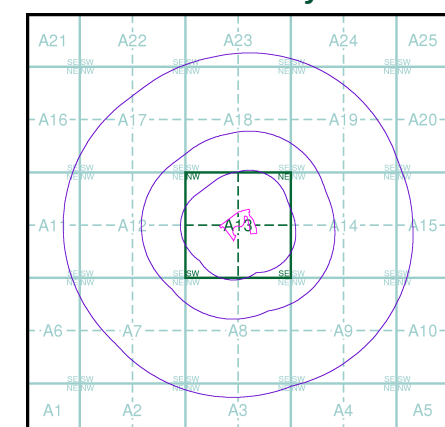
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

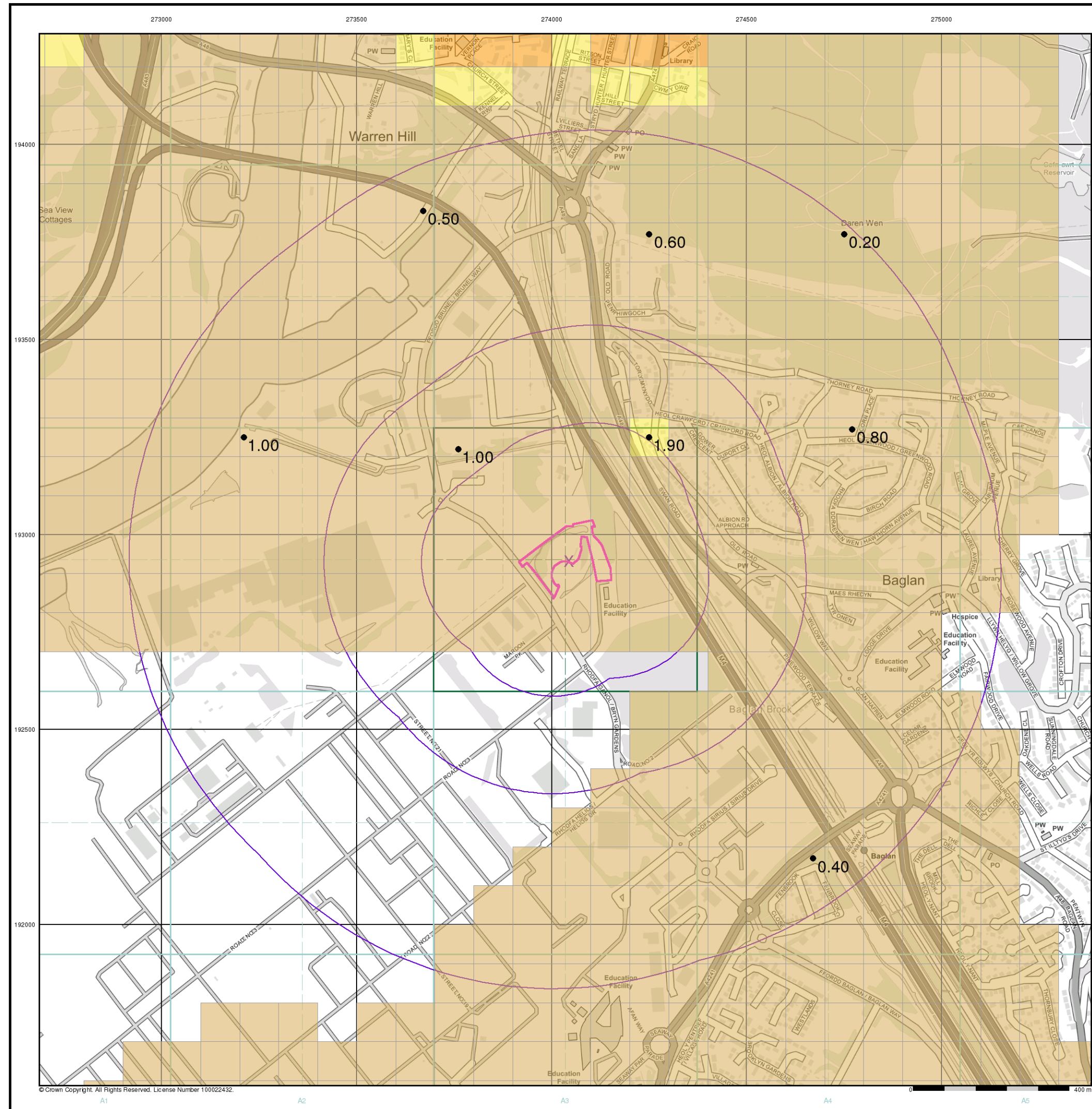
Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.



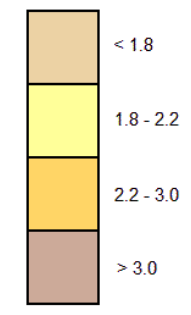
General

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

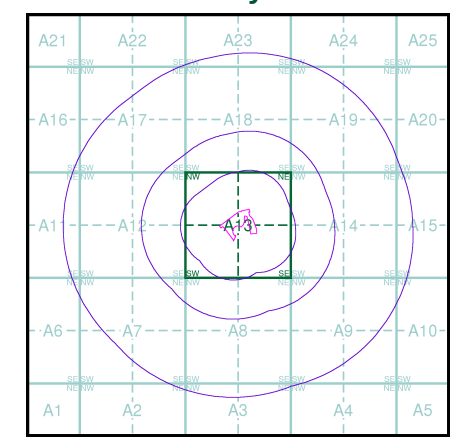
Urban Soil Chemistry Cadmium

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

Cadmium Concentrations mg/kg



Urban Soil Chemistry Cadmium - Slice A



Order Details

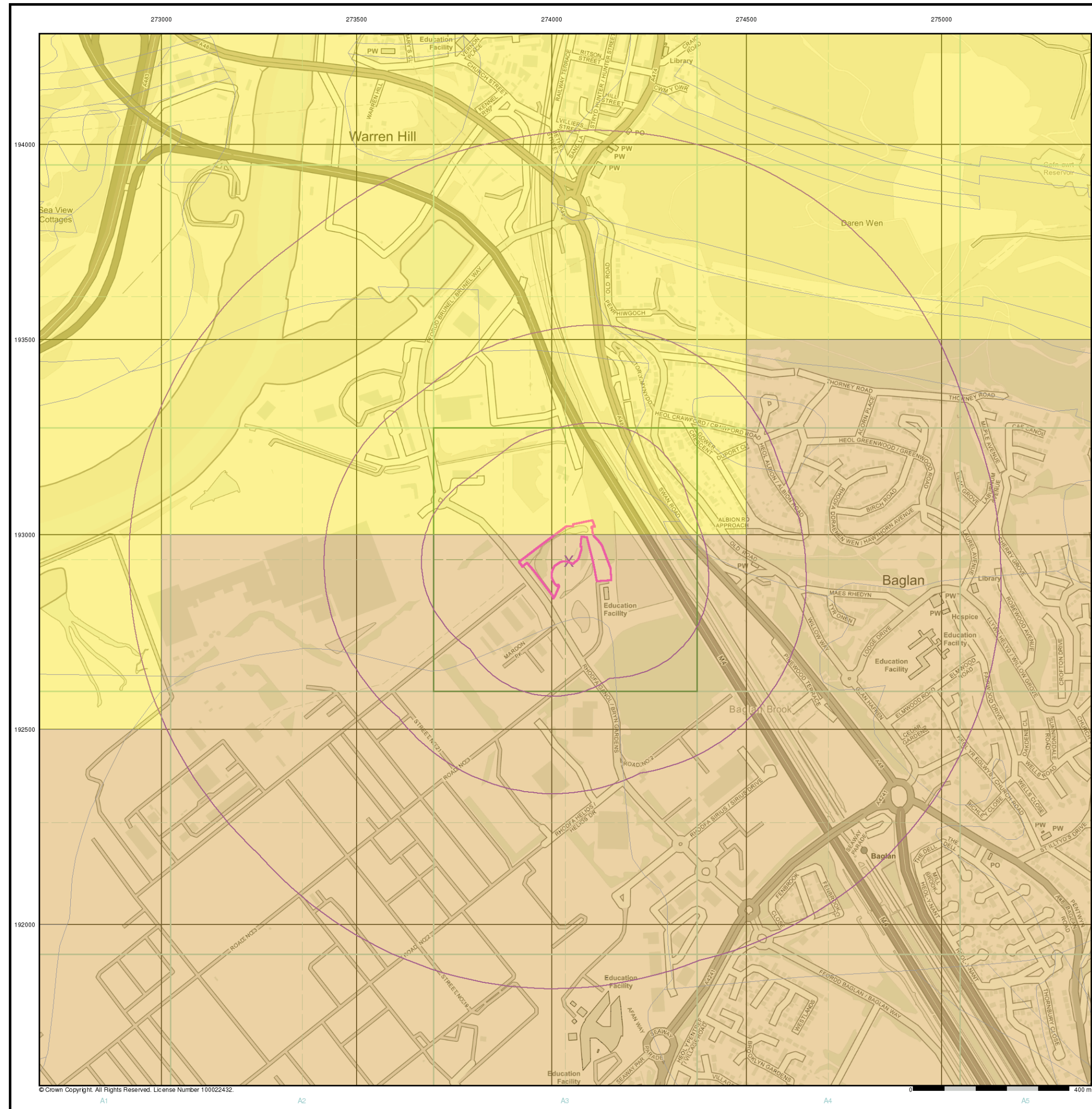
Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



© Crown Copyright. All Rights Reserved. License Number 100022432.

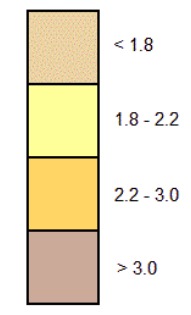


General

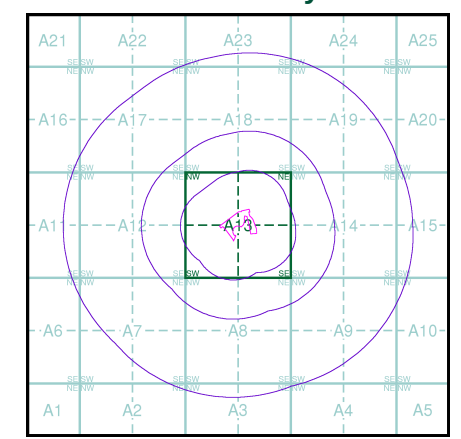
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

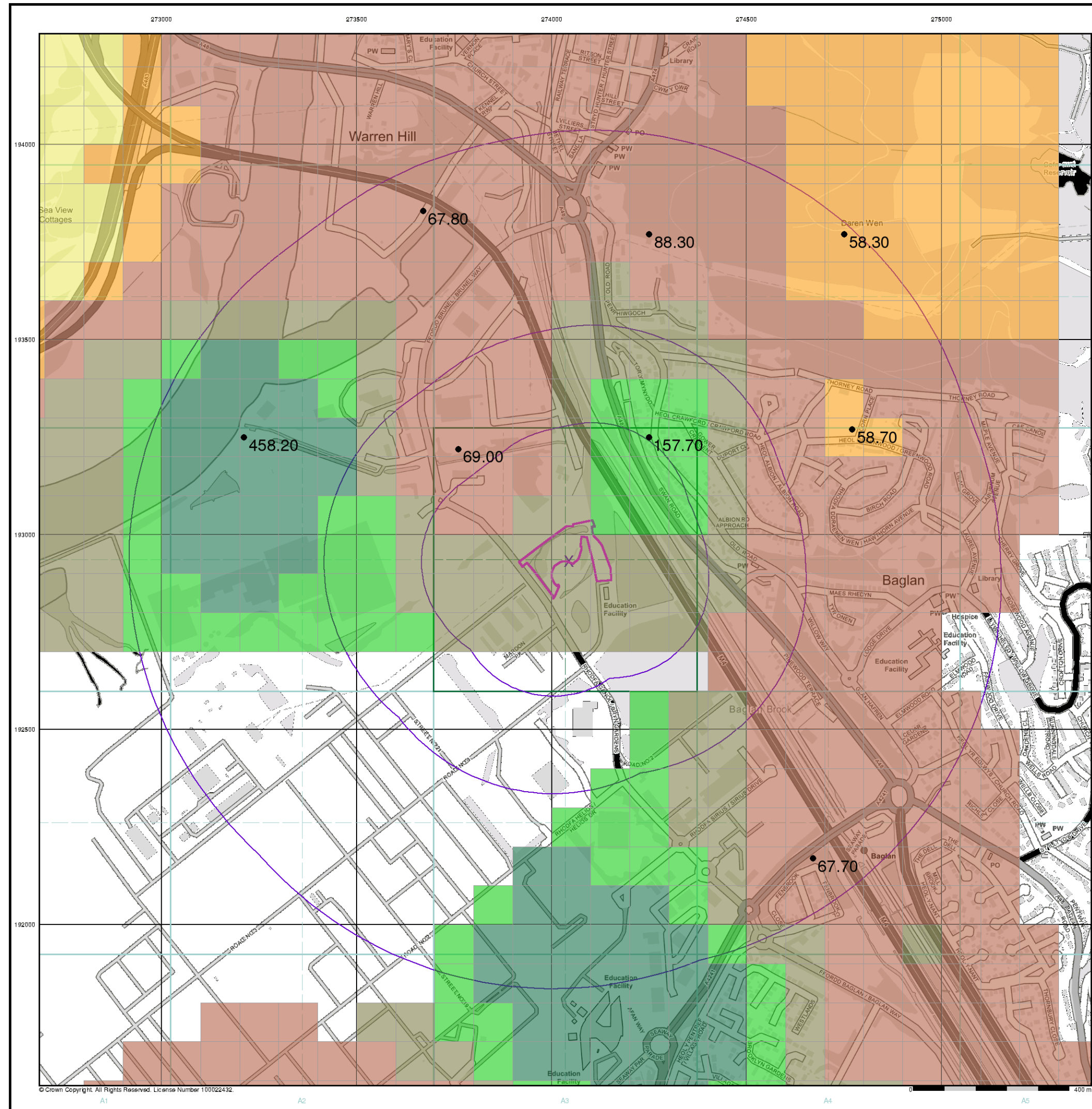
Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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



© Crown Copyright. All Rights Reserved. License Number 100022432.

Hydrock

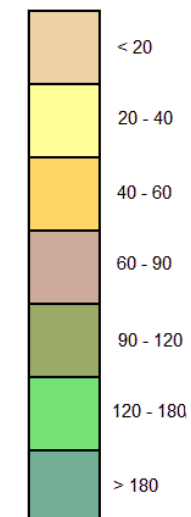
General

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

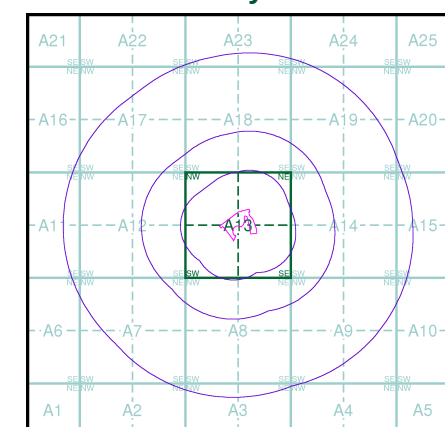
Urban Soil Chemistry Chromium

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

Chromium Concentrations mg/kg



Urban Soil Chemistry Chromium - Slice A



Order Details

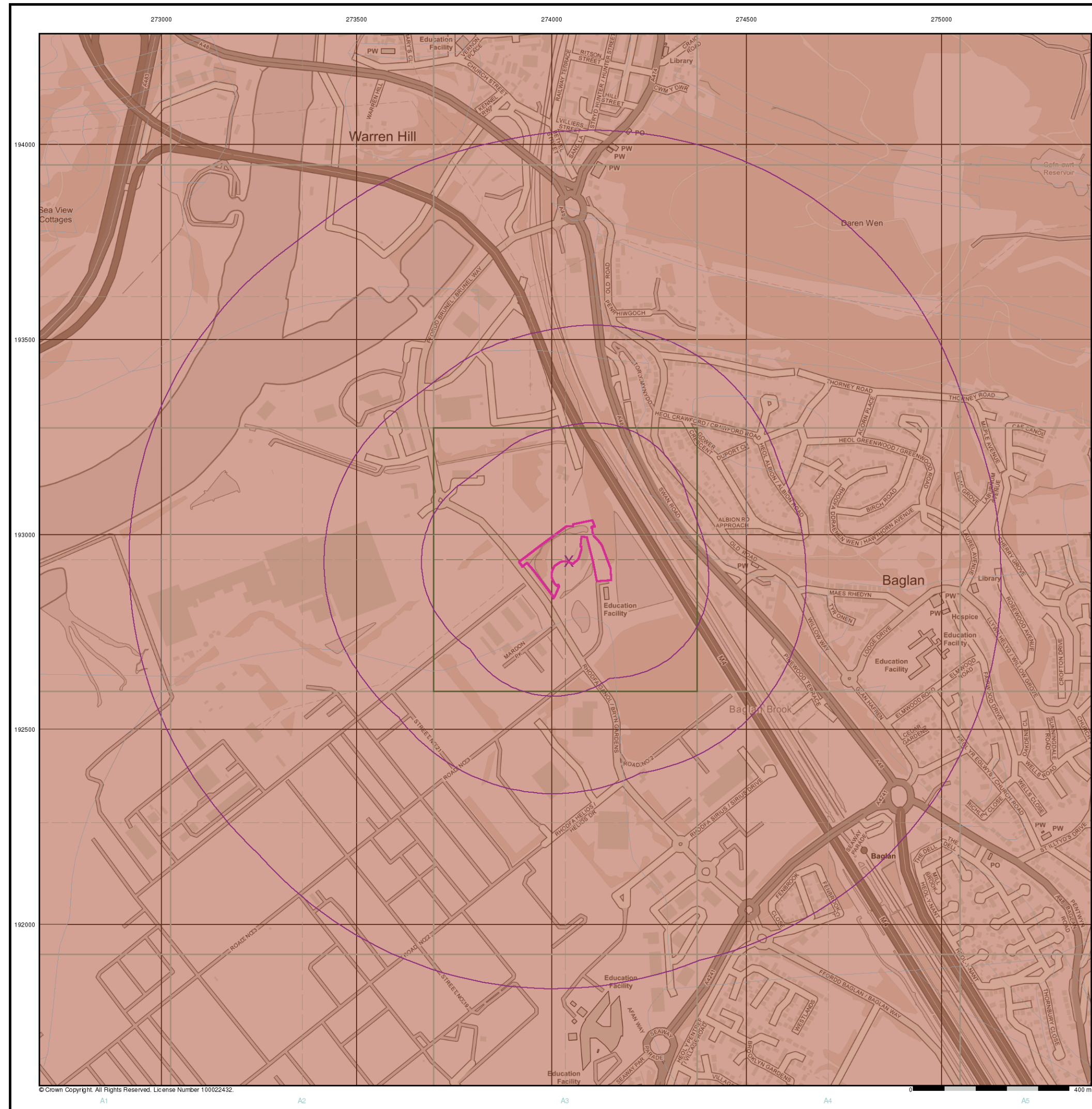
Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



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

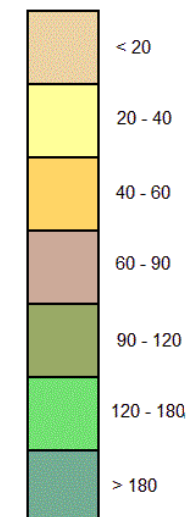


General

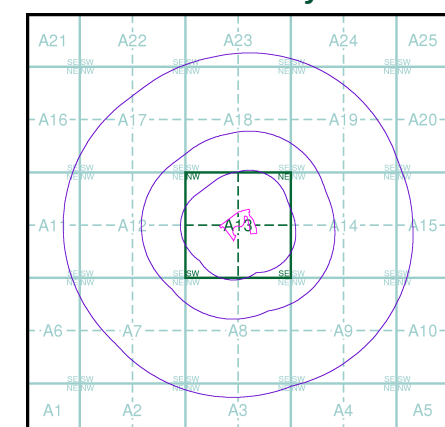
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

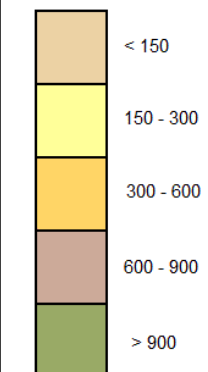
General

Specified Site Specified Buffer(s) Bearing Reference Point

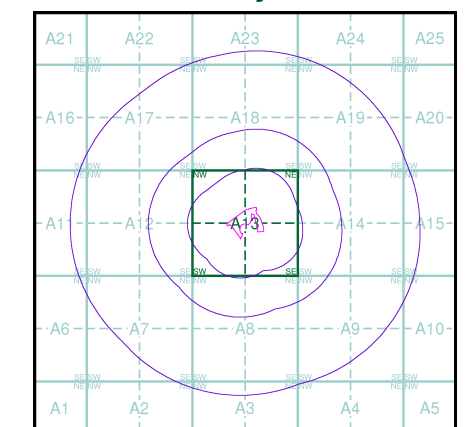
Urban Soil Chemistry Lead

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

Lead Concentrations mg/kg



Urban Soil Chemistry Lead - Slice A

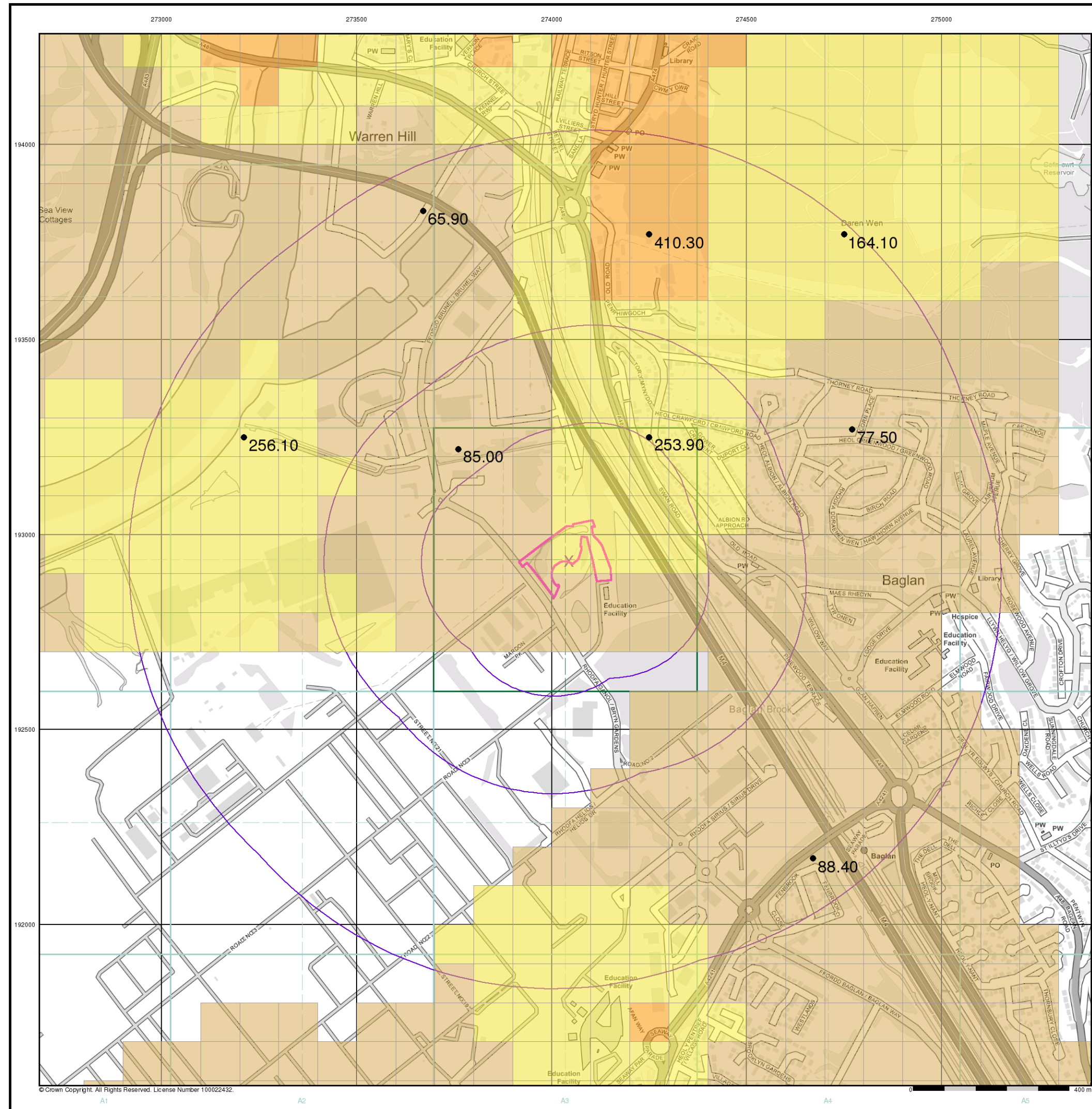


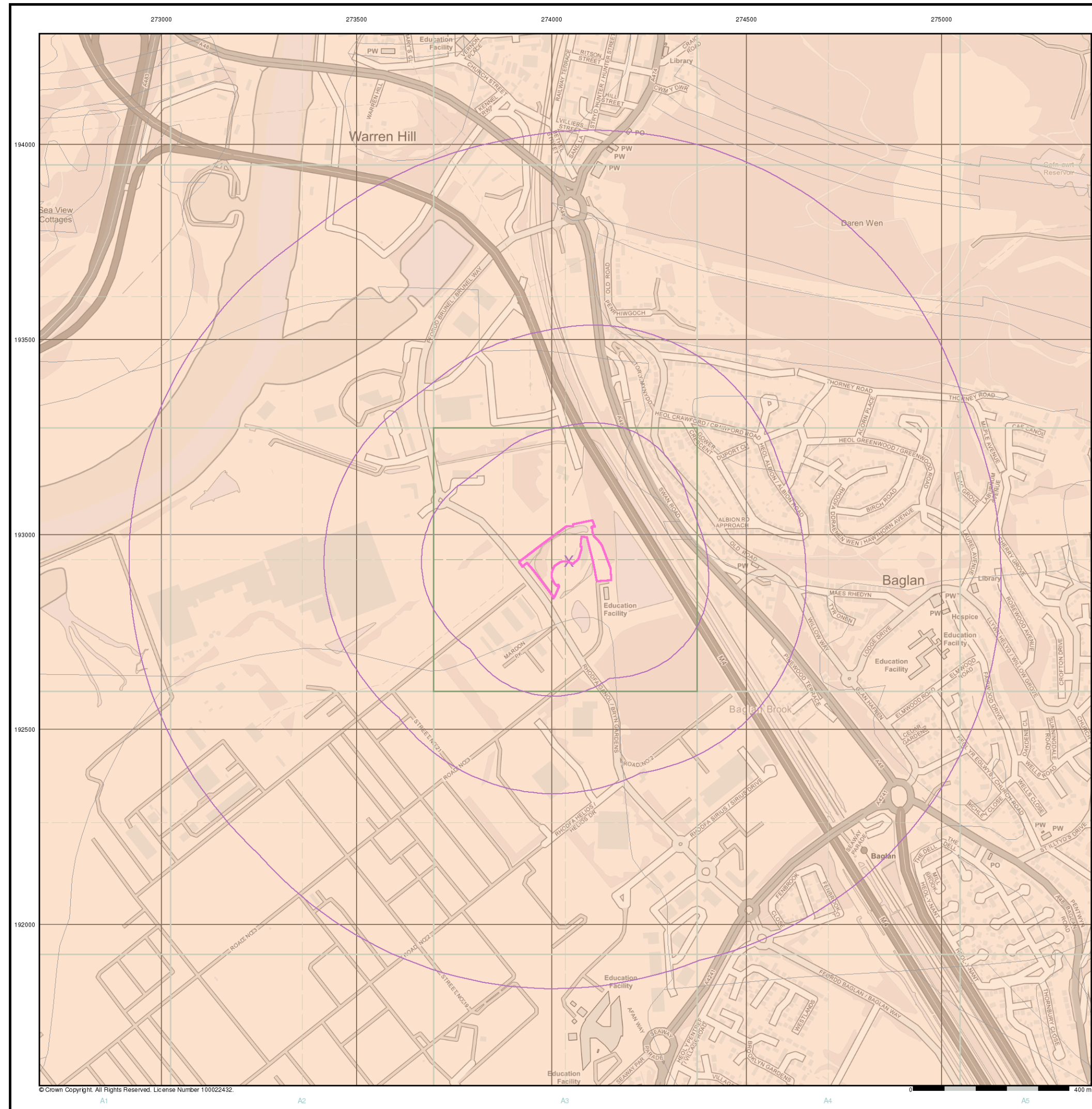
Order Details

Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX





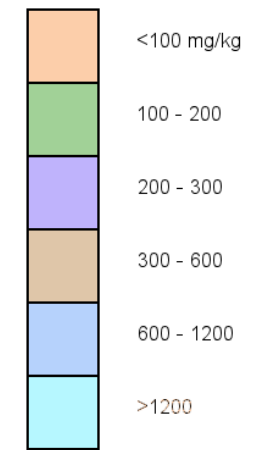
© Crown Copyright. All Rights Reserved. License Number 100022432.

General

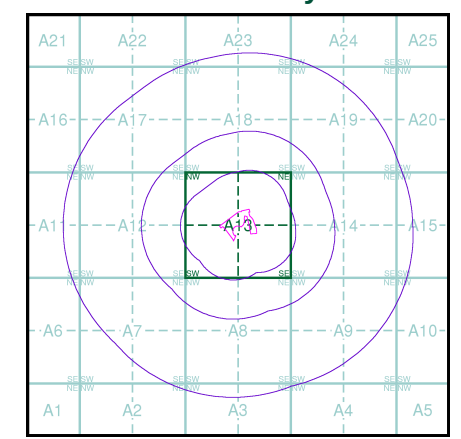
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A

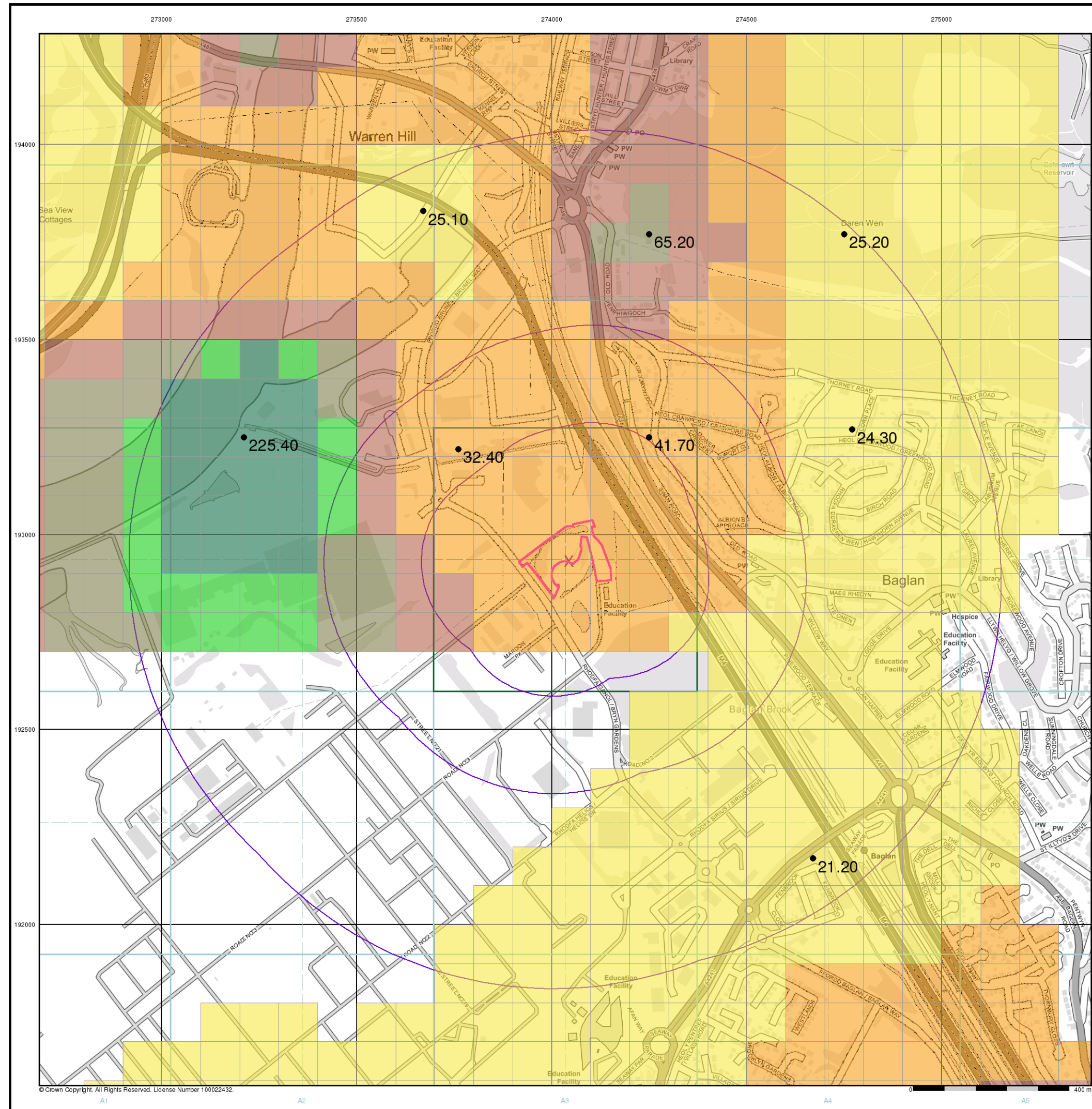


Order Details

Order Details: 224161277_1_1
Customer Ref: C-11852-C
National Grid Reference: 274040, 192930
Slice: A
Site Area (Ha): 1.79
Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX



Hydrock

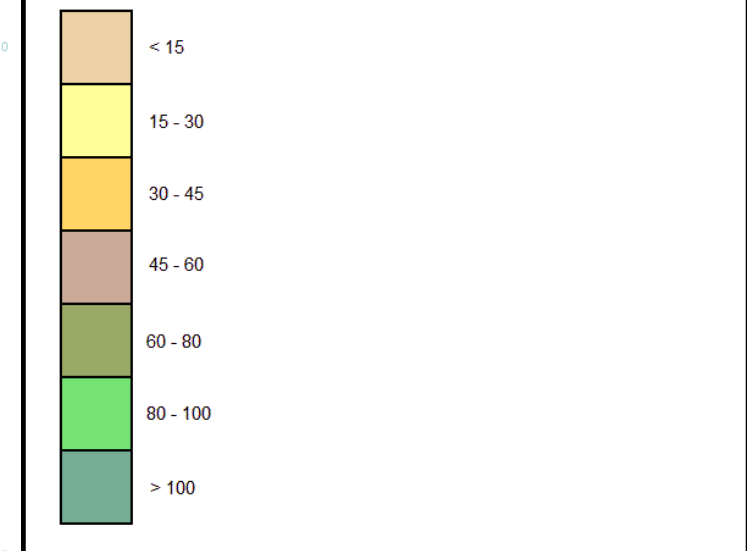
General

Specified Site
 Specified Buffer(s)
 Bearing Reference Point

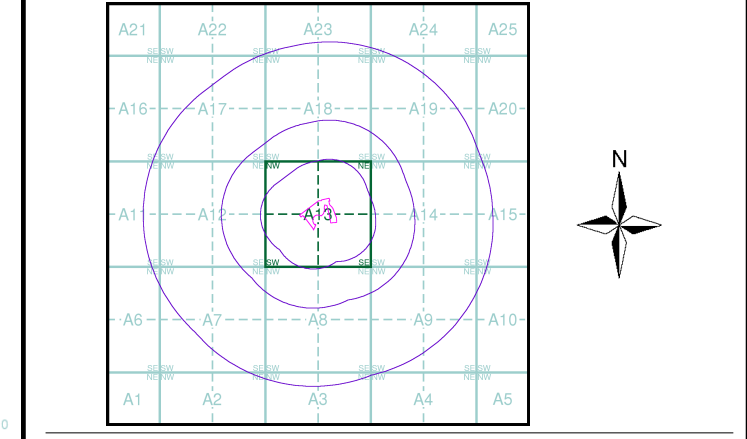
Urban Soil Chemistry Nickel

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

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A



Order Details

Order Details: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
ENERGY PARK, SA12 7AX

Landmark
INFORMATION GROUP

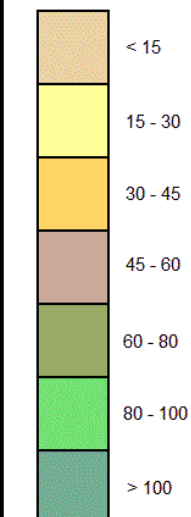
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

General

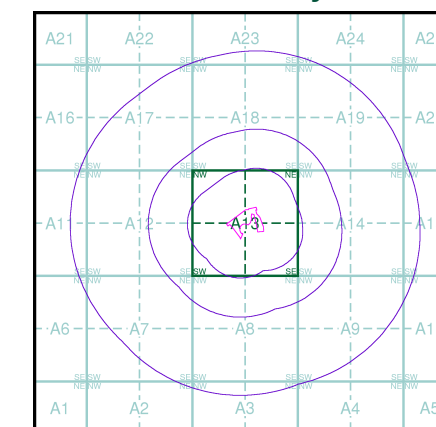
○ Specified Site
 ○ Specified Buffer(s)
 X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A

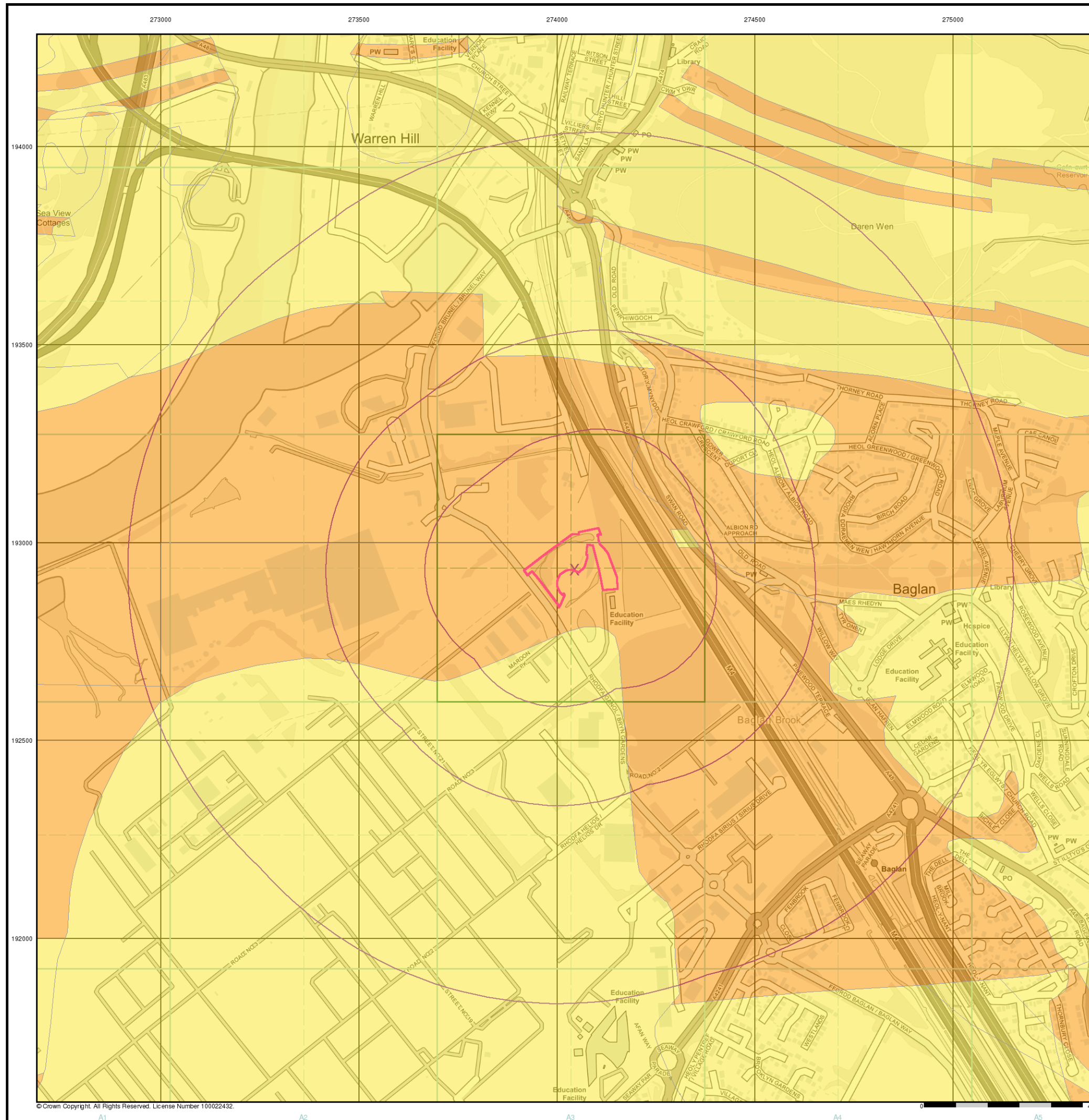


Order Details

Order Details: 224161277_1_1
 Customer Ref: C-11852-C
 National Grid Reference: 274040, 192930
 Slice: A
 Site Area (Ha): 1.79
 Search buffer (m): 1000

Site Details

Swansea Bay Energy Centre, Central Avenue, BAGLAN
 ENERGY PARK, SA12 7AX



BGS Archive Records

SS79SW 175

Borehole No.

20/5

Sheet 1 of 2 British Geological Survey

Equipment & Methods

Cable tool boring 250mm dia. to 9.50m then rotary core, water flush, 101mm diameter to base, from pontoon.

Location No. 7647

LONDON-SOUTH WALES MOTORWAY M4
BAGLAN-LONDON LAS SECTION
SITE INVESTIGATION CONTRACT BL/SI

Carried out for WELSH OFFICE

Consulting Engineers

SIR OWEN WILLIAMS AND PARTNERS, LONDON

Bed Level

2.37m A.O.D.

Coordinates

Loc. 504201.7E Nat. 274200.8E

4030 41.4N 193040.8N

Date _____

Boring 15-16/2/7

Rotary 17/2/79

Description		Reduced Level	Legend	Depth & Thickness	Samples/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
Loose grey very clayey fine sandy SILT with occasional shell fragments (Alluvium)		2.37							

SS79SW 175

Borehole No.

20/5

Sheet 2 of 2

Equipment & Methods

A: sheet one

Location No. 7647

As sheet one

Carried out for

As sheet one

Ground Level

As sheet one

Coordinates

Date _____

Description		Reduced Level	Legend	Depth & Thickness	Samples/Tests			Field Records
MAIN	DETAIL				Depth	Sample		
					Type	No.		
Moderately weathered becoming faintly to slightly weathered very thinly bedded gray weak to moderately strong silty to very silty becoming slightly silty below 11.67m MUDSTONE with frequent irregular fractures to 13.70m (Middle Coal Measures)		(-7.63)		(10.00)	9.50-10.90	100	0	50 (30-110)
	fine and medium grained sandstone band			10.90-12.30	100	0		
	some sandstone and siltstone pockets and lenses (40x25mm)			(8.40 pen)	12.30-13.80	100	0	
	occasional siltstone pockets, as above							
	occasional sub-vertical planar tight joints	-12.23		14.60	13.80-14.60	100	26	
BOREHOLE COMPLETE AT 14.60m								

 Soil Mechanics		Borehole No. 2016					
Equipment & Methods Cable tool boring 250mm dia. to 8.50m then rotary core, water flush, 101mm diameter to base from pontoon.		Location No. 7647 LONDON-SOUTH WALES MOTORWAY M4 BAGLAN-LON LAS SECTION SITE INVESTIGATION CONTRACT BL/SI					
Carried out for WELSH OFFICE Consulting Engineers SIR OWEN WILLIAMS AND PARTNERS, LONDON		Bed Level 2.45m A.O.D. Coordinates Loc. 504245.2E Nat. 274244.4E 403000.7N 193000.1N Date Boring 11-12/2/ Rotary 13-15/2/					
Description	Reduced Level	Legend	Depth & Thickness	Samples/Tests			Field Record
				Depth	Sample Type No.	Test	
Soft grey very silty CLAY with occasional lamellibranch shells (Alluvium)	2.45		0.00				Blows
			(0.70)	0.00-0.70	D	1	
Very loose grey clayey fine sandy SILT very thinly interlaminated with clay with occasional fine sand partings and fissures (Alluvium)	1.75		0.70	0.70-1.50	D	2	
			(2.00)	1.50-1.95	U	3	12
				2.00-2.70	D	4	
	-0.25		2.70				
Stiff grey-brown silty sandy CLAY with variable amounts of rounded to sub-angular fine to coarse sandstone gravel with occasional cobbles (Glacial Till)				3.00-3.45	U	5	70
				3.50-4.50	B	6	
			(4.70)	4.50-4.95	U	7	75
				5.00-6.00	B	8	
				6.00-6.45	D	9	
				6.15-6.45			N=46 8/4-4-4-4
				6.50-7.50	B	10	
	-4.95		7.40	7.40-7.75	D	11	S
				7.55-7.75	D		90 blows for
Highly weathered very thinly laminated very weak silty MUDSTONE				7.80-8.50	D	12	
Recovered as rock fragments							
MAIN	DETAIL						
Generally slightly weathered very thinly bedded dark grey weak to very weak MUDSTONE (Middle Coal Measures)		partly reduced to clay with frequent irregular fractures	(8.20 pen)	8.50-9.50	55	0	25 (NI-45)
	partly broken zone			9.50-10.30	95	0	
			(-7.55)	(10.00)			

 Soil Mechanics		Borehole No. 20/6 Sheet 2 of 2						
Equipment & Methods As sheet one		Location No. 7647 As sheet one						
Carried out for As sheet one		Ground Level Coordinates Date As sheet one						
Description		Reduced Level	Legend	Depth & Thickness	Samples/Tests			Field Recon
MAIN	DETAIL				Depth	Sample Type	Sample No.	
Weak to very weak MUDSTONE (as sheet 1)	partly broken zone	(7.55)		(10.00)	9.50-10.30	95	0	25 (N1-45)
					10.30-11.80	95	0	
	partly broken zone				11.80-12.70	100	0	
	vertical irregular tight joint			(8.20 pen)	12.70-13.90	93	0	
	highly fractured zone with some clay infill				13.90-14.60	100	0	
	highly fractured zone with some clay infill				14.60-15.60	100	21	
BOREHOLE COMPLETE AT 15.60m		-13.15		15.60		c	r	lf

Pre-Desk Study UXO Risk Assessment

Pre-Desk Study Assessment

Site:	Baglan Bay Innovation Centre, Port Talbot, Wales
Client:	Hydrock
Contact:	Dickon Morris
Date:	26 th September 2019
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Port Talbot Docks. ■ Industries important to the war effort, including metal and chemical works. ■ Transport infrastructure and public utilities. ■ Military camps and training areas.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Port Talbot Docks. ■ Royal Air Force (RAF) Jersey Marine. ■ Industries important to the war effort, including metal and chemical works. ■ Military camps and training areas. ■ Transport infrastructure and public utilities. ■ Anti-aircraft (AA) and anti-invasion defences.
WWII Bombing Decoys (within 5km of Site)	1No. located approximately 3.5km east-northeast of the Site.
WWII Bombing	During WWII the Site was located in the Municipal Borough (MB) of Port Talbot, which officially recorded 87No. High Explosive (HE) bombs with a regional bombing density of 3.9 bombs per 405 hectares (ha). No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	Readily available records indicate that extensive demilitarization activities were conducted in the vicinity of the Site after WWII. Ordnance scrap metal was transported to steel works located north of the Site for smelting or disposal by burial. Records indicate that several Explosive Ordnance Clearance (EOC) tasks have occurred in close proximity to the Site, resulting from the transportation of ordnance scrap to the area, including incidents involving unexploded HE bombs, artillery shells and Land Service Ammunition (LSA).

Recommendation	It is recommended that a detailed desk study is commissioned to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the Site.
This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary. It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.	

Coal Authority 'Consultants Coal Mining Report'



The Coal
Authority

Consultants Coal Mining Report

Technium Centre
Central Avenue
Baglan Energy Park
Neath Port Talbot
SA12 7AX

Date of enquiry:	23 September 2019
Date enquiry received:	23 September 2019
Issue date:	23 September 2019

Our reference:	51002171426001
Your reference:	C-11852-C



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

HYDROCK

Enquiry address

Technium Centre
Central Avenue
Baglan Energy Park
Neath Port Talbot
SA12 7AX

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

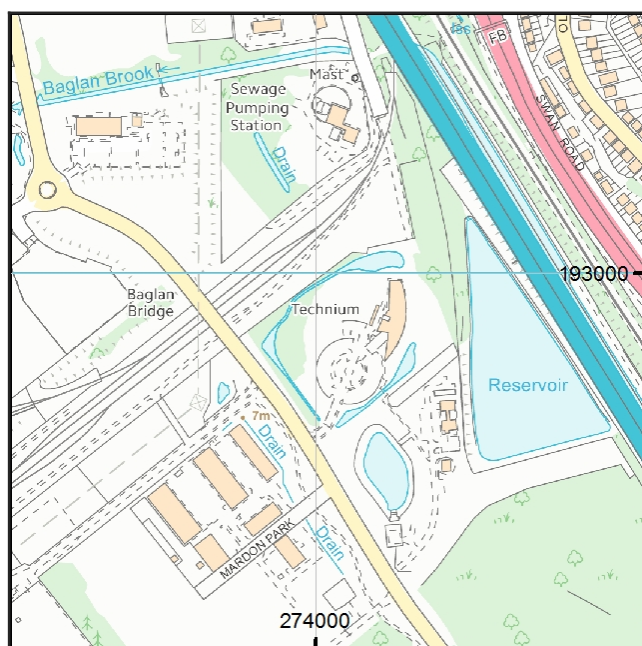
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
BAGLAN HALL	SIX FOOT	Coal	4JDR	240	South-East	45.6	North	183	1887

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

SWR4123	SWR1671	2135
PO0	SWR2654	

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

This page left intentionally blank

VAT receipt

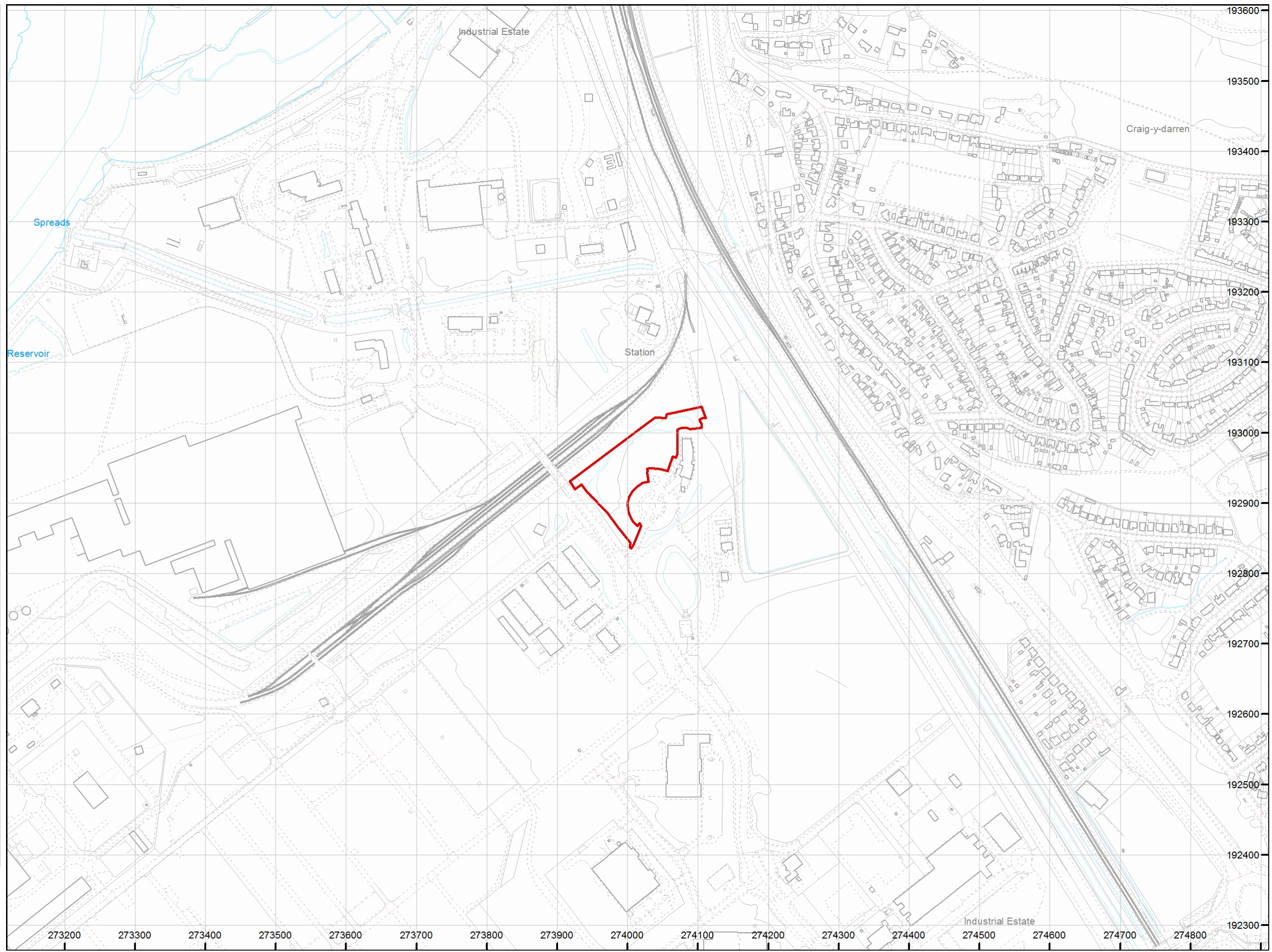
Issued by	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date	23 September 2019
Issued to	HYDROCK CASTLEBRIDGE 5 5-19 COWBRIDGE ROAD EAST RIVERSIDE CARDIFF CF11 9AB
Property search for	TECHNIUM CENTRE CENTRAL AVENUE BAGLAN ENERGY PARK NEATH PORT TALBOT SA12 7AX
Reference number	51002171426001
Date of issue	23 September 2019
Cost	£112.13
VAT @ 20%	£22.43
Total received	£134.56
VAT registration	598 5850 68

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

Approximate position of the enquiry boundary shown 

How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com



BGS SuDS Report



**British
Geological Survey**
Expert | Impartial | Innovative

GeoReports

**Dickon Morris
Hydrock
Castlebridge 5
5-19 Cowbridge Road East
Cardiff
CF11 9AB**

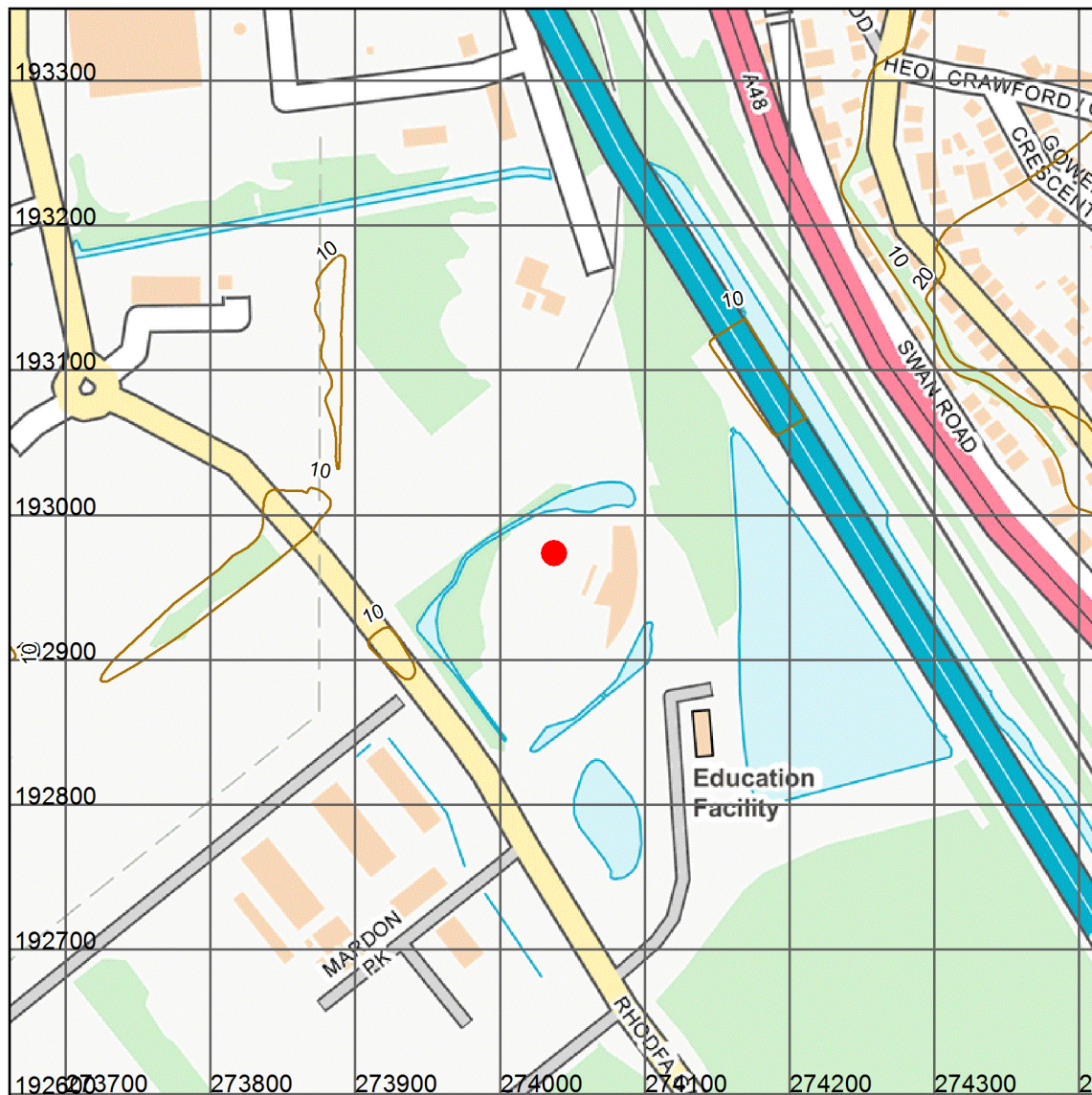
Infiltration SuDS GeoReport:

This report provides information on the suitability of the subsurface for the installation of infiltration sustainable drainage systems (SuDS). It provides information on the properties of the subsurface with respect to significant constraints, drainage, ground stability and groundwater quality protection.

Report Id: *BGS_303690/4597*

Client reference: C-11852-C

Search location



Contains OS data © Crown Copyright and database right 2019. OS OpenMap Local: Scale: 1:5 000 (1cm = 50 m)

Search location indicated in red

Point centred at: 274037,192974

Assessment for an infiltration sustainable drainage system

Introduction

Sustainable drainage systems (SuDS) are drainage solutions that manage the volume and quality of surface water close to where it falls as rain. They aim to reduce flow rates to rivers, increase local water storage capacity and reduce the transport of pollutants to the water environment. There are four main types of SuDS, which are often designed to be used in sequence. They comprise:

- **source control:** systems that control the rate of runoff
- **pre-treatment:** systems that remove sediments and pollutants
- **retention:** systems that delay the discharge of water by providing surface storage
- **infiltration:** systems that mimic natural recharge to the ground.

This report focuses on infiltration SuDS. It provides subsurface information on the properties of the ground with respect to drainage, ground stability and groundwater quality protection. It is intended principally for those involved in the preliminary assessment of the suitability of the ground for infiltration SuDS, and those involved in assessing proposals from others for sustainable drainage, but it may also be useful to help house-holders judge whether or not further professional advice should be sought. If in doubt, users should consult a suitably-qualified professional about the results in this report before making any decisions based upon it.

This GeoReport is structured in two parts:

- **Part 1. Summary data.**

Comprises three maps that summarise the data contained within Part 2.

- **Part 2. Detailed data.**

Comprises a further 24 maps in four thematic sections:

- **Very significant constraints.** Maps highlight areas where infiltration may result in adverse impacts due to factors including: ground instability (soluble rocks, non-coal shallow mining and landslide hazards); persistent shallow groundwater, or the presence of made ground, which may represent a ground stability or contamination hazard.
- **Drainage potential.** Maps indicate the drainage potential of the ground, by considering subsurface permeability, depth to groundwater and the presence of floodplain deposits.
- **Ground stability.** Maps indicate the presence of hazards that have the potential to cause ground instability resulting in damage to some buildings and structures, if water is infiltrated to the ground.
- **Groundwater protection.** Maps provide key indicators to help determine whether the groundwater may be susceptible to deterioration in quality as a result of infiltration.

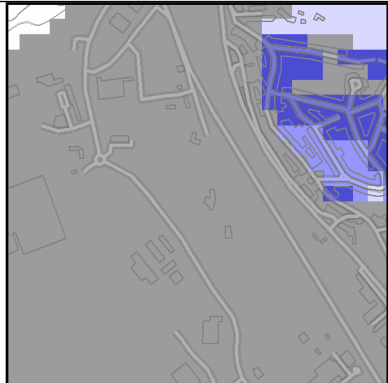
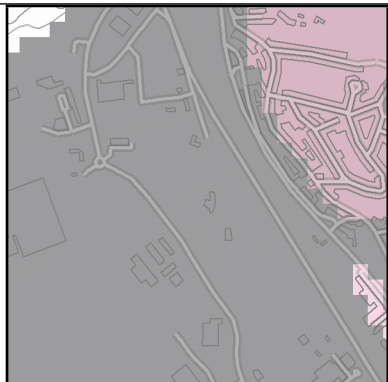


This report considers the suitability of the subsurface for the installation of infiltration SuDS, such as soakaways, infiltration basins or permeable pavements. It provides subsurface data to indicate whether, and which type of infiltration system may be appropriate. It does not state that infiltration SuDS are, or are not, appropriate as this is highly dependent on the design of the individual system. This report therefore describes the subsurface conditions at the site, allowing the reader to determine the suitability of the site for infiltration SuDS.

The map and text data in this report is similar to that provided in the '*Infiltration SuDS Map: Detailed*' national map product. For further information about the data, consult the '*User Guide for the Infiltration SuDS Map: Detailed*', available from <http://nora.nerc.ac.uk/16618/>.

• PART 1: SUMMARY DATA

- This section provides a summary of the data on the following pages.

In terms of the drainage potential, is the ground suitable for infiltration SuDS?	
 Contains OS data © Crown Copyright and database right 2019	 Highly compatible for infiltration SuDS. The subsurface is likely to be suitable for free-draining infiltration SuDS.
	 Probably compatible for infiltration SuDS. The subsurface is probably suitable although the design may be influenced by the ground conditions.
	 Opportunities for bespoke infiltration SuDS. The subsurface is potentially suitable although the design will be influenced by the ground conditions.
	 Very significant constraints are indicated. There is a very significant potential for one or more hazards associated with infiltration.
Is ground instability likely to be a problem?	
 Contains OS data © Crown Copyright and database right 2019	 Increased infiltration is very unlikely to result in ground instability.
	 Ground instability problems may be present or anticipated, but increased infiltration is unlikely to result in ground instability
	 Ground instability problems are probably present. Increased infiltration may result in ground instability.
	 There is a very significant potential for one or more geohazards associated with infiltration.
Is the groundwater susceptible to deterioration in quality?	
 Contains OS data © Crown Copyright and database right 2019	 The groundwater is not expected to be especially vulnerable to contamination.
	 The groundwater may be vulnerable to contamination.
	 The groundwater is likely to be vulnerable to contaminants.
	 Made ground is present at the surface. Infiltration may increase the possibility of remobilising pollutants.

PART 2: DETAILED DATA

This section provides further information about the properties of the ground and will help assess the suitability of the ground for infiltration SuDS.

Section 1. Very significant constraints

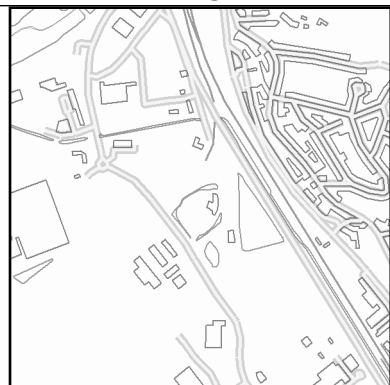
Where maps are overlain by grey polygons, geological or hydrogeological hazards may exist that could be made worse by infiltration. The following hazards are considered:

- soluble rocks
- landslides
- shallow mining
- shallow groundwater
- made ground

For more information read 'Explanation of terms' at the end of this report.

Soluble rock hazard	
 Contains OS data © Crown Copyright and database right 2019	 Very significant soluble rock hazard. Soluble rocks are present with a very significant possibility of localised subsidence that could be initiated or made worse by infiltration. The site investigation should consider whether the potential for or the consequences of subsidence as a result of infiltration are significant.
	 Very significant soluble rock hazards are not present; however this hazard may still need to be considered. See Part 3.
Landslide hazard	
 Contains OS data © Crown Copyright and database right 2019	 Very significant landslide hazard. Slope instability problems are almost certainly present and may be active. An increase in moisture content as a result of infiltration may cause the slope to fail. The site investigation should consider whether the potential for or the consequences of landslide as a result of infiltration are significant.
	 Very significant landslide hazards are not present; however this hazard may still need to be considered. See Part 3.

Shallow mining hazard



Contains OS data © Crown Copyright and database right 2019



Very significant mining hazard.

Shallow mining is likely to be present with a very significant possibility of localised subsidence that could be initiated or made worse by increased infiltration. Also, infiltration may increase the possibility of remobilising pollutants. The site investigation should consider whether the potential for or consequences of subsidence and/or remobilisation of pollutants as a result of infiltration are significant.



Very significant mining hazards are not present; however this hazard may still need to be considered. See Part 3.

Persistent shallow groundwater



Contains OS data © Crown Copyright and database right 2019



Very high likelihood of persistent or seasonally shallow groundwater.

Persistent or seasonally shallow groundwater is likely to be present. Infiltration may increase the likelihood of soakaway inundation, or groundwater emergence at the surface. The site investigation should consider whether the potential for or the consequences of groundwater level rise as a result of infiltration are significant.



See Part 2 for the likely depth to water table.

Made ground



Contains OS data © Crown Copyright and database right 2019



Made ground present.



None recorded

Made ground is present at the surface. Infiltration may affect ground stability or increase the possibility of remobilising pollutants. The site investigation should consider whether the potential for or consequences of ground instability and/or pollutant leaching as a result of infiltration are significant.

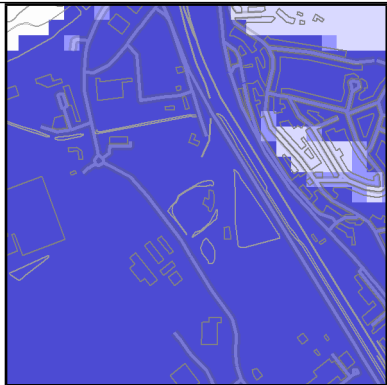
Section 2. Drainage potential

The following pages contain maps that will help you assess the drainage potential of the ground by considering the:

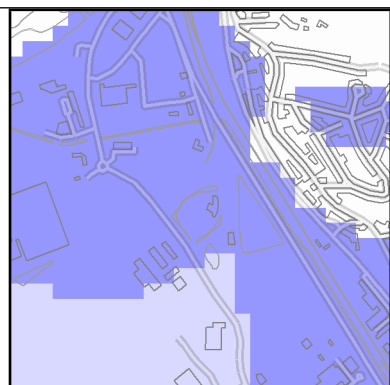
- depth to water table
- permeability of the superficial deposits
- thickness of the superficial deposits
- permeability of the bedrock
- presence of floodplains

Superficial deposits are not present everywhere and therefore some areas of the *superficial deposit permeability* map may not be coloured. Where this is the case, the *bedrock permeability* map shows the likely permeability of the ground. Superficial deposits in some places are very thin and hence in these places you may wish to consider both the permeability of the superficial deposits and the permeability of the bedrock. The *superficial thickness* map will tell you whether the superficial deposits are thin (< 3 m thick) or thick (>3 m). Where they are over 3 m thick, the permeability of the bedrock may not be relevant.

For more information read 'Explanation of terms' at the end of this report.

Depth to groundwater table	
 Contains OS data © Crown Copyright and database right 2019	 Groundwater is likely to be more than 5 m below the ground surface throughout the year.
	 Groundwater is likely to be between 3 and 5 m below the ground surface for at least part of the year.
	 Groundwater is likely to be less than 3 m below the ground surface for at least part of the year.

Superficial deposit permeability



Contains OS data © Crown Copyright and database right 2019

 Superficial deposits are likely to be **free-draining**.

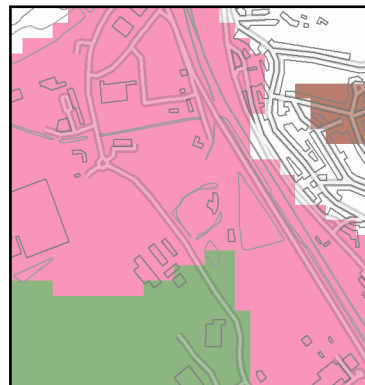
 The superficial deposit permeability is **spatially variable**, but likely to permit moderate infiltration.

 Superficial deposits are likely to be **poorly draining**.

These maps show the permeability range that is summarised above.

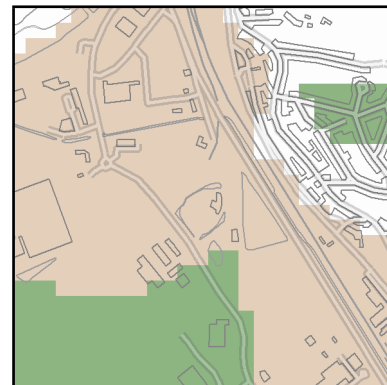
-  Very Low
-  Low
-  Moderate
-  High
-  Very High

Minimum



Contains OS data © Crown Copyright and database right 2019

Maximum



Contains OS data © Crown Copyright and database right 2019

Superficial deposit thickness

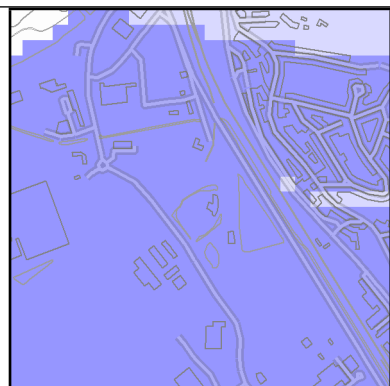


Contains OS data © Crown Copyright and database right 2019

 The thickness of superficial deposits is **< 3 m** and hence the permeability of the ground may be dependent on both the superficial deposits (where present) and underlying bedrock (see below).

 The thickness of superficial deposits is **> 3 m** and hence the permeability of the superficial deposits is likely to determine the permeability of the ground.

Bedrock permeability



Contains OS data © Crown Copyright and database right 2019

 Bedrock deposits are likely to be **free-draining**.

 The bedrock permeability is **spatially variable**, but likely to permit moderate infiltration.

 Bedrock deposits are likely to be **poorly draining**.

These maps show the permeability range that is summarised above.

Key

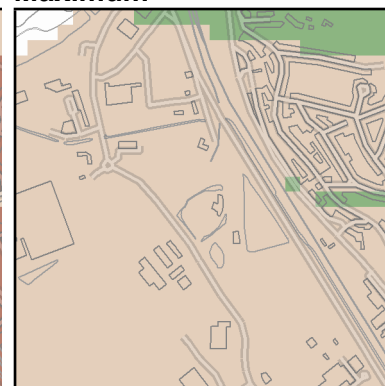
-  Very Low
-  Low
-  Moderate
-  High
-  Very High

Minimum



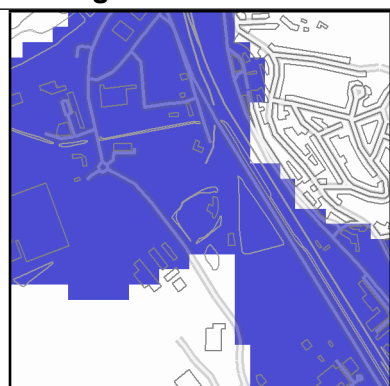
Contains OS data © Crown Copyright and database right 2019

Maximum



Contains OS data © Crown Copyright and database right 2019

Geological indicators of flooding



Contains OS data © Crown Copyright and database right 2019

 Superficial floodplain deposits or low-lying coastal areas have been identified. Groundwater levels may rise in response to high river or tide levels, potentially causing inundation of subsurface infiltration SuDS.

Section 3. Ground stability

The following pages contain maps that will help you assess whether infiltration may impact the stability of the ground. They consider hazards associated with:

- soluble rocks
- landslides
- shallow mining
- running sands
- swelling clays
- compressible ground, and
- collapsible ground

In the following maps, geohazards that are identified in green are unlikely to prevent infiltration SuDS from being installed, but they should be considered during design. For more information read 'Explanation of terms' at the end of this report.

Soluble rocks	
 Contains OS data © Crown Copyright and database right 2019	 Increased infiltration is unlikely to result in subsidence.
	 Increased infiltration is unlikely to cause localised subsidence, but potential impacts should be considered.
	 Increased infiltration may result in localised subsidence. The potential for or the consequences of subsidence associated with soluble rocks should be considered.
	 Very significant possibility of localised subsidence that could be initiated or made worse by infiltration.

Landslides	
 Contains OS data © Crown Copyright and database right 2019	 Increased infiltration is unlikely to lead to slope instability.
	 Slope instability problems may be present or anticipated, but increased infiltration is unlikely to cause instability
	 Slope instability problems are probably present or have occurred in the past, and increased infiltration may result in slope instability.
	 Slope instability problems are almost certainly present and may be active. An increase in moisture content as a result of infiltration may cause the slope to fail.
Shallow mining	
 Contains OS data © Crown Copyright and database right 2019	 Increased infiltration is unlikely to lead to subsidence.
	 Shallow mining is possibly present. Increased infiltration is unlikely to cause a geohazard, but potential impacts should be considered.
	 Shallow mining could be present with a significant possibility that localised subsidence could be initiated or made worse by increased infiltration.
	 Shallow mining is likely to be present, with a very significant possibility that localised subsidence may be initiated or made worse by increased infiltration.
Running sand	
 Contains OS data © Crown Copyright and database right 2019	 Increased infiltration is unlikely to cause ground collapse associated with running sands.
	 Running sand is possibly present. Increased infiltration is unlikely to cause a geohazard, but potential impacts should be considered.
	 Significant possibility for running sand problems. Increased infiltration may result in a geohazard.

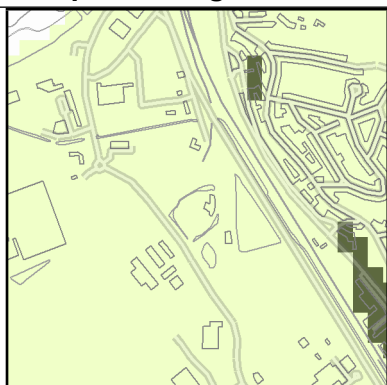
Swelling clays



Contains OS data © Crown Copyright and database right 2019

- Increased infiltration is unlikely to cause shrink-swell ground movement.
- Ground is susceptible to shrink-swell ground movement. Increased infiltration is unlikely to cause a geohazard, but potential impacts should be considered.
- Ground is susceptible to shrink-swell ground movement. Increased infiltration may result in a geohazard.

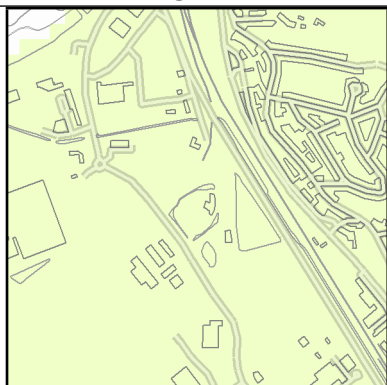
Compressible ground



Contains OS data © Crown Copyright and database right 2019

- Increased infiltration is unlikely to lead to ground compression.
- Compressibility and uneven settlement hazards are probably present. Increased infiltration may result in a geohazard.

Collapsible ground



Contains OS data © Crown Copyright and database right 2019

- Increased infiltration is unlikely to result in subsidence.
- Deposits with potential to collapse when loaded and saturated are possibly present in places. Increased infiltration is unlikely to cause a geohazard, but potential impacts should be considered.
- Deposits with potential to collapse when loaded and saturated are probably present in places. Increased infiltration may result in a geohazard.

Section 4. Groundwater quality protection

The following pages contain maps showing some of the information required to ensure the protection of groundwater quality. Data presented includes:

- groundwater source protection zones (Environment Agency data)
- predominant flow mechanism
- made ground

For more information read 'Explanation of terms' at the end of this report.

Groundwater source protection zones	
 Contains OS data © Crown Copyright and database right 2019 Derived in part from Source Protection Zone data provided under licence from the Environment Agency © Environment Agency 2019.	 Groundwater is not within a source protection zone.
	 Source protection zone IV
	 Source protection zone III
	 Source protection zone II
	 Source protection zone I.
Predominant flow mechanism	
 Contains OS data © Crown Copyright and database right 2019	 Water is likely to percolate through the unsaturated zone to the groundwater through either the pore space in granular media or through porespace and fractures; these processes have some potential for contaminant removal and breakdown.
	 Water is likely to percolate through the unsaturated zone to the groundwater through fractures, a process which has little potential for contaminant removal and breakdown.

Made ground



Contains OS data © Crown Copyright and
database right 2019

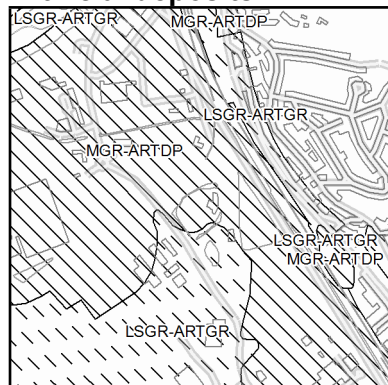


Made ground is present at the surface. Infiltration may increase the possibility of remobilising pollutants.

Section 5. Geological Maps

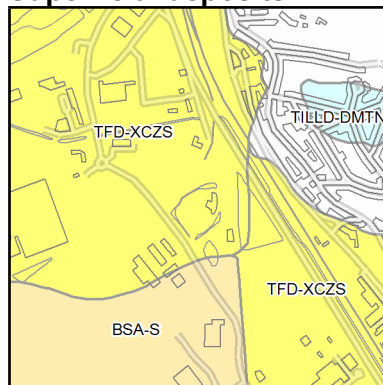
The following maps show the artificial, superficial and bedrock geology within the area of interest.

Artificial deposits



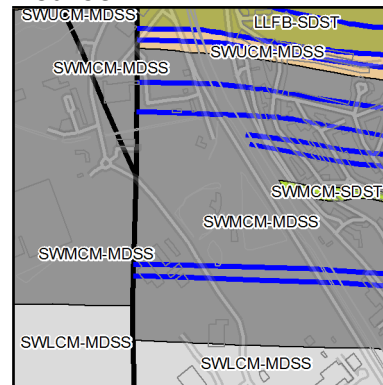
Contains OS data © Crown Copyright and database right 2019

Superficial deposits



Contains OS data © Crown Copyright and database right 2019

Bedrock



Contains OS data © Crown Copyright and database right 2019



Fault

Coal, ironstone or mineral vein

Note: Faults and Coals, ironstone & mineral veins are shown for illustration and to aid interpretation of the map. Not all such features are shown and their absence on the map face does not necessarily mean that none are present

Key to Artificial deposits:

Map colour	Computer Code	Rock name	Rock type
	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND
	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

Key to Superficial deposits:

Map colour	Computer Code	Rock name	Rock type
	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
	BSA-S	BLOWN SAND	SAND



Key to Bedrock geology:

Map colour	Computer Code	Rock name	Rock type
	LLFB-SDST	LLYNFI MEMBER	SANDSTONE
	SWUCM-MDSS	SOUTH WALES UPPER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION	SANDSTONE
	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE



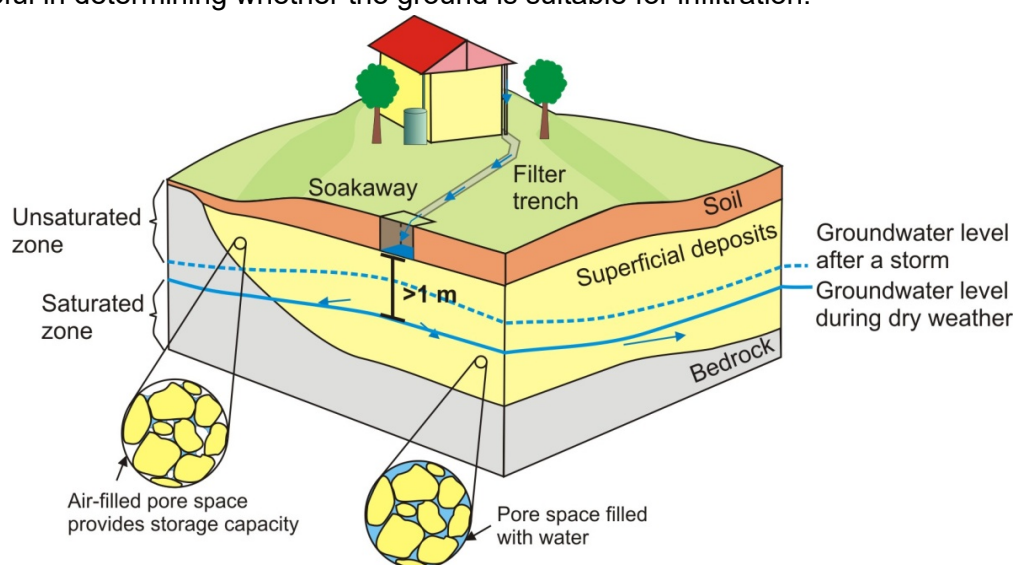
Limitations of this report:

- This report is concerned with the potential for infiltration-to-the-ground to be used as a SuDS technique at the site described. It only considers the subsurface beneath the search area and does NOT consider potential surface or subsurface impacts outside of that area.
- This report is NOT an alternative for an on-site investigation or soakaway test, which might reach a different conclusion.
- This report must NOT be used to justify disposal of foul waste or grey water.
- This report is based on and limited to an interpretation of the records held by the British Geological Survey (BGS) at the time the search is performed. The datasets used (with the exception of that showing depth to water table) are based on 1:50 000 digital geological maps and not site-specific data.
- Other more specific and detailed ground instability information for the site may be held by BGS, and an assessment of this could result in a modified assessment.
- To interpret the maps correctly, the report must be viewed and printed in colour.
- The search does NOT consider the suitability of sites with regard to:
 - previous land use,
 - potential for, or presence of contaminated land
 - presence of perched water tables
 - shallow mining hazards relating to coal mining. Searches of coal mining should be carried out via The Coal Authority Mine Reports Service: www.coalminingreports.co.uk.
 - made ground, where not recorded
 - proximity to landfill sites (searches for landfill sites or contaminated land should be carried out through consultation with local authorities/Environment Agency)
 - zones around private water supply boreholes that are susceptible to groundwater contamination.
- This report is supplied in accordance with the GeoReports Terms & Conditions available separately, and the copyright restrictions described at the end of this report

Explanation of terms

Depth to groundwater

In the shallow subsurface, the ground is commonly unsaturated with respect to water. Air fills the spaces within the soil and the underlying superficial deposits and bedrock. At some depth below the ground surface, there is a level below which these spaces are full of water. This level is known as the groundwater level, and the water below it is termed the groundwater. When water is infiltrated, the groundwater level may rise temporarily. To ensure that there is space in the unsaturated zone to accommodate this, there should be a minimum thickness of 1 m between the base of the infiltration system and the water table. An estimate of the *depth to groundwater* is therefore useful in determining whether the ground is suitable for infiltration.



Groundwater flooding

Groundwater flooding occurs when a rise in groundwater level results in very shallow groundwater or the emergence of groundwater at the surface. If infiltration systems are installed in areas that are susceptible to groundwater flooding, it is possible that the system could become inundated. The susceptibility map seeks to identify areas where the geological conditions and water tables indicate that groundwater level rise could occur under certain circumstances. A high susceptibility to groundwater flooding classification does not mean that groundwater flooding has ever occurred in the past, or will do so in the future as the susceptibility maps do not contain information on how often flooding may occur. The susceptibility maps are designed for planning; identifying areas where groundwater flooding might be an issue that needs to be taken into account.

Geological indicators of flooding

In floodplain deposits, groundwater level can be influenced by the water level in the adjacent river. Groundwater level may increase during periods of fluvial flood and therefore this should be taken into account when designing infiltration systems on such deposits. The *geological indicators of flooding* dataset shows where there is geological evidence (floodplain deposits) that flooding has occurred in the past.

For further information on flood-risk, the likely frequency of its recurrence in relation to any proposed development of the site, and the status of any flood prevention measures in place, you are advised to contact the local office of the Environment Agency (England and Wales) at www.environment-agency.gov.uk/ or the Scottish Environment Protection Agency (Scotland) at www.sepa.org.uk.

Artificial ground

Artificial ground comprises deposits and excavations that have been created or modified by human activity. It includes ground that is worked (quarries and road cuttings), infilled (back-filled quarries), landscaped (surface re-shaping), disturbed (near surface mineral workings) or classified as made ground (embankments and spoil heaps). The composition and properties of artificial ground are often unknown. In particular, the permeability and chemical composition of the artificial ground should be determined to ensure that the ground will drain and that any contaminants present will not be remobilised.

Superficial permeability

Superficial deposits are those geological deposits that were formed during the most recent period of geological time (as old as 2.6 million years before present). They generally comprise relatively thin deposits of gravel, sand, silt and clay and are present beneath the pedological soil in patches or larger spreads over much of Britain. The ease with which water can percolate through these deposits is controlled by their permeability and varies widely depending on their composition. Those deposits comprising clays and silts are less permeable and thus infiltration is likely to be slow, such that water may pool on the surface. In comparison, deposits comprising sands and gravels are more permeable allowing water to percolate freely.

Bedrock permeability

Bedrock forms the main mass of rock forming the Earth. It is present everywhere, commonly beneath superficial deposits. Where the superficial deposits are thin or absent, the ease with which water will percolate into the ground depends on the permeability of the bedrock.

Natural ground instability

Natural ground instability refers to the propensity for upward, lateral or downward movement of the ground that can be caused by a number of natural geological hazards (e.g. ground dissolution/compressible ground). Some movements associated with particular hazards may be gradual and of millimetre or centimetre scale, whilst others may be sudden and of metre or tens of metres scale. Significant natural ground instability has the potential to cause damage to buildings and structures, especially when the drainage characteristics of a site are altered. It should be noted, however, that many buildings, particularly more modern ones, are built to such a standard that they can remain unaffected in areas of significant ground movement.

Shrink-swell

A shrinking and swelling clay changes volume significantly according to how much water it contains. All clay deposits change volume as their water content varies, typically swelling in winter and shrinking in summer, but some do so to a greater extent than others. Contributory circumstances could include drought, leaking service pipes, tree roots drying-out the ground or changes to local drainage patterns, such as the creation of soakaways. Shrinkage may remove support from the foundations of buildings and structures, whereas clay expansion may lead to uplift (heave) or lateral stress on part or all of a structure; any such movements may cause cracking and distortion.

Landslides (slope stability)

A landslide is a relatively rapid outward and downward movement of a mass of ground on a slope, due to the force of gravity. A slope is under stress from gravity but will not move if its strength is greater than this stress. If the balance is altered so that the stress exceeds the strength, then movement will occur. The stability of a slope can be reduced by removing ground at the base of the slope, by placing material on the slope, especially at the top, or by increasing the water content of the materials forming the slope. Increase in subsurface water content beneath a soakaway could increase susceptibility to landslide hazards. The assessment of landslide hazard refers to the stability of the present land surface. It does not encompass a consideration of the stability of excavations.

Soluble rocks (dissolution)

Some rocks are soluble in water and can be progressively removed by the flow of water through the ground. This process tends to create cavities, potentially leading to the collapse of overlying materials and possibly subsidence at the surface. The release of water into the subsurface from infiltration systems may increase the dissolution of rock or destabilise material above or within a cavity. Dissolution cavities may create a pathway for rapid transport of contaminated water to an aquifer or water course.

Compressible ground

Many ground materials contain water-filled pores (the spaces between solid particles). Ground is compressible if a building (or other load) can cause the water in the pore space to be squeezed out, causing the ground to decrease in thickness. If ground is extremely compressible the building may sink. If the ground is not uniformly compressible, different parts of the building may sink by different amounts, possibly causing tilting, cracking or distortion. The compressibility of the ground may alter as a result of changes in subsurface water content caused by the release of water from soakaways.

Collapsible deposits

Collapsible ground comprises certain fine-grained materials with large pore spaces (the spaces between solid particles). It can collapse when it becomes saturated by water and/or a building (or other structure) places too great a load on it. If the material below a building collapses it may cause the building to sink. If the collapsible ground is variable in thickness or distribution, different parts of the building may sink by different amounts, possibly causing tilting, cracking or distortion. The subsurface underlying a soakaway will experience an increase in water content that may affect the stability of the ground. This hazard is most likely to be encountered only in parts of southern England.

Running sand

Running sand conditions occur when loosely-packed sand, saturated with water, flows into an excavation, borehole or other type of void. The pressure of the water filling the spaces between the sand grains reduces the contact between the grains and they are carried along by the flow. This can lead to subsidence of the surrounding ground. Running sand is potentially hazardous during the drainage system installation. During installation, excavation of the ground may create a space into which sand can flow, potentially causing subsidence of surrounding ground.

Shallow mining hazards (non coal)

Current or past underground mining for coal or for other commodities can give rise to cavities at shallow or intermediate depths, which may cause fracturing, general settlement, or the formation of crown-holes in the ground above. Spoil from mineral workings may also present a pollution hazard. The release of water into the subsurface from soakaways may destabilise material above or within a cavity. Cavities arising as a consequence of mining may also create a pathway for rapid transport of contaminated water to an aquifer or watercourse. The mining hazards map is derived from the geological map and considers the potential for subsidence associated with mining on the basis of geology type. Therefore if mining is known to occur within a certain rock, the map will highlight the potential for a hazard within the area covered by that geology.



For more information regarding underground and opencast **coal mining**, the location of mine entries (shafts and adits) and matters relating to subsidence or other ground movement induced by **coal mining** please contact the Coal Authority, Mining Reports, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG; telephone 0845 762 6848 or at www.coal.gov.uk. For more information regarding other types of mining (i.e. non-coal), please contact the British Geological Survey.

Groundwater source protection zones

In England and Wales, the Environment Agency has defined areas around wells, boreholes and springs that are used for the abstraction of public drinking water as source protection zones. In conjunction with Groundwater Protection Policy the zones are used to restrict activities that may impact groundwater quality, thereby preventing pollution of underlying aquifers, such that drinking water quality is upheld. The Environment Agency can provide advice on the location and implications of source protection zones in your area (www.environment-agency.gov.uk/)



Contact Details

Keyworth Office

British Geological Survey
Environmental Science Centre
Nicker Hill
Keyworth
Nottingham
NG12 5GG
Tel: 0115 9363143
Fax: 0115 9363276
Email: enquiries@bgs.ac.uk

Wallingford Office

British Geological Survey
Maclean Building
Wallingford
Oxford
OX10 8BB
Tel: 01491 838800
Fax: 01491 692345
Email: hydroenq@bgs.ac.uk

Edinburgh Office

British Geological Survey
Lyell Centre
Research Avenue South
Edinburgh
EH14 4AP
Tel: 0131 6671000
Email: enquiry@bgs.ac.uk



Terms and Conditions

General Terms & Conditions

This Report is supplied in accordance with the GeoReports Terms & Conditions available on the BGS website at <https://shop.bgs.ac.uk/georeports> and also available from the BGS Enquiry Service at the above address.

Important notes about this Report

- The data, information and related records supplied in this Report by BGS can only be indicative and should not be taken as a substitute for specialist interpretations, professional advice and/or detailed site investigations. You must seek professional advice before making technical interpretations on the basis of the materials provided.
- Geological observations and interpretations are made according to the prevailing understanding of the subject at the time. The quality of such observations and interpretations may be affected by the availability of new data, by subsequent advances in knowledge, improved methods of interpretation, and better access to sampling locations.
- Raw data may have been transcribed from analogue to digital format, or may have been acquired by means of automated measuring techniques. Although such processes are subjected to quality control to ensure reliability where possible, some raw data may have been processed without human intervention and may in consequence contain undetected errors.
- Detail, which is clearly defined and accurately depicted on large-scale maps, may be lost when small-scale maps are derived from them.
- Although samples and records are maintained with all reasonable care, there may be some deterioration in the long term.
- The most appropriate techniques for copying original records are used, but there may be some loss of detail and dimensional distortion when such records are copied.
- Data may be compiled from the disparate sources of information at BGS's disposal, including material donated to BGS by third parties, and may not originally have been subject to any verification or other quality control process.
- Data, information and related records, which have been donated to BGS, have been produced for a specific purpose, and that may affect the type and completeness of the data recorded and any interpretation. The nature and purpose of data collection, and the age of the resultant material may render it unsuitable for certain applications/uses. You must verify the suitability of the material for your intended usage.
- If a report or other output is produced for you on the basis of data you have provided to BGS, or your own data input into a BGS system, please do not rely on it as a source of information about other areas or geological features, as the report may omit important details.
- The topography shown on any map extracts is based on the latest OS mapping and is not necessarily the same as that used in the original compilation of the BGS geological map, and to which the geological linework available at that time was fitted.
- Note that for some sites, the latest available records may be historical in nature, and while every effort is made to place the analysis in a modern geological context, it is possible in some cases that the detailed geology at a site may differ from that described.

Copyright:

Copyright in materials derived from the British Geological Survey's work, is owned by UK Research and Innovation (UKRI) and/ or the authority that commissioned the work. You may not copy or adapt this publication, or provide it to a third party, without first obtaining UKRI's permission, but if you are a consultant purchasing this report solely for the purpose of providing advice to your own individual client you may incorporate it unaltered into your report to that client without further permission, provided you give a full acknowledgement of the source. Please contact the BGS Copyright Manager, British Geological Survey, Environmental Science Centre, Nicker Hill, Keyworth, Nottingham NG12 5GG. Telephone: 0115 936 3100.

© UKRI 2019 All rights reserved.

This product includes mapping data licensed from the Ordnance Survey® with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright 2019. All rights reserved. Licence number 100021290 EUL



**Report issued by
BGS Enquiry Service**

Sans et al; Cancer Incidence and Mortality near the Baglan Bay Petrochemical Works, South Wales

Cancer incidence and mortality near the Baglan Bay petrochemical works, South Wales

Susana Sans, Paul Elliott, Immo Kleinschmidt, Gavin Shaddick, Sam Pattenden, Peter Walls, Christopher Grundy, Helen Dolk

Abstract

Objectives—To study incidence and mortality of leukaemias, cancer of the larynx, and other cancers near the petrochemical plant at Baglan Bay, in response to local concerns of an alleged cluster of cancers in the vicinity.

Methods—This is a small area study of cancer incidence, 1974–84 and of mortality, 1981–91 based on the national post-coded data held by the Small Area Health Statistics Unit and with population and socioeconomic data from the 1981 census. The study is centred on BP Chemicals Ltd, Baglan Bay, Port Talbot, West Glamorgan, South Wales and includes a general population sample of 115 721 people (1981 census) living within 7.5 km of the plant. Cancer incidence and mortality for all cancers, leukaemias, and cancer of the larynx were examined within 7.5 km and 3 km of the plant, and tests for decline in risk of these cancers with distance from the plant were carried out. Mortality from several other cancers possibly associated with the petrochemical industry was also studied.

Results—There were 5417 incident cancer cases and 2458 cancer deaths within 7.5 km of the plant during the periods of study. There was an 8% excess incidence of all cancers within 7.5 km, and a 24% excess of cancer of the larynx, consistent with a general excess of these cancers in West Glamorgan, but no apparent decline in incidence with distance from the plant, nor excess mortality. There was also no evidence of decline in leukaemia incidence or mortality with distance, at all ages or in children. Among the other causes included in the mortality study, there was an excess of multiple myeloma within 7.5 km, especially among women, and a significant decline in mortality from non-Hodgkin's lymphomas although there was no excess overall within 7.5 km.

Conclusions—The apparent excess incidence of all cancers and cancer of the larynx within 7.5 km of the BP Chemical Ltd works was consistent with an excess more generally in West Glamorgan, possibly related, at least to some extent, to cancer registration in Wales. There was no excess mortality from these cancers. The results for multiple myeloma and especially non-Hodgkin's lymphomas may have been chance findings in view of

the multiple tests of significance carried out in the study. A study of lymphatic and haematopoietic cancers near oil refineries in Great Britain is to be undertaken that will help put the findings of the present study in wider context.

(*Occup Environ Med* 1995;52:217–224)

Keywords: petrochemical works; small area; environmental epidemiology

The Small Area Health Statistics Unit is an independent national facility that uses routine data for the investigation of health statistics near industrial installations.^{1,2} It incorporates a comprehensive national database that includes postcodes of addresses for the analysis of rates of cancer incidence and mortality in small areas located anywhere in Britain. This study was undertaken in response to concerns of a local pressure group based in the Port Talbot area, about an alleged cluster of cancer, especially of the larynx, and leukaemia among children, near the Baglan Bay petrochemical works (BP Chemicals Ltd) over a period of about six years (1984–9); there was also concern about several deaths among teachers and pupils at the nearby comprehensive school. The concerns at Baglan Bay received attention in a SKY television programme, and in the *Independent Magazine*.³

The plant is concerned with petrochemical processing. It first started operation in 1963, and produced alcohols, styrene, olefins, and benzene from the mid-1960s, and vinyl chloride monomer and polyvinyl chloride (PVC) from the early 1970s. Monitoring of environmental concentrations of benzene and other compounds in the area has been carried out by the Port Talbot Borough Council⁴ and by BP Chemicals Ltd.⁵ A Warren Spring report⁵ on the sampling carried out by BP Chemicals Ltd concluded that “reported results for benzene at community sampling positions (1–5 ppb) are comparable with long term average results . . . at locations ranging from remote rural to non-kerbside town centre.”

Our report gives an analysis of the incidence of all cancers, leukaemias, and cancer of the larynx within 7.5 km of the Baglan Bay petrochemical works, Port Talbot, West Glamorgan (Ordnance Survey grid reference SS 734 923), for the period 1974–84. To consider more recent concerns, it also includes an analysis of mortality for the period 1981–91.

Small Area Health Statistics Unit, Environmental Epidemiology Unit, Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, Keppel Street, London
S Sans
P Elliott
I Kleinschmidt
G Shaddick
S Pattenden
P Walls
C Grundy
H Dolk

Correspondence to:
Dr P Elliott, Small Area Health Statistics Unit, Environmental Epidemiology Unit, Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT.

Accepted 19 January 1995

Population and methods

The study area was defined by a circle of 7.5 km radius centred on the petrochemical works (fig 1); this was considered large enough to include any likely health effects related to the plant. At the time of study, postcoded data on cancer incidence were held for 1974–86 (England), 1974–84 (Wales), and 1975–87 (Scotland), and postcoded mortality data for 1981–1991 (England and Wales); thus at least 10 years had elapsed between first operation of the plant in 1963 and first registration of cancers in the study. Standard incidence rates were based on postcoded cancer registrations for Great Britain. For mortality, rates for England and Wales were used as data for Scotland were unavailable beyond 1986. Deaths over the age of 74 were excluded because of known inaccuracy in certification of specific causes of death among elderly people. The mortality analysis included the period of occurrence of the alleged cluster (from 1984).

Postcodes were used to locate cases and deaths within circles of interest around the plant, and to link them to census enumeration districts; valid postcodes were available for 89.3% of cancer registrations and over 99% of deaths in Wales over the 11 years of the study. Population data (for the calculation of rates) were obtained from the small area statistics for the 1981 census; at the time of study, small area statistics for the 1991 census were unavailable. Within 7.5 km, from the 1971 to 1981 census, there was a decline in population of 3.1%, and a further decline of 1.7% between 1981 and 1991. This decline was more noticeable within 2 km (14% from 1981 to 1991).

Because of the change in coding between the eighth and ninth revisions of the International Classification of Diseases (ICD), bridge codes were used for cancer incidence to ensure comparability over time⁶; as all deaths were coded to the ninth revision (ICD-9), slightly different codes were used for the mortality analysis. The cancers studied for both incidence and mortality (ICD codes) were all cancers (140–207, ICD-8; 140–208, 238.6 ICD-9, except 202.2–202.6, 202.9 for incidence), laryngeal cancer (161), and all leukaemias (204–207, ICD-8; 204–208, ICD-9). The mortality study also included some cancers chosen previously for study—for example, other lymphatic and haematopoietic cancers, blood disorders, and some solid tumours possibly associated with chemical exposure to petroleum products^{7–15}—that is, cancers of liver (155) and lung (162), all lymphatic and haematopoietic cancers (200–208, 238.6), blood disorders (238.7, 284.8, 284.9, 285.8, 287.3, 287.5, 288.0, 288.8), all lymphatic and haematopoietic cancers and blood disorders combined, non-Hodgkin's lymphomas (200, 202), Hodgkin's lymphoma (201), multiple myeloma (203, 238.6), lymphoid leukaemia (204), and myeloid leukaemia (205).

To allow for possible socioeconomic confounding, a deprivation score, shown elsewhere to be a powerful predictor of cancer rates,¹⁶ was calculated for each census enumeration district in Great Britain from 1981 census data on unemployment, overcrowding, and social class of the head of the household. Specifically, each of these variables was adjusted to have zero mean and unit variance. Z Scores were obtained for each enumeration district, and the deprivation score of the enumeration district was calculated as the sum of the three Z scores. Counts of cancer cases were obtained for enumeration districts within national quintiles of the deprivation score, and for a small (sixth) stratum where data were insufficient to provide a score. Expected numbers were obtained by applying appropriate year, age, sex, and deprivation specific national rates to the population data, and summing up over strata. Effects of the socioeconomic stratification were examined by comparing the ratios of the expected values stratified or unstratified for deprivation. Thus, for cancers with higher incidence in more deprived areas—for example, laryngeal cancer, and all cancers combined—this ratio of expected values is higher in more deprived areas. For some cancers—for example, all lymphatic and haematopoietic cancers combined and leukaemias—there is essentially no relation between incidence and deprivation, whereas for others—for example, multiple myeloma—lower disease rates are seen in more deprived areas.¹⁶ Sex, year, and disease specific standardised registration (or mortality) ratios for Wales were also calculated from national rates stratified by the deprivation index. These were used to adjust for regional differences in registration levels, completeness of postcoding, and incidence (or mortality) by

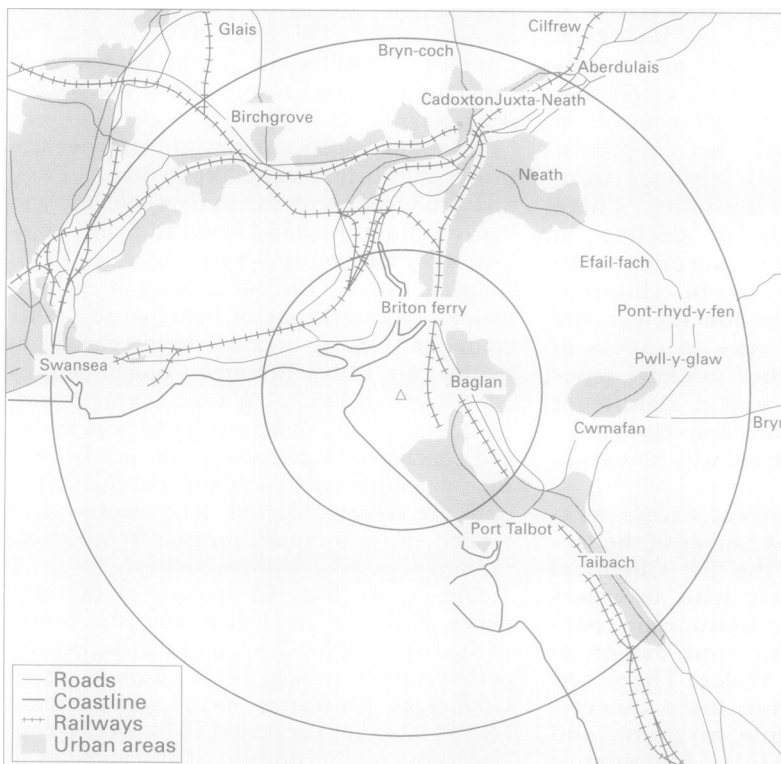


Figure 1 Circles of 3 and 7.5 km centred on the Baglan Bay works, BP Chemicals Ltd.

Table 1 Observed/expected* ratios (95% CIs) for cancer incidence and for mortality, Wales and West Glamorgan, both sexes combined

	Wales†	West Glamorgan‡
Incidence (1974–84):		
All cancers	0.99 (0.98–1.01)	1.05 (1.04–1.07)
All leukaemias	1.04 (0.94–1.15)	1.09 (0.99–1.21)
Larynx	1.02 (0.80–1.10)	1.24 (1.07–1.43)
Mortality (1981–91):		
All cancers	1.00 (0.98–1.02)	0.98 (0.96–1.00)
Liver	1.09 (0.91–1.30)	0.92 (0.76–1.11)
Larynx	0.98 (0.78–1.23)	1.13 (0.91–1.40)
Lung	0.91 (0.87–0.94)	0.96 (0.92–0.99)
All lymphatic, haematopoietic, and blood disorders§	1.00 (0.93–1.07)	0.99 (0.91–1.04)
All lymphatic and haematopoietic	0.98 (0.91–1.06)	0.96 (0.88–1.02)
All leukaemias	0.97 (0.86–1.09)	0.94 (0.83–1.06)
Non-Hodgkin's lymphomas	0.99 (0.87–1.12)	0.93 (0.82–1.06)
Hodgkin's lymphoma	1.03 (0.75–1.41)	1.24 (0.94–1.65)
Multiple myeloma	0.98 (0.84–1.14)	0.94 (0.80–1.10)
Lymphoid leukaemia	0.89 (0.72–1.10)	1.02 (0.83–1.26)
Myeloid leukaemia	1.04 (0.89–1.21)	0.89 (0.76–1.05)
Blood disorders§	1.12 (0.93–1.37)	1.15 (0.96–1.38)

*Expected numbers based on rates from Great Britain (incidence) and England and Wales (mortality).

†Regional adjustment factor standardised for age and index of deprivation, average males and females.

‡Standardised for age, sex, index of deprivation, and adjusted for region.

§For definition of blood disorders, see text.

multiplying the expected values by this regional factor. Rates of cancer incidence and mortality were also examined for West Glamorgan (where Baglan Bay is located) relative to the regionally adjusted national rates.

Incident cases and deaths from leukaemia in children, including any cases in the vicinity with invalid postcodes, were checked by the Childhood Cancer Research Group in Oxford against data on their own files. The Office of Population Censuses and Surveys and the Welsh cancer registry checked registration details of the incident cases of adult leukaemias. Copies of death certificates were provided for all leukaemias, non-Hodgkin's lymphomas, and multiple myeloma.

STATISTICAL METHODS

The main hypotheses identified at the start concerned, for both sexes combined, the incidence (1974–84) of all cancers and cancer of the larynx at all ages and ages 0–64, as well as leukaemias in children (0–14), adults (15–64), and at all ages. The main analyses of mortality were for both sexes combined at ages 0–74, as well as all cancers, leukaemias, and blood disorders at ages 0–14.

Two sets of data (not independent) were examined for each cause. Firstly, for descriptive purposes, observed (O) and expected (E) values, observed/expected (O/E) ratios, and their 95% confidence intervals (95% CIs) (assuming a Poisson distribution) were obtained for the entire 7.5 km study area, and for an area close to the source, chosen at the start to be from 0–3 km. Secondly, O, E, and O/E ratios were obtained for eight bands delimited by circles up to a radius of 7.5 km, chosen at the start to give four circles close to the plant (within 3 km) with the rest enclosing bands of roughly equal areas. Thus eight bands were defined between circles of radii 0.5, 1.0, 2.0, 3.0, 4.6, 5.7, 6.7 and 7.5 km. Tests of significance, based on those described by Stone,¹⁷ used data from these

eight bands to test for decline in risk at some (unspecified) distance from the plant. This approach partly overcame problems of inference associated with the arbitrary choice of boundaries as data are examined and tested simultaneously over all distance bands included in the study, and a single P value is obtained. Significance levels were obtained by Monte Carlo methods based on 999 simulations. The tests may give significant results even where there is no overall excess in the area considered.

Two tests were done, referred to here as the unconditional and conditional tests. For the unconditional test, the null hypothesis was that the relative risk in each of the bands was equal to one. An isotonic alternative includes any pattern of non-increasing risk over the bands. The null hypothesis can be rejected either because of a raised relative risk over the study area as a whole—that is, within 7.5 km—or because of a decline in risk with distance. The data were further explored by use of the conditional test^{18,19} that corrects for the overall level of risk by constraining the sum of expected numbers over the (7.5 km) study area to be equal to the sum of the observed numbers.

The study, particularly of mortality, included exploratory analyses of a number of cancer sites, as well as subgroups of cancers, and analysis by sex and age. This involved over 75 unconditional Stone's tests, although not all were independent. Care has to be taken when interpreting the results of multiple significance tests, where many tests were performed. If the 75 tests were truly independent, with a significance level of 5%, up to seven significant results might be expected by chance alone.

Results

The population within 7.5 km of the plant was 115 721 at the 1981 census (56 302 males and 59 419 females) and it was 26 206 within 3 km. There were 12 133 boys and 11 517 girls aged 0–14 within 7.5 km in 1981, and 2681 and 2499 respectively within 3 km. The area within 7.5 km was more deprived than the average for Great Britain as a whole, especially from 0.5–1 km, where ratios of expected values stratified or unstratified by the deprivation index were 1.11 for the incidence of all cancers and 1.32 for cancer of the larynx. Results in the tables are given for both sexes combined and for the age groups identified at the start as of most interest. An appendix with age and sex specific results is available on request.

Table 1 shows standardised O/E ratios for Wales and for West Glamorgan, both for incidence and mortality. Rates for Wales as a whole were consistent with national rates; however for West Glamorgan, in comparison with (Welsh) regionally adjusted national rates, there was evidence for an excess of cancer registrations for all cancers combined (O/E 1.05; 95% CI 1.04–1.07) and laryngeal cancer (1.24; 1.07–1.43).

Table 2 Observed (O) and Expected (E)* numbers of incident cases within 3 km and 7.5 km of the Baglan Bay petrochemical plant, 1974–84: O/E ratios, 95% CI, and P values for Stone's unconditional and conditional tests for all cancers, cancer of the larynx, and all leukaemias, both sexes combined

Cause	0–3 km				0–7.5 km				Stone's test	
	O	E	O/E	(95% CI)	O	E	O/E	(95% CI)	Unconditional	Conditional
All cancers:										
All ages	1175	1095.4	1.07	(1.01–1.14)	5417	5030.4	1.08	(1.05–1.11)	0.001	0.489
0–64 y	604	543.7	1.11	(1.03–1.20)	2387	2129.0	1.12	(1.08–1.17)	0.001	0.419
Cancer of the larynx:										
All ages	18	12.5	1.44	(0.91–2.27)	70	52.7	1.33	(1.05–1.68)	0.132	
0–64 y	9	7.5	1.20	(0.55–2.27)	35	27.7	1.26	(0.91–1.75)	0.466	
All leukaemias:										
All ages	22	22.1	0.99	(0.66–1.51)	119	106.3	1.12	(0.94–1.34)	0.333	
0–14 y	2†	2.1	0.94	(0.11–3.39)	10	9.9	1.01	(0.48–1.85)	0.249	
15–64 y	8	9.5	0.85	(0.37–1.67)	51	38.8	1.32	(1.00–1.73)	0.380	

*Standardised for age, sex, index of deprivation, and adjusted for region.

†One extra case within 3 km was misallocated to the 3–4.6 km band, and one case, also one within 0–3 km, was not included as it had a non-valid postcode. If these cases are added to the 0–3 km band the figures are observed 4, expected 2.13, O/E 1.87 (95% CI 0.51–4.81) (see text).

Table 2 gives cancer incidence from 0–3 km and 0–7.5 km of the Baglan Bay plant and results of Stone's tests. Figure 2A shows the eight band data and (log scale) cumulative O and E with distance; ($\log_{10}$) cumulative O/E ratios are represented by differences between O and E on the log scale. During 1974–84, a total of 5417 cancers with a valid postcode was registered within 7.5 km of the plant, *v* 5030 expected (O/E 1.08; 1.05–1.11). This 8% excess is consistent with the 5% excess over the same period for the county of West Glamorgan (table 1). Although Stone's unconditional test was highly significant ($P = 0.001$), the conditional test was not significant ($P = 0.49$) reflecting an O/E ratio generally above one, rather than evidence of decline in risk with distance from the plant (table 2 and fig 2A).

For cancer of the larynx, there were 70 cases registered within 7.5 km *v* 52.7 expected (O/E 1.33; 1.05–1.68) but Stone's test was not significant (table 2 and fig 2A). Again, this apparent excess generally in the area was consistent with the 24% excess recorded in West Glamorgan as a whole (table 1).

Within 7.5 km, there were 119 leukaemia cases in the 11 years of study against 106.3 expected (O/E 1.12; 0.94–1.34), and 51 and 38.8 respectively at ages 15–64 (1.32; 1.00–1.73) with no evidence of decline in risk with distance from the plant (table 2). A close examination of all the 119 incident leukaemia registrations was undertaken in collaboration with the Office of Population Censuses and Surveys. Two duplicate registrations and one triplicate were found (all at ages 15–64). Among children (0–14) 10 leukaemia cases were observed within 7.5 km (9.9 expected), two of which were within 3 km (2.1 expected); again there was no evidence of decline in risk with distance (table 2).

Review of the childhood cases by the Childhood Cancer Research Group showed two on the database of the Small Area Health Statistics Unit that had incorrect postcodes (one boy, one girl), both of which should have been located within 3 km. One of these cases had been included in the band 3–4.6 km; the other had a non-valid postcode as the address at registration was incorrect, and hence the case was excluded from this analysis. Correct

allocation of these two cases would have given four rather than two cases within 3 km (O/E 1.87; 0.51–4.81); Stone's test of the revised data remained non-significant (unconditional test $P = 0.61$).

Table 3 and fig 2B show the results of the mortality analysis for the 11 years 1981–91. For all cancers combined within 7.5 km, there were 2458 deaths *v* 2387 expected (O/E 1.03; 0.99–1.07). There was no evidence of an excess, nor decline in risk of death with distance, for any of the solid tumours examined in this study (larynx, lung, liver, table 3). For lymphatic and haematopoietic cancers and blood disorders within 7.5 km, there were 179 deaths *v* 156.7 expected (1.14; 0.99–1.32, table 3). There were four deaths from leukaemia among children (1.19; 0.33–3.06), two of which were also included in the incidence analysis; two of the four deaths occurred within 3 km (one lymphoid, one myeloid) *v* 0.7 expected (2.74; 0.33–9.90, table 3). The Stone's tests were not significant in all these analyses (table 3).

For multiple myeloma, adjustment for deprivation resulted in expected values lower (and hence O/E ratios higher) by up to 5%, as national reference rates are lower in more deprived areas. Forty two deaths from multiple myeloma were recorded within 7.5 km during 11 years *v* 28.2 expected (O/E 1.49; 1.10–2.01, table 3 and fig 2B). All these deaths were over the age of 55 (62% over 65 years), 13 were within 3 km (2.15; 1.25–3.67, table 3) and 25 were among women; analysis by sex showed that the excess within 7.5 km was predominantly among women (2.01; 1.36–2.97). Over the same period, the standardised mortality ratio for multiple myeloma in West Glamorgan was 0.94 (table 1). When data for all eight bands were examined, the combination of Stone's tests (both sexes combined, unconditional $P = 0.057$ and conditional $P = 0.36$; women, $P = 0.014$ and $P = 0.65$, respectively) suggested a general excess of multiple myeloma in the area, especially among women, rather than decline in risk with distance, because the unconditional, but not the conditional test assumes that the background risk is 1.0—that is, the regional average; table 3 and fig 2B, (data for women not shown). Among women aged 15–74 (data not shown), there was an excess within

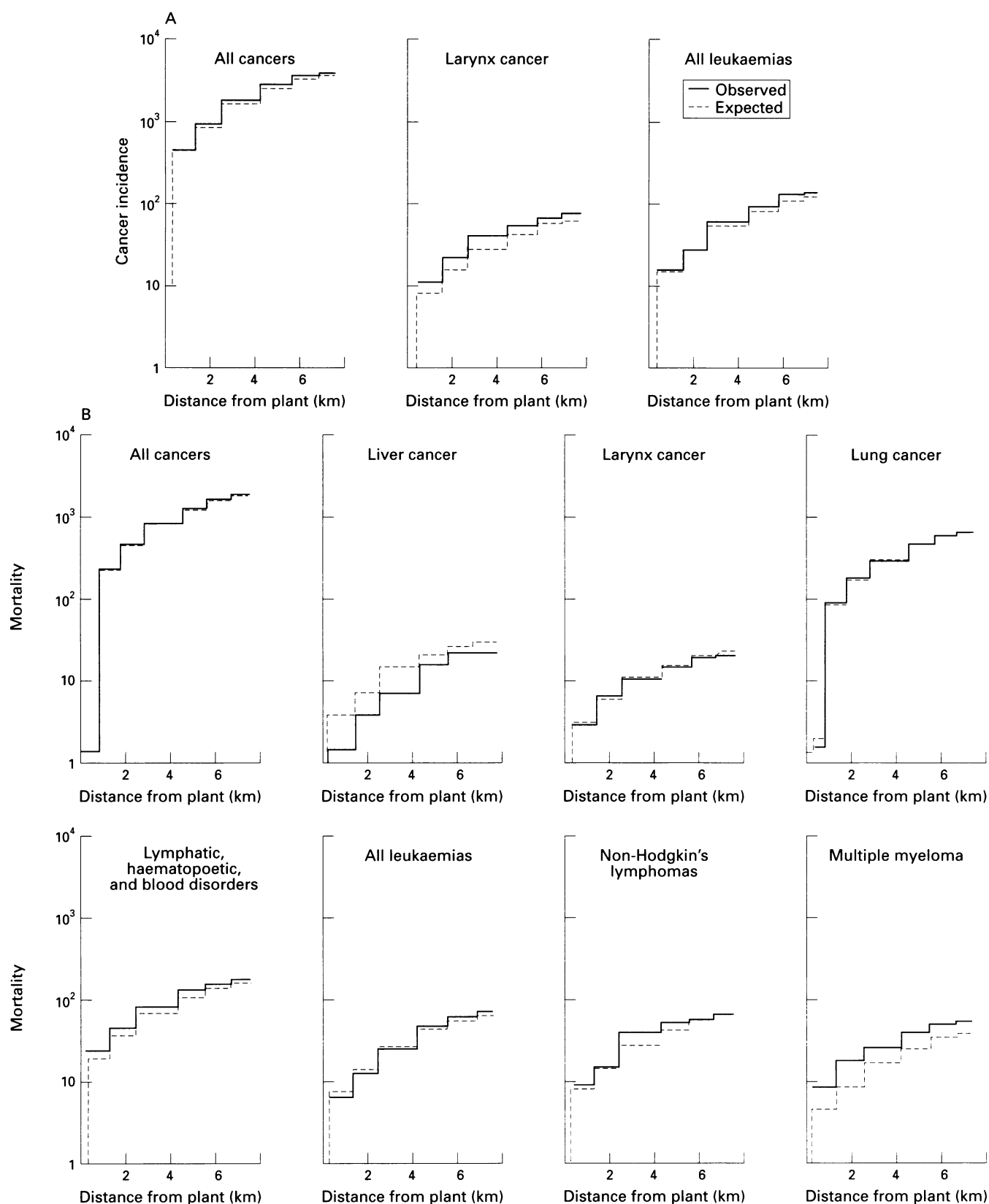


Figure 2 Graphs of cumulative observed and expected numbers of cases (log scale) with distance from the plant.

7.5 km of deaths from lymphatic and haematopoietic cancers combined (including multiple myeloma) (O/E 1.36; 1.09–1.69), but again the combination of Stone's tests did not indicate decline in risk with distance (unconditional $P = 0.039$, conditional $P = 0.40$).

Fifty one deaths from non-Hodgkin's lymphomas were found within 7.5 km (50.8 expected; table 3 and fig 2B). These comprised three reticulosarcomas, three lymphosarcomas, one malignant histiocytosis, and the remainder were lymphomas of unspecified

Table 3 Observed (O) and Expected (E)* numbers of deaths within 3 km and 7.5 km of the Baglan Bay petrochemical plant, 1981–91: O/E ratios, 95% CI, and P values for Stone's unconditional and conditional tests, both sexes combined

Cause	0–3 km				0–7.5 km				Stone's test	
	O	E	O/E	(95% CI)	O	E	O/E	(95% CI)	Unconditional	Conditional
Age 0–74 y:										
All cancers	571	542.2	1.05	(0.97–1.14)	2458	2387.3	1.03	(0.99–1.07)	0.432	
Liver cancer	3	6.0	0.50	(0.10–1.45)	19	25.6	0.74	(0.47–1.16)	0.171	
Larynx cancer	5	4.5	1.11	(0.36–2.60)	16	18.0	0.89	(0.55–1.44)	0.769	
Lung cancer	166	155.3	1.07	(0.92–1.24)	664	656.0	1.01	(0.93–1.09)	0.799	
Lymphatic, haematopoietic and blood disorders†	42	34.3	1.23	(0.91–1.66)	179	156.7	1.14	(0.99–1.32)	0.189	
Lymphatic and haematopoietic	38	31.3	1.21	(0.88–1.66)	165	143.0	1.15	(0.99–1.34)	0.162	
All leukaemias	10	11.7	0.85	(0.41–1.57)	61	53.7	1.14	(0.88–1.46)	0.748	
Hodgkin's lymphoma	3	2.4	1.27	(0.26–3.71)	11	10.4	1.06	(0.59–1.89)	0.868	
Non-Hodgkin's lymphomas	12	11.2	1.07	(0.61–1.87)	51	50.8	1.00	(0.76–1.32)	0.045	0.023
Multiple myeloma	13	6.1	2.15	(1.25–3.67)	42	28.2	1.49	(1.10–2.01)	0.057	0.363
Lymphoid leukaemia	3	3.2	0.93	(0.19–2.71)	21	14.9	1.41	(0.92–2.16)	0.497	
Myeloid leukaemia	7	7.7	0.91	(0.36–1.87)	38	35.3	1.08	(0.79–1.48)	0.916	
Blood disorders†	4	2.8	1.45	(0.40–3.71)	14	13.0	1.08	(0.64–1.81)	0.353	
Age 0–14 y:										
All cancers	3	2.1	1.43	(0.97–1.14)	10	9.7	1.03	(0.49–1.89)	0.804	
Lymphatic, haematopoietic and blood disorders†	2	0.9	2.13	(0.26–7.69)	4	4.3	0.93	(0.25–2.37)	0.578	
Lymphatic and haematopoietic	2	0.9	2.33	(0.28–8.40)	4	4.0	1.01	(0.28–2.59)	0.630	
All leukaemias	2	0.7	2.74	(0.33–9.90)	4	3.4	1.19	(0.33–3.06)	0.713	
Lymphoid leukaemia	1	0.4	2.33	(0.06–12.95)	3	2.0	1.52	(0.31–4.45)	0.470	
Myeloid leukaemia	1	0.2	5.00	(0.13–27.85)	1	1.0	1.04	(0.03–5.80)	0.890	

*Standardised for age, sex, index of deprivation, and adjusted for region. †For definition of blood disorders, see text.

morphology (ICD-9 code 202.8). Unconditional ($P = 0.045$) and conditional ($P = 0.023$) Stone's tests for the eight bands suggested decline in risk with distance, significant at the 5% level (table 3 and fig 2B). Analysis by sex showed a significant decline for women (Stone's unconditional test $P = 0.021$, conditional $P = 0.008$) but not men (unconditional $P = 0.60$).

Discussion

This report presents an analysis of the incidence of cancer (1974–84) and mortality (1981–91) within 7.5 km of the petrochemical works at Baglan Bay and follows reports of an alleged cluster (from 1984) of cancers in the area, especially cancer of the larynx and leukaemias. The petrochemical industry involves exposure to benzene, which is a recognised cause of leukaemias at least in an occupational setting,⁷ where exposures are likely to be many times higher than those experienced by residents living in the vicinity of a petrochemical plant. For children, an association of leukaemia and non-Hodgkin's lymphomas with occupational exposure of fathers to benzene in the preconceptional period has been reported,²⁰ and in this age group the geographical distribution of leukaemia and non-Hodgkin's lymphomas shows evidence of spatiotemporal clustering.²¹ In this enquiry, however, there was no evidence of decline in leukaemia incidence or mortality with distance, at all ages or in children.

Our finding of an excess incidence of all cancers and cancer of the larynx within the 7.5 km study area is consistent with a general excess of these cancers in West Glamorgan. There was no apparent decline in risk with

distance from the plant and we found no evidence of excess mortality from these cancers. For cancers with prolonged survival such as cancer of the larynx (or childhood leukaemias) it is recognised that mortality data are a poor proxy for cancer incidence.

The study was by design centred on the Baglan Bay petrochemical plant, although many other possible sources of industrial pollution are located nearby. These include the British Steel plant at Port Talbot (fig 1), containing coking works, and an oil refinery at Llandarcy, within 4 km of the Baglan Bay petrochemical plant. Thus any trend of risk with distance may be obscured by other possible (environmental) risks operating near the plant.

The general excess of cancers in West Glamorgan needs to be viewed in the context of cancer registration in Wales, for which there have been recent concerns about duplication of records in the National Cancer Registry.²² In our study, scrutiny of all 119 leukaemia registrations found two duplicate registrations and one triplicate. Examination of incidence relative to mortality gives an indication of the degree of possible over (or under) registration. Recent data indicate higher incidence to mortality ratios in Wales than for any other region of England and Wales.²² For West Glamorgan in our study, in comparison with regionally adjusted national rates, there was a 5% excess incidence for all cancers but a 2% deficit of mortality, during the respective study periods of 1974–84 and 1981–91; in contrast, for cancer of the larynx, the standardised ratio estimates for both incidence and mortality were raised (1.24 and 1.13 respectively). To our knowledge, an association between benzene exposure or the petrochemical industry and cancer of the

larynx has not been reported; the main known risk factors for this cancer are cigarette smoking and alcohol drinking, although occupational risks—for example, mustard gas and asbestos—are also described.^{23 24}

The mortality study included other causes of death possibly associated with the petrochemical industry. We found an excess generally of multiple myeloma within the 7.5 km study area, but Stone's tests were not indicative of decline in risk with distance from the plant. Relative mortality from multiple myeloma in West Glamorgan as a whole was less than one (standardised mortality ratio 0.94). The excess mortality was found especially among women, whereas previous studies in England and Wales found higher rates in men than women.²⁵ The reasons for the higher mortality in women in our study are unclear, and may represent a chance finding. Mortality from multiple myeloma tends to reflect reported incidence well, because fatality is high and median survival time is only two or three years²⁶; 97% agreement has been reported between death certification and hospital diagnosis of multiple myeloma.²⁷ No errors or inconsistencies in coding were found on review of death certificates of the 42 cases of multiple myeloma included in our study.

Associations between multiple myeloma and benzene exposure have been reported, again in an occupational setting, for example, in case series^{9 28} and studies of chemical workers.^{7 15} It has been postulated that low cumulative exposures to benzene may produce a well differentiated cancer such as multiple myeloma, whereas higher exposures may lead to leukaemia.^{7 29} In our study, there seems to be no clear explanation for the apparent local excess of multiple myeloma; the possibility of a chance finding should be considered in view of the multiple tests of significance carried out in the study.

We also found a significant decline in mortality from non-Hodgkin's lymphomas, especially in women, although there was no excess overall within 7.5 km. The high proportion of unspecified lymphomas (44/51) is indicative of likely misclassification among these cancers. Results of occupational studies that were examined for possible associations between chronic benzene exposure and non-Hodgkin's lymphomas are inconsistent.^{13 14 30} No clear explanation is apparent for the decline in risk of lymphomas reported here; again it may be a chance finding.

Limitations in the data and methods have been discussed elsewhere.^{1 2} These include firstly, varying degrees of incompleteness and duplication in cancer registration, which may have been a particular problem in our study given both incomplete postcoding and evidence of duplicates, at least among the leukaemia registrations. The non-availability of the 1991 census small area statistics at the time of the study did not affect the study of cancer incidence (up to 1984 only) although expected numbers of deaths may have been overestimated because of population decline between 1981 and 1991. Also, population

migration³¹ is likely to have reduced estimates of possible risk.

Secondly, we used a radial dispersion model of decline in risk with distance, uniform in all directions, in the absence of historical exposure data, although recent monitoring in the area—for example of benzene—was not suggestive of generally increased levels near the plant.⁵ Thirdly, the study of cancer incidence near a single industrial site generally lacks statistical power for rare diseases, and the retrospective nature of the statistical tests for the cancers of initial concern—that is, all cancers, cancer of the larynx, and leukaemias—greatly complicates their interpretation. Fourthly, for some cancers, including the that of larynx, there is the problem of possible residual socioeconomic confounding despite attempts to correct for it by use of the deprivation index. Despite these limitations, a major strength of the approach of the Small Area Health Statistics Unit is the ability to examine the available statistics for small areas close to an industrial plant, and where necessary, to replicate the study elsewhere if the findings warrant further investigation.

In summary, the apparent excess incidence of all cancers and cancer of the larynx within 7.5 km of the BP Chemicals Ltd works was consistent with an excess of these cancers in West Glamorgan. Although the cancer incidence data available for this study (1974–84) did not cover the period during which the apparent cluster of cancers in the Baglan Bay area was alleged (from 1984), some reassurance is gained from the absence of significant decline in the earlier period, as well as from the finding of no excess mortality from these cancers during the period of concern. A study of lymphatic and haematopoietic cancers near oil refineries in Great Britain is to be undertaken, which will help put the findings of our study in wider context.

The Small Area Health Statistics Unit is funded by grants from the Department of Health, Department of the Environment, Health and Safety Executive, Scottish Home and Health Department, Welsh Office, and Northern Ireland Department of Health and Social Services. We thank the Office of Population Censuses and Surveys (OPCS) and the Information and Statistics Division of the Scottish Health Service, who made the postcoded cancer data available to us. We also thank OPCS for checking registration details of specific cases and for providing copies of death certificates. We are grateful for the efforts of the separate cancer registries that submit data to the national cancer registration scheme, especially the Welsh cancer registry; and to Dr Gerald Draper (Childhood Cancer Research Group) for checking cancer records of children in the study, and, with other members of the Small Area Health Statistics Unit Steering Committee, for helpful comments on earlier drafts.

- 1 Elliott P, Westlake AJ, Kleinschmidt I, Rodrigues L, Hills M, McGale P, *et al.* The Small Area Health Statistics Unit: a national facility for investigating health around point sources of environmental pollution in the United Kingdom. *J Epidemiol Community Health* 1992;46: 345–9.
- 2 Elliott P, Hills M, Beresford J, Kleinschmidt I, Pattenden S, Jolley D, *et al.* Incidence of cancer of the larynx and lung near incinerators of waste solvents and oils in Great Britain. *Lancet* 1992;339:854–8.
- 3 Jones RC. Battle of Baglan Bay. *Independent Magazine* 28/10/1989:34–40.
- 4 Report on period October 1991. Port Talbot: Port Talbot Borough Council/University College of Swansea Monitoring Unit.

- 5 Bailey J, Campbell G, Kibblewhite M, McInnes G, Porter D. *Air quality audit. BP Chemicals, Baglan Bay. LR 905 (AP/CA)*. Hertfordshire: Warren Spring Laboratory, 1992. (ISBN 0 85624 765 0).
- 6 Osmond C, Gardner MJ, Acheson ED, Adelstein AM. Trends in cancer mortality 1951–1980. Analyses by period of birth and death. London: HMSO, 1983. (OPCS series DH1 No 11.)
- 7 Rinsky RA, Smith AB, Hornung R, Filloon TG, Young RJ, Okun AH, et al. Benzene and leukaemia: an epidemiological risk assessment. *N Engl J Med* 1987;316:1044–50.
- 8 McMichael AJ, Spirtas R, Kupper LL, Gamble JE. Solvent exposure among rubber workers: an epidemiological study. *J Occup Med* 1975;17:234–9.
- 9 Aksoy M. Different types of malignancies due to occupational exposure to benzene: a review of recent observations in Turkey. *Environ Res* 1980;23:181–90.
- 10 Yin S-N, Li G-L, Tain F-D, Fu Z-L, Jin C, Chen Y-J, et al. A retrospective cohort study of leukaemia and other cancers in benzene workers. *Env Health Perspect* 1989;82:207–13.
- 11 Rushton L, Alderson MR. Epidemiological survey of oil distribution centres in Britain. *Br J Ind Med* 1983;40:330–9.
- 12 Arp E, Wolf PH, Chekaway H. Lymphocytic leukaemia and exposures to benzene and other solvents in the rubber industry. *J Occup Med* 1983;25:598–602.
- 13 Vianna NJ, Polan A. Lymphomas and occupational benzene exposure. *Lancet* 1979;i:1394–5.
- 14 Delzell E, Monson RR. Mortality among rubber workers: VIII. Industrial products workers. *Am J Ind Med* 1984;6:273–9.
- 15 Decoufle P, Blattner W, Blair A. Mortality among chemical workers exposed to benzene and other agents. *Environ Res* 1983;30:16–25.
- 16 Elliott P. Small-area studies. In: *Setting priorities in environmental epidemiology. Proceedings of a World Health Organisation meeting held in Rome, January 1993*. Michigan: Lewis (in press).
- 17 Stone RA. Investigations of excess environmental risk around a putative source: statistical problems and a proposed test. *Stat Med* 1988;7:649–60.
- 18 Bithell JF, Stone RA. On statistical methods for analysing the geographical distribution of cancer cases near nuclear installations. *J Epidemiol Community Health* 1989;43:79–85.
- 19 Hills M. Some comments on methods for investigating disease risk around a point source. In: Elliott P, Cuzick J, English D, Stern R. *Geographical and environmental epidemiology: methods for small area studies*. Oxford: Oxford University Press, 1992:231–7.
- 20 McKinney PA, Alexander FE, Cartwright RA, Parker L. Parental occupations of children with leukaemia in West Cumbria, North Humberside and Gateshead. *BMJ* 1991;302:681–7.
- 21 Knox EG, Gilman E. Leukaemia clusters in Great Britain. I. Space-time interactions. *J Epidemiol Community Health* 1992;46:566–72.
- 22 Office of Population Censuses and Surveys. *Cancer registrations 1987*. London: HMSO, 1993. (OPCS Series MB1.)
- 23 Rothman KJ, Cann CI, Flanders D, Fried MP. Epidemiology of laryngeal cancer. *Epidemiol Rev* 1980;2:195–209.
- 24 Austin DF. Larynx. In: Schottenfeld D, Fraumeni JF, eds. *Cancer epidemiology and prevention*. Philadelphia: WB Saunders, 1982:554–63.
- 25 Velez R, Beral V, Cuzick J. Increasing trends of multiple myeloma mortality in England and Wales, 1950–79: are changes real? *J Natl Cancer Inst* 1982;69:387–92.
- 26 Kyle RA. Long-term survival in multiple myeloma. *N Engl J Med* 1983;308:314–6.
- 27 Percy C, Miller BA, Gloeckler Ries LA. Effects of changes in cancer classification and the accuracy of cancer death certificates on trends in cancer mortality. *Ann N Y Acad Sci* 1990;609:87–99.
- 28 Torres A, Giralt M, Raichs A. Coexistencia de antecedentes benzólicos crónicos y plasmocitoma multiple. Presentación de dos casos. *Sangre (Barc)* 1970;15:275–9.
- 29 Goldstein BD. Is exposure to benzene a cause of multiple myeloma? *Ann NY Acad Sci* 1990;609:225–34.
- 30 Smith PR, Lickiss JN. Benzene and lymphomas. *Lancet* 1980;i:719.
- 31 Alexander FE, McKinney PM, Cartwright RA. Migration patterns of children with leukaemia and non-Hodgkin's lymphoma in three areas of northern England. *J Public Health Med* 1993;15:9–15.

Instructions to authors

Three copies of all submissions should be sent to: The Editor, *Occupational and Environmental Medicine*, BMJ Publishing Group, BMA House, Tavistock Square, London WC1H 9JR, UK. All authors should sign the covering letter as evidence of consent to publication. Papers reporting results of studies on human subjects must be accompanied by a statement that the subjects gave written, informed consent and by evidence of approval from the appropriate ethics committee. These papers should conform to the principles outlined in the Declaration of Helsinki (*BMJ* 1964; ii:177).

If requested, authors shall produce the data on which the manuscript is based, for examination by the Editor.

Authors are asked to submit with their manuscript the names and addresses of three people who they consider would be suitable independent reviewers. They will not necessarily be approached to review the paper.

Papers should include a structured abstract of not more than 300 words, under headings of Objectives, Methods, Results, and Conclusions. Please include up to three keywords or key terms to assist with indexing.

Appendix E

Preliminary Geotechnical Risk Register

Geotechnical Hazard Identification – Desk Study Stage

Potential geotechnical hazards have been assessed in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and HD 22/08. The following pages set out the identified geotechnical risks and hazards which are associated with the proposed development and establish the approach which is to be taken to manage the risks including the geotechnical input and analysis.

Table E.1 is a preliminary assessment of possible geotechnical hazards at the site at Desk Study stage. This information is used to assist with site investigation design.

Table E.1: Possible geotechnical hazards

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Uncontrolled Made Ground (variable strength and compressibility).	Composition and distribution of Made Ground on site unknown.	✓	
Soft / loose compressible ground (low strength and high settlement potential).	Tidal Flat deposits often composed of soft clay.	✓	
Shrink swell of the clay fraction of soils under the influence of vegetation.	Tidal Flat Deposits often contain large amounts of clay and therefore prone to shrink / swell.	✓	
Variable lateral and vertical changes in ground conditions.	Made Ground and Tidal Flat Deposits have potential to be laterally and vertically highly variable.	✓	
Elevated sulfates present in the soils.	Made Ground may contain elevated sulfates	✓	
Adverse chemical ground conditions, (e.g. expansive slag).	Composition of Made Ground unknown.	✓	
Obstructions.		✓	
Existing below ground structures to remain.	No pre-existing structures noted at the site.		✓
High groundwater.	Site is low lying with adjacent surface water bodies.	✓	
Changing groundwater conditions.	Shallow groundwater may vary with tides and river levels.	✓	
Risk from erosion.	Flowing water and significant topographic relief not noted		✓
Risk from flooding.	Site in flood risk zone (>1% chance of flooding)	✓	
Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls.	Made Ground anticipated at the site.	✓	

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Slope stability issues – general slopes.	Slopes not currently present or proposed.		✓
Slope stability issues – retaining walls.			✓
Earthworks – settlement (due to placement of fill on soft / loose ground).	Site won materials likely to be of variable composition. Underlying material also likely to be of questionable bearing capacity.	✓	
Earthworks – poor bearing capacity of new fill.		✓	
Earthworks – unsuitability of site won material to be reused as fill.		✓	
Cavities in the Superficial Deposits due to solution features.	Bedrock non-karstic.		✓
Mining.	Site located in Coal Authority development high risk area.		✓
Cambered ground with gulls possibly present.	Insufficient topographic relief.		✓
Relict Slip Surfaces.	Bedrock too deep for this to be an issue.		✓
Solifluction.	Insufficient topographic relief.		✓

Appendix F

Plausible Source-Pathway-Receptor Contaminant Linkages

Summary of Potential Contaminant Linkages

Table F.2 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in CLR 11 and additional risk assessment is required.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland et al 2001) but with the addition of a ‘no linkage’ category (See Table F.1). More details are given in the relevant Hydrock methodology, referenced in Appendix G, including descriptions of typical examples of probability and consequences.

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

Table F.1: Consequence versus probability assessment.

Probability	Consequence				
		Severe	Medium	Mild	Minor
	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			

Table F.2: Exposure model – preliminary risk assessment of source-pathway-receptor contaminant linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments	
Made Ground below the site from reclamation of the site from saltmarsh. Composition of the Made Ground is unknown but may include metals, metalloids, petroleum hydrocarbons, polycyclic aromatic hydrocarbons.	Ingestion, inhalation or direct contact.	Site users.	Likely	Medium	Moderate	There is likely to be Made Ground beneath the entire site which may include industrial waste.	Contact with Made Ground is likely in areas of open space. Investigation and chemical testing will be required to determine the chemical composition of any Made Ground and the risk it poses to receptors.
	Inhalation of fugitive dust.	Neighbours.	Low likelihood	Medium	Low		The risk of significant generation of dust is likely only during site development process and can therefore be controlled.
	Leaching into groundwater beneath site.	Groundwater and possible abstractors.	Low likelihood	Medium	Low	There is likely to be Made Ground under much of the site which may include industrial waste.	The underlying aquifer is Secondary Undifferentiated and therefore groundwater flow is likely to be concentrated within bands of coarser material.
	Surface run-off.	Aquatic ecosystems. Surface water and possible abstractors.	Likely	Medium	Moderate		Surface water bodies are present both on site and adjacent to the site boundary.

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments	
Ground gases (carbon dioxide and methane) from organic materials in the Made Ground and peat within Tidal Flat deposits below the site.	Migration through superficial deposits	Site users.	Likely	Severe	High		Gas behaviour at the site currently unknown. Will need to be addressed during ground investigation and subsequent monitoring period.
		Proposed buildings	Likely	Severe	High	Peat and Made Ground both capable of significant ground gas generation.	
Off-site sources of contamination; former railway embankments, M4 and former BP petrochemical works.	Migration of contaminants onto site and direct contact.	Site users	Unlikely	Medium	Very low	Contaminants associated with neighbouring past and existing infrastructure unlikely to be sufficiently mobile to pose a risk to site end users. Former petrochemical works too far from site boundary to pose a significant hazard.	

Appendix G

Hydrock Methodologies

This report has utilised Hydrock Desk Study Template V12.1.

This appendix provides additional background information on certain approaches and methods used by Hydrock Consultants Limited in the preparation of this report.

The following Hydrock Methodologies apply to this report. These are not included, but are available on request by quoting the methodology reference, revision and date.

Reference	Name	Revision	Date
001	Desk Study	001	30/07/2018