# Geotechnical and Geoenvironmental Report:

Proposed Development Lon Cardi Bach, Cilgerran.

## PREPARED FOR:

Wales and West Housing Association

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# Executive Summary

Site Location	Wales and West Housing Association is proposing a residential development
and Proposed Development	at land south of Lon Cardi Back Road in Cilgerran, the site is currently a grassed field. The development comprises six 3 bed houses, twelve 4 bed houses, two 2 bed bungalows and two 1 bed bungalows.
	The site centres on an approximate National Grid Reference of 219630 242700 occupying a plan area of approximately 0.85 Hectares and is irregular in shape.
Site History	The earliest historical map shows the site to be predominantly grassed fields with the exception of a railway line, in a cutting, running along the northern boundary of the site.
	The railway was abandoned and the cutting filled around 1991. The site has had no other use.
Geology	The 1:50,000 scale British Geological Map of the area (Sheet 193) was consulted for geology underlying the site. The site is shown to be underlain by Nantmel Mudstone Formation rock.
	Superficial deposits are not recorded at the site.
	Made ground is anticipated at the site associated with old railway running along the northern boundary of the site.
Radon	The Envirocheck Report ( <b>Annex A</b> ) details that full radon protective measures are required for new developments on the investigation site.
Ground Conditions	The ground conditions typically found at the site were Firm grey/orangish brown slightly sandy slightly gravelly CLAY over medium dense grey clayey slightly sandy GRAVEL with low cobble content over Grey weathered MUDSTONE.
Contamination of Concern	Contamination testing recorded elevated levels of lead and Dibenzo(a.h)Anthracene as well as the presence of Chrysotile asbestos in the north of the site associated with the filling of the abandoned railway.
Foundation Solution	The proposed new development will comprise a mixture of two, three and four bed houses. For the majority of the site it is recommended that a combination of mass concrete strip or trench fill foundations founded within the competent weathered mudstone bedrock may be used. Based upon the site investigation the depth to the in-situ founding horizon will typically be between 0.80-1.10m.
	For the above foundations within the above materials in order to prevent any effects from frost heave and/or thermal shrinkage the edge beams should extend to a minimum depth of 900mm below finished ground level.
	An allowable bearing pressure of 150kN/m² may be used for design purposes. For the given foundation solution and bearing pressure, maximum total settlements of 25mm should result with differential movements of the superstructure not exceeding 1:750.
	The floor slabs should be designed as suspended.
	For the area affected by the deep fill over the former railway line made ground was found to be up to 4.30m deep reducing southwards. <b>Figure 8.1</b> shows the extent of the made ground. The purple line shows the approximate extent of the made ground increasing to the maximum depth of up to 4.3m along the orange line. It is recommended that a combination of piled foundation north of the orange line and mass concrete strip/trench fill foundation south of the orange line both found within the competent mudstone be used. For the piled foundations for a 275mm square concrete pile founded within the competent mudstone bedrock with an appropriate set a safe working load of 400kN should be achieved. Plies lengths should be in the order of 4/5m measured form the existing ground.
	In the area within the infilled railway between the orange and purple lines as seen below in <b>Figure 8.1</b> , it is recommended that a combination of mass



concrete strip and trench fill foundations founded within the competent weathered mudstone bedrock as described above, with the depth to the in-situ founding horizon will typically 2.00m.



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# Wales and West Housing Association



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ANNEX B Risk Assessment Definitions
ANNEX C Trial Pit Logs
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ANNEX E Soakaway Results
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# **Drawings**

Drawing 01 Site Layout Drawing 02 Additional Boreholes and Trial Pits Site Layout



# **SECTION 1** Introduction and Proposed Development

#### 1.1 Introduction

Wales and West Housing Association (The Client) is proposing a residential development at land south of Lon Cardi Back Road in Cilgerran, the site is currently a grassed field. The development comprises six 3 bed houses, twelve 4 bed houses, two 2 bed bungalows and two 1 bed bungalows.

Roger Casey Associates Limited are the Consulting Civil and Structural Engineers for the proposed development.

Terra Firma (Wales) Limited have been commissioned by Roger Casey Associates Limited on behalf of Wales and West Housing Association to undertake a geo-environmental assessment and geotechnical investigation of the site.

The main objectives of the geoenvironmental assessment programme are:

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

The main objectives of the geotechnical site investigation are:

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

In order to achieve the above objectives, Terra Firma (Wales) Limited carried out an assessment programme including a review of existing data, followed by a field investigation to collect geotechnical and geoenvironmental data from selected locations.

# 1.2 Limitations and Exceptions of Investigation

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

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

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



# 1.3 Quality Assurance

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



# **SECTION 2** Review of Existing Data

# 1.1 Physical Setting and Current Site Use

The site centres on an approximate National Grid Reference of 219630 242700 occupying a plan area of approximately 0.85 Hectares and is irregular in shape.

The site is bound by an unnamed road to the west, to north and south by residential housing and to the west by grassed fields. The site is generally level with an elevation of 54mAOD, there is a dip downwards in the north west corner where the elevation is 52mAOD.

The site location can be seen on **Figure 2.1** along with the proposed site layout on **Drawing 01** and **Drawing 02**.

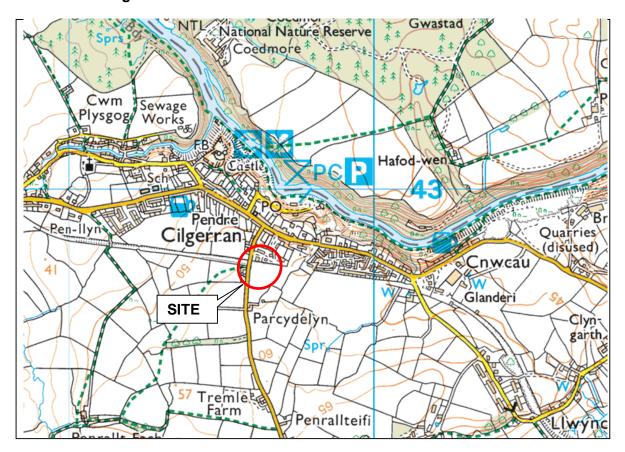


Figure 2.1 Site Location



# 1.2 Site History

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

**Table 2.1 Historical Development from Map Information** 

Map Edition & Scale	Key Features on Site	Key Features off Site
1988 1:10560	, 5	
1907 1:10560	No significant Changes	The Pwdwn Quarry is now disused. There is a burial ground 100m south of the site.
1976-1977 1:2500	No significant Changes	Dot Badu Quarry is now disused. The farm to the south of the site has been extended.
1991-1993 1:2500	The railway line on the northern boundary has been infilled.	A housing estate has been built to the immediate north of the site boundary.
2006 1:10000	No significant changes	No significant Changes
2020 1:10000	The site remains unchanged.	The surrounding area remains unchanged.

## 1.3 Geological Setting

## 1.3.1 Geology

The 1:50,000 scale British Geological Map of the area (Sheet 193) was consulted for geology underlying the site. The site is shown to be underlain by Nantmel Mudstone Formation rock. Detailed stratigraphical information is provided in **Table 2.2**.

**Table 2.2 Detailed Stratigraphical Information** 

Period	Group	Formation
Ordovician	Ashgill	Nantmel Mudstone Formation

Strata are typically dipping 35° to the north in the local area.

Superficial deposits are not recorded at the site.

Made ground is anticipated at the site associated with old railway running along the northern boundary of the site.



#### 1.3.2 Radon

The Envirocheck Report (**Annex A**) details that full radon protective measures are required for new developments on the investigation site.

#### 1.3.3 Mining

The site situates outside the South Wales coal fields.

There are no Relevant BGS mineral sites as recorded within 500m of the site, in the Envirocheck Report datasheets (**Annex A**).

**Natural Hazards** 

The underlying geology is not prone to dissolution due to the significant mudstone component of the geological units and the risk of natural cavities in the bedrock is considered negligible.

Shallow superficial soils have the no potential for running sand conditions and Shrinking/Swelling clay ground stability hazards.

# 1.4 Environmental Setting

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

#### 1.4.1 Hydrogeology

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

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

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

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

The nearest groundwater abstraction point is located 1818m southeast, operated by C H James.

#### 1.4.2 Hydrology

The nearest surface water feature locates off site 231m to the north and comprises an inland river, Afon Teifi.

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

#### 1.4.3 Flooding

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

#### 1.4.4 Waste

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



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

There are three discharge consents within 250m of the site, the closest being 132m northeast, operated by S Martin.

#### 1.4.5 Pollution

There has been one pollution incident recorded to have occurred within 250m radius of the site. Details The incident date was 27/06/1994, the pollutant was sewage and the incident severity was a Category 3 – Minor Incident.

#### 1.4.6 Sensitive Land Use

The site locates within the Perseli (decommissioned) environmentally sensitive area.

#### 1.4.7 Industrial Land Use

Relevant contemporary trade directory entries recorded within proximity of the site are summarised in **Table 2.3.** 

**Table 2.3 Relevant Contemporary Trade Summary** 

Company	Distance/Direction from site	Classification	Status
Terry & Everton	144 North East	Garage Services	Active
Cware Pantgwyn Quarry Ltd	245 East	Aggregates	Inactive
Pendre Garage	119 North East		

#### 1.4.8 Infilled Land

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



# SECTION 3 Preliminary Human Health and Environmental Risk Assessment

#### 3.1 General

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

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

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

#### 3.2 Potential Sources of Contamination

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

**Table 3.1 Contamination Sources** 

ID	Source	Contaminant
S1	Made ground associated with the filling of the railway cutting	Metals, PAH, PCB and asbestos
S2	Nantmel Mudstone Formation rock	Radon

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

# 3.3 Potential Pollution Pathways

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

- P1 Direct soil and dust ingestion
- P2 Consumption of home grown produce
- P3 Dermal contact
- P4 Inhalation of dust and vapours
- P5 Vertical migration of leachates (unsaturated zone)
- P6 Horizontal and vertical migration of contaminants (saturated zone)
- P7 Artificial contaminant pathway (borehole, pile, excavation etc)
- P8 Surface run-off
- P9 Plant uptake
- P10 Horizontal and vertical migration of ground gasses and vapours
- P11 Direct contact with construction materials
- P12 Inhalation of asbestos fibres



# 3.4 Potential Receptors

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

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

# 3.5 Preliminary Conceptual Site Model

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

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

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



**Table 3.2 Preliminary Conceptual Site Model** 

Source	Pathway	Receptor		Preliminary Risk Assessment			
Source	Falliway	Receptor	Consequence	Probability	Risk		
		Human Health	Human Health				
Made ground	P1 – Direct soil and dust ingestion P2 – Consumption of home grown produce P3 – Dermal contact P4 – Inhalation of dust and vapours P5 – Vertical migration of leachates	Construction and maintenance workers R1	Medium	Low Likelihood	Medium Risk - COSHH assessment and good level of PPE/ hygiene by site workers/ staff; dust suppression measures if required. Suitably designed site investigation recommended		
associated with the filling of the railway	(unsaturated zone) P6 – Horizontal and vertical migration of	Passers-by or neighbouring site users R3	Medium	Unlikely	<b>Low Risk</b> - Dust suppression measures if required.		
cutting S1	contaminants (saturated zone) P8 – Surface run-off P9 – Plant uptake P11 – Direct contact with construction materials P12 – Inhalation of asbestos fibres	Future site users (residents) R2	Medium	Low Likelihood	High Risk - Suitably designed site investigation recommended		
Nantmel Mudstone Formation rock S2	Horizontal and vertical migration of ground gasses and vapours P10	Future site users (residents) R2	Medium	Unlikely	<b>High Risk</b> - Full radon protection measures required		
		Aquatic Environment					
Made ground associated with the filling of the railway cutting S1	Vertical migration of leachates (unsaturated zone) P5	Groundwater (aquifer) R4 Surface waters (river/lake) R5					
	Surface run-off P8		Mild	Low Likelihood	Low Risk		
	Horizontal and vertical migration of contaminants (saturated zone) P6	Surface waters (river/lake) R5					



#### **SECTION 4** Field Investigation

#### 4.1 Site Works

A geotechnical and geoenvironmental site investigation comprising fourteen trial pits, of which eight has soakaway tests conducted in them, was undertaken between the 04/08/2020 and 05/08/2020 date. Exploratory hole locations are shown on **Drawing 01**.

An additional four trial pits and ten rotary boreholes were undertaken in the area around the old railway line between the 16/02/2022 and 04/03/2022. Exploratory hole locations are shown on **Drawing 02**.

A supplementary site investigation was undertaken between 13<sup>th</sup> and 17<sup>th</sup> December 2024 and comprised of two rotary boreholes with falling head soakaway tests.

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

The trial pits were excavated using a JCB 3CX excavator.

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

Trial pits referenced TP101 to TP104, were excavated to uncover the edge of the railway line, sketches are presented in **Annex D**.

Soakaway tests were carried out in trial pits TP02, TP03, TP04, TP06, TP08, TP09 and TP11 in general accordance with BRE DG 365:2016. The excavation sides were squared using the excavator bucket and dimensions recorded within the test section. The trial pit was partially filled with clean water using a dedicated bowser with a 75mm diameter outlet and the fall in level recorded against time. The results are presented in **Annex E.** 

Boreholes reference BH01 to BH12 were formed using a track mounted rotary drilling rig. The borehole was advanced from surface using a downhole hammer. Boreholes BH01, BH02 and BH03 were continued by rotary core drilling methods utilising a water.

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

Falling head tests were carried out in BH11 and BH12 in general accordance with BS5930:2015. The tests were carried out by adding water to the borehole and timing the fall of the head of water.

On completion BH01 to BH10 were backfilled with materials arising.

On completion, boreholes BH11 and BH12 were installed with slotted standpipes consisting of a 165mm internal diameter HDPE slotted tube set in a granular filer zone and sealed above with a bentonite plug. Installations were protected at surface with an upstanding cover. Full installation details are recorded on the relevant logs.

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



#### 4.2 Ground Conditions

The ground conditions encountered by the exploratory holes can in general be summarised as shown in **Table 4.1** and typical ground conditions in the area of the railway line shown in **Table 4.1**.

**Table 4.1 Summary of Typical Ground Conditions** 

Depth (m)		(m)	Stratum	
0.00	-	0.30 / 0.40	Firm brown slightly sandy slightly gravelly CLAY	
0.30 / 0.40	-	0.65 / 1.00	Firm grey/orangish brown slightly sandy slightly gravelly <b>CLAY</b>	
0.40 / 0.8	-	0.80 / 1.10	Medium dense grey occasionally mottled orangish brown clayey slightly sandy <b>GRAVEL</b> with low cobble content.	
0.80 / 1.10	-	>1.10 / >1.80	Grey Weathered MUDSTONE	

Table 4.2 Summary of Typical Ground Conditions in the Area of the Railway Line

Depth (m)			Stratum
0.00	-	1.80 / 4.30	MADE GROUND / CLAY
1.80 / 4.30	-	>2.00 / >30.00	Grey Weathered <b>MUDSTONE</b>

#### 4.2.1 Miscellaneous Ground Conditions

Made ground was encountered along the northern boundary of the site, associated with the infilling of the railway cutting. The base of the made ground was proved to a maximum depth of 4.30m

Bedrock was not encountered in TP08, the trial pit went to a depth of 1.80m.

## 4.3 Groundwater

Groundwater information recorded during the site investigation is summarised in **Table 4.3**.

**Table 4.3 Groundwater Summary** 

Location	Depth (m)	Details
TP01	2.00	Water rose to 1.80m after 40 minutes
TP101	1.80	-
TP102	1.80	-
TP103	1.80	-
BH11	2.50	-
BH11	4.00-10.00	-
BH12	6.00-10.00	•

# 4.4 Stability and Obstructions

Trial pits remained stable and vertical during excavation.

Advancement of most trial pits was obstructed at 1.20-1.8m due to suspected shallow bedrock.



# 4.5 Laboratory Chemical Testing

# 4.5.1 Sampling Strategy

Soil sampling locations were selected on a targeted basis to investigate suspected/known sources of contamination or potential contamination migration pathways.

Sample locations, depths and suspected/known contamination source targets are summarised in **Table 4.4**:

**Table 4.4 Sample Locations, Depths and Targets** 

Location	Depth (m)	Contamination Targets			
TP01	0.4	Natural soil			
TP03	1.2	Natural soil			
TP07	0.9	Natural soil			
TP08	0.2	Natural soil			
TP10	0.5	Natural soil			
TP12	0.7	S1 – Made ground			
TP13	1.0	S1 – Made ground			
TP15	1.4	S1 – Made ground			

# 4.5.2 Soil Laboratory Analysis

During the site investigation works soil samples were taken and despatched to the accredited laboratories of Eurofins Chemtest for laboratory chemical testing. Soil samples were tested for the following determinants.

**Table 4.5 Soil Laboratory Analysis** 

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

The results are discussed in detail in **SECTION 5** and the laboratory test results certificates may be found in **Annex G**.

## 4.5.3 Soil Leachate Laboratory Analysis

During the site investigation works a soil sample was taken and despatched to the accredited laboratories of Eurofins Chemtest for laboratory leachate chemical testing. Soil samples were tested for the following determinants.



**Table 4.6 Leachate Laboratory Analysis** 

Metals & Metalloids	In-Organics	Organics	Others
Arsenic	Cyanide	Phenols	pH (acidity)
Boron	Sulphate		
Cadmium			
Chromium			
Copper			
Lead			
Mercury			
Nickel			
Selenium			
Zinc			

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

# 4.6 Soil Property Testing

# 4.6.1 In-situ Permeability Testing

During the site investigation seven trial pit soakaway tests were undertaken in TP02, TP03, TP04, TP06, TP08, TP09, TP11 and carried out in general accordance with BRE DG 365:2016.

Soakaway test results are summarised in Table 4.7.

**Table 4.7 Summary of Trial Pit Soakaway Results** 

	•	•
Trial Pit	Depth Range of Test (m)	Infiltration Rate (ms <sup>-1</sup> )
TP02	0.60 - 1.00	1.05 x 10 <sup>-05</sup>
TP03	0.93 - 1.40	9.02 x 10 <sup>-06</sup>
TP04	0.82 - 1.20	No infiltration
TP06	1.24 - 1.70	8.20 x 10 <sup>-06</sup>
TP08	1.40 - 1.80	No infiltration
TP09	0.89 - 1.40	4.91 x 10 <sup>-06</sup>
TP11	0.45 - 0.85	2.31 x 10 <sup>-05</sup>

Falling head tests were carried out in BH11 and BH12 in general accordance with BS5930:2015. The tests were carried out by adding water to the borehole and timing the fall of the head of water.

Borehole soakaway test results are summarised in Table 4.8.

**Table 4.8 Summary of Borehole Soakaway Results** 

Trial Pit	Depth Range of Test (m)	Infiltration Rate (ms <sup>-1</sup> )
BH11	0.00 - 30.00	1.14 x 10 <sup>-03</sup>
BH12	0.00 - 5.00	Too little water intake to calculate infiltration rate
BH12	0.00 - 15.00	3.28 x 10 <sup>-05</sup>
BH12	0.00 - 30.00	6.86 x 10 <sup>-04</sup>

The test results are discussed in **SECTION 8** and the calculation sheets may be found in **Annex E**.



# 4.6.2 Laboratory Geotechnical Testing

A schedule of laboratory tests was prepared by Terra Firma and samples were despatched to the accredited laboratories of Apex Testing Solutions. A summary of the testing carried out is presented in **Table 4.9**.

**Table 4.9 Summary of Geotechnical Testing** 

Geotechnical Test	Standard (BS1377:1990)	No. Tested
4 Point Liquid and Plastic Limit	Part 2, Clause 4.3 & 5.3	2

The test results are presented in **Annex H** and discussed in **SECTION 6** of this report.



# **SECTION 5** Evaluation of Geoenvironmental Analytical Results

# 5.1 Assessment Methodology

Comparison of the analytical results has been made with the 2015 Suitable 4 Use Levels (S4UL) provided by Land Quality Management (LQM) Limited and the Chartered Institute of Environmental Health (CIEH) or provisional Category 4 Screening Levels (pC4SL). Where S4UL or C4SL values are not available, reference has been made to Soil Guideline Values (SGV) sourced from the now withdrawn Environment Agency Contaminated Land Exposure Assessment (CLEA).

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

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

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

#### 5.2 Soil Test Results

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



# 5.2.1 Inorganics & Miscellaneous

Eight samples were tested for a standard suite of inorganics, pH and organic matter. The summarised results are in **Table 5.1**.

Table 5.1 Summary of Soil Chemical Test Results - Inorganics & Miscellaneous

Substance	Threshold Value	Source	Measured Concentrations (mg/kg)				Number of Exceedances
	(mg/kg)		Minimum	Maximum	LXCCCuarices		
Arsenic	37	LQM/CIEH	12	23	0		
Cadmium	11	LQM/CIEH	<0.10	0.14	0		
Chromium III	910	LQM/CIEH	24	41	0		
Chromium VI	6	LQM/CIEH	<0.5	<0.5	0		
Copper	2400	LQM/CIEH	22	39	0		
Lead	200	pC4SL	20	870	1		
Mercury (inorganic)	40	LQM/CIEH	<0.05	0.12	0		
Nickel	180	LQM/CIEH	23	42	0		
Selenium	250	LQM/CIEH	<0.20	<0.020	0		
Zinc	3700	LQM/CIEH	66	140	0		
Cyanide	-	-	<0.5	1.0	-		
Boron	290	LQM/CIEH	<0.40	0.65	0		
Sulphate (%)	0.24	BRE	<0.01	0.13	0		
Organic Matter (%)	-	-	0.2	4.5	-		
рН	-	-	6.6	8.0	-		
Notes:							

<sup>-</sup> No available guideline



# 5.2.2 Organics

Eight samples were tested for speciated polycyclic aromatic hydrocarbons. The summarised results are in **Table 5.2**.

Table 5.2 Summary of Soil Chemical Test Results – Speciated Polycyclic Aromatic Hydrocarbons

Substance	Threshold Value	Source	Measured Concentrations Source (mg/kg)		Number of Exceedances
	(mg/kg)		Minimum	Maximum	Exceedances
Naphthalene	2.3	LQM/CIEH	<0.01	<0.01	0
Acenaphthylene	170	LQM/CIEH	<0.01	<0.01	0
Acenaphthene	210	LQM/CIEH	<0.01	<0.01	0
Fluorene	170	LQM/CIEH	<0.01	<0.01	0
Phenanthrene	95	LQM/CIEH	<0.01	1.30	0
Anthracene	2400	LQM/CIEH	<0.01	0.44	0
Fluoranthene	280	LQM/CIEH	<0.01	3.50	0
Pyrene	620	LQM/CIEH	<0.01	2.90	0
Benzo(a)anthracene	7.2	LQM/CIEH	<0.01	2.20	0
Chrysene	15	LQM/CIEH	<0.01	2.30	0
Benzo(b)fluoranthene	2.6	LQM/CIEH	<0.01	2.50	0
Benzo(k)fluoranthene	77	LQM/CIEH	<0.01	0.88	0
Benzo(a)pyrene	2.2	LQM/CIEH	<0.01	1.70	0
Indeno(123cd)pyrene	27	LQM/CIEH	<0.01	1.40	0
Dibenzo(ah)anthracene	0.24	LQM/CIEH	<0.01	0.49	1
Benzo(ghi)perylene	320	LQM/CIEH	<0.01	1.60	0
Total PAH	-	-	<0.10	<0	-

Notes:

Thresholds based on 1.0% soil organic matter

<sup>-</sup> No available guidelines



Eight samples were tested for petroleum hydrocarbon. The summarised results are shown in **Table 5.3**.

Table 5.3 Summary of Soil Chemical Test Results – Petroleum Hydrocarbons

Substance	Threshold Measured Concentration (mg/kg)			Number of Exceedances				
	(mg/kg)		Minimum	Maximum	Exceedances			
Aliphatic	Aliphatic							
PH C5 – C6 Ali	42	LQM/CIEH	<1.0	<1.0	0			
PH C6 – C8 Ali	100	LQM/CIEH	<1.0	<1.0	0			
PH C8 – C10 Ali	27	LQM/CIEH	<1.0	<1.0	0			
PH C10 – C12 Ali	130	LQM/CIEH	<1.0	<1.0	0			
PH C12 – C16 Ali	1100	LQM/CIEH	<1.0	<1.0	0			
PH C16 – C21 Ali	65000*	LQM/CIEH	<1.0	<1.0	0			
PH C21 – C35 Ali	65000*	LQM/CIEH	<1.0	<1.0	0			
PH C35 – C44 Ali	65000	LQM/CIEH	<1.0	<1.0	0			
Aromatic								
PH C5 – C7 Arom	70	LQM/CIEH	<1.0	<1.0	0			
PH C7 – C8 Arom	130	LQM/CIEH	<1.0	<1.0	0			
PH C8 – C10 Arom	34	LQM/CIEH	<1.0	<1.0	0			
PH C10 – C12 Arom	74	LQM/CIEH	<1.0	<1.0	0			
PH C12 – C16 Arom	140	LQM/CIEH	<1.0	<1.0	0			
PH C16 – C21 Arom	260	LQM/CIEH	<1.0	6.0	0			
PH C21 – C35 Arom	1100	LQM/CIEH	<1.0	800	0			
PH C35 – C44 Arom	1100	LQM/CIEH	<1.0	<1.0	0			

PH - Petroleum Hydrocarbon

Ali - Aliphatic

Arom – Aromatic

Thresholds based on 1.0% soil organic matter

Three samples were tested for polychlorinated biphenyl (PCB). The summarised results are in **Table 5.4.** 

Table 5.4 Summary of Soil Chemical Test Results - PCB

Substance		Source	Measured Co (mg	Number of Exceedances		
	(mg/kg)		Minimum	Maximum		
PCB 90+101	-	-	<0.010	<0.010		
PCB 118	-	-	<0.010	<0.010		
PCB 138	-	-	<0.010	<0.010	-	
PCB 153	-	-	<0.010	<0.010	-	
PCB 180	-	-	<0.010	<0.010	-	
PCB 28	-	-	<0.010	<0.010	-	
PCB 52	-	-	<0.010	<0.010	-	
Total PCBs	0.008	CLEA	<0.10	<0.10	0	
Notes:						

- No available guideline

<sup>\* -</sup> Ali C16-21 and C21-C35 based on criteria for Ali EC >16-35



# 5.2.3 Asbestos Testing

All made ground soil samples were scheduled for asbestos screening. Asbestos was detected in one sample. The sample testing positive for asbestos was further scheduled for gravimetric quantification of ACM and fibres in soil/fibre quantification in soils. The results are summarised in **Table 5.5**.

Table 5.5 Summary of Soil Chemical Test Results – Asbestos Quantification

Sample	Depth (m)	Comment	Result (mass %)
TP12	0.7	Chrysotile	2.8

#### 5.2.4 Leachate Test Results

Substances found to be elevated in soil samples were submitted for leachate testing. The results are summarised in Table 5.6.

**Table 5.6 Summary of Leachate Chemical Test Results** 

Substance	Threshold Value (µg/l)	Source	Measured Concentrations (μg/l)	Number of Exceedances
Arsenic	50	WFD2	<1.00	0
Cadmium	0.08	WFD1	<0.08	0
Chromium	3.4*	WFD2	2.3	0
Copper	1.0	WFD2	<1.00	0
Lead	1.2	WFD1	<1.00	0
Mercury	0.07	WFD3	<0.01	0
Nickel	4	WFD1	<1.00	0
Selenium	10	DWD	<1.00	0
Zinc	10.9	WFD2	<1.00	0
Cyanide, Total	1.0	WFD2	<0.05	0
Phenol	7.7	WFD2	<5.00	0
Sulphate (mg/l)	400	BRE	11	0
TOC (mg/l)			8.6	
pH			7.5	

WFD1 - Water Framework Directive – Inland Surface Waters (AA)
WFD2 - Water Framework Directive – Freshwater (Long Term Mean)
WFD3 - Water Framework Directive – Inland Surface Waters (MAC)

DWD - Drinking Water Directive

BRE - British Research Establishment

- No available guideline

\* Conservative threshold for Chromium VI used

BLDL - Below laboratory detection limit

ALDL - Above laboratory detection limit



# **SECTION 6 Geotechnical Testing Results**

Geotechnical testing results are summarised in the following sections and presented in their entirety in **Annex H**.

# 6.1 Point Load Index Testing

# 6.2 Plasticity Testing

During the investigation two samples of the shallow clay material was taken and submitted for plasticity testing. The test results are summarised in **Table 6.7.** 

**Table 6.7 Plasticity Content Test Results** 

Location	Depth (m)	Laboratory Principal Soil Type	Plasticity Index (%)	Passing 425µm Sieve (%)	Modified Plasticity Index (%)	Volume Change Potential
TP05	1.00	Clay	26	82	21.32	Medium
TP08	1.10	Clay	20	97	19.4	Medium

In line with the NHBC (Chapter 4.2), the modified plasticity index for each sample was calculated. For design purposes the soils on site should be assumed to have a medium volume change potential.



#### SECTION 7 Quantitative Risk Assessment

#### 7.1 Contaminants of Concern

Contaminants identified as part of the investigation are summarised in **Table 7.1** along with an interpretation of the likely contamination source. Where applicable, the contaminant, source relationship is based on the inferences made in the preliminary conceptual site model.

**Table 7.1 Contaminants of Concern** 

Location	Depth	Contaminant	Source
TP01	0.40	Lead	S1 – Made ground
TP12	0.70	Dibenzo(a,h)Anthracene	S1 – Made ground
TP12	0.70	Chrysotile Asbestos	S1 – Made ground

# 7.2 Pollutant Linkages

Based on the findings of the intrusive site investigation and identified contaminants, the preliminary conceptual site model has been revised. Significant pollutant linkages are tabulated in the refined conceptual site model **Table 7.2**. Identified pollutant linkages will require detailed risk assessment, appropriate mitigation or remedial measures.

**Table 7.2 Refined Conceptual Site Model** 

Source	Pathway	Receptor
S1 - Made ground associated with the filling of the railway cutting	P1 – Direct soil and dust ingestion P2 – Consumption of home grown produce P3 – Dermal contact P4 – Inhalation of dust P9 – Plant uptake	R1 – Construction and maintenance workers R2 – Future site users (residents) R3 – Passers-by or neighbouring site users R6 – Area of public open space
S2 - Nantmel Mudstone Formation rock	P10 – Horizontal and vertical migration of radon gas	R2 – Future site users (residents)

# 7.3 Mitigation and Remedial Measures

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

#### 7.3.1 Human Health

#### 7.3.1.1 Contaminated Soils

Remedial measures will be required with regards to site soils which have been found to contain elevated levels of contaminants. The affected soils are the Made Ground present in the north of the site.

To protect future site users from the identified contamination the site will need to be capped. The capping should consist of the proposed buildings and hard standings. In garden and soft landscaped areas along the northern boundary (**Figure 7.1**), the capping should consist of 600mm of suitable inert topsoil, and subsoil if desired with a double no dig barrier. Alternatively made ground soils could be removed from site and disposed of at a suitably licenced landfill site.

**Figure 7.1** shows the area where capping is required.



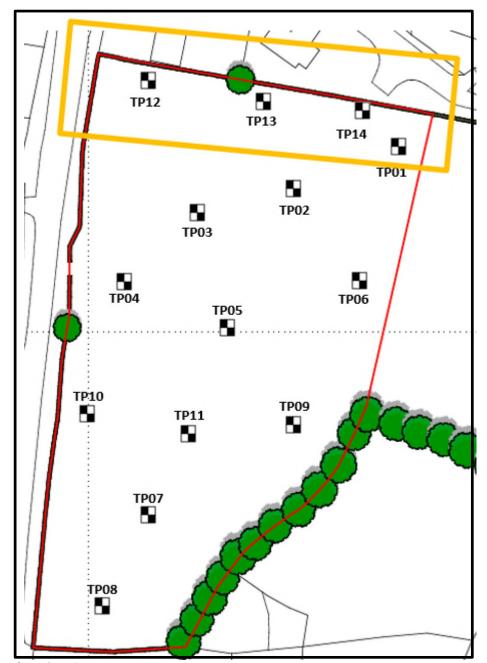


Figure 7.1 Capping Area

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

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

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

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



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

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

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

#### 7.3.1.2 Radon

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

#### 7.3.2 Aquatic Environment

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

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

The basic measures that should be taken are as follows:

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



# **SECTION 8 Engineering Recommendations**

# 8.1 Preparation of Site

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

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

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

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

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

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

#### 8.2 Foundation and Floor Slab Solution

The proposed new development will comprise a mixture of two, three and four bed houses. For the majority of the site it is recommended that a combination of mass concrete strip or trench fill foundations founded within the competent weathered mudstone bedrock may be used. Based upon the site investigation the depth to the in-situ founding horizon will typically be between 0.80-1.10m.

For the above foundations within the above materials in order to prevent any effects from frost heave and/or thermal shrinkage the edge beams should extend to a minimum depth of 900mm below finished ground level.

An allowable bearing pressure of 150kN/m<sup>2</sup> may be used for design purposes. For the given foundation solution and bearing pressure, maximum total settlements of 25mm should result with differential movements of the superstructure not exceeding 1:750.

For the area affected by the deep fill over the former railway line made ground was found to be up to 4.30m deep reducing southwards. **Figure 8.1** on the following page shows the extent of the made ground. The purple line shows the approximate extent of the made ground increasing to the maximum depth of up to 4.3m along the orange line. It is recommended that a combination of piled foundation north of the orange line and mass concrete strip/trench fill foundation south of the orange line both found within the competent mudstone be used. For the piled foundations for a 275mm square concrete pile founded within the competent mudstone bedrock with an appropriate set a safe working load of 400kN should be achieved. Plies lengths should be in the order of 4/5m measured form the existing ground.

Measurements should be put in place to monitor vibrations during pile installation. If vibrations exceed guideline levels, then measures should also be taken to dampen such vibrations. If, however, vibrations exceed permissible values then consideration should be given to an alternative solution.



The estimated working pile loads, pile type and lengths are given for guidance only should be confirmed by a specialist piling contractor.

For the quoted pile sizes, founded within the competent in-situ materials, total settlements should not exceed 10mm with differential movements between adjacent piles being less than half this value.

In the area within the infilled railway between the orange and purple lines as seen below in **Figure 8.1**, it is recommended that a combination of mass concrete strip and trench fill foundations founded within the competent weathered mudstone bedrock as described above, with the depth to the in-situ founding horizon will typically 2.00m.

The floor slabs should be designed as suspended.

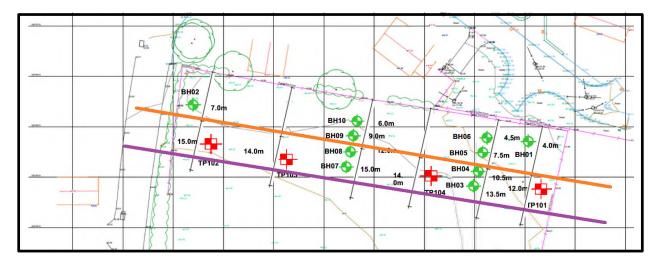


Figure 8.1 Foundation locations

If trees are to be incorporated within the proposed development foundations may need to be taken deeper within influencing distance of the tree root systems. The National House Building Council (NHBC) Chapter 4.2 gives guidelines as to the appropriate type of floor slab and void based on the type of tree, distance of the foundation from the tree and the plasticity index of the in-situ materials.

Allowances should be made for the removal of any 'soft spots' and their replacement with well-compacted granular materials. Department of Transport (DoT) Type 2 materials or similar could be used and should be compacted in layers to the specification for Highway Works. During the investigation two samples of the in-situ materials was taken and submitted for plasticity testing (**Annex H**). In line with the NHBC (Chapter 4.2), the modified plasticity index for the sample was calculated.

Geotechnical testing revealed that samples tested had a medium volume change potential.

Due to a Medium volume change potential the minimum depth of foundations should be 0.90m below ground level.

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



#### 8.3 Excavations and Formations

Most of the shallow excavations will be possible with normal soil excavating machinery.

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

The sides of any excavations deeper than 1.20m, or shallower if unstable, should be supported by planking and strutting or other proprietary means.

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

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

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

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

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

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

#### 8.4 Protection of Buried Concrete

When the results are compared with Table C1/C2 of BRE Digest 1:2005, it indicates that buried concrete should generally conform to Class AC-1.

#### 8.5 Access Roads and Car Parking Areas

For car parking and road areas, formations within the in-situ natural soils a CBR value of 5% may be used for design purposes.

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

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

#### 8.6 Storm Water Drainage

During the site investigation seven soakaway test was undertaken in general accordance with BRE DG 365:2016. The soakaway test was carried out in trial pit TP02, TP03, TP04, TP06, TP08, TP09 AND TP11 within natural materials.

The soakaway test within TP04 and TP08 recorded insufficient infiltration and was subsequently terminated early.



#### **TP02**

The tests were undertaken in the area of the proposed soakaway at a depth of 1.00m depth. Two fills were achieved at this location and the following infiltration rates have been calculated.

**1**<sup>st</sup> **Fill:** 1.54 x 10<sup>-5</sup> m/s **2**<sup>nd</sup> **Fill:** 1.05 x 10<sup>-5</sup> m/s

#### **TP03**

The tests were undertaken in the area of the proposed soakaway at a depth of 1.40m depth. One fill was achieved at this location and the following infiltration rates have been calculated.

**1<sup>st</sup> Fill:** 9.02 x 10<sup>-6</sup> m/s

#### **TP06**

The tests were undertaken in the area of the proposed soakaway at a depth of 1.70m depth. One fill was achieved at this location and the following infiltration rates have been calculated.

**1st Fill:** 8.20 x 10<sup>-6</sup> m/s

#### **TP09**

The tests were undertaken in the area of the proposed soakaway at a depth of 1.40m depth. One fill was achieved at this location and the following infiltration rates have been calculated.

**1<sup>st</sup> Fill:** 9.90 x 10<sup>-5</sup> m/s

#### TP11

he tests were undertaken in the area of the proposed soakaway at a depth of 0.85m depth. Thee fills were achieved at this location and the following infiltration rates have been calculated.

**1st Fill:** 3.04 x 10<sup>-5</sup> m/s **2nd Fill:** 2.12 x 10<sup>-5</sup> m/s **3rd Fill:** 2.31 x 10<sup>-5</sup> m/s

Falling head tests were carried out in BH11 and BH12 in general accordance with BS5930:2015. The tests were carried out by adding water to the borehole and timing the fall of the head of water.

The soakaway tests recorded relatively consistent infiltration across the site of between 1.14x10<sup>-03</sup> ms<sup>-01</sup> and 6.86x10<sup>-04</sup> ms<sup>-01</sup>. The use of soakaway stormwater drainage is therefore considered viable on site in the locations and depths tested.

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



# ANNEX A Envirocheck Report

January 2025 16166



# **Envirocheck® Report:**

# **Datasheet**

# **Order Details:**

**Order Number:** 

250775392\_1\_1

**Customer Reference:** 

16166 Cilgerran

**National Grid Reference:** 

219630, 242700

Slice:

Α

Site Area (Ha):

0.85

Search Buffer (m):

1000

## **Site Details:**

, 1 Penffynnon, Cilgerran Cardigan SA43 2TH

# **Client Details:**

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







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#### Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.

For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1		Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		3	27	10
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 11		Yes		
Pollution Incidents to Controlled Waters	pg 11		1	1	3
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 12			2	
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 12				2
Water Abstractions	pg 13				(*1)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 13	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 13	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 13		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 13		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 13		1	8	105



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	pg 27				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 27	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 27				2
Potentially Infilled Land (Water)	pg 27				3
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					



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 28	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 28	Yes		Yes	Yes
BGS Recorded Mineral Sites	pg 28		1	4	7
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 30	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 30	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 30		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 31	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 31		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 31	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas	pg 31	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures	pg 31	Yes	n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 32		2		3
Fuel Station Entries	pg 32		1		
Points of Interest - Commercial Services	pg 32		2		
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 32			1	4
Points of Interest - Public Infrastructure	pg 33		3	4	3
Points of Interest - Recreational and Environmental	pg 33		2		
Gas Pipelines					
Underground Electrical Cables					



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 35		2	2	14
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas	pg 36	1			
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves	pg 36			1	
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest	pg 36		1	1	1
Special Areas of Conservation	pg 36		1		
Special Protection Areas					
World Heritage Sites					



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR		
	BGS Groundwater Flooding Susceptibility							
	Flooding Type:	Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	194	1	219800 242900		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	201	1	219700 242950		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	229	1	219850 242900		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	244	1	219900 242850		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Limited Potential for Groundwater Flooding to Occur	A18SW (N)	287	1	219600 243050		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	287	1	219625 243050		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	337	1	219600 243100		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	391	1	219550 243150		
	BGS Groundwater I Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding to Occur at Surface	A14NW (E)	475	1	220150 242698		
1	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	S Martin Domestic Property (Single) Slaters End Cilgerran Cardigan. Natural Resources Wales Afon Teifi Bp0028001 1 5th September 1986 5th September 1986 23rd May 1994 Unspecified Not Supplied  To Land Consent expired Located by supplier to within 100m	A13NE (NE)	132	2	219800 242800		
	Discharge Consent							
1	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Griffiths G V J Domestic Property (Single) West Of The Glen Cilgerran Dyfed Natural Resources Wales Afon Teifi Bp0124501 1 24th August 1989 24th August 1989 4th July 1994 Unspecified Not Supplied  To Land Consent expired Located by supplier to within 10m	A13NE (NE)	136	2	219780 242840		



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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company Ej'Or Stn1 Cilgerran & Penyb Natural Resources Wales Afon Teifi Bn0027808 1 23rd October 1970 23rd October 1970 14th March 1994 Unspecified Not Supplied  Teifi Consent expired Located by supplier to within 100m	A13NE (E)	228	2	219900 242800
3	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company Ejector Stn No.2 Cilgerran And Natural Resources Wales Afon Teifi Bn0027807 1 23rd October 1970 23rd October 1970 14th March 1994 Unspecified Not Supplied  Teifi Consent expired Located by supplier to within 100m	A13NE (N)	251	2	219700 243000
4	<u> </u>	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Staions Cilgerran Flyght Ps Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0114501 2 8th September 2010 8th September 2010 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Teifi Effective Located by supplier to within 100m	A13NE (NE)	268	2	219900 242900
4	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Staions Cilgerran Flyght Ps Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0114501 2 8th September 2010 8th September 2010 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Teifi Effective Located by supplier to within 100m	A13NE (NE)	268	2	219900 242900



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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company Cilgerran Flyght Ps Natural Resources Wales Not Given BP0114501 1 13th December 1991 13th December 1991 7th September 2010 Public Sewage: Storm Sewage Overflow Freshwater Stream/River  Teifi New Consent, by Application (Water Resources Act 1991, Section 88) Located by supplier to within 100m	A13NE (NE)	268	2	219900 242900
5	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company E.Dis. Ps 1 Cilgerran And Pen Natural Resources Wales Afon Teifi Bn0027804 1 7th February 1973 7th February 1973 14th March 1994 Unspecified Not Supplied  Teifi Consent expired Located by supplier to within 10m	A18SE (N)	291	2	219650 243050
5	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company E.Dis. Ps 1 Cilgerran And Pen Natural Resources Wales Afon Teifi Bn0027805 1 7th February 1973 7th February 1973 14th March 1994 Unspecified Not Supplied  Teifi Consent expired Located by supplier to within 10m	A18SE (N)	291	2	219650 243050
6	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Staions Cilgerran Flyght Ps, Rear Ty Mawr, Cilgerran, Cardigan, Sa43 2sn Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0114501 3 6th February 2020 6th February 2020 Not Supplied Sewage Discharges - Pumping Station - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m	A14NW (E)	393	2	220061 242836



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Staions Cilgerran Flyght Ps, Rear Ty Mawr, Cilgerran, Cardigan, Sa43 2sn Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0114501 3 6th February 2020 6th February 2020 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m	A14NW (E)	393	2	220061 242836
7	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewage Disposal Works - Water Company Cilgerran Stw Natural Resources Wales Afon Teifi Bn0027801 1 12th February 1982 12th February 1982 12th February 1992 Sewage Discharges - Final/Treated Effluent - Water Company Not Supplied  Afon Plysgog Consent expired Located by supplier to within 100m	A18SW (NW)	393	2	219400 243100
7	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Sewers - Water Company St.Sew.Tank Cilgerran & Peny Natural Resources Wales Afon Teifi Bn0027810 1 7th February 1973 7th February 1973 14th March 1994 Unspecified Freshwater Stream/River  Teifi Consent expired Located by supplier to within 10m	A18SW (NW)	437	2	219400 243150
8	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company Emerg. Dis. Main P.S. Cilgerr Natural Resources Wales Afon Teifi Bn0027802 1 7th February 1973 7th February 1973 14th March 1994 Unspecified Not Supplied Teifi Consent expired Located by supplier to within 10m	A18SW (N)	440	2	219550 243200



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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company Emerg. Dis. Main P.S. Cilgerr Natural Resources Wales Afon Teifi Bn0027803 1 7th February 1973 7th February 1973 14th March 1994 Unspecified Not Supplied  Teifi Consent expired Located by supplier to within 10m	A18SW (N)	440	2	219550 243200
9	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Sewers - Water Company Sso Cilgerran\Penybryn Natural Resources Wales Afon Teifi Bn0027811 1 8th January 1971 8th January 1971 14th March 1994 Unspecified Not Supplied  Teifi Consent expired Located by supplier to within 10m	A18SW (N)	478	2	219500 243230
9	Discharge Consents Operator: Property Type: Location:  Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Staions Cilgerran Pumping Station, Track At End Of Dolbadau Road, Cilgeran, Pembrokeshire, Wales, Sa43 2sf Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Wqd009904 1 31st March 2010 3rd February 2010 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m	A18SW (N)	482	2	219490 243232
9	Discharge Consents Operator: Property Type: Location:  Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Staions Cilgerran Pumping Station, Track At End Of Dolbadau Road, Cilgeran, Pembrokeshire, Wales, Sa43 2sf Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Wqd009904 1 31st March 2010 3rd February 2010 Not Supplied Sewage Discharges - Pumping Station - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m	A18SW (N)	482	2	219490 243232



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Discharge Consent	s				
9	Operator: Property Type: Location:  Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Staions Cilgerran Pumping Station, Track At End Of Dolbadau Road, Cilgeran, Pembrokeshire, Wales, Sa43 2sf Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Wqd009904 1 31st March 2010 3rd February 2010 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Teifi Effective	A18SW (N)	482	2	219490 243232
	Discharge Consent	Details    Contact   Company   Contact				
9	-	Sewerage Network - Pumping Stations Cilgerran Pumping Station, Track At End Of Dolbadau Road, Cilgeran, Pembrokeshire, Wales, Sa43 2sf Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Wqd009904 1 31st March 2010 3rd February 2010 Not Supplied Sewage Discharges - Pumping Station - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m		482	2	219490 243232
9	Operator: Property Type: Location:  Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: This man and the service of the	Dwr Cymru Cyfyngedig Sewerage Network - Pumping Station - Water Company Cilgerran Pumping Station, Track At End Of Dolbadau Road, Cilgeran, Pembrokeshire, Wales, Sa43 2sf Natural Resources Wales Teifi Npswqd009904 1 31st March 2010 3rd February 2010 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Teifi New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m		482	2	219490 243232
	Discharge Consent					
9	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Sewerage Network - Pumping Station - Water Company Cilgerran Pumping Station, Track At End Of Dolbadau Road, Cilgeran, Pembrokeshire, Wales, Sa43 2sf Natural Resources Wales Teifi Npswqd009904 1 31st March 2010 3rd February 2010 Not Supplied Sewage Discharges - Pumping Station - Water Company		482	2	219490 243232



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	Discharge Consent Operator:		A18SW	493	2	219480
9	Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	Dwr Cymru Cyfyngedig Sewage Disposal Works Cilgerran Stw Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0217801 5 1st January 2010 26th June 2009 Not Supplied Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m	(N)	493	2	243240
	Discharge Consent	- · · ·				
9	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	Dwr Cymru Cyfyngedig Sewage Disposal Works Cilgerran Stw Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0217801 5 1st January 2010 26th June 2009 Not Supplied Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m	A18SW (N)	493	2	219480 243240
	Discharge Consent	s				
9	1	Dwr Cymru Cyfyngedig Sewage Disposal Works - Water Company Cilgerran Stw Natural Resources Wales Afon Teifi Bp0217801 4 31st March 2009 27th February 2009 31st December 2009 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River  Afon Teifi Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m	A18SW (N)	493	2	219480 243240
0	Discharge Consent		4400144	400	_	040400
9	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewage Disposal Works - Water Company Cilgerran Stw Natural Resources Wales Afon Teifi Bp0217801 2 8th March 2005 8th March 2005 30th March 2009 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River  Afon Teifi Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m	A18SW (N)	493	2	219480 243240



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	Discharge Consent Operator:	s Dwr Cymru Cyfyngedig	A18SW	493	2	219480
	Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Sewage Disposal Works - Water Company Cilgerran Stw Natural Resources Wales Afon Teifi Bp0217801 3 31st March 2009 8th March 2005 26th February 2009 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River  Afon Teifi Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m	(N)			243240
9	-	Dwr Cymru Cyfyngedig Sewage Disposal Works Cilgerran Stw Natural Resources Wales TEIFI - AFON CERI TO ESTUARY BP0217802 1 14th August 1992 14th August 1992 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 100m	A18SW (N)	493	2	219480 243240
9	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewage Disposal Works - Water Company Cilgerran Stw Natural Resources Wales Afon Teifi BP0217801 1 14th August 1992 14th August 1992 7th March 2005 Sewage Discharges - Final/Treated Effluent - Water Company Not Supplied  Afon Teifi New Consent, by Application (Water Resources Act 1991, Section 88) Located by supplier to within 10m	A18SW (N)	493	2	219480 243240
9	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewage Disposal Works Cilgerran Stw Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0217802 1 14th August 1992 14th August 1992 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Teifi Effective Located by supplier to within 10m	A18SW (N)	493	2	219480 243240



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Sewers - Water Company Penralltdraw Combined Sewer Cso, Cwm Plysgog, Cilgerran, Sa43 2ta Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0341301 2 21st October 2019 21st October 2019 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Plysgog Effective Located by supplier to within 10m	A17SE (NW)	505	2	219240 243115
10	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewage Disposal Works Penralltdraw Combined Sewer, Cilgerran, Pembrokeshire Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0341301 1 31st March 2005 28th February 2005 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Plysgog Effective Located by supplier to within 10m	A17SE (NW)	505	2	219240 243115
10	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewage Disposal Works Penralltdraw Combined Sewer, Cilgerran, Pembrokeshire Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0341301 1 31st March 2005 28th February 2005 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Plysgog Effective Located by supplier to within 10m	A17SE (NW)	505	2	219240 243115
11	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Thomas D G & Son Ltd. Manufacture Of Other Building Materials Ty Mawr, Builders Merchants New Site, Cilgerran Natural Resources Wales Afon Teifi Bp0078501 2 18th April 1989 18th April 1989 28th September 1992 Unspecified Not Supplied Tributary River Teify Consent expired Located by supplier to within 100m	A14NW (E)	524	2	220200 242700



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Thomas D G & Son Ltd. Manufacture Of Other Building Materials Ty Mawr, Builders Merchants New Site, Cilgerran Natural Resources Wales Afon Teifi Bp0078501 1 1st January 1901 1st January 1901 17th April 1989 Unspecified Not Supplied  Tributary River Teify Authorisation revoked Located by supplier to within 100m	A14NW (E)	524	2	220200 242700
12	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Sewers - Water Company Pentralltdraw Cso, Cwm Plysgog, Cilgerran Natural Resources Wales Not Supplied Bp027450101 1 22nd January 1999 22nd January 1999 Not Supplied Public Sewage: Storm Sewage Overflow Freshwater Stream/River  Afon Plysgog New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m	A17SE (NW)	547	2	219180 243110
12	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Sewers - Water Company Pentralltdraw Cso, Cwm Plysgog, Cilgerran Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0274501 1 22nd January 1999 22nd January 1999 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Plysgog Surrendered Located by supplier to within 10m	A17SE (NW)	547	2	219180 243110
12	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Dwr Cymru Cyfyngedig Sewerage Network - Sewers - Water Company Pentralltdraw Cso, Cwm Plysgog, Cilgerran Natural Resources Wales TEIFI - AFON CERI TO ESTUARY Bp0274501 1 22nd January 1999 22nd January 1999 Not Supplied Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Freshwater Stream/River  Afon Plysgog Surrendered Located by supplier to within 10m	A17SE (NW)	547	2	219180 243110



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Discharge Consents Operator:	s Coedmor Mansion Company Ltd	A18NW	764	2	219400
	Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	Domestic Property (Multiple) Coedmore Mansion Llechryd Cardigan Natural Resources Wales Afon Teifi BP0032501 2 21st February 1992 21st February 1992 Not Supplied Unspecified Freshwater Stream/River  River Teifi New Consent, by Application (Water Resources Act 1991, Section 88) Located by supplier to within 100m	(N)	.6.	-	243500
	Discharge Consent	S				
13	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Coedmor Mansion Company Ltd Domestic Property (Multiple) Coedmore Mansion Llechryd Cardigan Natural Resources Wales Afon Teifi Bp0032501 1 24th November 1986 24th November 1986 20th February 1992 Unspecified Not Supplied  River Teifi Authorisation revoked Located by supplier to within 100m	A18NW (N)	764	2	219400 243500
	Nearest Surface Wa	nter Feature	4.4015	004		040700
			A13NE (N)	231	-	219709 242979
14	Property Type: Location: Authority: Pollutant: Note: Incident Date: Incident Reference: Catchment Area: Receiving Water: Cause of Incident: Incident Severity:	Not Given Next To Neuadd, Cilgerran) Environment Agency, Welsh Region Sewage - Septic Tank Effluent Inadequate Design 21st March 1997 31669 Not Given Not Given Leakage Category 3 - Minor Incident Located by supplier to within 100m	A13NW (N)	37	3	219600 242800
	Pollution Incidents	to Controlled Waters				
15		Not Given Not Given Burst Category 3 - Minor Incident Located by supplier to within 100m	A18SW (NW)	482	3	219400 243200
40		to Controlled Waters	A 4 4 h 11 4 1	505	2	000000
16	Property Type: Location: Authority: Pollutant: Note: Incident Date: Incident Reference: Catchment Area: Receiving Water: Cause of Incident: Incident Severity: Positional Accuracy:	Water Company Sewage: Sewerage Approx 600 Yards, Up Stream Of Cilgerran, Bottom Car Park Environment Agency, Welsh Region Farm Effluent/Slurry Blocked Sewer 17th October 1994 21451 Not Given Not Given Overflow Category 2 - Significant Incident Located by supplier to within 100m	A14NW (E)	525	3	220200 242800



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Pollution Incidents	to Controlled Waters				
17	Property Type: Location: Authority: Pollutant: Note: Incident Date: Incident Reference: Catchment Area: Receiving Water: Cause of Incident: Incident Severity: Positional Accuracy:	Not Given By Pumping Station Below Castle In , CILGERRAN Environment Agency, Welsh Region Light Oil Poor Management; Afon Teifi 15th September 1998 36762 Not Given Not Given Burst Category 3 - Minor Incident Located by supplier to within 100m	A18SW (N)	542	3	219500 243295
	Pollution Incidents	to Controlled Waters				
17	Property Type: Location: Authority: Pollutant: Note: Incident Date: Incident Reference: Catchment Area: Receiving Water: Cause of Incident: Incident Severity:	Not Given By Cilgerran Castle Environment Agency, Welsh Region Crude Sewage Blocked Sewer 24th August 1996	A18SW (N)	547	3	219500 243300
	River Quality					
	Name: GQA Grade: Reach: Estimated Distance (km): Flow Rate: Flow Type: Year:	Not Supplied Unclassified Tidal River Not Supplied Not Supplied Not Supplied Not Supplied 1995	A14NW (NE)	416	3	220053 242930
	River Quality					
	Name: GQA Grade: Reach: Estimated Distance (km): Flow Rate: Flow Type: Year:	Teifi River Quality A Tidal Limit - Conf.Afon Hirwaun 8.6  Flow less than 40 cumecs River 2000	A14NW (NE)	419	3	220068 242904
	Substantiated Pollu	tion Incident Register				
18	Authority: Incident Date: Incident Reference: Water Impact: Air Impact: Land Impact:	Natural Resources Wales 23rd May 2019	A17SW (NW)	761	2	218918 243096
	Substantiated Pollu	tion Incident Register				
19	Authority: Incident Date: Incident Reference: Water Impact: Air Impact: Land Impact:	Natural Resources Wales 22nd November 2004	A18NE (N)	934	2	219652 243696



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions					
	Operator: Licence Number: Permit Version: Location: Authority: Abstraction: Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start: Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	C H James 22/62/3/0010 Not Supplied Not Supplied Not Supplied Natural Resources Wales Impounding Not Supplied Surface Not Supplied Not Supplied Not Supplied O1 January 31 December Not Supplied Not Supplied Not Supplied Located by supplier to within 10m	A5NE (SE)	1818	2	221120 241590
	Groundwater Vulne					
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Secondary Bedrock Aquifer - Medium Vulnerability  Medium  Productive Bedrock Aquifer, No Superficial Aquifer Low Well Connected Fractures >550 mm/year <40% <90%  <3m  No Data	A13NW (S)	0	2	219625 242698
	Bedrock Aquifer De Aquifer Designation:	esignations Secondary Aquifer - B	A13NW (S)	0	2	219625 242698
	Superficial Aquifer No Data Available	Designations				
	Extreme Flooding for Type: Flood Plain Type: Boundary Accuracy:	rom Rivers or Sea without Defences  Extent of Extreme Flooding from Rivers or Sea without Defences Fluvial Models As Supplied	A13NE (N)	220	2	219731 242963
		rs or Sea without Defences				
	Type:	Extent of Flooding from Rivers or Sea without Defences Fluvial Models	A13NE (N)	226	2	219718 242972
	Areas Benefiting fro	om Flood Defences				
	Flood Water Storag	e Areas				
	None					
	Flood Defences None					
	OS Water Network	Lines				
20	Watercourse Form: Watercourse Length Watercourse Level: Permanent: Watercourse Name: Catchment Name: Primacy:	: 804.1 On ground surface True Afon Teifi	A13NE (N)	250	4	219709 242997
21	Watercourse Form: Watercourse Length Watercourse Level: Permanent: Watercourse Name: Catchment Name: Primacy:	Inland river : 261.7 On ground surface True	A13SE (SE)	289	4	219903 242520



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 58.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A14SW (E)	415	4	220086 242676
23	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 405.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A18SW (NW)	422	4	219395 243131
24	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NW (SW)	439	4	219349 242260
25	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NW (SW)	439	4	219349 242260
26	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 114.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A14NW (E)	441	4	220119 242771
27	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 240.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A14NW (E)	445	4	220117 242822
28	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 88.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NW (S)	485	4	219476 242157
29	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 156.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A18SW (N)	505	4	219493 243256
30	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 157.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18SW (N)	533	4	219508 243288



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 25.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17SE (NW)	537	4	219173 243085
32	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 379.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A17SE (NW)	546	4	219181 243109
33	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 9.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NW (SW)	552	4	219300 242157
34	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 336.8  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	558	4	219290 242157
35	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 458.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Primacy: 1	A8NW (SW)	583	4	219370 242088
36	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 8.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NW (SW)	595	4	219306 242105
37	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 138.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NW (SW)	600	4	219298 242104
38	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 75.8  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NE (S)	622	4	219855 242052
39	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 142.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A12SE (W)	624	4	218964 242605



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 120.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Primacy: 1	A14NW (NE)	635	4	220259 243006
41	OS Water Network Lines  Watercourse Form: Lake Watercourse Length: 1.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A14NW (NE)	635	4	220258 243007
42	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 350.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NE (N)	656	4	219808 243393
43	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 162.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A18NW (N)	657	4	219426 243396
44	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 146.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NE (SE)	664	4	219935 242043
45	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 62.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8NE (SE)	665	4	219922 242035
46	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 108.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	673	4	219044 242232
47	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 82.7  Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A14NE (E)	676	4	220333 242914
48	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 3.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Primacy: 1	A7NE (SW)	680	4	219161 242099



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 174.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	682	4	219157 242099
50	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 39.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A12NW (W)	704	4	218931 242972
51	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 436.6  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A12SW (SW)	720	4	218920 242360
52	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 297.3  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A14NE (E)	724	4	220357 243001
53	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 56.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A12NW (NW)	733	4	218911 243005
54	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 250.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A9NW (SE)	735	4	220065 242042
55	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 47.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A9NW (SE)	737	4	220223 242197
56	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 29.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A9NW (SE)	741	4	220208 242173
57	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 1300.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A14NE (E)	755	4	220404 242957



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 137.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	755	4	219213 243409
59	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 333.1  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A12SW (W)	758	4	218834 242553
60	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 94.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	763	4	219410 243501
61	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 164.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A9NW (SE)	768	4	220225 242152
62	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Telfi Primacy: 1	A7NW (SW)	771	4	218944 242205
63	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 2.0  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NW (SW)	773	4	218945 242199
64	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 44.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NW (SW)	774	4	218946 242197
65	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 15.2 Watercourse Level: Underground Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A12NW (W)	780	4	218858 242993
66	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 50.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	782	4	218962 242160



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 2	A7NE (SW)	784	4	218989 242122
68	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 1.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	784	4	218989 242122
69	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 20.5  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	785	4	218988 242122
70	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 2	A7NE (SW)	791	4	218996 242104
71	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 20.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	792	4	219525 243551
72	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 50.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	792	4	218996 242103
73	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 49.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A12NW (W)	794	4	218843 242991
74	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 14.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A18NW (N)	798	4	219322 243510
75	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 426.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7NE (SW)	802	4	219014 242068



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 28.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	809	4	219309 243517
77	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 44.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A18NW (N)	809	4	219309 243517
78	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 64.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	810	4	219335 243528
79	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 33.4  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	811	4	219515 243569
80	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 24.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A17NE (NW)	829	4	219271 243522
81	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 84.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	836	4	219494 243592
82	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 45.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	836	4	219494 243592
83	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 24.1  Watercourse Level: Underground Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A12NW (W)	839	4	218793 242983
84	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 195.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8SW (S)	839	4	219509 241793



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	843	4	219360 243570
86	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 56.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	843	4	219360 243570
87	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A17NE (N)	849	4	219275 243546
88	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 195.3  Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A12NW (W)	853	4	218774 242968
89	OS Water Network Lines  Watercourse Form: Lake Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A19SE (NE)	858	4	220408 243200
90	OS Water Network Lines  Watercourse Form: Lake Watercourse Length: 16.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	859	4	219403 243598
91	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 6.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	866	4	219523 243625
92	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 202.2  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	869	4	219528 243629
93	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 37.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	886	4	219176 243539



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 366.1  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	889	4	219393 243627
95	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 105.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (N)	890	4	219272 243590
96	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 28.4  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A17NE (N)	891	4	219264 243587
97	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 76.4  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	894	4	219165 243542
98	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 24.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	896	4	219369 243628
99	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 2.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	896	4	219370 243629
100	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 45.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A17NE (NW)	898	4	219236 243583
101	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 22.7  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	906	4	219191 243570
102	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 44.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Plysgog Catchment Name: Teifi Primacy: 1	A12NW (W)	909	4	218692 242806



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
103	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 58.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	910	4	219348 243636
104	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A17NE (NW)	925	4	219191 243591
105	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 36.8  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A9SE (SE)	926	4	220314 242013
106	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A12NW (W)	931	4	218666 242770
107	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 219.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A12NW (W)	933	4	218673 242852
108	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 33.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	933	4	219233 243620
109	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 32.0  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	933	4	219233 243620
110	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 73.9  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (N)	933	4	219286 243640
111	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 161.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8SW (S)	935	4	219337 241728



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
112	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 7.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A8SW (S)	935	4	219341 241727
113	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 42.4 Watercourse Level: On ground surface True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A17NE (NW)	939	4	219200 243612
114	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: Underground True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (N)	940	4	219258 243637
115	OS Water Network Lines  Watercourse Form: Inland river  Watercourse Length: 456.2  Watercourse Level: On ground surface  True  Watercourse Name: Afon Plysgog  Catchment Name: Teifi  Primacy: 1	A12NW (W)	942	4	218657 242780
116	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 4.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A12NW (W)	942	4	218657 242780
117	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 40.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	944	4	219379 243680
118	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	944	4	219379 243680
119	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 353.6  Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Dyfan Catchment Name: Teifi Primacy: 1	A9SW (SE)	947	4	220244 241915
120	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 249.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	953	4	219318 243672



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	953	4	219318 243672
122	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 135.7  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	956	4	219414 243700
123	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 188.1  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	957	4	219410 243700
124	OS Water Network Lines  Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	961	4	219078 243569
125	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 130.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Dyfan Catchment Name: Teifi Primacy: 1	A9SE (SE)	962	4	220341 241990
126	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 2.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	966	4	219325 243688
127	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 202.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A18NW (N)	969	4	219324 243691
128	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 28.5  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A17NE (NW)	977	4	219151 243629
129	OS Water Network Lines  Watercourse Form: Tidal river Watercourse Length: 1080.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Teifi Catchment Name: Teifi Primacy: 1	A17NE (NW)	980	4	219174 243645



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 98.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A3NE (S)	981	4	219878 241681
131	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 263.4  Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A2NE (S)	994	4	219294 241679
132	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 93.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7SE (SW)	995	4	219139 241741
133	OS Water Network Lines  Watercourse Form: Inland river Watercourse Length: 182.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Teifi Primacy: 1	A7SE (SW)	997	4	219123 241747





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Historical Landfill S	Sites				
134	Licence Holder: Location: Name: Operator Location: Boundary Accuracy: Provider Reference: First Input Date: Last Input Date: Specified Waste Type: EA Waste Ref: Regis Ref: WRC Ref: BGS Ref: Other Ref:		A14NE (E)	714	2	220385 242848
	Local Authority Lan	ndfill Coverage				
	Name:	Pembrokeshire County Council - Has supplied landfill data		0	5	219625 242698
	Local Authority Lan	ndfill Coverage				
	Name:	Ceredigion Council - Has supplied landfill data		251	6	219700 243000
	Potentially Infilled L	Land (Non-Water)				
135	Bearing Ref: Use: Date of Mapping:	NW Unknown Filled Ground (Pit, quarry etc) 1982	A17SW (NW)	784	-	218884 243077
	Potentially Infilled L	Land (Non-Water)				
136	Bearing Ref: Use: Date of Mapping:	NW Unknown Filled Ground (Pit, quarry etc) 1982	A17SW (NW)	797	-	218857 243042
	Potentially Infilled L	Land (Water)				
137	Use: Date of Mapping:	Unknown Filled Ground (Pond, marsh, river, stream, dock etc) 1963	A14NW (E)	513	-	220188 242699
	Potentially Infilled L	Land (Water)				
138	Use: Date of Mapping:	Unknown Filled Ground (Pond, marsh, river, stream, dock etc) 1963	A18NW (N)	689	-	219539 243449
	Potentially Infilled L	Land (Water)				
139	Use: Date of Mapping:	Unknown Filled Ground (Pond, marsh, river, stream, dock etc) 1963	A12NW (NW)	751	-	218894 243011





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid	d Geology				
	Description:	Ashgill Rocks (Undifferentiated)	A13NW (S)	0	1	219625 242698
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel	British Geological Survey, National Geoscience Information Service Sediment <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A13NW (S)	0	1	219625 242698
	Concentration:	Chamistry				
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Sediment 15 - 25 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A14NW (E)	322	1	220000 242698
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Sediment 15 - 25 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A18NW (N)	640	1	219460 243387
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Sediment 15 - 25 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A14NE (NE)	695	1	220329 242992
140	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity:	Quarry Dol-Badau Cilgerran, Pembrokeshire British Geological Survey, National Geoscience Information Service 9229 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Slate Located by supplier to within 10m	A13NE (NE)	224	1	219820 242922
141	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Quarry Pwdwr Cilgerran, Pembrokeshire British Geological Survey, National Geoscience Information Service 20272 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Slate Located by supplier to within 10m	A13NE (NE)	255	1	219910 242855





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
142	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Castle Quarries Castle Quarries Cilgerran, Pembrokeshire British Geological Survey, National Geoscience Information Service 9177 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Slate Located by supplier to within 10m	A18SW (N)	293	1	219619 243055
143	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Castle Quarries Castle Quarries Cilgerran, Pembrokeshire British Geological Survey, National Geoscience Information Service 250252 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Slate Located by supplier to within 10m	A18SW (N)	325	1	219560 243085
144	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	cral Sites Coedmore Quarry Cilgerran, Cardigan, Ceredigion British Geological Survey, National Geoscience Information Service 78207 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Common Clay and Shale Located by supplier to within 10m	A18SW (N)	492	1	219571 243254
145	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Pen-Yr-Allt-Teifi Cilgerran, Fishguard, Pembrokeshire British Geological Survey, National Geoscience Information Service 89202 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Common Clay and Shale Located by supplier to within 10m	A8NE (SE)	528	1	219872 242163
146	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	craig-Y-Felin Cilgerran, Fishguard, Pembrokeshire British Geological Survey, National Geoscience Information Service 89196 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Common Clay and Shale Located by supplier to within 10m	A17SW (NW)	725	1	218935 243045
147	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Plain Quarry Cilgerran, Cardigan, Ceredigion British Geological Survey, National Geoscience Information Service 10410 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Slate Located by supplier to within 10m	A14NE (E)	731	1	220400 242865





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
148	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Pen-Llyn Cilgerran, Fishguard, Pembrokeshire British Geological Survey, National Geoscience Information Service 89194 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Common Clay and Shale Located by supplier to within 10m	A17SW (NW)	773	1	218899 243083
149	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Peral Sites  Pen-Llyn Cilgerran, Fishguard, Pembrokeshire British Geological Survey, National Geoscience Information Service 89195 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Common Clay and Shale Located by supplier to within 10m	A12NW (NW)	788	1	218862 243032
150	BGS Recorded Mine Site Name: Location: Source: Reference: Type: Status: Operator: Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Cefn Quarry Cilgerran, Cardigan, Ceredigion British Geological Survey, National Geoscience Information Service 6844 Opencast Active Individual'S Name Withheld Not Supplied Ordovician Nantmel Mudstones Formation Slate Located by supplier to within 10m	A14NE (E)	861	1	220525 242905
151	-	Cefn Quarries Cilgerran, Pembrokeshire British Geological Survey, National Geoscience Information Service 20270 Opencast Ceased Unknown Operator Not Supplied Ordovician Nantmel Mudstones Formation Slate Located by supplier to within 10m	A14NE (E)	965	1	220620 242960
	No data available  BGS Urban Soil Che	,				
	No data available  Coal Mining Affecte In an area that might	d Areas not be affected by coal mining				
	Non Coal Mining Are Risk: Source:	eas of Great Britain Highly Unlikely British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	219625 242698
	Hazard Potential: Source:	sible Ground Stability Hazards  Very Low  British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	219625 242698
	Hazard Potential: Source:	essible Ground Stability Hazards  No Hazard  British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	219625 242698
	Hazard Potential: Source:	essible Ground Stability Hazards  Moderate  British Geological Survey, National Geoscience Information Service	A13SE (SE)	2	1	219662 242674
	Potential for Compr Hazard Potential: Source:	essible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A13NE (NE)	134	1	219715 242878





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Sta	bility Hazards				
	Hazard Potential: Very Low Source: British Geological S	survey, National Geoscience Information Service	A13NE (N)	200	1	219727 242944
	Potential for Compressible Ground Sta	bility Hazards				
	Hazard Potential: Very Low Source: British Geological S	survey, National Geoscience Information Service	A13NE (N)	232	1	219687 242983
	Potential for Ground Dissolution Stabil Hazard Potential: No Hazard Source: British Geological S	lity Hazards survey, National Geoscience Information Service	A13NW (S)	0	1	219625 242698
	Potential for Landslide Ground Stabilit Hazard Potential: Low Source: British Geological S	y Hazards survey, National Geoscience Information Service	A13NW (S)	0	1	219625 242698
	Potential for Landslide Ground Stabilit	y Hazards				
	Hazard Potential: Very Low Source: British Geological S	survey, National Geoscience Information Service	A13SE (SE)	2	1	219662 242674
	Potential for Landslide Ground Stabilit	y Hazards				
	Hazard Potential: Low Source: British Geological S	survey, National Geoscience Information Service	A13NE (NE)	109	1	219695 242862
	Potential for Landslide Ground Stabilit Hazard Potential: Moderate Source: British Geological S	y Hazards survey, National Geoscience Information Service	A13NE (N)	171	1	219657 242927
	Potential for Landslide Ground Stabilit Hazard Potential: Moderate Source: British Geological S	y Hazards survey, National Geoscience Information Service	A13NE (NE)	199	1	219850 242850
	Potential for Landslide Ground Stabilit	y Hazards				
	Hazard Potential: Very Low Source: British Geological S	survey, National Geoscience Information Service	A13NE (N)	200	1	219727 242944
	Potential for Landslide Ground Stabilit Hazard Potential: Moderate Source: British Geological S	y Hazards  urvey, National Geoscience Information Service	A13NW (N)	225	1	219600 242987
	Potential for Landslide Ground Stabilit Hazard Potential: Very Low Source: British Geological S	y Hazards	A13NE (N)	232	1	219687 242983
	Potential for Running Sand Ground States Hazard Potential: No Hazard Source: British Geological S	ability Hazards survey, National Geoscience Information Service	A13NW (S)	0	1	219625 242698
	Potential for Running Sand Ground State Hazard Potential: Very Low Source: British Geological S	ability Hazards	A13NE (N)	200	1	219727 242944
	Potential for Running Sand Ground States Hazard Potential: Very Low Source: British Geological S	ability Hazards survey, National Geoscience Information Service	A13NE (N)	232	1	219687 242983
	Potential for Shrinking or Swelling Clar Hazard Potential: Very Low Source: British Geological S	y Ground Stability Hazards survey, National Geoscience Information Service	A13NW (S)	0	1	219625 242698
	Potential for Shrinking or Swelling Clar Hazard Potential: Low Source: British Geological S	y Ground Stability Hazards survey, National Geoscience Information Service	A13SE (SE)	2	1	219662 242674
	Potential for Shrinking or Swelling Clar Hazard Potential: Very Low Source: British Geological S	y Ground Stability Hazards survey, National Geoscience Information Service	A13NE (NE)	134	1	219715 242878
	Radon Potential - Radon Affected Area Affected Area: The property is in a estimated to be at o		A13NW (S)	0	1	219625 242698
	Radon Potential - Radon Protection Me Protection Measure: Full radon protective dwellings or extensi	pasures e measures are necessary in the construction of new	A13NW (S)	0	1	219625 242698

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## **Industrial Land Use**

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Contemporary Trad	e Directory Entries				
152	Name: Location: Classification: <b>Status:</b> Positional Accuracy:	Terry & Everton Pendre Garage, High Street, Cilgerran, Cardigan, Dyfed, SA43 2SL Garage Services Active Automatically positioned to the address	A13NE (NE)	114	-	219722 242854
	Contemporary Trad	e Directory Entries				
153	Name: Location: Classification: Status:	Cware Pantgwyn Quarry Ltd Glanrhyd, Cilgerran, Cardigan, Dyfed, SA43 2SN Sand, Gravel & Other Aggregates Inactive Automatically positioned to the address	A13NE (E)	245	-	219914 242815
	Contemporary Trad	••				
154	Name: Location: Classification: Status:	Dog Food Dave Cilgerran, Cardigan, Dyfed, SA43 2SN Pet Foods & Animal Feeds Inactive Automatically positioned to the address	A14NE (E)	658	-	220331 242828
	Contemporary Trad	e Directory Entries				
154	Name: Location: Classification: <b>Status:</b> Positional Accuracy:	Dog Food Dave Cilgerran, Cardigan, Dyfed, SA43 2SN Pet Foods & Animal Feeds Inactive Automatically positioned to the address	A14NE (E)	658	-	220331 242828
	Contemporary Trad	e Directory Entries				
154	Name: Location: Classification: <b>Status:</b> Positional Accuracy:	Dog Food Dave Cilgerran, Cardigan, Dyfed, SA43 2SN Pet Foods & Animal Feeds Inactive Automatically positioned to the address	A14NE (E)	658	-	220331 242828
	Fuel Station Entries	· ·				
155	Name: Location: Brand: Premises Type: <b>Status:</b> Positional Accuracy:	Pendre Garage High Street , Cilgerran , Cardigan, Pembrokeshire, SA43 2SL HAVEN Petrol Station Open Manually positioned to the address or location	A13NE (NE)	119	-	219738 242852
156	Name: Location: Category:	Commercial Services Terry & Everton High Street, Cilgerran, Cardigan, SA43 2SL Repair and Servicing	A13NE (NE)	112	7	219721 242853
	Class Code: Positional Accuracy:	Vehicle Repair, Testing and Servicing Positioned to address or location				
	Points of Interest -	Commercial Services				
156	Name: Location: Category: Class Code: Positional Accuracy:	Pendre Garage High Street, Cilgerran, Cardigan, SA43 2SL Repair and Servicing Vehicle Repair, Testing and Servicing Positioned to address or location	A13NE (NE)	113	7	219722 242854
	Points of Interest -	Manufacturing and Production				
157	Name: Location: Category: Class Code: Positional Accuracy:	Tank SA43 Industrial Features Tanks (Generic) Positioned to an adjacent address or location	A18SW (NW)	476	7	219312 243140
	Points of Interest -	Manufacturing and Production				
158	Name: Location: Category: Class Code: Positional Accuracy:	Quarry (Disused) SA43 Extractive Industries Unspecified Quarries Or Mines Positioned to an adjacent address or location	A14NE (E)	721	7	220388 242877
159	Name: Location: Category: Class Code:	Manufacturing and Production Quarry (Disused) SA43 Extractive Industries Unspecified Quarries Or Mines Positioned to an adjacent address or location	A14NE (E)	824	7	220484 242920
	Points of Interest -	Manufacturing and Production				
159	Name: Location: Category: Class Code:	Cefn Quarry Roadstone Workings SA43 Extractive Industries Stone Quarrying and Preparation Positioned to an adjacent address or location	A14NE (E)	862	7	220529 242889

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## **Industrial Land Use**

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
159	Points of Interest - Manufacturing and Production  Name: Quarry (Disused)  Location: SA43  Category: Extractive Industries  Class Code: Unspecified Quarries Or Mines  Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	910	7	220567 242943
160	Points of Interest - Public Infrastructure  Name: Burial Ground Location: SA43 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	109	7	219574 242520
160	Points of Interest - Public Infrastructure  Name: Burial Ground  Location: Not Supplied  Category: Infrastructure and Facilities  Class Code: Cemeteries and Crematoria  Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	112	7	219564 242519
161	Points of Interest - Public Infrastructure  Name: Pendre Garage Location: High Street, Cilgerran, Cardigan, SA43 2SL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NE (NE)	119	7	219738 242852
162	Points of Interest - Public Infrastructure  Name: Sewage Works Location: SA43 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A18SW (NW)	473	7	219374 243177
162	Points of Interest - Public Infrastructure  Name: Sewage Pumping Station Location: SA43 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	496	7	219439 243231
162	Points of Interest - Public Infrastructure  Name: Sewage Works Location: SA43 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	509	7	219370 243216
162	Points of Interest - Public Infrastructure  Name: Sludge Tanks Location: SA43 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	524	7	219323 243206
163	Points of Interest - Public Infrastructure  Name: Outfall Location: SA43 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	494	7	219491 243244
163	Points of Interest - Public Infrastructure  Name: Outfall Location: SA43 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	495	7	219492 243245
164	Points of Interest - Public Infrastructure  Name: Refuse Tip Location: SA43 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	750	7	220419 242862
165	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	A13NW (NW)	200	7	219449 242891

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## **Industrial Land Use**

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
165	Name:	ecreational and Environmental Playground High Street, SA43	A13NW	200	7	219449 242891
	Category: Class Code:	night Street, 2043 Recreational Playgrounds Positioned to an adjacent address or location	(NW)			242691

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## **Sensitive Land Use**

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
166	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5309 2822.99 Ancient and Semi-Natural Woodland	A13NE (N)	188	2	219686 242939
167	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5311 16433.04 Ancient and Semi-Natural Woodland	A13NE (NE)	250	2	219913 242835
168	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5300 266383.63 Ancient and Semi-Natural Woodland	A13NE (N)	265	2	219718 243012
169	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5298 15850.22 Ancient and Semi-Natural Woodland	A18SW (NW)	425	2	219399 243136
170	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 6831 3827.67 Restored Ancient Woodland Site	A8NE (SE)	540	2	219897 242164
171	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5297 225812.46 Ancient and Semi-Natural Woodland	A19SW (NE)	619	2	220099 243203
172	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5317 2843.69 Ancient and Semi-Natural Woodland	A18NE (N)	638	2	219682 243396
173	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5318 3555.35 Ancient and Semi-Natural Woodland	A19SW (NE)	699	2	220184 243231
174	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 47642 47701.54 Ancient Woodland Site of Unknown Category	A19SW (NE)	709	2	220126 243298
175	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5298 112037.88 Ancient and Semi-Natural Woodland	A17SE (NW)	715	2	219196 243351
176	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 38946 16847.48 Plantation on Ancient Woodland	A17SE (NW)	718	2	219210 243365
177	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5303 48838.87 Restored Ancient Woodland Site	A18NW (N)	754	2	219540 243515
178	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 6812 29476.31 Ancient and Semi-Natural Woodland	A9SW (S)	851	2	219974 241854
179	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 6824 20081.16 Ancient and Semi-Natural Woodland	A7SE (SW)	863	2	219081 241930

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## **Sensitive Land Use**

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
180	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 6810 67614.17 Ancient and Semi-Natural Woodland	A8SE (S)	876	2	219905 241800
181	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5334 8917.75 Restored Ancient Woodland Site	A18NW (N)	919	2	219601 243682
182	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5320 1404.79 Ancient and Semi-Natural Woodland	A18NW (N)	951	2	219298 243664
183	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 5337 9441.95 Restored Ancient Woodland Site	A18NW (N)	977	2	219321 243699
184	Environmentally Se Name: Multiple Areas: Total Area (m2): Source:	Preseli (decommissioned) Y 1187932672 The National Assembly for Wales, GI Services (Department of Planning & Countryside)	A13NW (S)	0	8	219625 242698
185	National Nature Res Name: Multiple Areas: Total Area (m2): Source: Reference: Designation Date:	Serves Coedmor Y 461256.45 Natural Resources Wales 13 5th July 1991	A13NE (N)	266	2	219718 243012
186	Sites of Special Sci Name: Multiple Areas: Total Area (m2): Source: Reference: Designation Details: Designation Date: Date Type:	entific Interest  Afon Teifi Y 7781788.17 Natural Resources Wales 102732wlu Mixed Biological And Geological 8th December 1997 Notified	A13NE (N)	228	2	219694 242978
187	Sites of Special Sci Name: Multiple Areas: Total Area (m2): Source: Reference: Designation Details: Designation Date: Date Type:	Coedydd A Corsydd Aberteifi (Teifi Estuary Woodlands & Marshes) Y 448319.87 Natural Resources Wales 66032wcp	A13NE (N)	265	2	219718 243012
188	Sites of Special Sci Name: Multiple Areas: Total Area (m2): Source: Reference: Designation Details: Designation Date: Date Type:	Gwaun Pen-Lan N 18459.32 Natural Resources Wales 52832wbj	A19SE (NE)	862	2	220312 243334
189	Special Areas of Co Name: Multiple Areas: Total Area (m2): Source: Reference: Status:	Afon Teifi / River Teifi Y 7214141.53 Natural Resources Wales Uk0012670 Designated	A13NE (N)	228	2	219694 242978

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Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Pembrokeshire County Council - Public Protection Division	December 2015	Annual Rolling Update
Natural Resources Wales	June 2020	Annually
Ceredigion Council - Environmental Health Department	March 2014	Annual Rolling Update
Carmarthenshire County Council - Environmental Health Department	October 2014	Annual Rolling Update
Discharge Consents		
Natural Resources Wales	April 2020	Quarterly
Environment Agency - Welsh Region	August 2014	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Welsh Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - Welsh Region	October 2008	Variable
ntegrated Pollution Prevention And Control		
Environment Agency - Welsh Region	April 2020	Quarterly
Natural Resources Wales	April 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control	·	<u> </u>
Pembrokeshire County Council - Environmental Health Department	December 2015	Variable
Ceredigion Council - Environmental Health Department	February 2015	Variable
Carmarthenshire County Council - Environmental Health Department	March 2015	Variable
Local Authority Pollution Prevention and Controls		
Ceredigion Council - Environmental Health Department	February 2015	Annual Rolling Update
Carmarthenshire County Council - Environmental Health Department	March 2015	Annual Rolling Update
Pembrokeshire County Council - Environmental Health Department	November 2015	Annual Rolling Updat
	November 2013	Airidal Rolling Opdati
Local Authority Pollution Prevention and Control Enforcements	Danambar 2045	Variable
Pembrokeshire County Council - Environmental Health Department Ceredigion Council - Environmental Health Department	December 2015 February 2015	Variable Variable
Carmarthenshire County Council - Environmental Health Department	September 2013	Variable
	September 2013	Variable
Nearest Surface Water Feature Ordnance Survey	May 2020	
Pollution Incidents to Controlled Waters		
Environment Agency - Welsh Region	December 1998	Not Applicable
	2 33323. 1333	
Prosecutions Relating to Authorised Processes	March 2012	Annual Polling Lindate
Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	Annual Rolling Update Annual Rolling Update
	Watch 2013	Annual Rolling Opuals
Prosecutions Relating to Controlled Waters		
Environment Agency - Welsh Region Natural Resources Wales	March 2013	Annual Rolling Update
	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Natural Resources Wales	January 2015	Annually
Environment Agency - Welsh Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
Substantiated Pollution Incident Register		
Environment Agency Wales - South West Area	April 2020	Quarterly
Natural Resources Wales	April 2020	Quarterly
Water Abstractions		
Environment Agency - Welsh Region	April 2020	Quarterly
Natural Resources Wales	April 2020	Quarterly
Water Industry Act Referrals	•	†
Natural Resources Wales	April 2020	Quarterly
tatalal 1000alous vvalus	7hii 7070	Quarterry

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Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Map		
Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations		
Natural Resources Wales	January 2018	Annually
Superficial Aquifer Designations		
Natural Resources Wales	January 2018	Annually
Source Protection Zones		
Natural Resources Wales	November 2016	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences		
Natural Resources Wales	August 2019	Quarterly
Flooding from Rivers or Sea without Defences		
Natural Resources Wales	May 2020	Quarterly
Areas Benefiting from Flood Defences		
Natural Resources Wales	November 2019	Quarterly
Flood Water Storage Areas		
Natural Resources Wales	August 2019	Quarterly
Flood Defences		
Natural Resources Wales	November 2019	Quarterly
OS Water Network Lines		
Ordnance Survey	March 2020	Quarterly
Surface Water 1 in 30 year Flood Extent		
Natural Resources Wales	October 2013	Annually
Surface Water 1 in 100 year Flood Extent		
Natural Resources Wales	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent		
Natural Resources Wales	October 2013	Annually
Surface Water Suitability		
Natural Resources Wales	October 2013	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	Annually

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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
ntegrated 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	April 2020	Quarterly
Natural Resources Wales	April 2020	Quarterly
icensed Waste Management Facilities (Locations)		
Environment Agency Wales - South West Area	April 2020	Quarterly
Natural Resources Wales	April 2020	Quarterly
ocal Authority Landfill Coverage		
Carmarthenshire County Council	May 2000	Not Applicable
Ceredigion Council - Environmental Health Department	May 2000	Not Applicable
Pembrokeshire County Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Carmarthenshire County Council	May 2000	Not Applicable
Ceredigion Council - Environmental Health Department	May 2000	Not Applicable
Pembrokeshire County Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)	.,	
Landmark Information Group Limited	December 1999	Not Applicable
·	December 1999	140t Applicable
Potentially Infilled Land (Water)	Dagarahan 1000	Not Applicable
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		
ialiling hazardous substance Emorcements		Variable
	February 2016	
Carmarthenshire County Council - Area Planning Office (East Area)	February 2016 February 2016	Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area)		Variable Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area)	February 2016	
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department	February 2016 February 2016	Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department Pembrokeshire Coast National Park Authority - Development Control	February 2016 February 2016 February 2016	Variable Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department Planning Hazardous Substance Consents	February 2016 February 2016 February 2016 February 2016	Variable Variable Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department Planning Hazardous Substance Consents	February 2016 February 2016 February 2016 February 2016	Variable Variable Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department	February 2016 February 2016 February 2016 February 2016 October 2015	Variable Variable Variable Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department  Planning Hazardous Substance Consents Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area)	February 2016 February 2016 February 2016 February 2016 October 2015 February 2016	Variable Variable Variable Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department  Planning Hazardous Substance Consents Carmarthenshire County Council - Area Planning Office (East Area)	February 2016 February 2016 February 2016 February 2016 October 2015  February 2016 February 2016	Variable Variable Variable Variable Variable Variable
Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area) Ceredigion Council - Planning Department Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department  Planning Hazardous Substance Consents Carmarthenshire County Council - Area Planning Office (East Area) Carmarthenshire County Council - Area Planning Office (South Area) Carmarthenshire County Council - Environment Department (West Area)	February 2016 February 2016 February 2016 February 2016 October 2015  February 2016 February 2016 February 2016	Variable Variable Variable Variable  Variable Variable Variable Variable

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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	June 2020	Bi-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 Updat
Mining Instability		
Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards	,	,
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards		,
British Geological Survey - National Geoscience Information Service	January 2019	Annually
	Canada y 2010	7 till daily
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas	Surrairy 2010	7 timidany
British Geological Survey - National Geoscience Information Service	July 2011	Annually
• •	July 2011	Aillidally
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Shilish Geological Survey - National Geoscience Information Service	July 2011	Affilially
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	April 2020	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	June 2020	Quarterly
Gas Pipelines		
National Grid	July 2014	
Points of Interest - Commercial Services		
PointX	June 2020	Quarterly
Points of Interest - Education and Health		
PointX	June 2020	Quarterly
Points of Interest - Manufacturing and Production		
PointX	June 2020	Quarterly
Points of Interest - Public Infrastructure		
Foints of interest - Public infrastructure	June 2020	Quarterly
		,
PointX		
PointX Points of Interest - Recreational and Environmental		Quarterly
PointX  Points of Interest - Public Infrastructure  Points of Interest - Recreational and Environmental  PointX  Underground Electrical Cables	June 2020	Quarterly

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Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural Resources Wales	August 2018	Bi-Annually
Areas of Adopted Green Belt		
Carmarthenshire County Council	June 2020	As notified
Ceredigion Council	June 2020	As notified
Pembrokeshire Coast National Park Authority - Development Control	June 2020	As notified
Pembrokeshire County Council	June 2020	As notified
Areas of Unadopted Green Belt		
Carmarthenshire County Council	June 2020	As notified
Ceredigion Council	June 2020	As notified
Pembrokeshire Coast National Park Authority - Development Control	June 2020	As notified
Pembrokeshire County Council	June 2020	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		
Carmarthenshire County Council	August 2018	Bi-Annually
Ceredigion Council	August 2018	Bi-Annually
Pembrokeshire County Council	August 2018	Bi-Annually
Marine Nature Reserves		
Natural Resources Wales	August 2018	Bi-Annually
National Nature Reserves		
Natural Resources Wales	June 2019	Bi-Annually
National Parks		
Natural Resources Wales	August 2018	Annually
Nitrate Vulnerable Zones		
Natural Resources Wales	July 2019	Bi-Annually
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	October 2005	
Ramsar Sites		
Natural Resources Wales	July 2019	Bi-Annually
Sites of Special Scientific Interest	-	
Natural Resources Wales	March 2020	Bi-Annually
Special Areas of Conservation		<u> </u>
Natural Resources Wales	August 2018	Bi-Annually
Special Protection Areas	1.25.01.20.0	
Opecial i rotection Areas	August 2018	Bi-Annually

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## **Data Suppliers**

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEP Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE 迎公介
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Peter Brett Associates	peterbrett

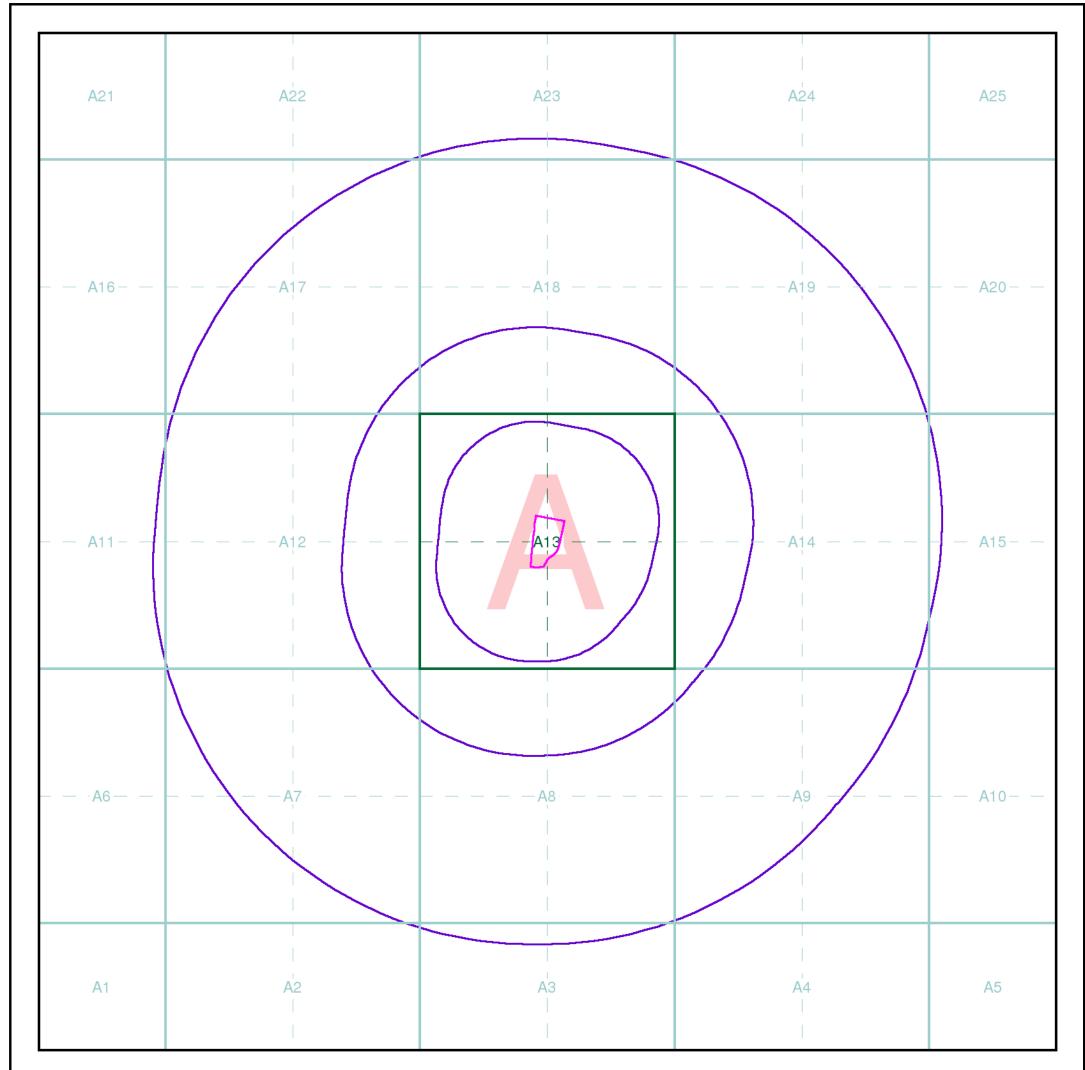


## **Useful Contacts**

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service  British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Natural Resources Wales  Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	Pembrokeshire County Council - Environmental Health Department  Public Protection Division, Pembrokeshire County Council, County Hall, Haverfordwest, Pembrokeshire, SA61 1TP	Telephone: 01437 764551 Fax: 01437 775838 Website: www.pembrokeshire.gov.uk
6	Ceredigion Council - Environmental Health Department Penmorfa, Aberaeron, Ceredigion, Dyfed, SA46 0PA	Telephone: 01545 570881 Fax: 01545 572009 Website: www.ceredigion.gov.uk
7	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	The National Assembly for Wales - GI Services (Department of Planning & Countryside)  Yr Hen Ysgol Gymraeg, Alexandria Road, Aberystwyth, Ceredigion, SY23 1LD	Telephone: 02920 825111 Website: www.wales.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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

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Geotechnical & Geoenvironmental Specialis

#### **Index Map**

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

#### Slice

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

#### Seamer

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

#### Quadrant

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

A selection of organisations who provide data within this report:







Envirocheck reports are compiled from 136 different sources of data.

#### **Client Details**

Mr J Alderman, Terra Firma (Wales) Ltd, 5 Deryn Court, Wharfdale Road, Pentwyn, Cardiff, CF23 7HB

### **Order Details**

Order Number: 250775392\_1\_1
Customer Ref: 16166 Cilgerran
National Grid Reference: 219630, 242700
Site Area (Ha): 0.85

Search Buffer (m): 1000

#### Site Details

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

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

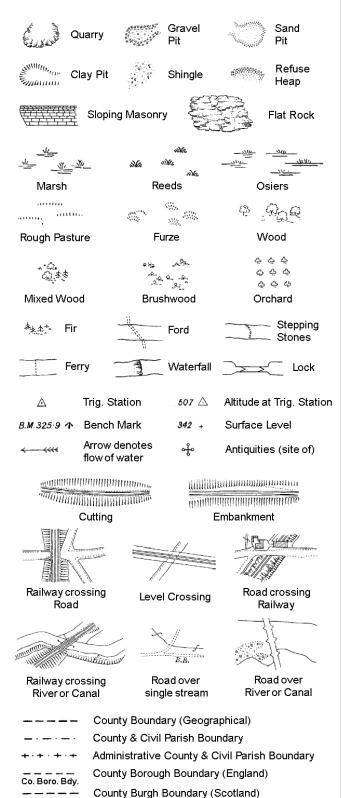


Tel: 0844 844 9952 Fax: 0844 844 9951 Web: www.envirocheck.co.uk

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## **Historical Mapping Legends**

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



Police Call Box

Telephone Call Box

Signal Post

Pump

Sluice

Spring

Trough Well

S.P

T.C.B

Tr:

Sl.

Co. Burgh Bdy.

Bridle Road

Foot Bridge

Mile Stone

M.P.M.R. Mooring Post or Ring

Electricity Pylor

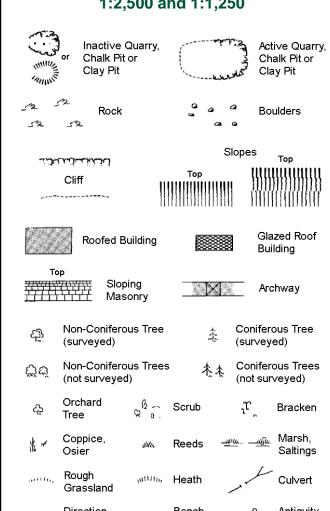
B.R.

EP

F.B.

M.S

Ordnance Survey Plan, Additional SIMs and Large-Scale National Grid Data 1:2,500 and **Supply of Unpublished Survey Information** 1:2,500 and 1:1,250



Direction Bench Antiquity of water flow (site of) Electricity Triangulation Cave ÷

**Electricity Transmission Line** County Boundary (Geographical) County & Civil Parish Boundary Civil Parish Boundary Admin. County or County Bor. Boundary L B Bdy London Borough Boundary Symbol marking point where boundary mereing changes

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

1:1,250

Slopes					Top
Clift נאבאבוריג שניב		1111111	Тор	<b>!</b> !!!!!!	!!!!!!!!!!
,					
Ba	Rock		7,3	Rock (so	eattered)
$\square_{\triangle}$	Boulders		<u>a</u>	Boulders	(scattered)
	Positioned Bo	ulder		Scree	
(월	Non-Conifero (surveyed)	us Tree	*	Conifero	
ర్లోల్	Non-Conifero (not surveyed		春春	Conifero (not sur	ous Trees /eyed)
දා	Orchard Tree	Q <sup>0</sup> a. So	erub	r,	Bracken
* ~	Coppice, Osier	ων. R∈	eds 📲	<u>ര —മു</u> മ	Marsh, Saltings
acette,	Rough Grassland	<sub>ишин</sub> Не	eath	1	Culvert
<b>&gt;&gt;&gt;</b>	Direction of water flow		angulation ation	ઌ૾ૺ	Antiquity (site of)
_ E T L _	_ Electricity	Transmissio	on Line	$\boxtimes$	Electricity Pylon
\ K BM	231.60m Ben	ch Mark		Building Building	
	Roofed E	Building		×	azed Roof iilding
	• • • Ci	vil parish/co	mmunity b	oundary	
	— Dis	strict bound	ary		
_ •	Co	unty bound	ary		
	Во	undary post	ndary post/stone		
٨	alv alv	oundary mer vays appea three)			
Bks	Barracks		Р	Pillar, Pol	e or Post
Bty	Battery		PO	Post Offi	
Cemy	Cemetery		PC -		onvenience
Chy	Chimney		Pp	Pump	04-4:
Cis Dismtd F	Cistern Rly Dismantled	Railway	Ppg Sta PW	Pumping Place of\	
El Gen S	•	_	Sewage P		wage
CID.	Station	. Dill	OD OD.		imping Station

Electricity Pole, Pillar

Fountain / Drinking Ftn.

Gas Valve Compound

Mile Post or Mile Stone

El Sub Sta Electricity Sub Station

Filter Bed

Gas Governer

**Guide Post** 

Manhole

FΒ

GVC

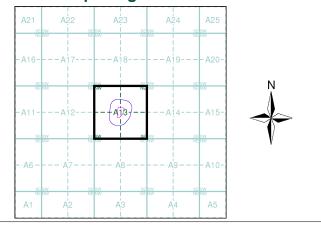
Fn/DFn



### **Historical Mapping & Photography included:**

Mapping Type	Scale	Date	Pg
Cardiganshire	1:2,500	1890	2
Pembrokeshire	1:2,500	1890	3
Cardiganshire	1:2,500	1906	4
Pembrokeshire	1:2,500	1906	5
Ordnance Survey Plan	1:2,500	1976 - 1977	6
Additional SIMs	1:2,500	1991 - 1993	7
Large-Scale National Grid Data	1:2,500	1995	8
Historical Aerial Photography	1:2,500	2000	9

### **Historical Map - Segment A13**



#### **Order Details**

Order Number: 250775392\_1\_1 16166 Cilgerran Customer Ref: National Grid Reference: 219630, 242700 Slice:

Signal Box or Bridge

Signal Post or Light

Works (building or area)

Spring

Trough

Wind Pump Wr Pt. Wr T Water Point, Water Tap

Tank or Track

Spr

Tr

Wd Pp

Wks

Site Area (Ha): 0.85 Search Buffer (m): 100

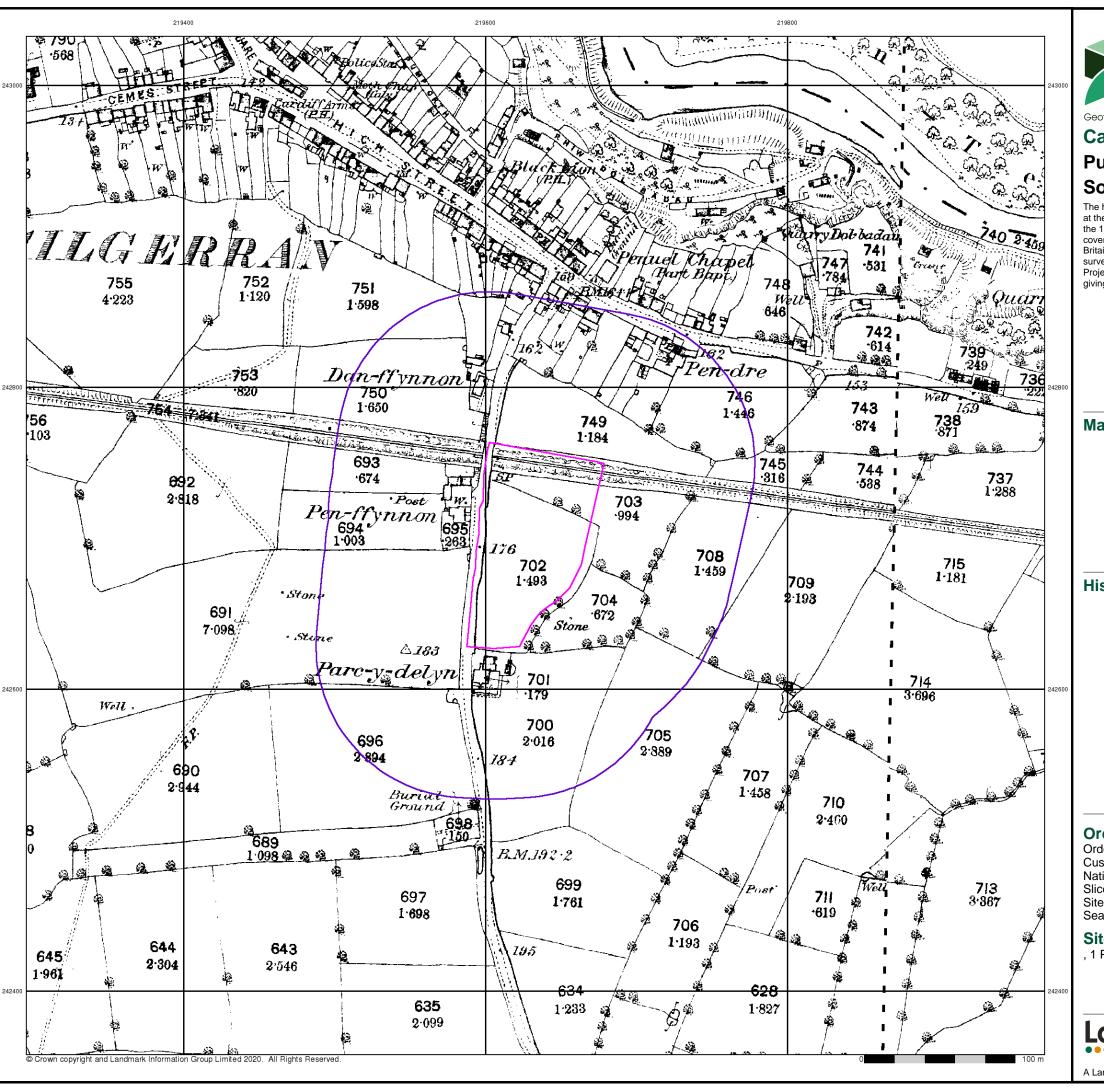
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH



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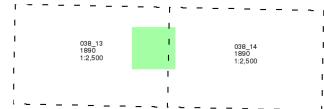


### Cardiganshire

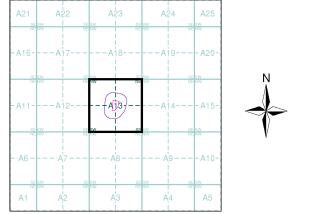
### **Published 1890** Source map scale - 1:2,500

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: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

Site Area (Ha): Search Buffer (m): 0.85 100

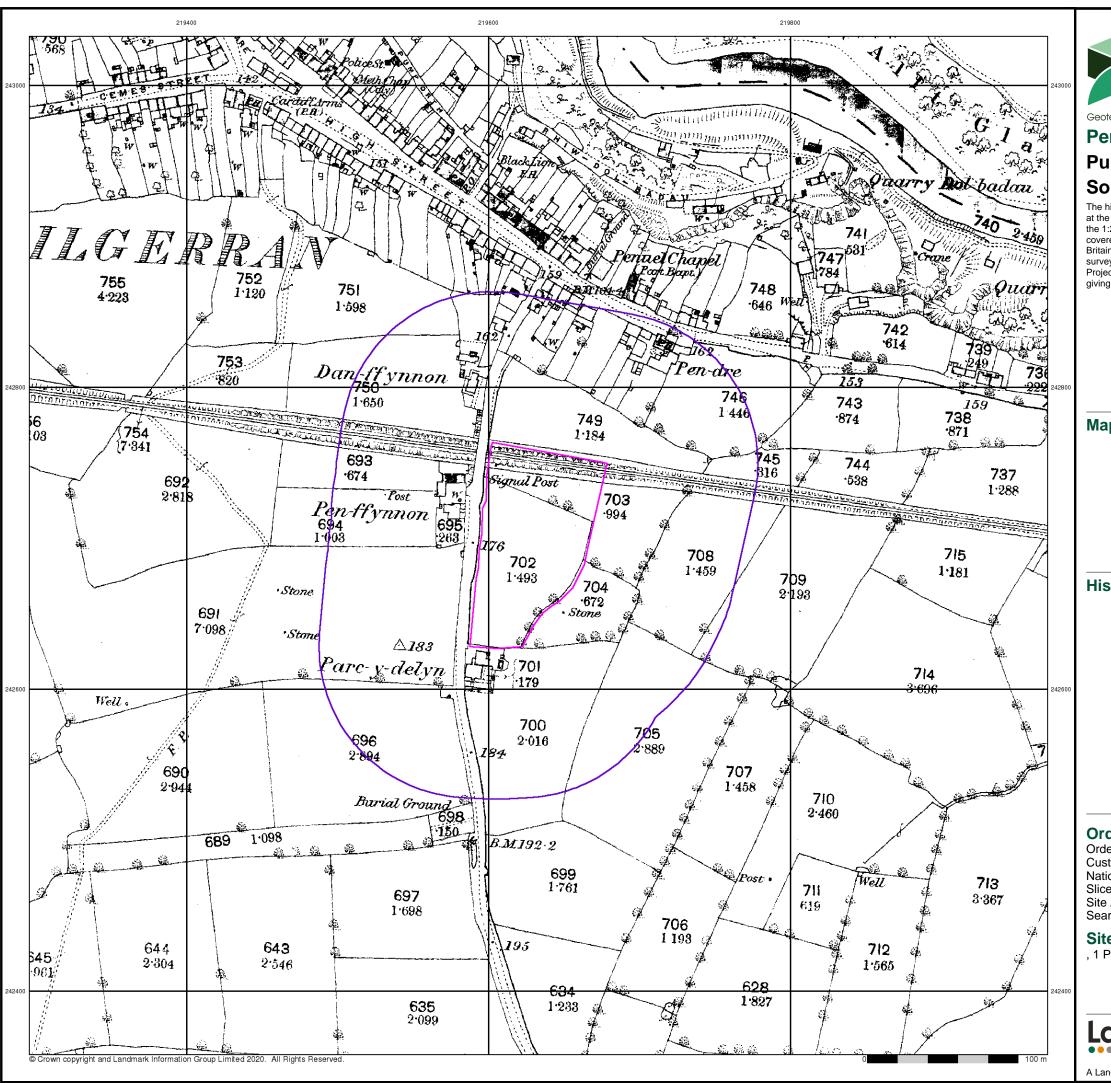
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

0844 844 9952 0844 844 9951

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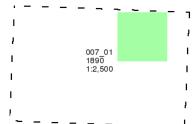
#### **Pembrokeshire**

## **Published 1890**

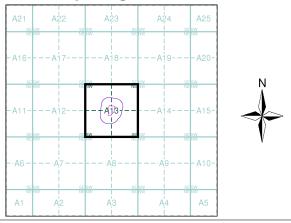
## Source map scale - 1:2,500

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: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

Site Area (Ha): Search Buffer (m): 0.85 100

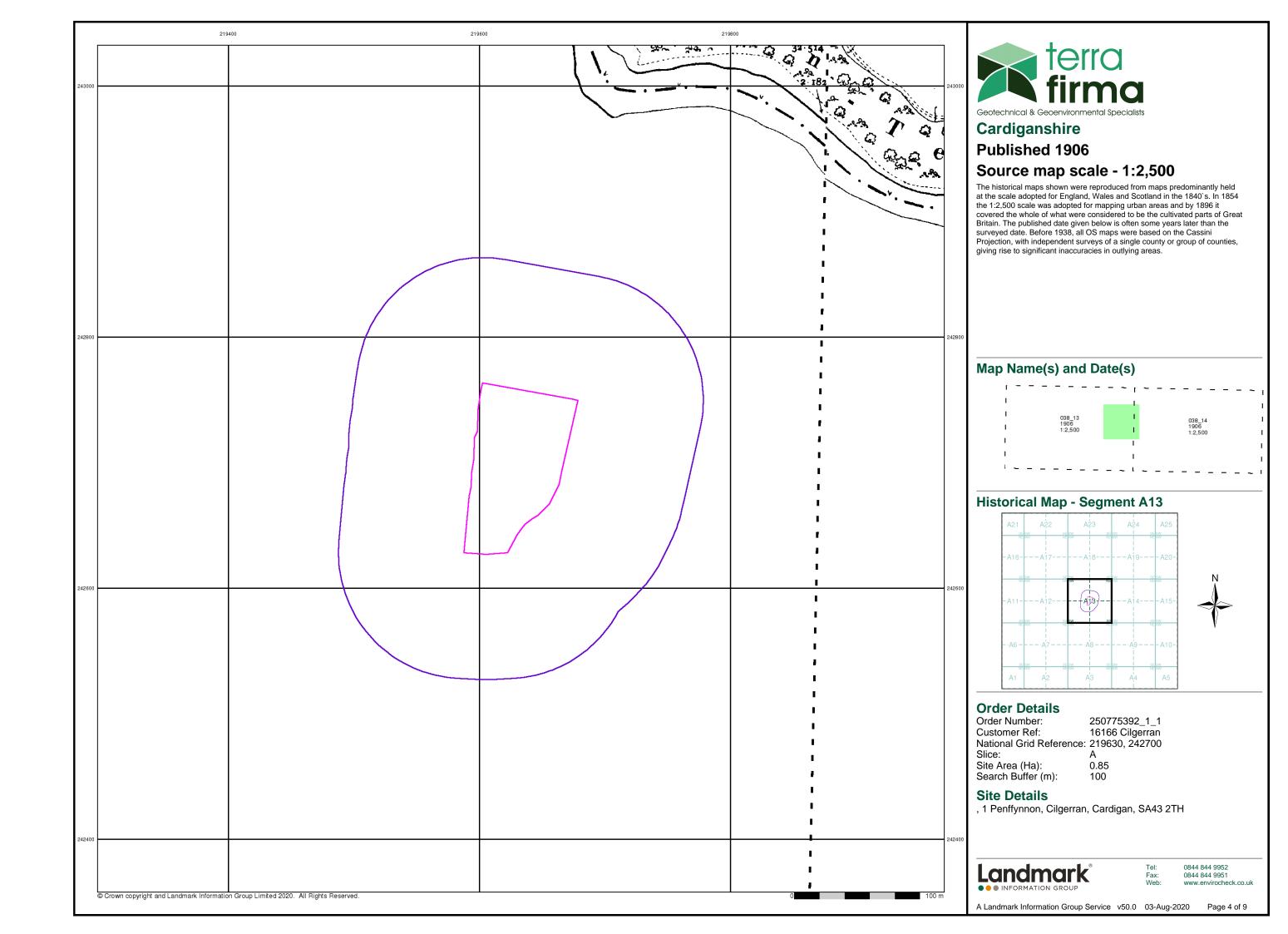
#### **Site Details**

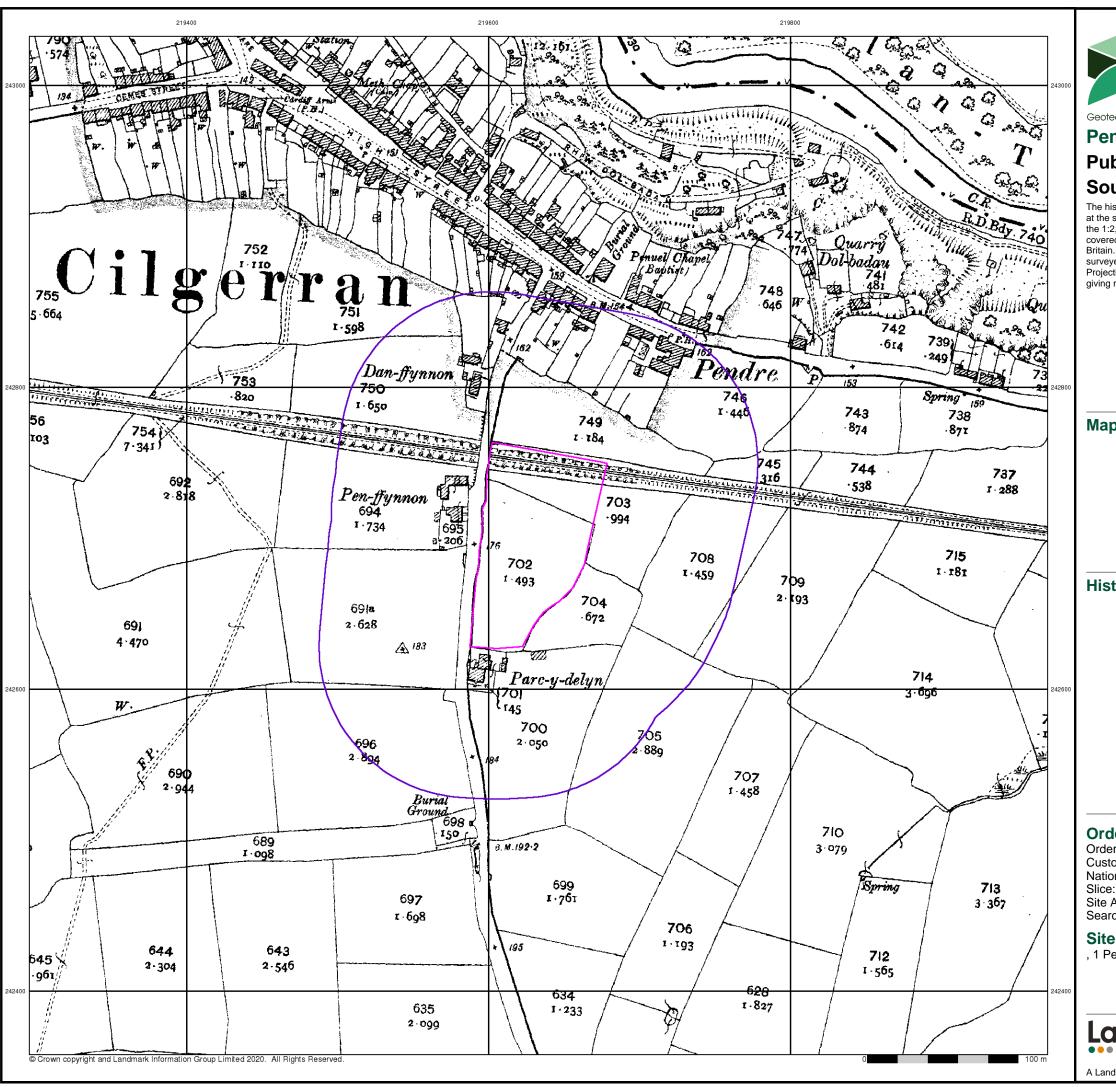
, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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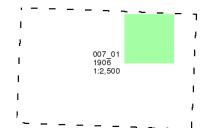


#### **Pembrokeshire**

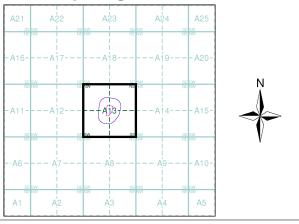
### **Published 1906** Source map scale - 1:2,500

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: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

Site Area (Ha): Search Buffer (m): 0.85 100

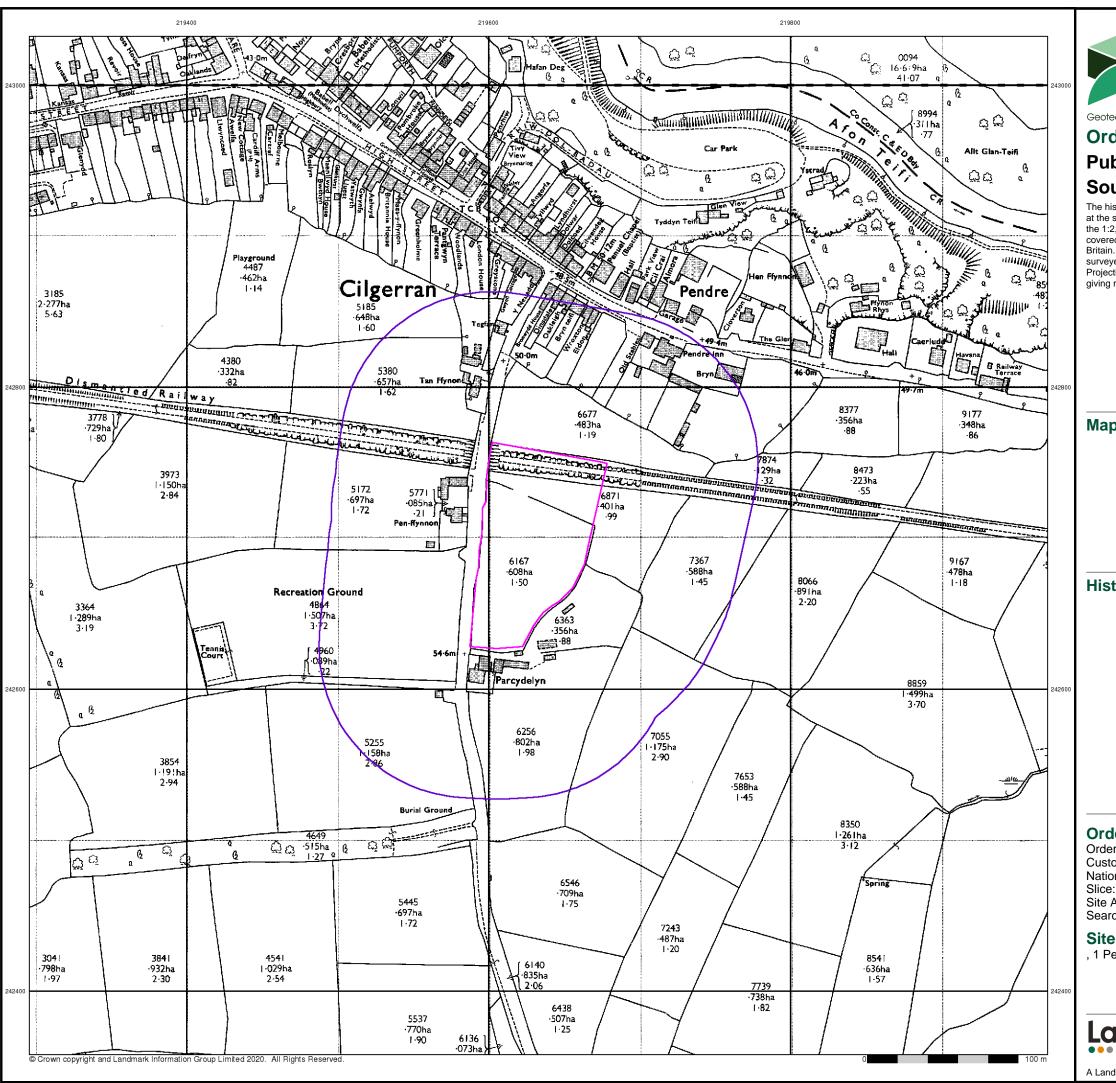
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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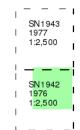
### **Ordnance Survey Plan**

## **Published 1976 - 1977**

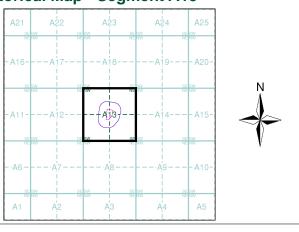
### Source map scale - 1:2,500

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: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

Site Area (Ha): Search Buffer (m): 0.85 100

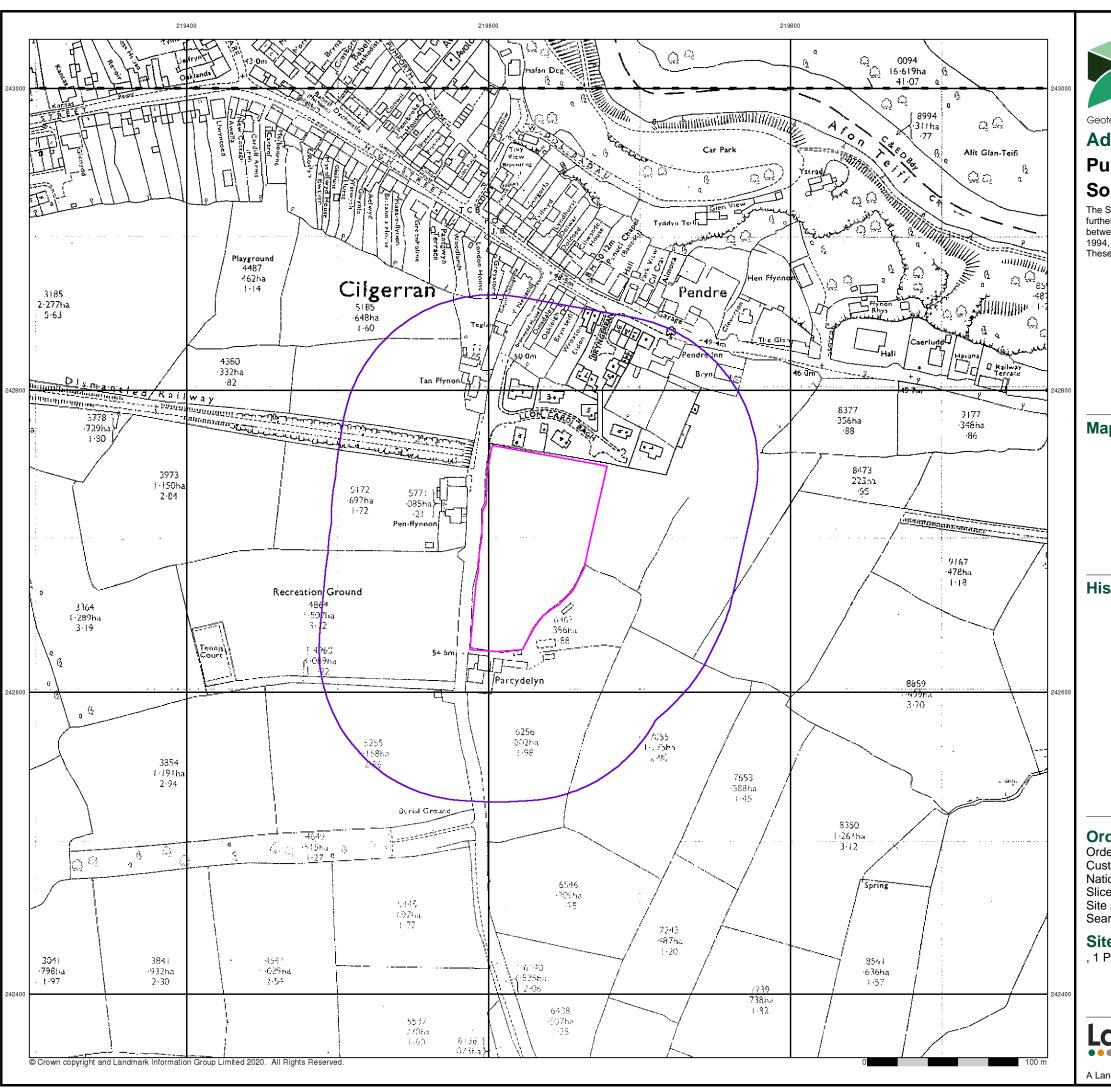
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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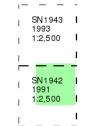


### **Additional SIMs**

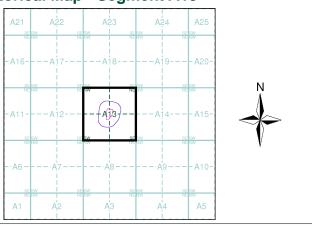
### Published 1991 - 1993 Source map scale - 1:2,500

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: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700 Slice:

Site Area (Ha): Search Buffer (m): 0.85 100

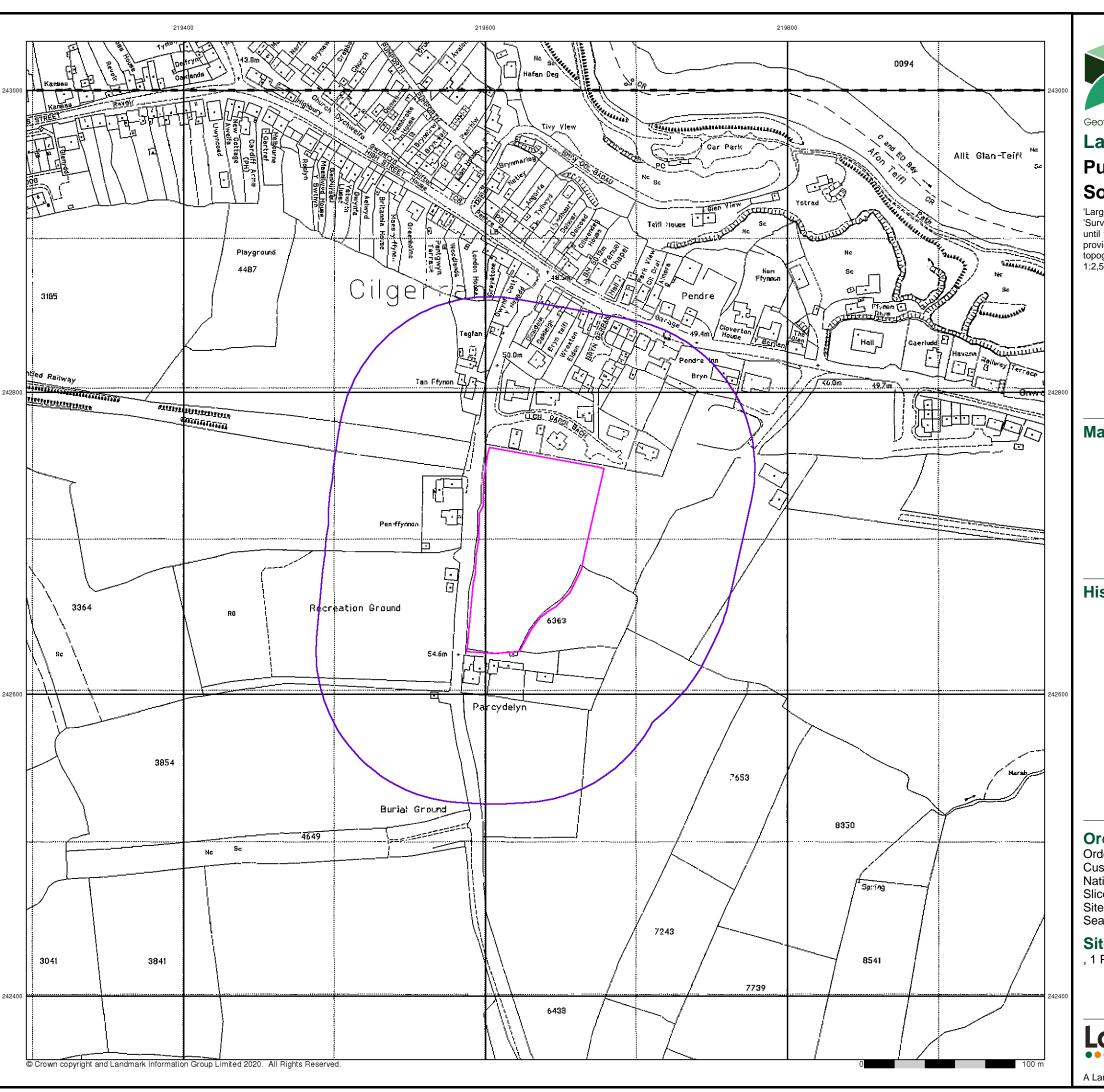
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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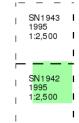
### **Large-Scale National Grid Data**

### Published 1995

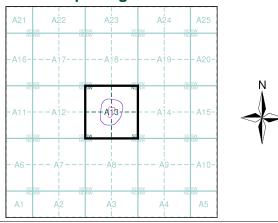
### Source map scale - 1:2,500

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

### Map Name(s) and Date(s)



### **Historical Map - Segment A13**



### **Order Details**

Order Number: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

Slice:

Site Area (Ha): Search Buffer (m): 0.85 100

#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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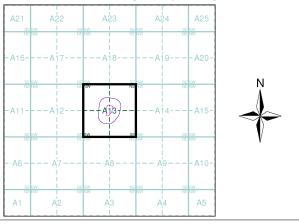


### **Historical Aerial Photography**

### Published 2000

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

### **Historical Aerial Photography - Segment A13**



### **Order Details**

Order Number: 250775392\_1\_1
Customer Ref: 16166 Cilgerran
National Grid Reference: 219630, 242700

Slice: Site Area (Ha): Search Buffer (m): 0.85 100

### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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## **Historical Mapping Legends**

### **Ordnance Survey County Series 1:10,560** Gravel Pit Other Orchard Mixed Wood Deciduous Brushwood Furze Rough Pasture Arrow denotes Trigonometrical flow of water Station Site of Antiquities Bench Mark Pump, Guide Post, Well, Spring, Signal Post **Boundary Post** · 285 Surface Level Sketched Instrumental Contour Contour Fenced Main Roads Minor Roads Un-Fenced Raised Road Sunken Road Railway over Road over Railway Ri∨er Railway over Level Crossing Road over Road over Road over County Boundary (Geographical) County & Civil Parish Boundary Administrative County & Civil Parish Boundary County Borough Boundary (England) Co. Boro. Bdy. County Burgh Boundary (Scotland) Rural District Boundary R.D. Bdy.

····· Civil Parish Boundary

### Ordnance Survey Plan 1:10,000

ولاستسه	Chalk Pit, Clay Pi	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Gravel Pit
	Sand Pit		Disused Pit or Quarry
(.0.0.0.0.	Refuse or Slag Heap		Lake, Loch or Pond
	. Dunes		Boulders
<b>* * *</b>	Coniferous Trees	400	Non-Coniferous Trees
ቀ ቀ	Orchard no_	Scrub	∖Y₁v Coppice
ជា ជា	Bracken	Heath	, тти, , Rough Grasslan
<u> </u>	- Marsh ····V///	Reeds	<u>→</u> ± <u>≠</u> Saltings
	Dire Building	ction of Flow o	Shingle
<b>***</b>	Glasshouse	Pylon	Sand
	Sloping Masonry	Pole	Electricity Transmission Line
	g Embankr	nent 	
Road	Ц	vel Foot	_⊨ Standard Gauge
Under	Over Cros	sing Briag	Siding, Tramwa or Mineral Line
	+ + + + +		→ Narrow Gauge
	Geographical C		
	— — Administrative C or County of Cit	У	_
	Municipal Borou Burgh or Distric	t Council	
	_		nstituency h other boundaries
	Civil Parish Shown alternately	when coincidence	e of boundaries occurs
BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH CE Sta	Club House	PC	Public Convenience
F E Sta FB	Fire Engine Station Foot Bridge	PH SB	Public House Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MD	Mile Post	TCP	Tolophone Call Boot

TCP

Telephone Call Post

Mile Post

### 1:10,000 Raster Mapping

	Gravel Pit	(((()))	Refuse tip or slag heap
	Rock	3 3	Rock (scattered)
	Boulders	0 0	Boulders (scattered)
	Shingle	Mud	Mud
Sand	Sand		Sand Pit
********	Slopes		Top of cliff
	General detail		Underground detail
	- O∨erhead detail	<del></del>	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
AA **	Area of wooded vegetation		Non-coniferous trees
$\Box$	Non-coniferous trees (scattered)	**	Coniferous trees
<b>*</b>	Coniferous trees (scattered)	Ö	Positioned tree
ф ф ф	Orchard	* *	Coppice or Osiers
alli,	Rough Grassland	www.	Heath
On_	Scrub	7 <u>√</u> /r	Marsh, Salt Marsh or Reeds
5	Water feature	<b>← ←</b>	Flow arrows
MHW(S)	Mean high water (springs)	MLW(S)	Mean low water (springs)
	Telephone line (where shown)	<b></b>	Electricity transmission line (with poles)
← BM 123.45 m	Bench mark (where shown)	Δ	Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)	$\boxtimes$	Pylon, flare stac or lighting tower
•	Site of (antiquity)		Glasshouse

General Building

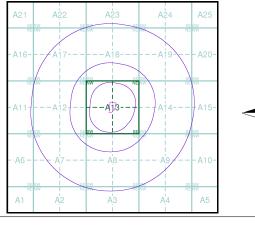
Building



### **Historical Mapping & Photography included:**

Mapping Type	Scale	Date	Pg
Pembrokeshire	1:10,560	1888	2
Cardiganshire	1:10,560	1889	3
Pembrokeshire	1:10,560	1907	4
Cardiganshire	1:10,560	1907	5
Cardiganshire	1:10,560	1938	6
Pembrokeshire	1:10,560	1953	7
Cardiganshire	1:10,560	1953	8
Ordnance Survey Plan	1:10,000	1963	9
Ordnance Survey Plan	1:10,000	1982 - 1984	10
10K Raster Mapping	1:10,000	2000	11
10K Raster Mapping	1:10,000	2006	12
VectorMap Local	1:10,000	2020	13

### **Historical Map - Slice A**



### **Order Details**

Order Number: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700 Slice:

Site Area (Ha): 0.85 Search Buffer (m): 1000

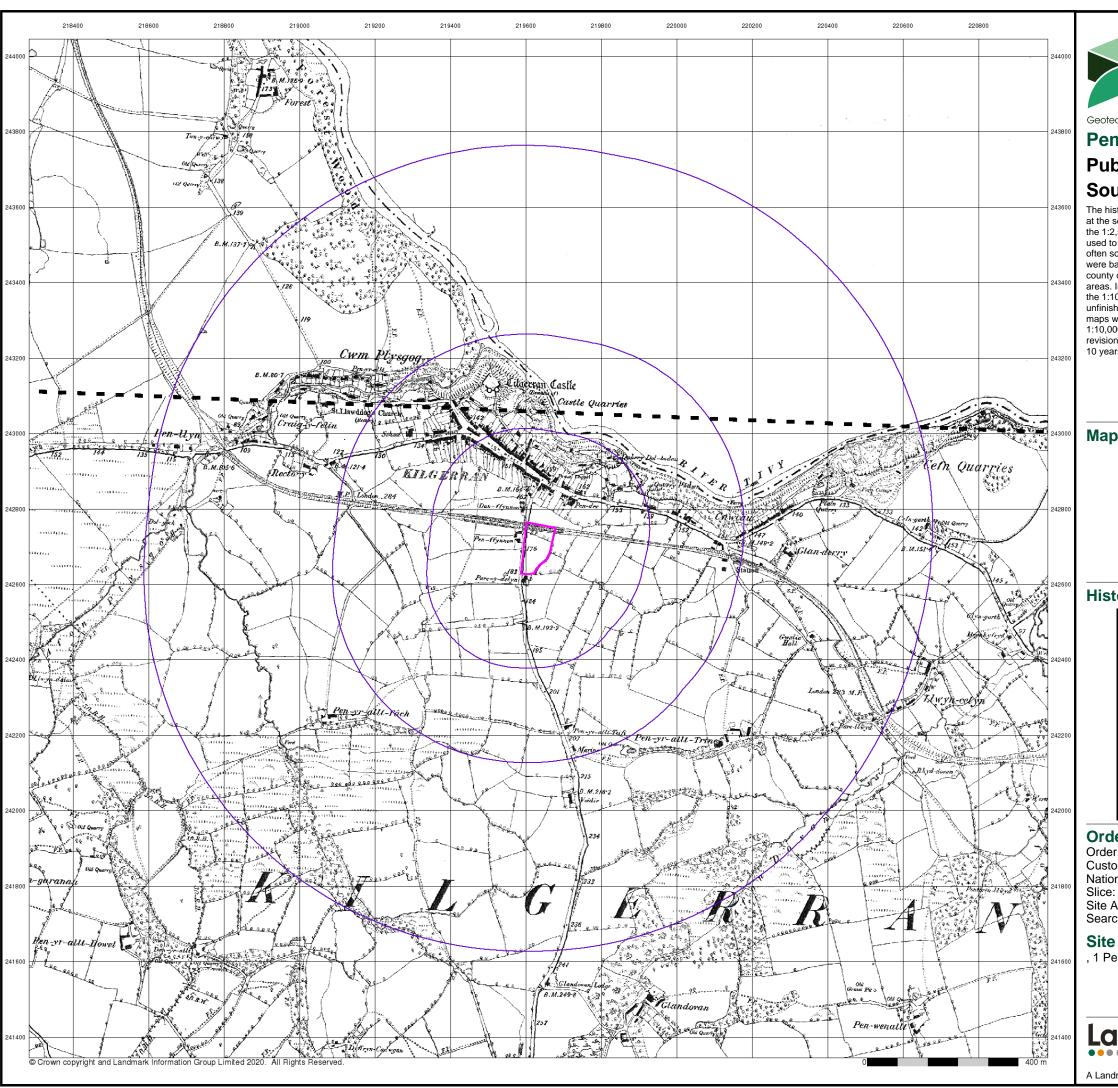
### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH



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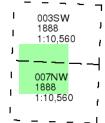
Seotechnical & Geoenvironmental Specia

#### **Pembrokeshire**

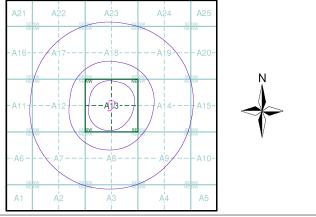
### Published 1888 Source map scale - 1:10,560

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: 250775392\_1\_1
Customer Ref: 16166 Cilgerran
National Grid Reference: 219630, 242700

Slice: A
Site Area (Ha): 0.85
Search Buffer (m): 1000

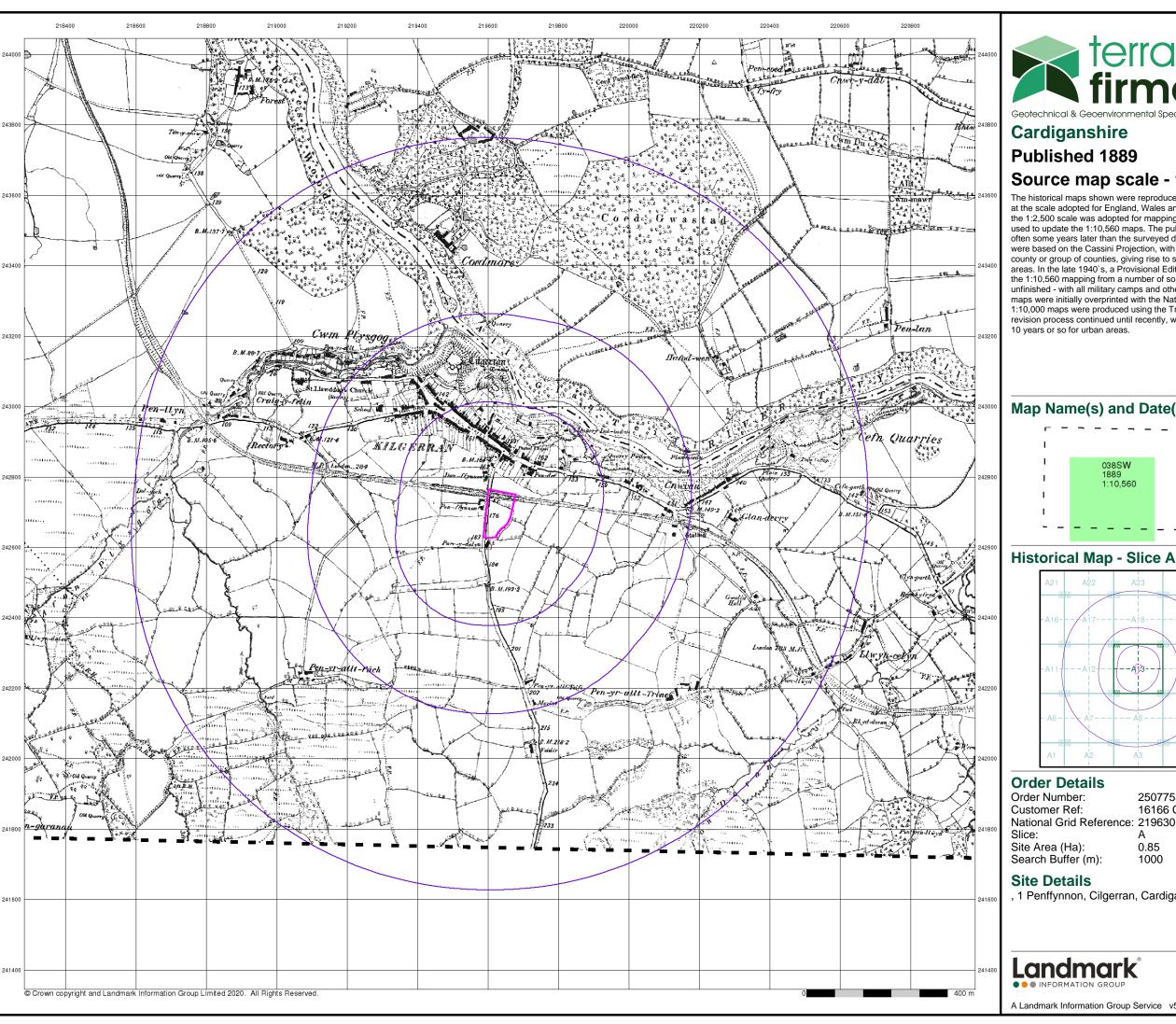
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH



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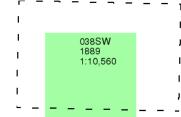


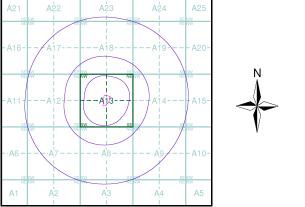


# Source map scale - 1:10,560

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

### Map Name(s) and Date(s)





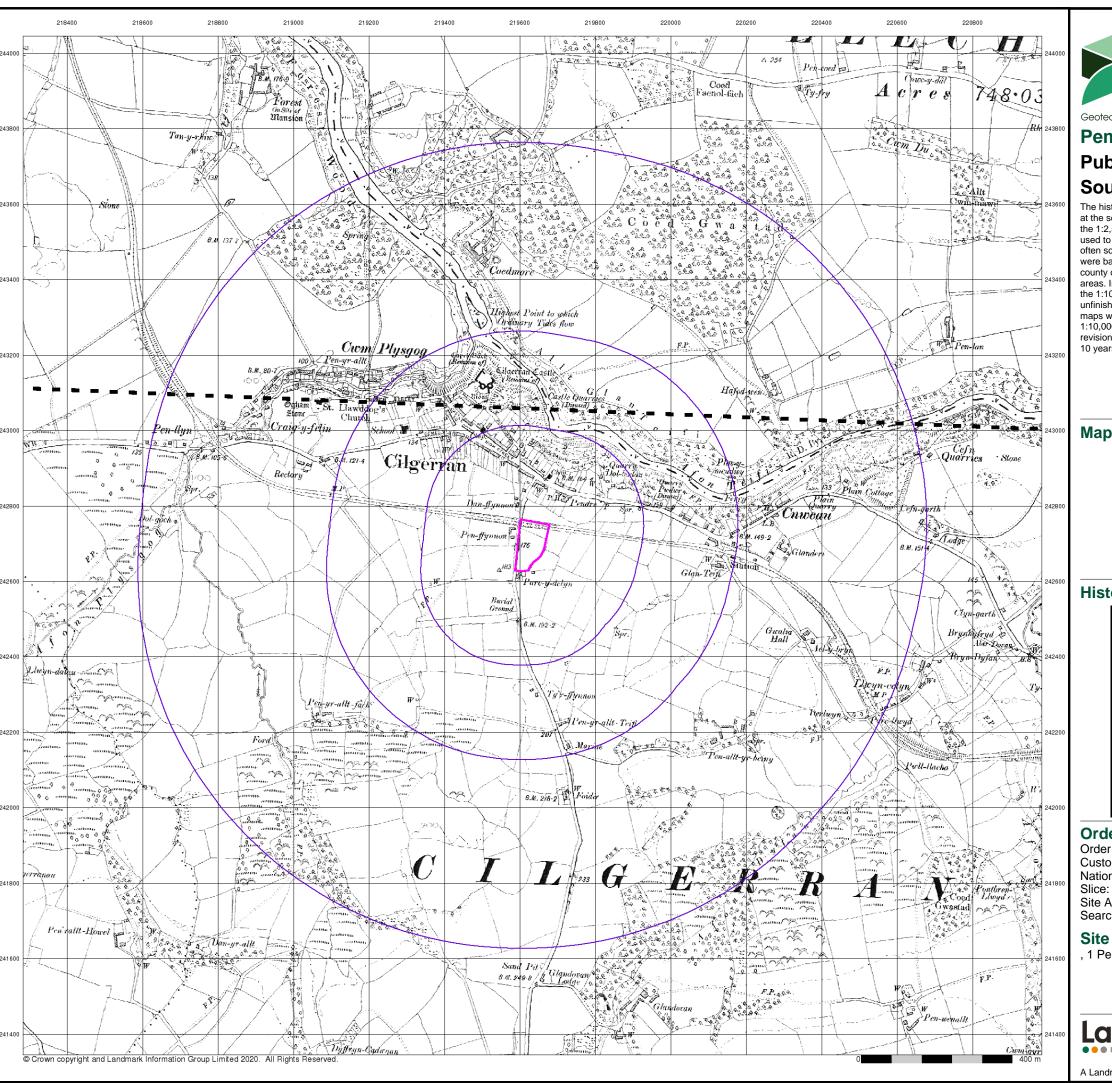
250775392\_1\_1 16166 Cilgerran National Grid Reference: 219630, 242700

0.85 1000

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

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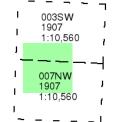


### **Pembrokeshire**

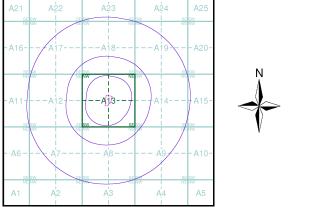
## **Published 1907** Source map scale - 1:10,560

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: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

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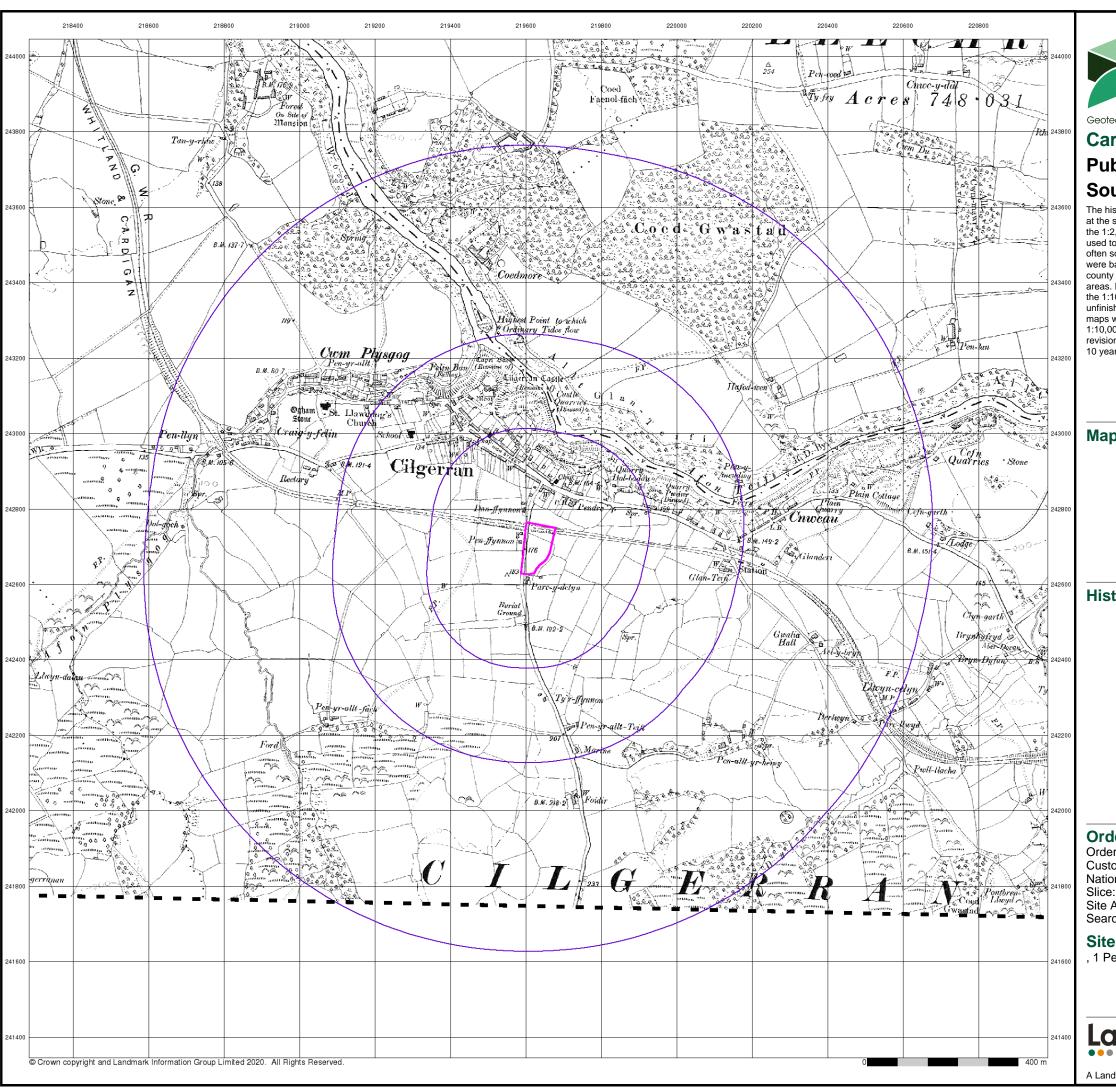
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH



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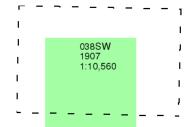


### Cardiganshire

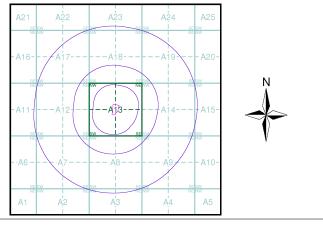
### **Published 1907** Source map scale - 1:10,560

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: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

Site Area (Ha): 0.85 Search Buffer (m): 1000

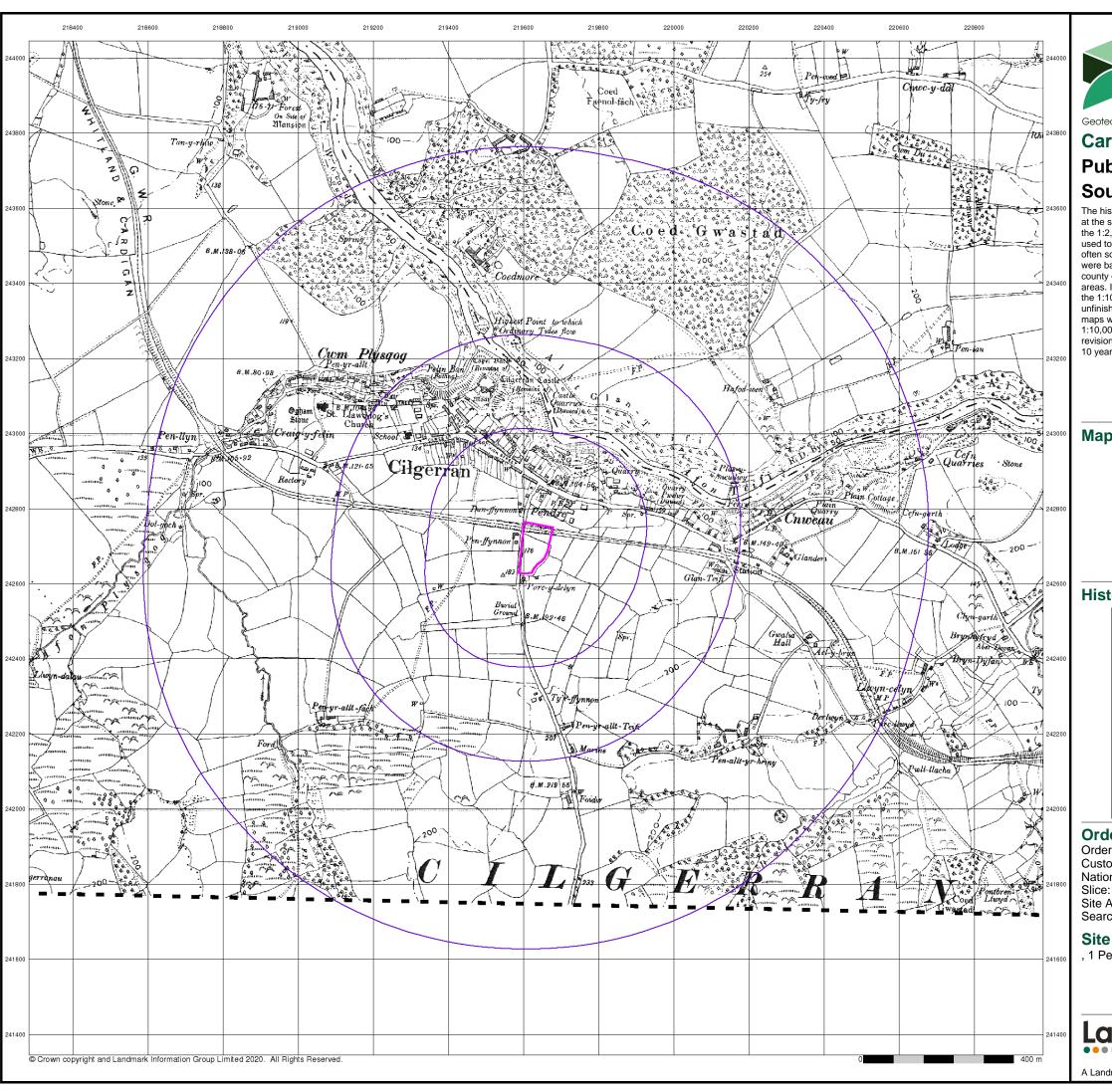
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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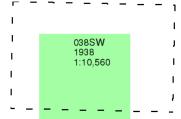
#### Geotechnical & Geoenvironmental Spec

### Cardiganshire

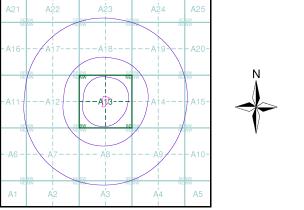
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### Map Name(s) and Date(s)



### **Historical Map - Slice A**



#### **Order Details**

Order Number: 250775392\_1\_1
Customer Ref: 16166 Cilgerran
National Grid Reference: 219630, 242700

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Site Area (Ha): 0.85 Search Buffer (m): 1000

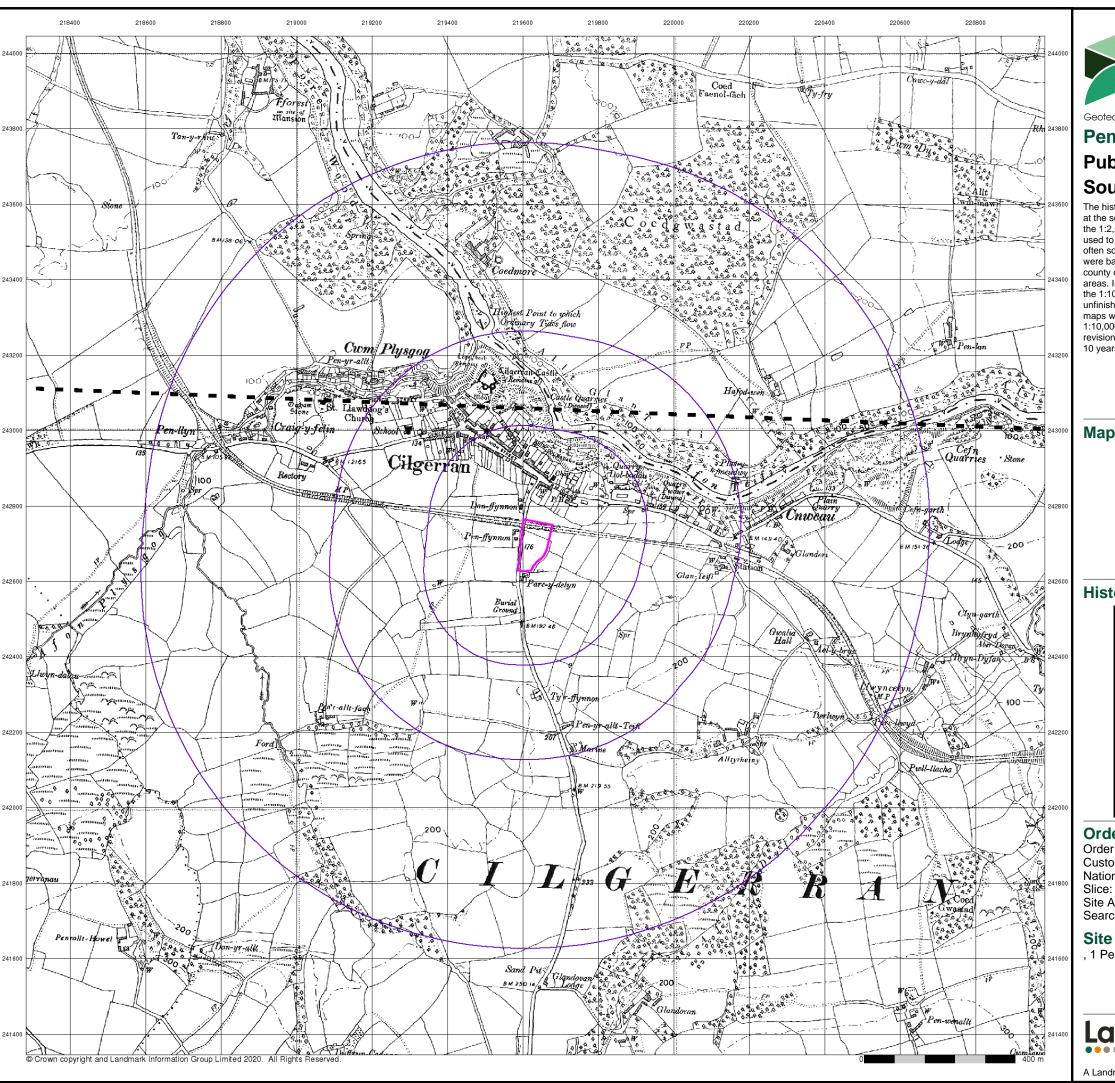
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

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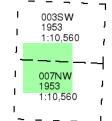
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# Published 1953

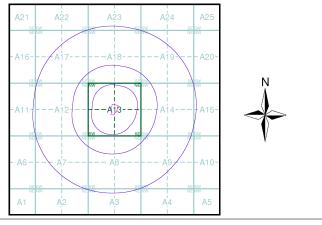
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### Map Name(s) and Date(s)



#### **Historical Map - Slice A**



#### **Order Details**

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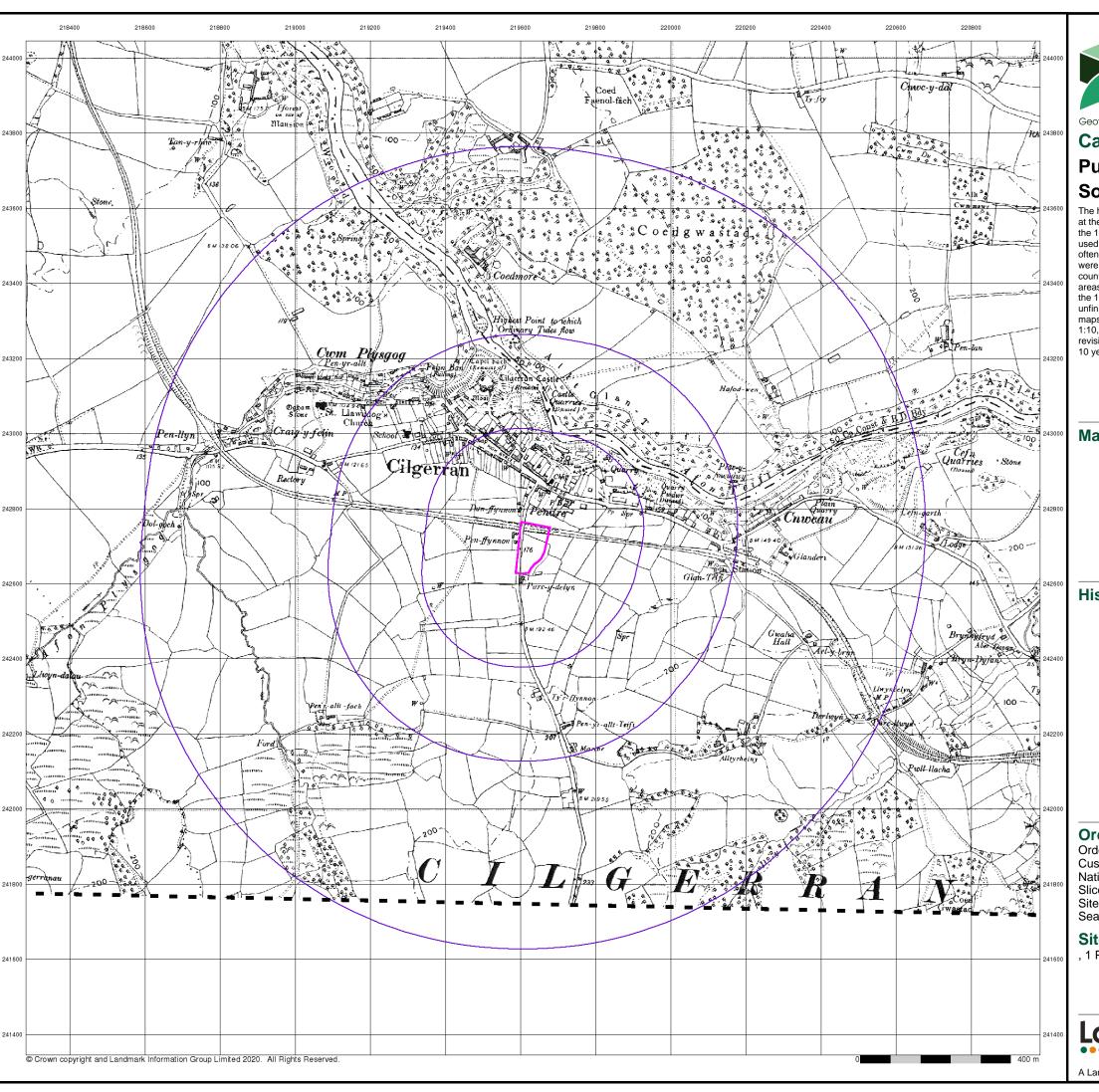
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH



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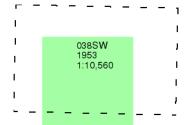
### Cardiganshire

# Published 1953

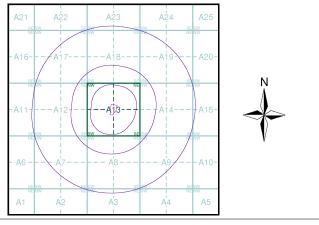
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps.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

### Map Name(s) and Date(s)



### **Historical Map - Slice A**



#### **Order Details**

Order Number: 250775392\_1\_1
Customer Ref: 16166 Cilgerran
National Grid Reference: 219630, 242700

Slice:

Site Area (Ha): 0.85 Search Buffer (m): 1000

#### **Site Details**

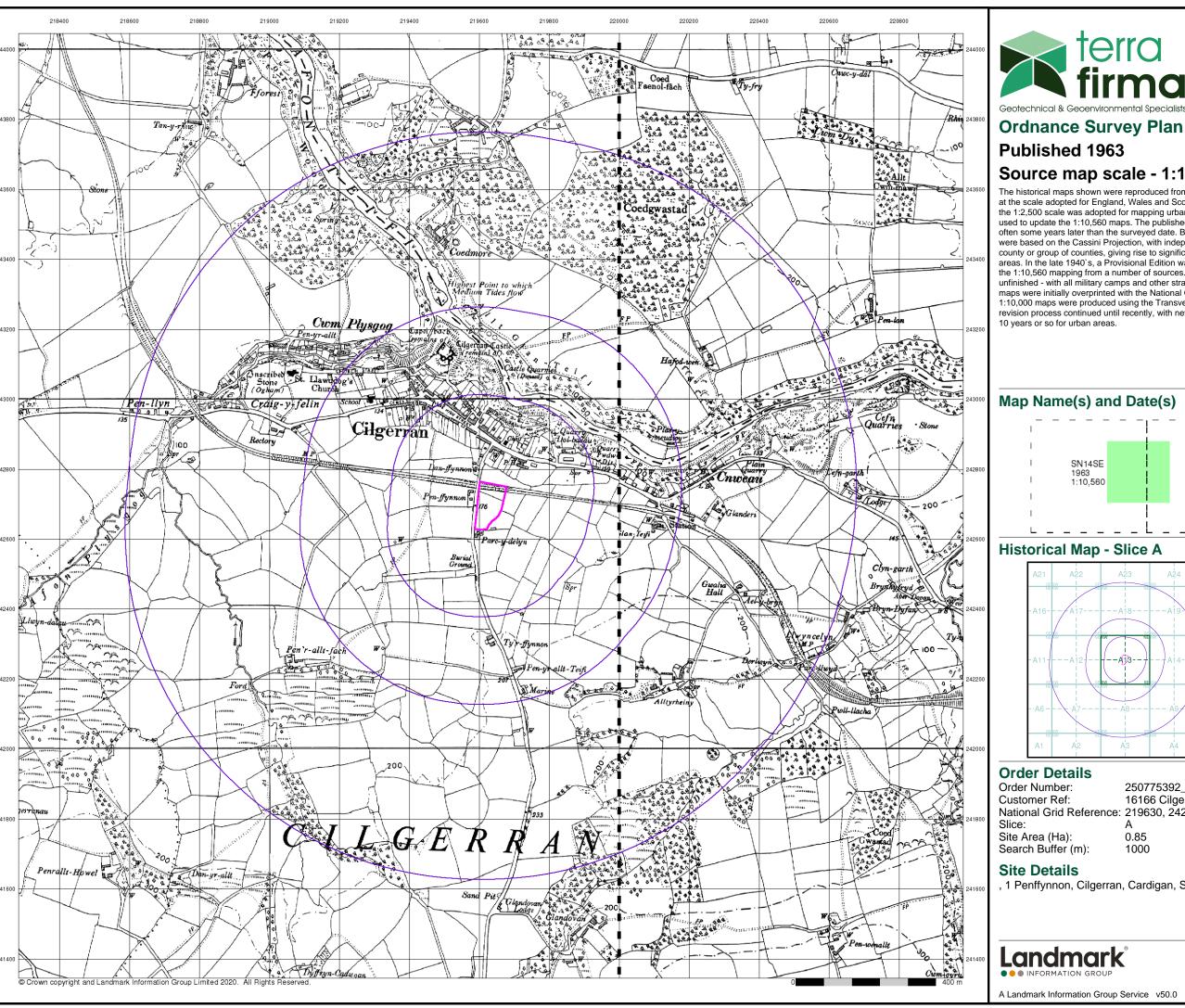
, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

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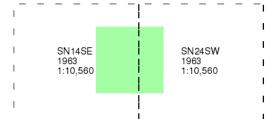


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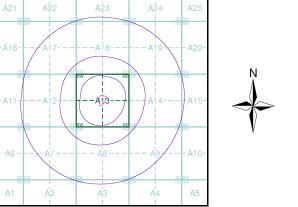
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### Map Name(s) and Date(s)



#### **Historical Map - Slice A**



#### **Order Details**

250775392\_1\_1 Order Number: Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

Site Area (Ha): 0.85 Search Buffer (m): 1000

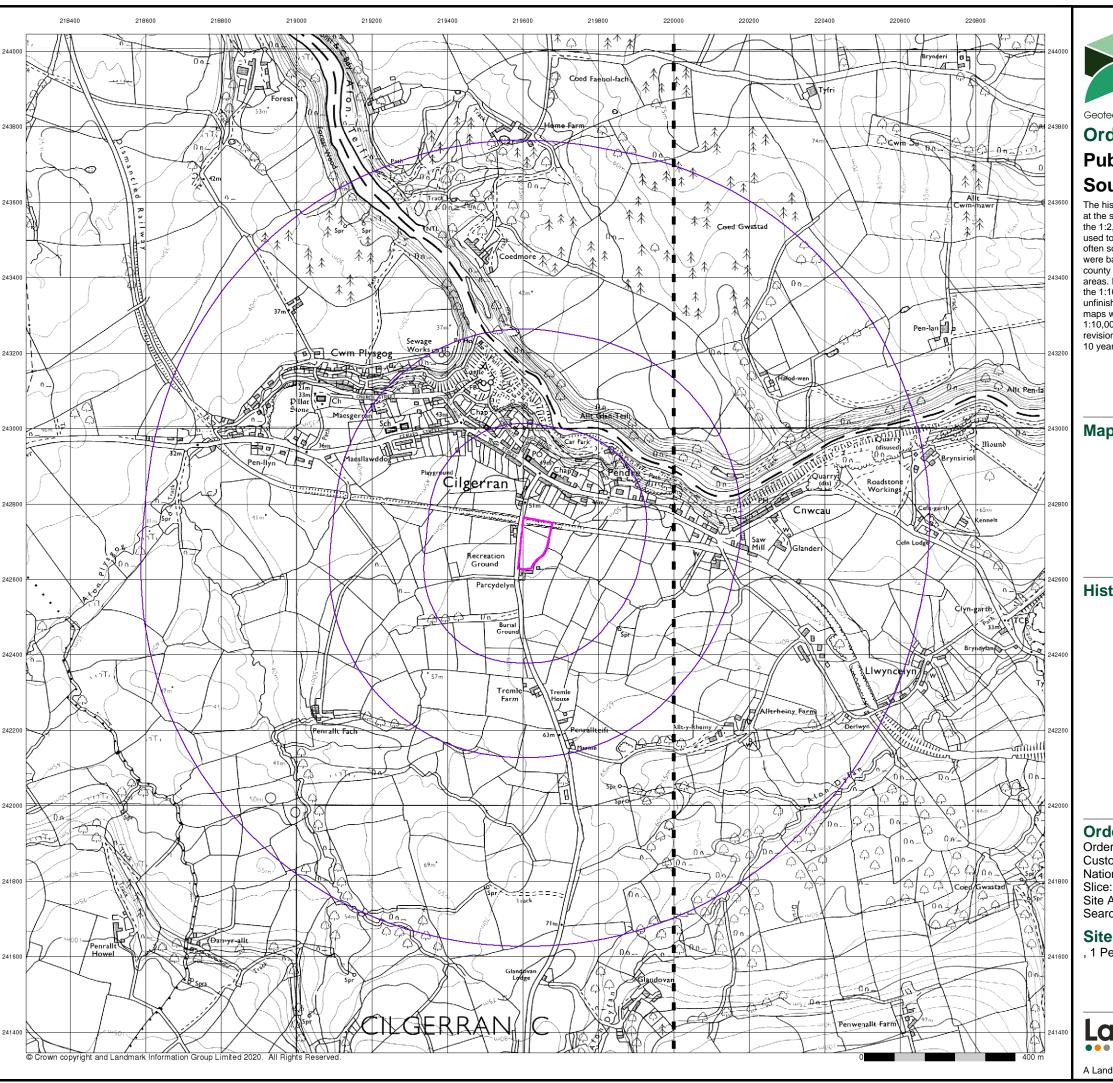
#### **Site Details**

, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

Landmark

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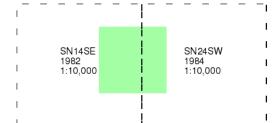


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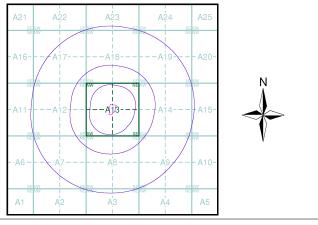
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### Map Name(s) and Date(s)



### **Historical Map - Slice A**



#### **Order Details**

Order Number: 250775392\_1\_1 Customer Ref: 16166 Cilgerran National Grid Reference: 219630, 242700

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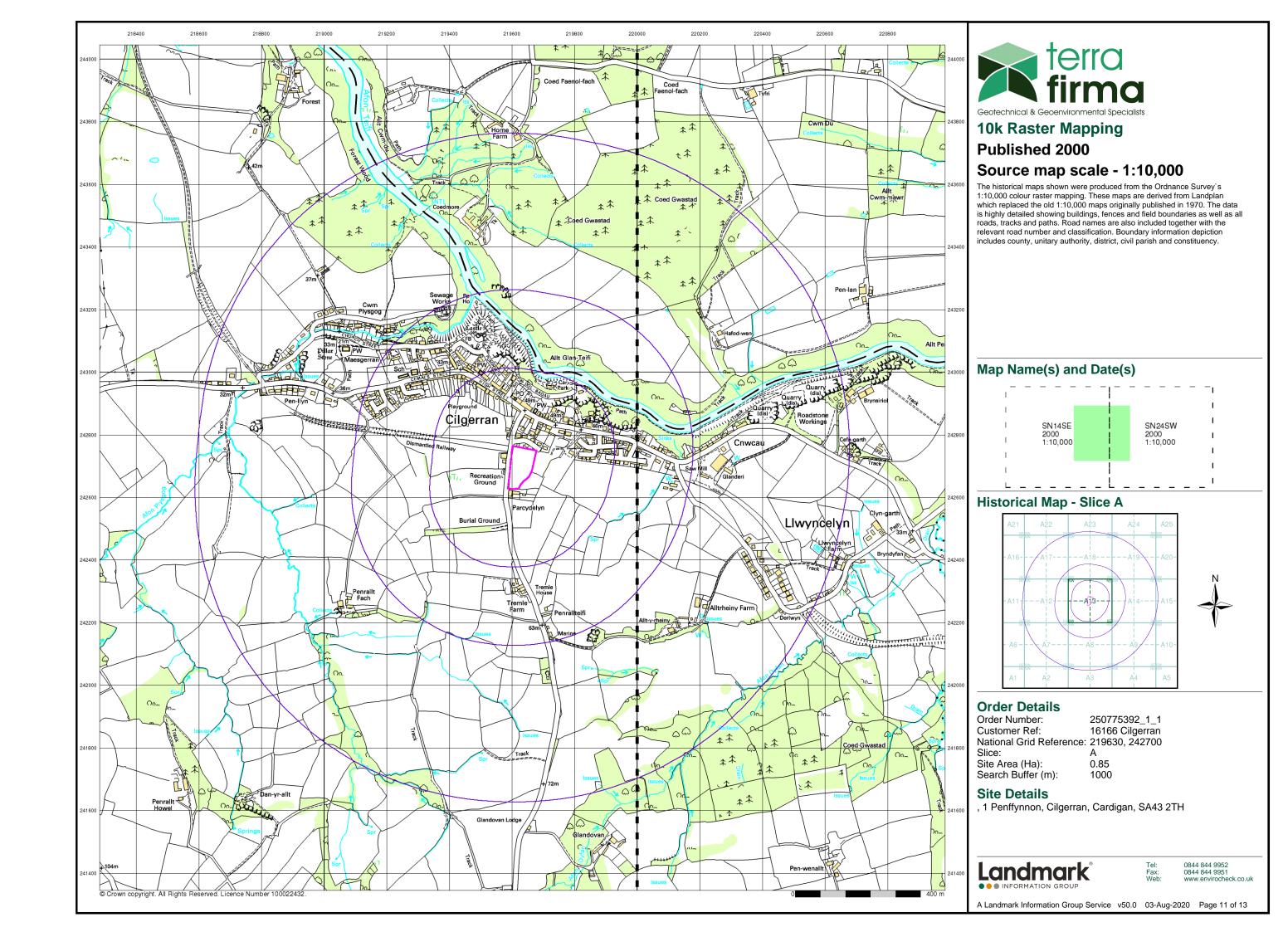
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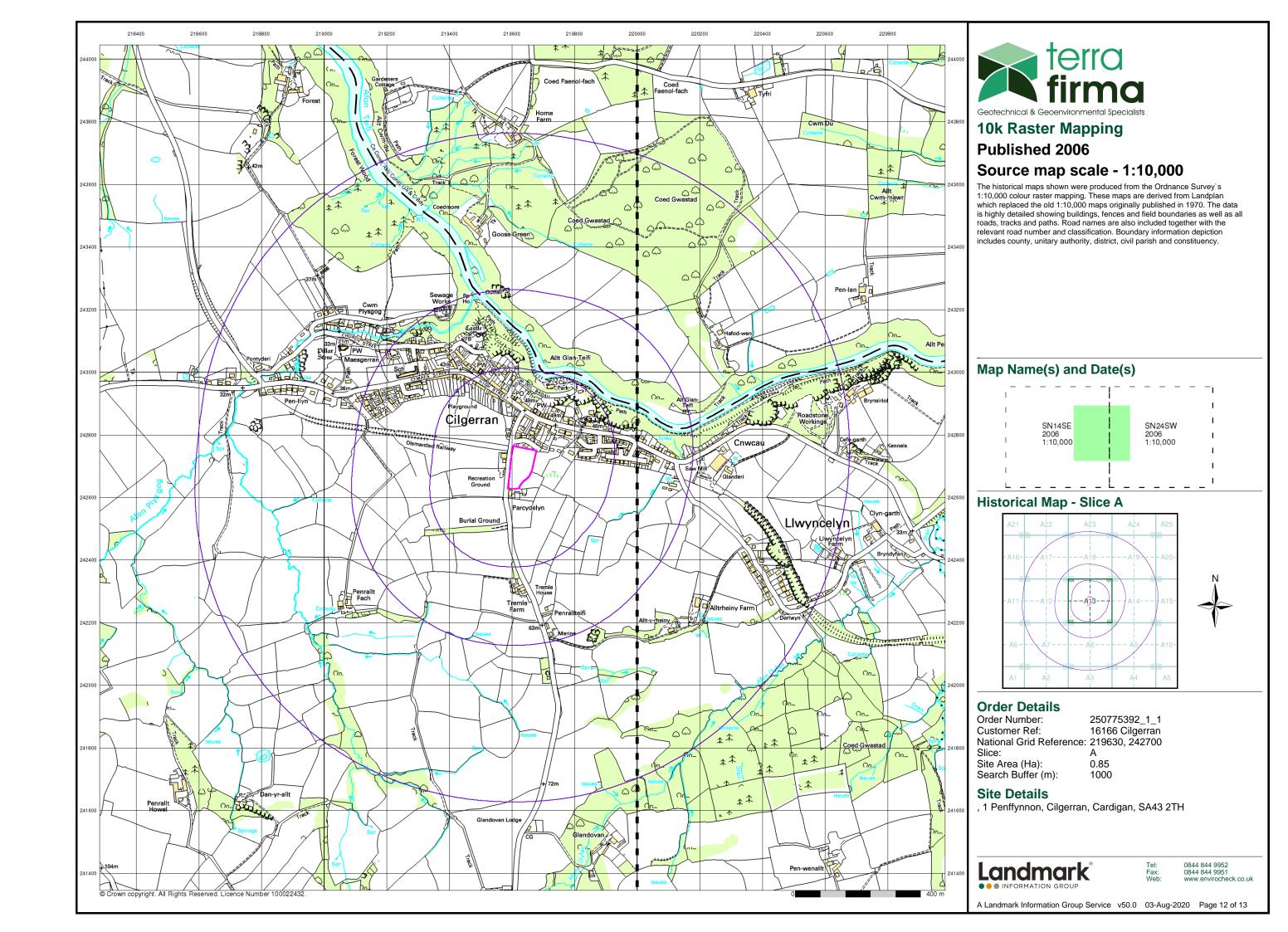
, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

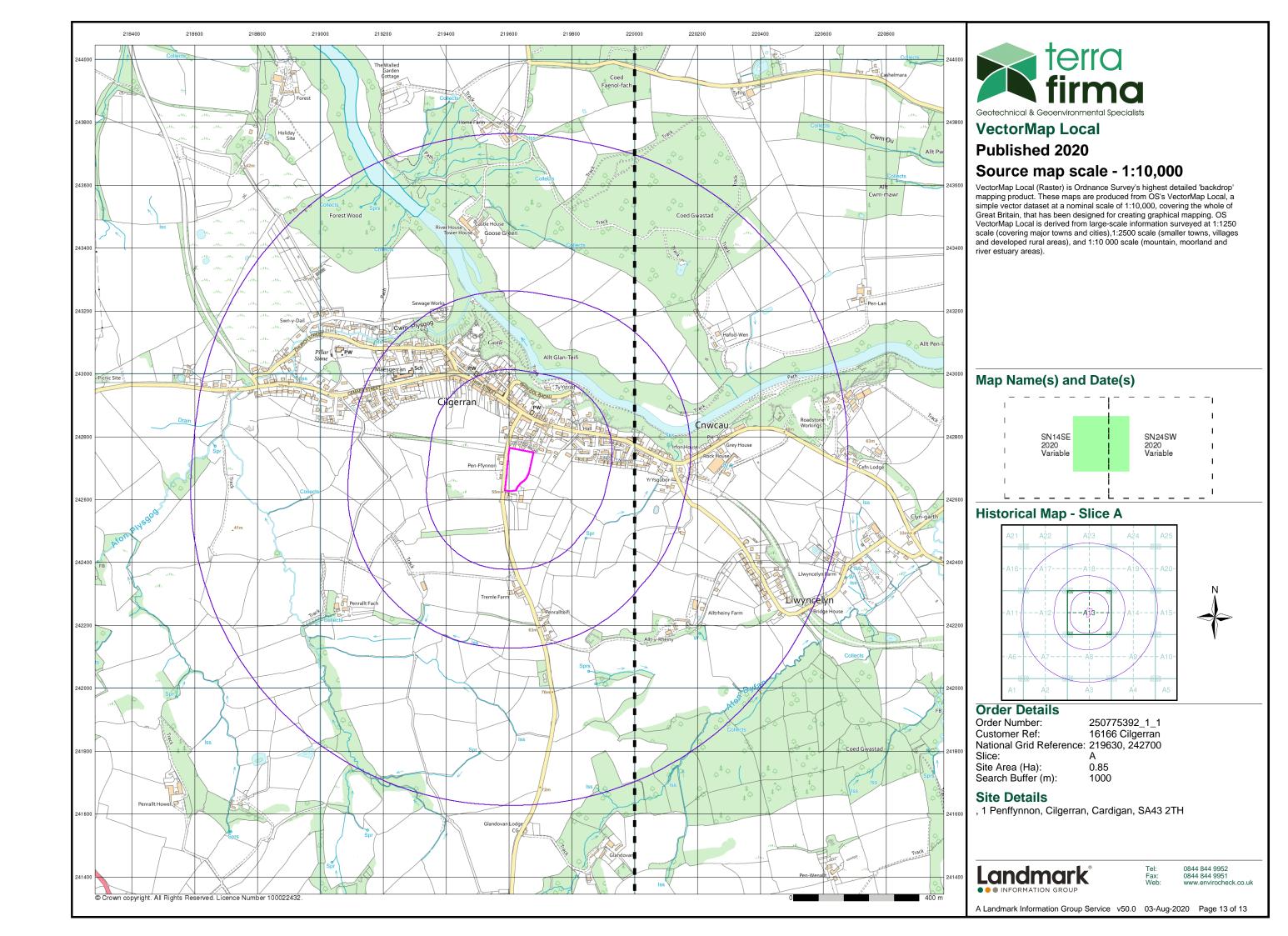
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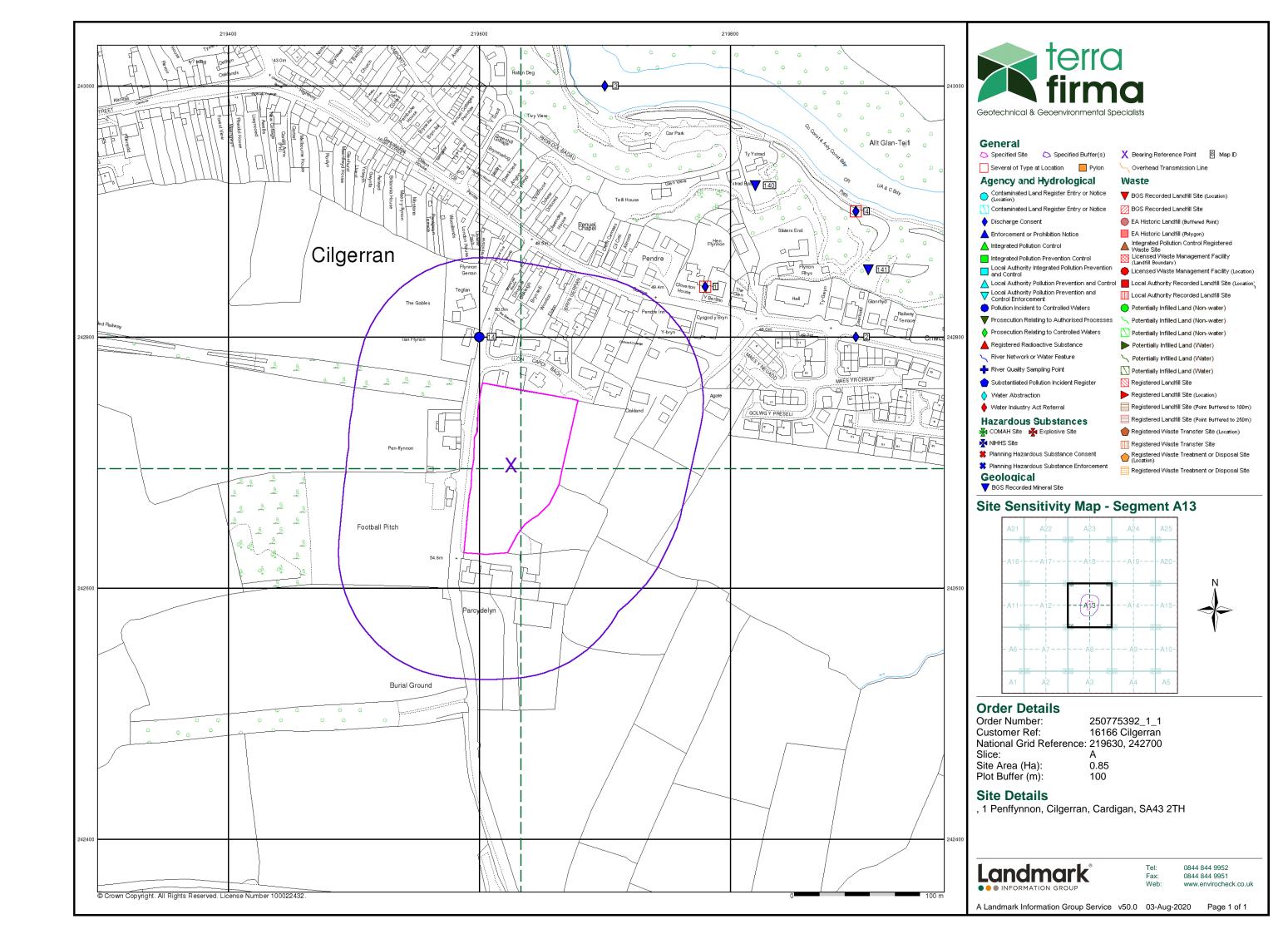
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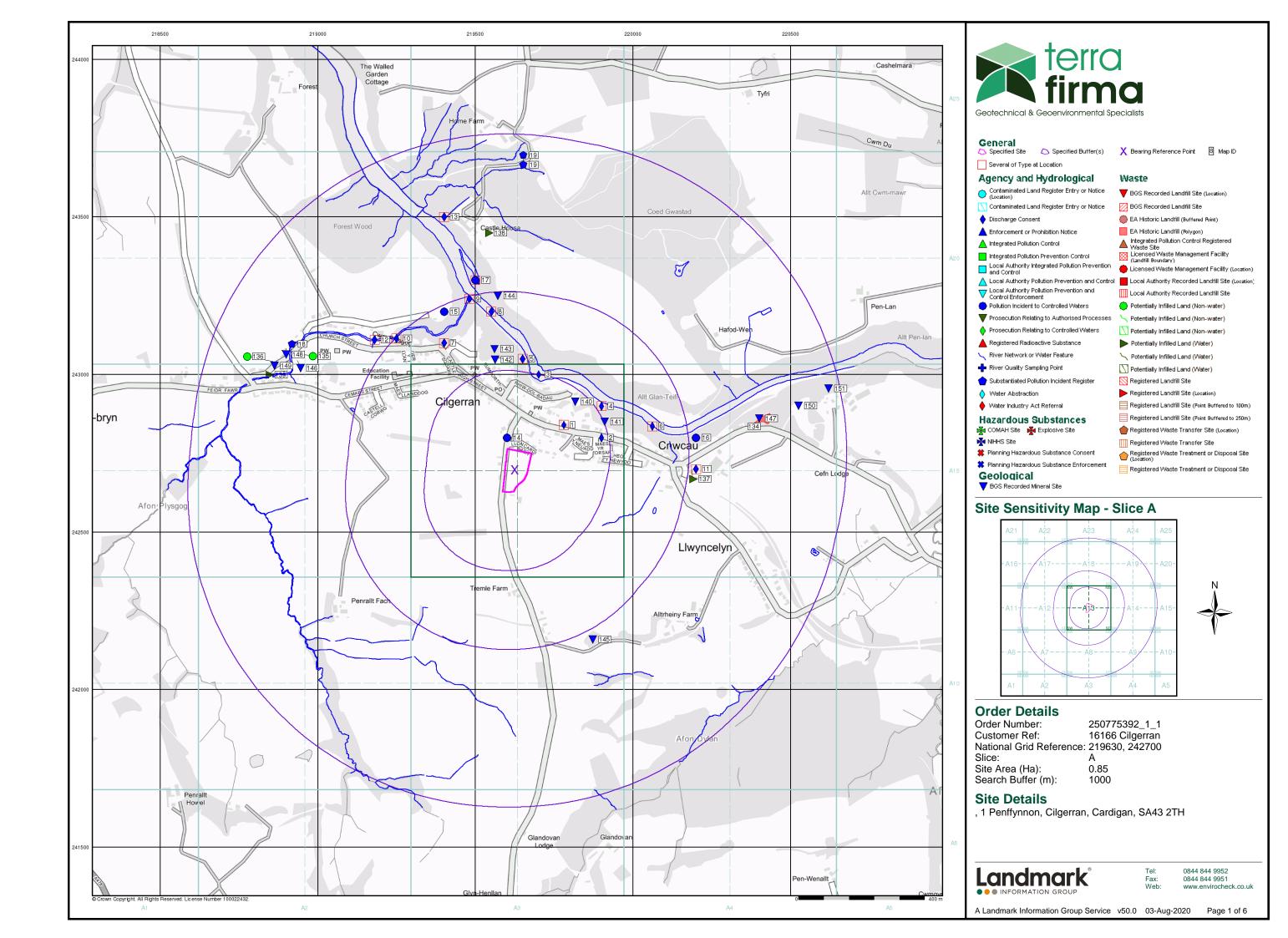
A Landmark Information Group Service v50.0 03-Aug-2020 Page 10 of 13

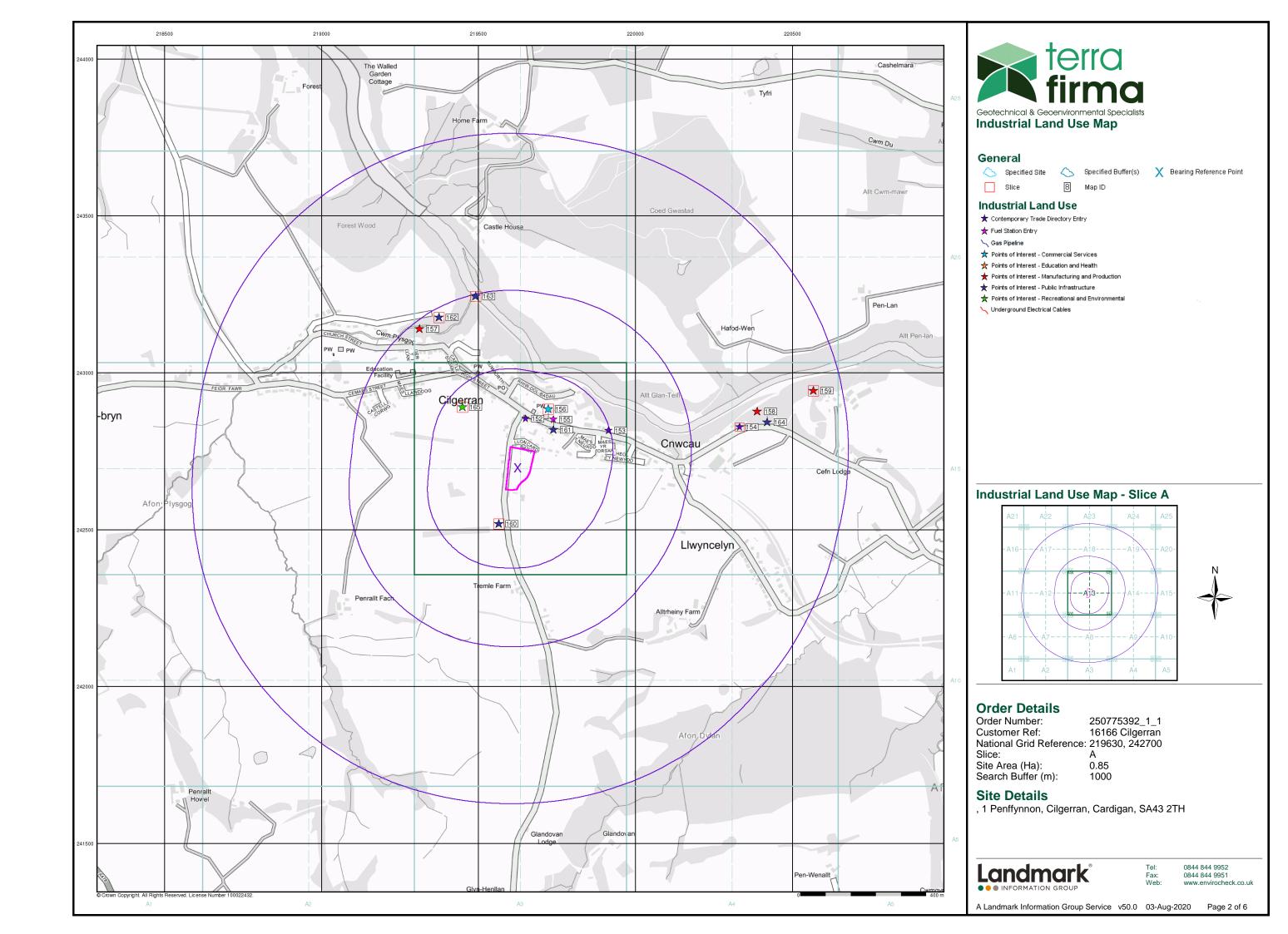


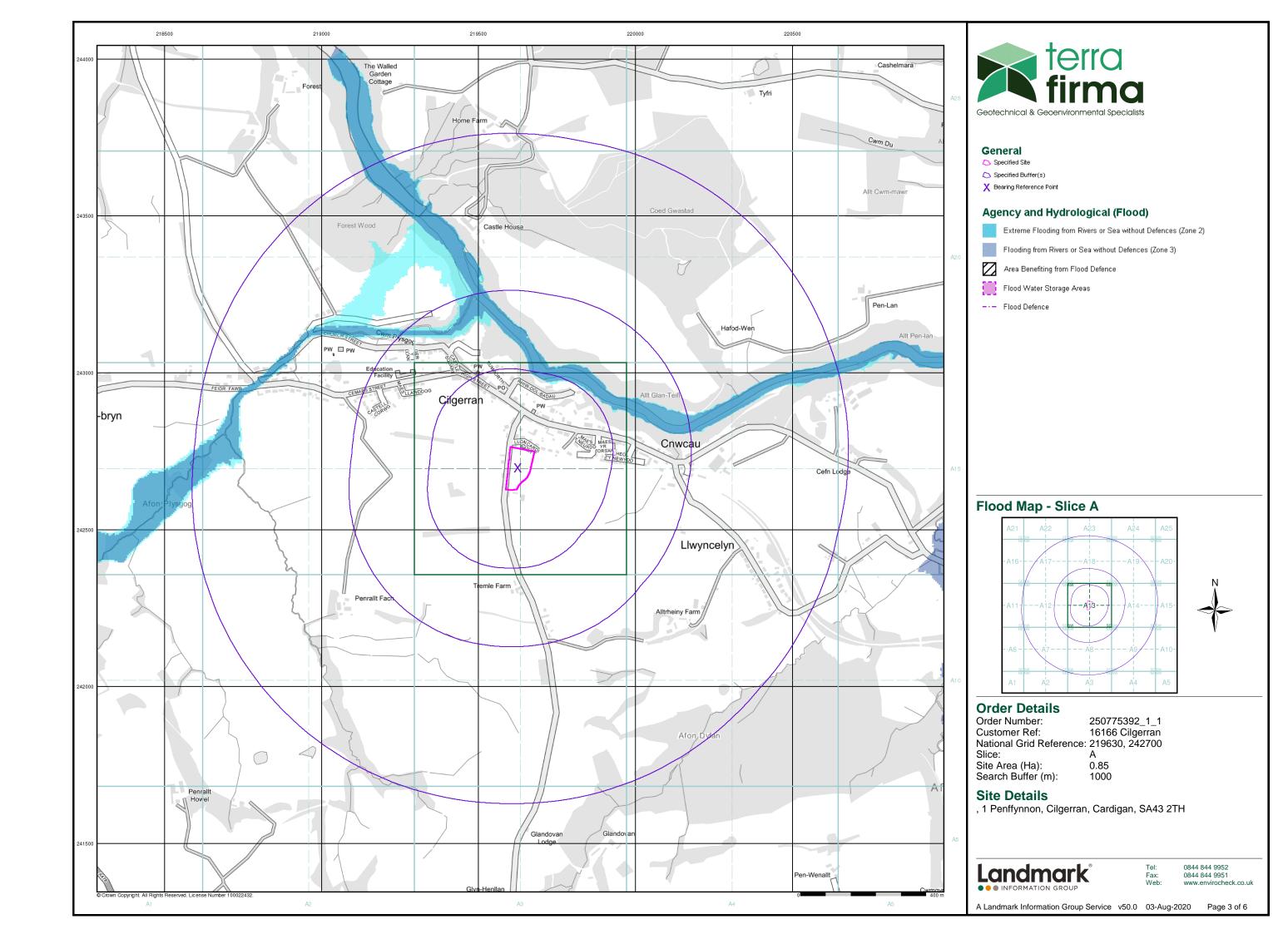


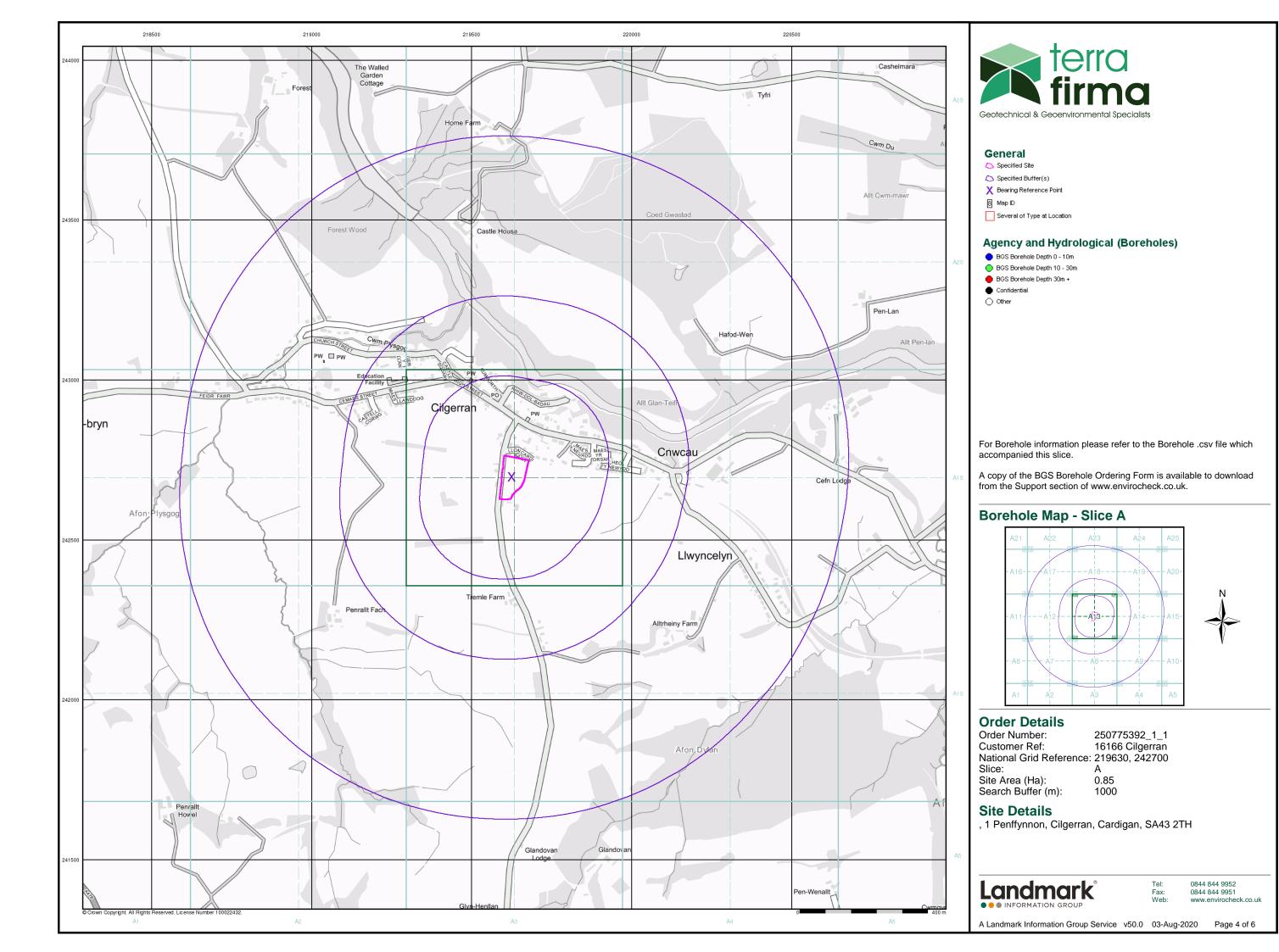


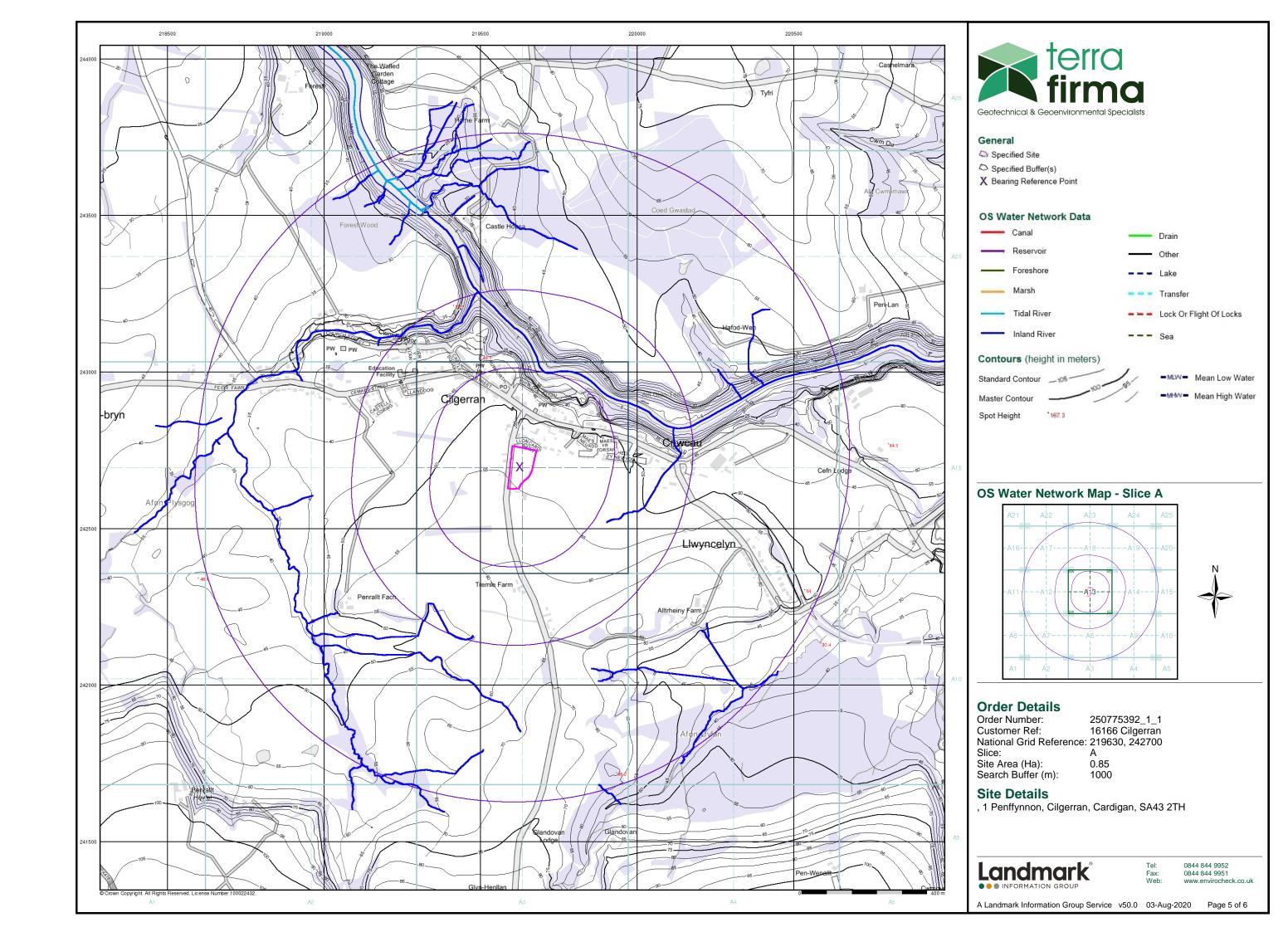


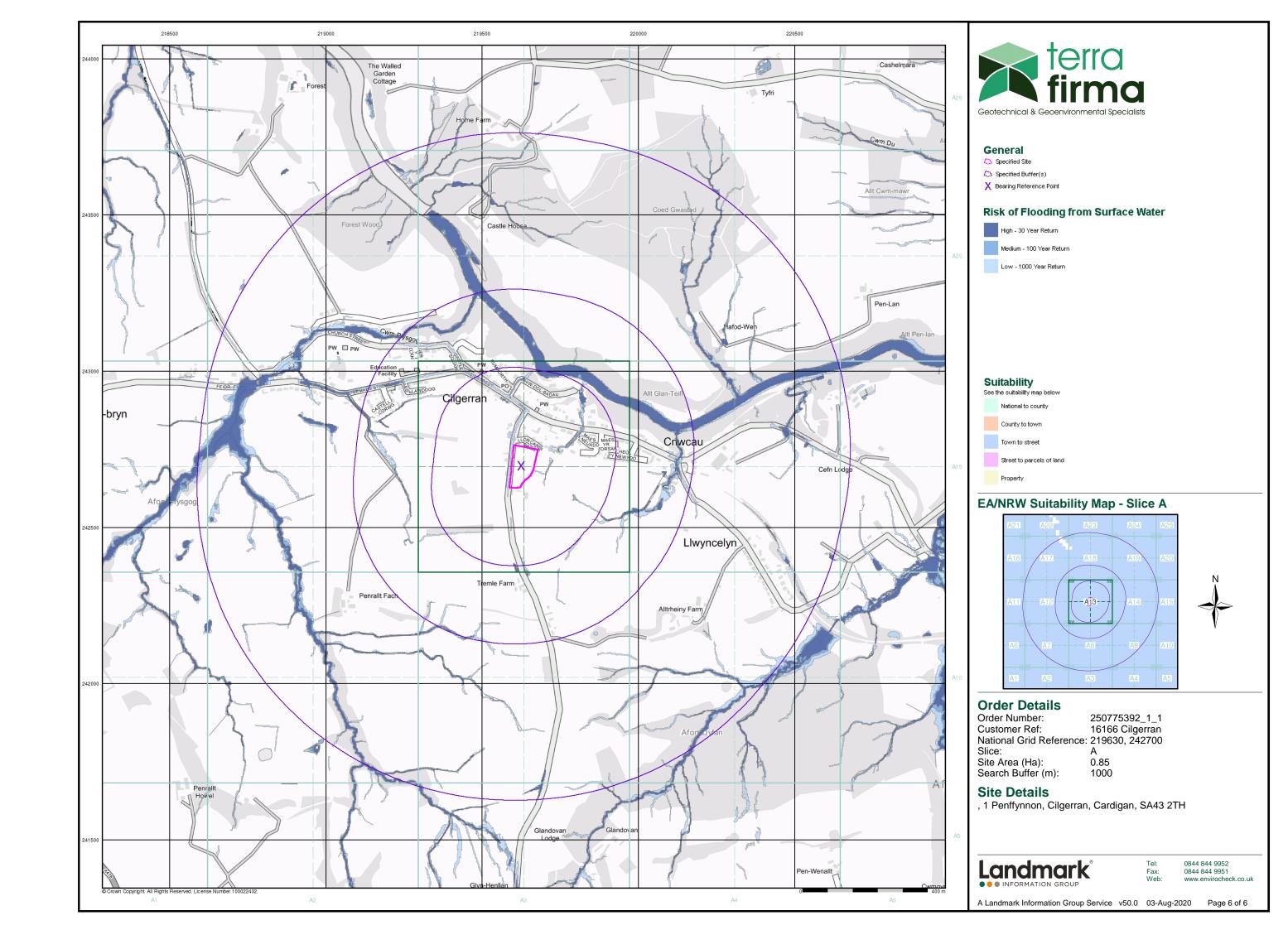


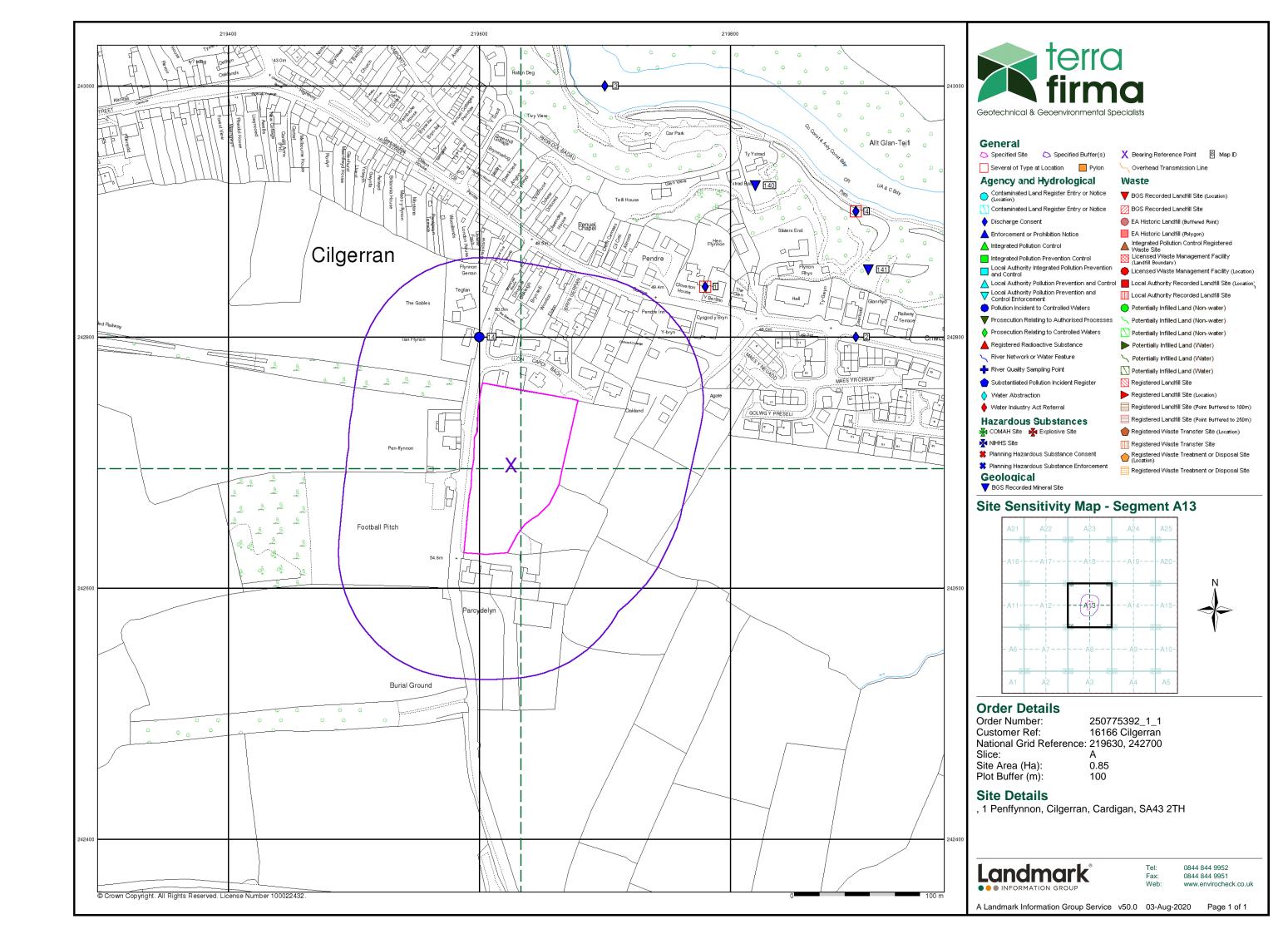












# **Geology 1:50,000 Maps Legends**

#### **Artificial Ground and Landslip**

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age	
Z	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene	
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene	
	SLIP	Landslide Deposit	Unknown/Unclassif ied Entry	Not Supplied - Quaternary	

#### **Bedrock and Faults**

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age		
	NTM	Nantmel Mudstones Formation	Mudstone	Not Supplied - Ashgill		
		Faults				

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#### Geology 1:50,000 Maps

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

The various geological layers - artificial and landslip deposits, superficial

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:
 193

 Map Name:
 Cardigan

 Map Date:
 2003

 Bedrock Geology:
 Available

 Superficial Geology:
 Available

 Artificial Geology:
 Available

 Faults:
 Not Supplied

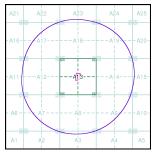
 Landslip:
 Available

 Rock Segments:
 Not Supplied

## **Superficial Geology**

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age	
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene	
	ALV	Alluvium	Gravel, Sand, Silt and Clay	Not Supplied - Holocene	
	GLDDI	Glaciolacustrine Deposits, Devensian (Irish Sea Ice)	Clay	Not Supplied - Devensian	
	GFDIS	Glaciofluvial Deposits, Devensian (Irish Sea Ice)	Sand and Gravel	Not Supplied - Devensian	
	GDUDI	Glacial Deposits, Devensian (Irish Sea Ice)	Clay, Silt and Sand	Not Supplied - Devensian	
	TILDI	Till, Devensian (Irish Sea Ice)	Diamicton	Not Supplied - Devensian	
	GLLDD	Glaciolacustrine Deposits, Devensian	Clay and Silt	Not Supplied - Devensian	
	HDTS	Head and Talus (Undifferentiated)	Gravel, Clayey	Not Supplied - Quaternary	
	SUPD	Superficial Deposits	Sediment	Not Supplied - Quaternary	
	ALF	Alluvial Fan Deposits	Gravel	Not Supplied - Quaternary	
	HEAD	Head	Gravel	Not Supplied - Quaternary	
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary	
	GFDUI	Glaciofluvial Deposits (Irish Sea Ice)	Sand and Gravel	Not Supplied - Quaternary	
	HEAD	Head	Diamicton, Gravel, Sand and Silt	Not Supplied - Quaternary	
	HEAD	Head	Gravel, Sand and Silt	Not Supplied - Quaternary	
	LDE	Lacustrine Deposits	Clay and Silt	Not Supplied - Quaternary	

## Geology 1:50,000 Maps - Slice A





#### **Order Details:**

Order Number: 250775392\_1\_1
Customer Reference: 16166 Cilgerran
National Grid Reference: 219630, 242700
Slice: A
Site Area (Ha): 0.85
Search Buffer (m): 1000

Site Details:

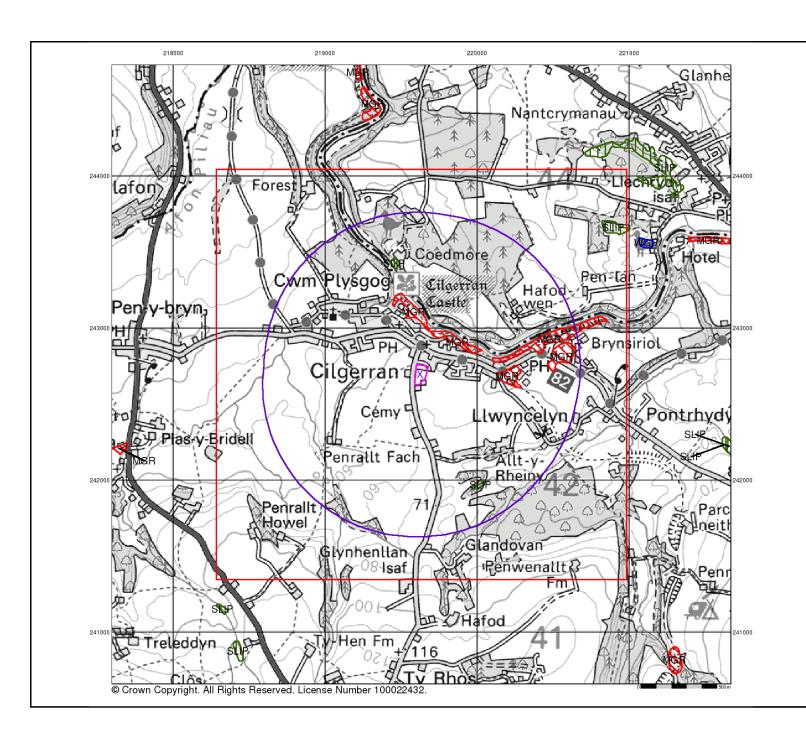
, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

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#### **Artificial Ground and Landslip**

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

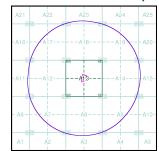
Artificial ground includes:

- Made ground man-made deposits such as embankments and spoil heaps on the natural ground surface.

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

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:**

250775392\_1\_1 16166 Cilgerran Order Number: Customer Reference: National Grid Reference: 219630, 242700 A 0.85

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

#### Site Details:

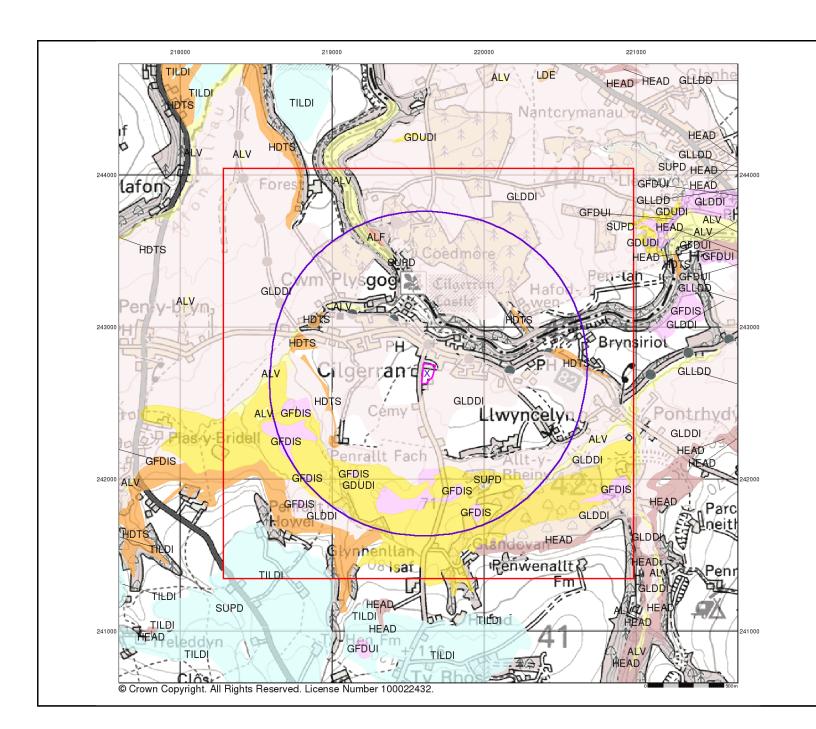
, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH



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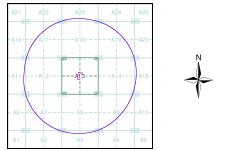
#### Superficial Geology

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

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

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

# Superficial Geology Map - Slice A



# Order Details:

Order Number: 250775392\_1\_1
Customer Reference: 16166 Cilgerran
National Grid Reference: 219630, 242700
Slice: A
Site Area (Ha): 0.85
Search Buffer (m): 1000

Site Details:

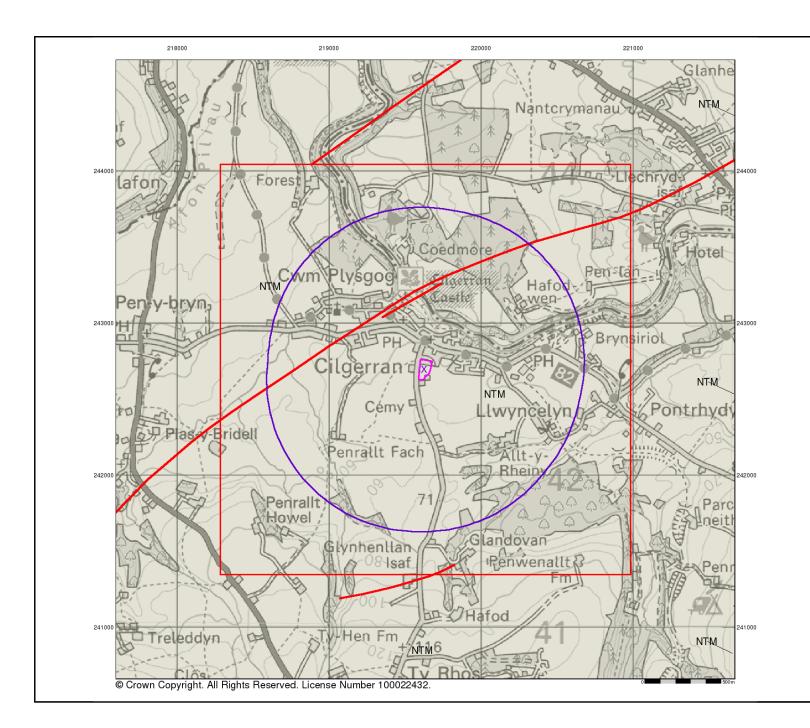
, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

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**Bedrock and Faults** 

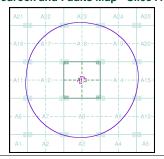
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

#### Bedrock and Faults Map - Slice A





# Order Details:

Order Number: 250775392\_1\_1
Customer Reference: 16166 Cilgerran
National Grid Reference: 219630, 242700
Slice: A
Site Area (Ha): 0.85
Search Buffer (m): 1000

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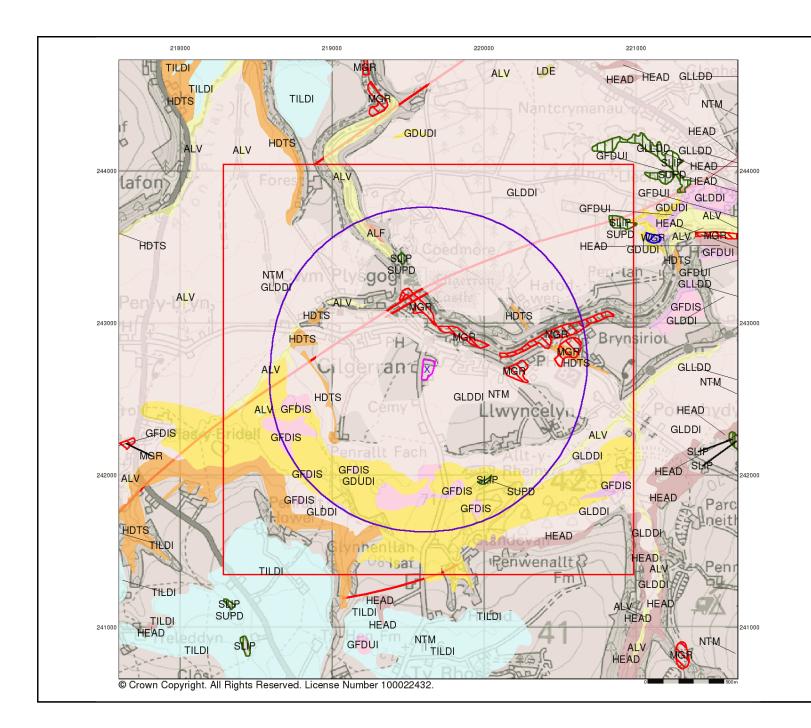
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# **Combined Surface Geology**

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

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

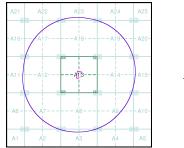
#### **Additional Information**

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

#### 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:**

250775392\_1\_1 16166 Cilgerran 219630, 242700 Order Number: Customer Reference: National Grid Reference: A 0.85 Site Area (Ha): Search Buffer (m): 1000

# Site Details:

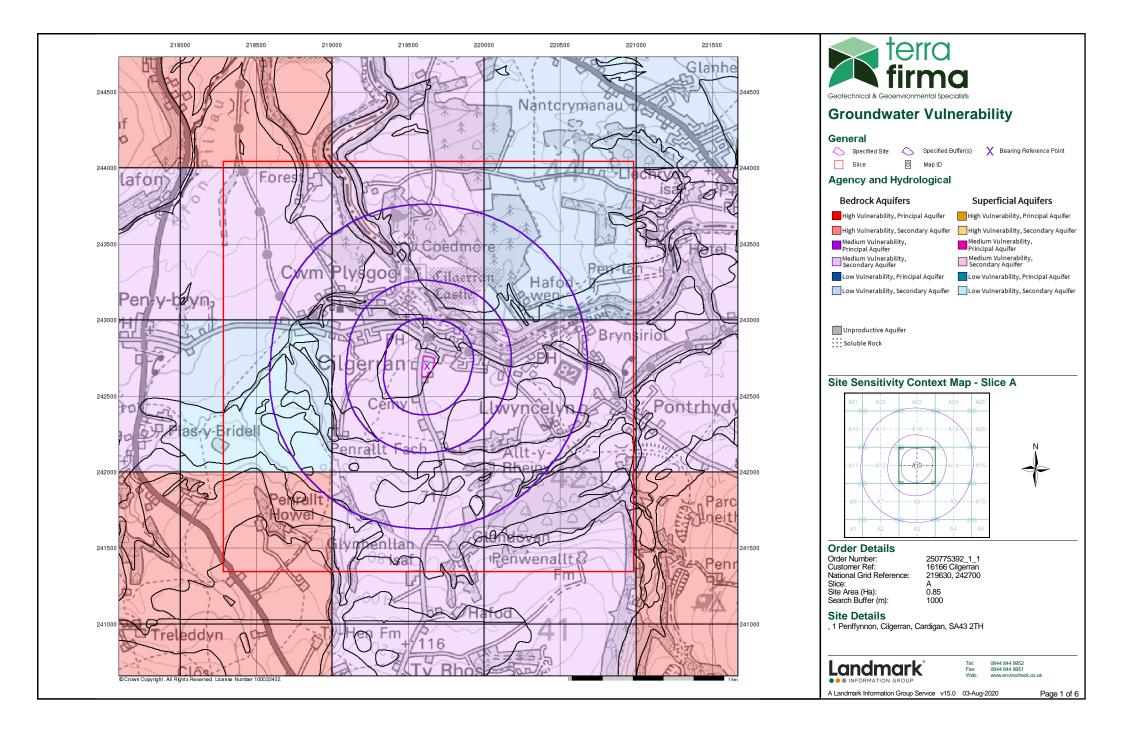
, 1 Penffynnon, Cilgerran, Cardigan, SA43 2TH

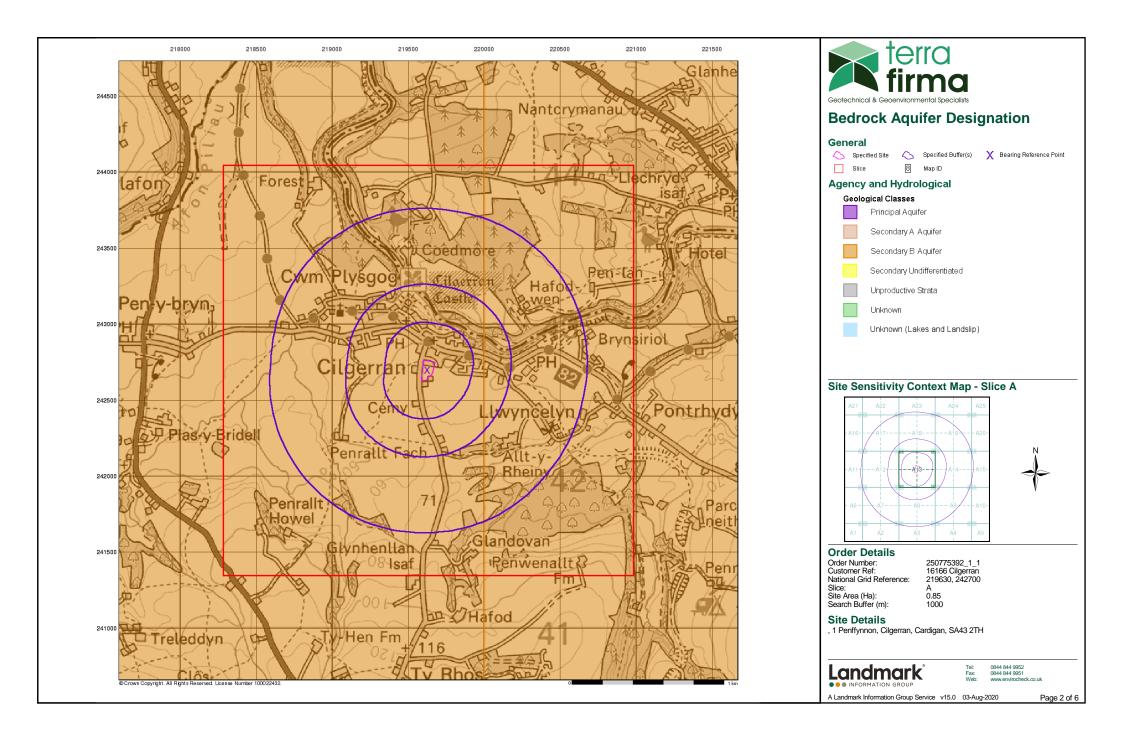


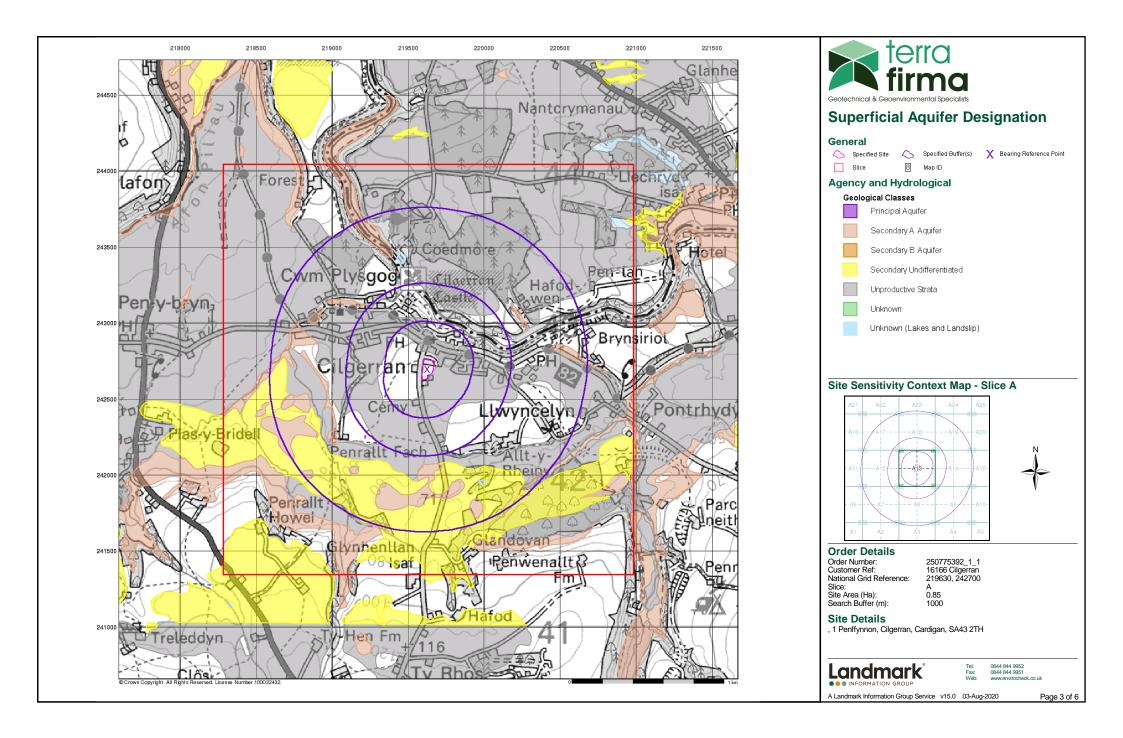
0844 844 9952 0844 844 9951

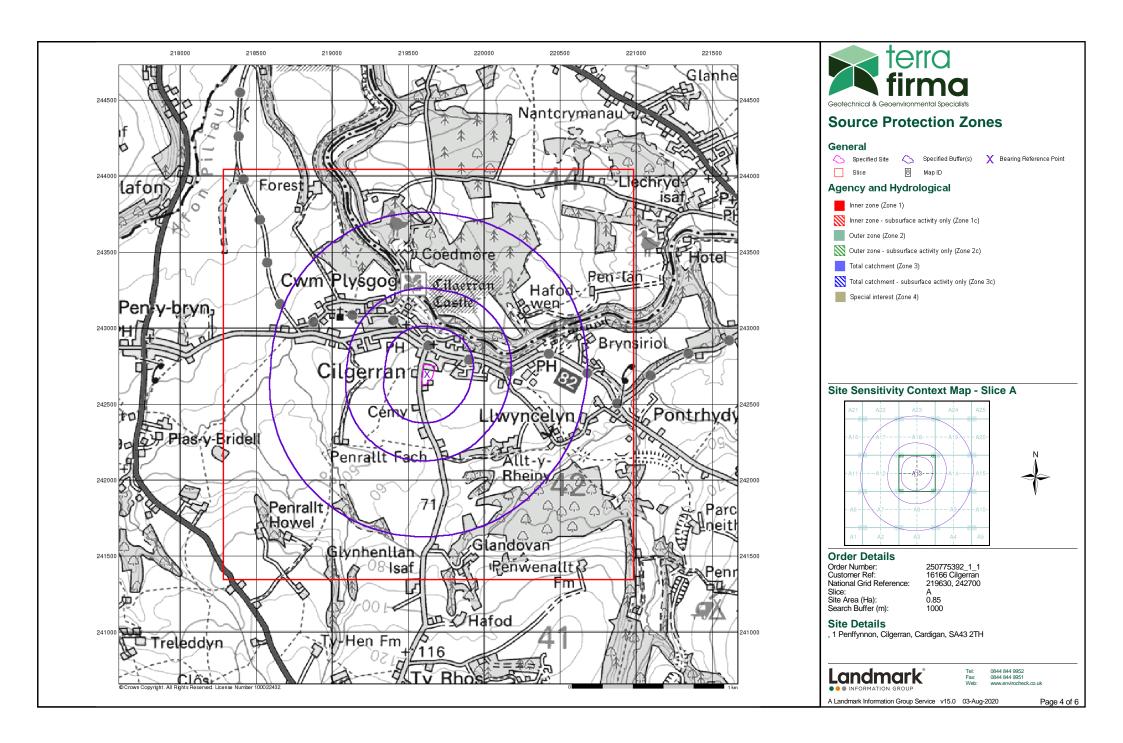
v15.0 03-Aug-2020

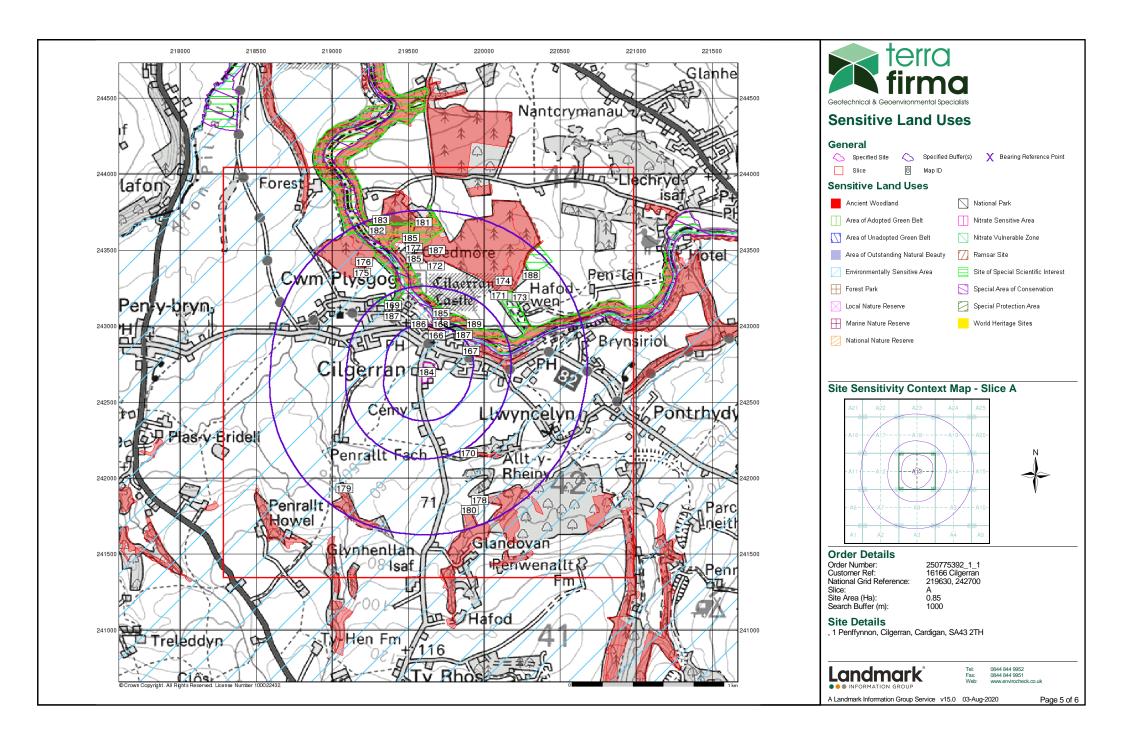
Page 5 of 5

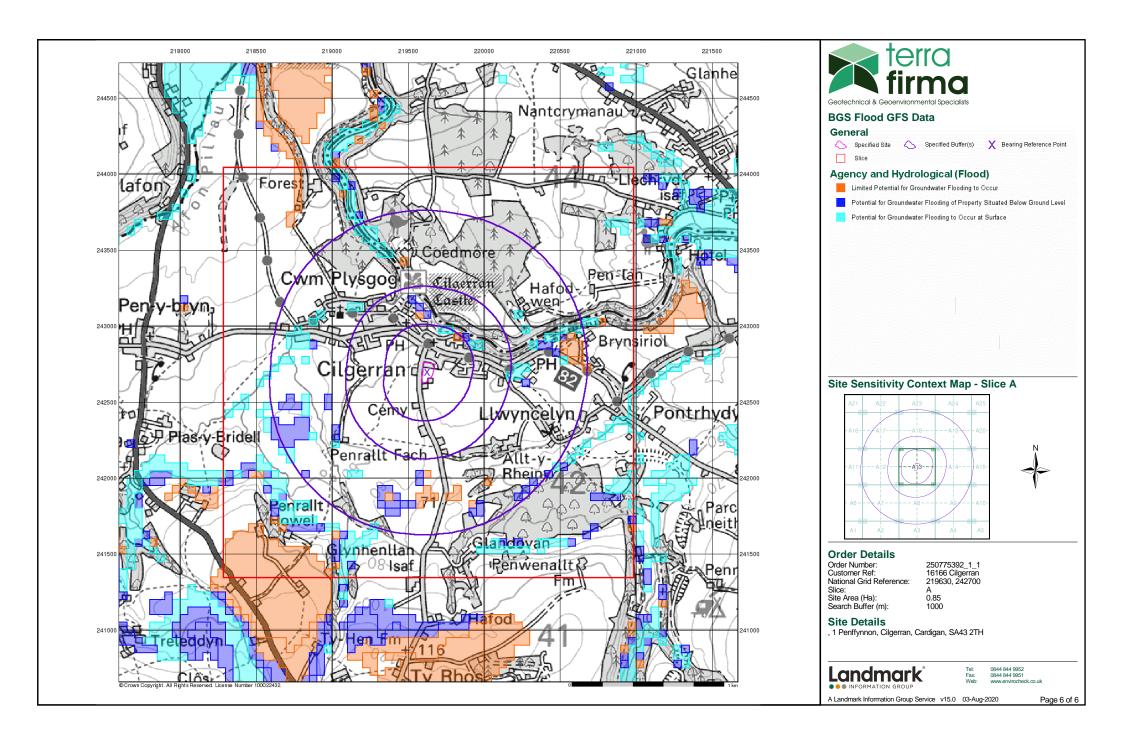














# ANNEX B Risk Assessment Definitions



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

Part 2A was introduced to achieve three overreaching objectives:

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

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

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

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

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

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

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

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

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

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

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



# **Classification of Consequence**

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

# **Classification of Probability**

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



# **Risk Assessment Matrix**

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

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

# **Description of Risks and Likely Actions**

# **High Risk**

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

# **Medium Risk**

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

# Low Risk

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

## **Near Zero Risk**

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



ANNEX C Trial Pit Logs



Trial Pit No: TP01

Sheet 1 of 1

									Officer 1 of 1
Project					Proje	ect No:	Co-ords: -		Date:
Project Name:	Lon Card	i Bach, (	Cilgerran			166	Level:		04/08/2020
					10	100		2.10	Scale:
Location	ı: Lon Cardi	Bach, C	Cilgerran				Dimensions:		1:25
							Depth 2.00		Logged:
Client:			Housing Association	n I		T	2.00		Jamie Alderan
Water _ Strike	Depth		Situ Testing  Results	Depth (m)	Level (m)	Legend	Strati	um Description	
Strike	Depth	Type	Results		(m)	Legend	Firm brown slightly grave  Firm orangish brown slig is angular fine to coarse Loose grey slightly claye is angular fine to coarse  Medium dense grey slight GRAVEL. with low cobble coarse of mudstone. Cot	htly sandy gravelly CLAY.  htly sandy gravelly CLAY of mudstone. y slightly sandy GRAVE of mudstone.  htty clayey slightly sandy e content. Gravel is anguables are angular of mud	Y. Gravel L. Gravel  Jalar fine to elstone.  2
Ctabilit	Stable								<u> </u>

Remarks: 1. Groundwater encountered at 2.00m. 2. Trial pit terminated at limit due to inability to advance . 3. Trial pit backfilled with arisings.



Trial Pit No: TP02

Sheet 1 of 1

Project	oject Lon Cardi Bach, Cilgerran				Proje	ct No:	Co-ords: - Date:				
Project Name:	Lon Card	i Bacn, C	Jilgerran		16	166	Level:			04/08/20	020
Location	n: Lon Cardi	i Bach (	Cilgerran				Dimensions:		1.20	Scale	
Location	1. Lon Ouru	i Baon, c					Depth	0.65		1:25	
Client:			Housing Association	n		ı	1.00	o		Logge Jamie Alde	d: <u>erman</u>
Water Strike			Situ Testing  Results	Depth (m)	Level (m)	Legend	5	Stratum	Description		
	Вори	Турс	resuits			***	Firm brown slightly o	gravelly	slightly sandy CLAY	<u> </u>	L
Water Strike	Depth	Type	Results	0.40	Level (m)	Legend	Firm brown slightly of Firm grey slightly sa fine to coarse of muc	gravelly andy gra dstone.	slightly sandy CLAY		1 3
											-
											F
											F
											E
											E
											_ 5
	01.1.1										

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.00m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



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Terra Firma (Wales) Limited 5 Deryn Court, Wharfedale Road Pentwyn, Cardiff CF23 7HA Trial Pit No: TP03

Sheet 1 of 1

Project Name: Lon Cardi Bach, Cilgerran			Co-ords: -			Date:				
Name:	Lon Card	n bach, t	Jilgerran		16	166	Level:			04/08/2020
Locatio	n: Lon Card	i Bach, C	Cilgerran				Dimensions:	Г	2.10	Scale:
							Depth	0.70		1:25 Logged:
Client:			Housing Association	n ·	Т		1.40			Jamie Alderman
Water . Strike	Sar Depth	nples & In Type	Situ Testing  Results	Depth (m)	Level (m)	Legend		Stratur	n Description	
	· ·	,,					Firm brown slightl	y gravell	y slightly sandy CLAY.	-
				0.30			Firm orangish bro is angular fine to o	wn slight coarse of	tly sandy gravelly CLA' f mudstone	Y. Gravel
				0.80			Stiff grey slightly s	andy slię	ghtly gravelly CLAY.	<u>=</u>
				1.00			Grey weathered M	MUDSTO	NE.	1
										- - - - -
				1.40				End of	Pit at 1.400m	- - - -
										- - - -
										2 2
										- - - - - - - - - - - - - - - - - - -
										3
										- - - - - - - - - - - - - - - - - - -
										- - - 4 - - -
Stability	r: Stable						<u> </u>			

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.40m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



Trial Pit No: TP04

								Sheet For F	
Project Name:	Lon Card	i Bach (	Cilgorran		Proje	ct No:	Co-ords: -	Date:	
Name:	Lon Card	i bacii, C	Jilgerran		16 <sup>-</sup>	166	Level:	04/08/2020	
Location	: Lon Cardi	i Bach C	`ilgerran				Dimensions: 1.80	Scale:	
Location	. Lon Gara	i Baori, C					Depth 9	1:25	
Client:	Wales an	d West F	lousing Associatio	n	ı		1.20	Logged: Jamie Alderman	
Water Strike			Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
Olike	Depth	Туре	Results	(111)	(111)		Firm brown slightly gravelly slightly sandy CLAY		
								_	
								E	
				0.40			Medium dense grey silty sandy GRAVEL.		
							iviedidiff defise grey silty salidy GRAVEL.	_	
								-	
				0.80					
				0.00			Grey weathered MUDSOTNE.	-	
								_ 1	
								_	
				1.20			End of Pit at 1.200m		
								_	
								-	
								E	
								-	
								_ 2	
								-	
								E	
								E	
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								<del>-</del> 5	
Stability:	STABLE								

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.20m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



Trial Pit No: TP05

Sheet 1 of 1

									1
Project Name: Lon Cardi Bach, Cilgerran					Co-ords: - Date:				
Name:	Lon Card	i bacii, t	Silgerran		16	166	Level:		04/08/2020
Location	n: Lon Card	i Bach. (	Cilgerran				Dimensions:	1.80	Scale:
							Depth S	2	1:25
Client:	Wales an	d West I	Housing Association	n			1.30	Logge Jamie Alde	
Water Strike	San Depth	nples & In Type	Situ Testing  Results	Depth (m)	Level (m)	Legend	Stra	tum Description	
		.,,,,					Firm brown gravelly slightly sandy CLAY.		<u> </u>
				0.40			Firm orangish brown slig	abthy condy your grovelly	
							Gravel is angular fine to	coarse of mudstone	-
				0.70			Grey weathered MUDS	TONE.	
									- 
				1.30			End	of Pit at 1.300m	
									<u>-</u> - -
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									<u>-</u> -
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									<u>-</u> -
									<u>-</u>
									- - 4
									<u> </u>
									- - -
									-  -  -  -
									- - - 5
Ctability	. QTADLE		•	•		*	•		L

Remarks: 1. No groundwater encountered. 2. Trial pit terminated at limit due to inability to advance . 3. Trial pit backfilled with arisings.



Trial Pit No: TP06

Sheet 1 of 1

Project Iame: Lon Cardi Bach, Cilgerran					Co-ords: -		Date:		
Name:	Lon Card	i bacii, C	Jilgerran		16	166	Level:		04/08/2020
ocation	n: Lon Card	Bach, C	ilgerran				Dimensions:	2.00	Scale:
							Depth	0.70	1:25 Logged:
Client:	Wales an	d West H	lousing Association	n			1.70		Jamie Alderman
Water _	San	nples & In S	Situ Testing	Depth	Level	Lawand	C+-	atum Decemention	
Strike	Depth	Туре	Results	(m)	(m)	Legend	Su	atum Description	
							Firm brown slightly gra	velly slightly sandy CLAY.	
									-
				0.30		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Firm orangish brown s	Y. Gravel	
							is angular fine to coars	e of mudstone.	F
									E
				0.65		**************************************	Medium dense grey ve	ry clayey slightly sandy G t. Gravel is angular fine to	RAVEL -
						ax ••• %	mudstone. Cobbles are	e angular of mudstone.	
				1.00		******			1
							Grey weathered MUDS	STONE.	- '
									_ - -
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									=
				1.70			En	d of Pit at 1.700m	
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									_ 5
Stability (	· Stable								

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.70m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



Trial Pit No: TP07

Sheet 1 of 1

									Officer 1 of 1
Project	roject Lon Cardi Bach, Cilgerran ame:					ct No:	Co-ords: -	Date:	
vame:						166	Level:	04/08/2020	
ocation	: Lon Card	li Bach, Ci	ilgerran				Dimensions:	1.80	Scale: 1:25
S							Depth 0.		Logged:
Client:	ent: Wales and West Housing Association  Samples & In Situ Testing Popth Level						1.80		Jamie Alderman
Water Strike	Sar Depth	mples & In S	Results	Depth (m)	Level (m)	Legend	Stratu	m Description	
							Firm brown slightly gravel	y slightly sandy CLAY.	-
									_
				0.40			Firm orangish brown sligh	tly sandy gravelly CLA	Y. Gravel
							is angular fine to coarse o	f mudstone.	_
									E
				0.80			Madisus dans	-l	
						* * * * * *	Medium dense grey very of with low cobble content. G	Gravel is angular fine to	coarse of
						* * * * * *	mudstone. Cobbles are ar	ngular of mudstone.	_ 1
				1.10			Grey weathered MUDSTO	NE.	
									_ _ _
									-
									E
									_
				1.80				- D'	
							End of	Pit at 1.800m	<u>-</u>
									_ 2
									<u>-</u>
									_
									E
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									<del>-</del> 5
Stability:	Stable	1		1	I.	1	1		l

Remarks: 1. No groundwater encountered. 2. Trial pit terminated at limit due to inability to advance . 3. Trial pit backfilled with arisings.



Trial Pit No: TP08

Sheet 1 of 1

Project Name:	Lon Cardi Bach, Cilgerran					ct No:	Co-ords: -				
Location: Lon Cardi Bach, Cilgerran						166	Level:			05/08/2	
Location	ı: Lon Cardi	Bach, C	Cilgerran				Dimensions:	<u> С</u>	1.80	Scale 1:25	
Client:	Wales and	d West F	Housing Association	า			Depth 1.80	0.70		Logge	d:
J	Samples & In Situ Testing						1.00			Jamie Alde	<u>erman</u>
Water _ Strike				Depth (m)	Level (m)	Legend	5	Stratum	Description		
Vater Strike	Depth	Type	Results	0.40 0.60	Level (m)	Legend	Firm brown slightly of Firm orangish brown Gravel is angular fin Stiff grey mottled ora gravelly CLAY with nangular fine to coars of mudstone.	n slightly e to coa angish I medium se of mu	slightly sandy CLAY.  y sandy very gravelly	CLAY.  very rel is	1 2 5
Stability	· Stable										"

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.80m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



Trial Pit No: TP09

Sheet 1 of 1

Project Name:	Lon Cardi Bach, Cilgerran				Project No:		Co-ords: -	Date:		
Name:	Lon Card	i bacii, C	Silgerran		16166		Level:		05/08/2020	
Location	n: Lon Cardi	i Bach. C	Cilgerran				Dimensions:	1.70	Scale:	
							Depth 59		1:25	-
Client:	Wales and	d West F	Housing Association	า			1.40		Logged: Jamie Aldermar	า
Water Strike	Samples & In Situ Testing  Depth  Depth Type  Results  Depth (m)				Level (m)	Legend	Stratum Description			
	Борит	Турс	rtodato				Firm brown slightly gravel	L	-	
Strike	Depth	Type	Results	(m) 0.30 0.80	(m)		Firm brown slightly gravel  Medium dense grey occa clayey slightly sandy GRA Gravel is angular fine to c angular of mudstone.  Grey weathered MUDSTO	ly slightly sandy CLAY. sionally mottled orangis AVEL. with low cobble coarse of mudstone. Co	sh brown	
									- - - - -	
									- - - -	
Stability	· Stable								5	_
	. AIGIDIE									

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.40m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



Trial Pit No: TP10

Sheet 1 of 1

Project Name:	Lon Card	Cilgerran				Co-ords: -	Date:			
Name:		- Baon, v			16166		Level:		05/08/2020	
Location: Lon Cardi Bach, Cilgerran					Dimensions:		Scale: 1:25			
O!: 1	14/ 1					Depth		Logged:		
Client:			Housing Association	າ 	T	1	1.50			
Water _ Strike	Samples & In Situ Testing  Depth  Depth Type Results  (m)			Level (m)	Legend	d Stratum Description				
Stike	Depth	Type Results		()	-					
	<b>Бери</b>	Туре	Results	0.40 0.60 1.10 1.50			Medium dense orangish be sandy GRAVEL. Gravel is mudstone.  Medium dense grey slight GRAVEL. with low cobble coarse of mudstone. Cob  Grey weathered MUDSTO	orown slightly clayey slig angular fine to coarse of tly clayey slightly sandy content. Gravel is angu bles are angular of mud	of	
Stability:									_ 5	

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.50m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



Trial Pit No: **TP11** 

Sheet 1 of 1

									Officer 1 of 1
Project Name:	Lon Cardi Bach, Cilgerran					ect No:	Co-ords: -	Date:	
Name:	Lon Gard	ii Dacii, V	Silgerrair		16166		Level:	05/08/2020	
Locatior	n: Lon Card	i Bach, C	Cilgerran				Dimensions:	1.60	Scale:
							Depth	0.70	1:25 Logged:
Client:			Housing Association	on	I	1	1.60		Jamie Alderman
Water Strike	Sar Depth	Type	Situ Testing  Results	Depth (m)	Level (m)	Legend	Str	atum Description	
Strike	Depth	Type	Results	0.30 0.70 0.85	(m)	Legend The second secon	Medium dense orangis sandy GRAVEL. Grave mudstone.  Medium dense grey sl with low cobble conter mudstone. Cobbles ar	avelly slightly sandy CLAY sh brown slightly clayey sl el is angular fine to coarse ightly clayey slightly sand it. Gravel is angular fine te e angular of mudstone.	ightly
 Stabilitv	: Stable		I				<u> </u>		

Remarks: 1. No groundwater encountered. 2. Soakaway test conducted at 1.60m. 3. Trial pit terminated at test depth. 4. Trial pit backfilled with arisings.



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Terra Firma (Wales) Limited 5 Deryn Court, Wharfedale Road Pentwyn, Cardiff CF23 7HA Trial Pit No: TP12

Sheet 1 of 1 Project No: Co-ords: -Date: Project Lon Cardi Bach, Cilgerran Name: 16166 05/08/2020 Level: 2.00 Scale: Dimensions: Location: Lon Cardi Bach, Cilgerran 1:25 8 Depth Logged: Client: Wales and West Housing Association 3.00 Jamie Alderman Samples & In Situ Testing Water Depth Level Legend Stratum Description Strike (m) Depth Туре Results MADE GROUND: Firm brown slightly gravelly slightly sandy CLAY. 0.30 MADE GROUND: Loose to medium dense brown clayey sandy GRAVEL with medium cobble content and low boulder content. Gravel is angular fine to coarse including plastic, tarmac and possible ACMs. Cobbles and boulders are angular of concrete and metal (up to 1700x1000x150mm) 1.40 MADE GROUND: Soft dark brown slightly sandy gravelly CLAY with low cobble content. Gravel is angular fine to coarse including brick and metal. Cobbles are angular of 2 3.00 End of Pit at 3.000m 5

Stability: Stable

Remarks: 1. No groundwater encountered. 2. Trial pit terminated at limit of excavators reach . 3. Trial pit backfilled with arisings.



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Terra Firma (Wales) Limited 5 Deryn Court, Wharfedale Road Pentwyn, Cardiff CF23 7HA Trial Pit No: TP13

Sheet 1 of 1

Project No: Co-ords: -Date: Project Lon Cardi Bach, Cilgerran Name: 16166 05/08/2020 Level: 1.90 Scale: Dimensions: Location: Lon Cardi Bach, Cilgerran 1:25 8 Depth Logged: Client: Wales and West Housing Association 3.00 Jamie Alderman Samples & In Situ Testing Water Depth Level Legend Stratum Description Strike (m) Depth Туре Results MADE GROUND: Firm brown gravelly slightly sandy MADE GROUND: Firm slightly sandy gravelly CLAY with low cobble content. Gravel is angular fine to coarse including clay pipe and plastic. Cobbles are angular of 1.10 MADE GROUND: Soft brown and orangish brown gravelly CLAY with medium cobble content and occasional boulder. Gravel is angular fine to coarse including metal wire and pottery. Cobbles are angular of brick. boulder is metal bike 2 3.00 End of Pit at 3.000m 5 Stability:

Remarks: 1. No groundwater encountered. 2. Trial pit terminated at limit of excavators reach . 3. Trial pit backfilled with arisings.



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Terra Firma (Wales) Limited 5 Deryn Court, Wharfedale Road Pentwyn, Cardiff CF23 7HA Trial Pit No: TP14

Sheet 1 of 1

Project	Lon Card	i Bach (	Cilgerran			ct No:	Co-ords: -		Date:	
Name: Lon Cardi Bach, Cilgerran		16166		Level:		05/08/202	20			
Location: Lon Cardi Bach, Cilgerran				Dimensions:	1.90	Scale: 1:25				
Client: Wales and West Housing Association					Depth K		Logged:			
						3.00		Jamie Alderi	<u>man</u>	
Water Strike	tter ike Depth Type Results Depth (m)		oth Level Lege (m)		Stratum Description					
Client: Water Strike	San	nples & In	Situ Testing	Depth	Level (m)	Legend	MADE GROUND: Firm brosandy CLAY.  MADE GROUND: Soft to f CLAY. Gravel is angular fir  MADE GROUND: Soft grecontent. Gravel and cobble	own slightly gravelly sli irm orangish brown gra ne to coarse including b	Logged: Jamie Alderi ghtly avelly orick.	man 1
									-	
Stobilit-	r: Stable								-	- - - - - - - - 5
JIabilitV	. Stable									

Remarks: 1. No groundwater encountered. 2. Trial pit terminated at limit of excavators reach . 3. Trial pit backfilled with arisings.



ANNEX D
Trial Pit Sketches

January 2025 16166

#### V1 Issued: Nov 2020 Reviewed: Nov 2020

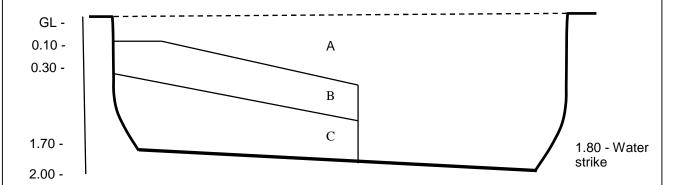
### TRIAL PIT SKETCH



Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Engineer: Jamie Alderman Trial Pit: TP101



- A A MADE GROUND soft dark brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse including mudstone and wood
- B Firm orangish brown CLAY.
- C Medium dense light grey slightly clayey sandy GRAVEL with . Gravel is angular fine to coarse of mudstone.



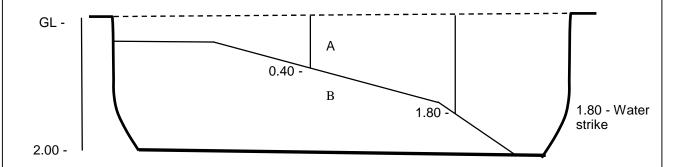
## TRIAL PIT SKETCH



Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Engineer: Jamie Alderman Trial Pit: TP102



- A MADE GROUND soft to firm brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse including mudstone and plastic
- B Medium dense light grey slightly clayey sandy GRAVEL with . Gravel is angular fine to coarse of mudstone.



Drawing not to scale Measurement in meters

#### V1 Issued: Nov 2020 Reviewed: Nov 2020

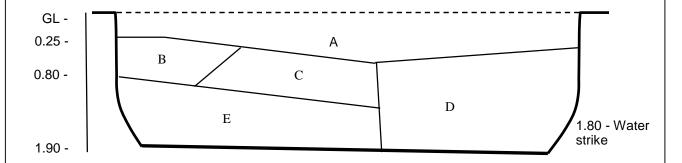
### TRIAL PIT SKETCH



Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Engineer: Jamie Alderman Trial Pit: TP103



- A MADE GROUND soft dark brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse including mudstone.
- B Firm orangish brown CLAY.
- C MADE GROUND loose brownish grey sandy GRAVEL. Gravel is angular fine to coarse of mudstone.
- D MADE GROUND loose grey sandy GRAVEL with high cobble content. Gravel and cobbles are angular of mudstone.
- E Medium dense light grey slightly clayey sandy GRAVEL with . Gravel is angular fine to coarse of mudstone.



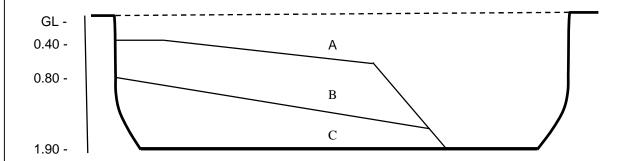
## TRIAL PIT SKETCH



Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Engineer: Jamie Alderman Trial Pit: TP104



- A A MADE GROUND soft dark brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse including mudstone and wood
- B Firm orangish brown CLAY.
- C Medium dense light grey slightly clayey sandy GRAVEL with . Gravel is angular fine to coarse of mudstone.





ANNEX E Soakaway Results

January 2025 16166

terra firma

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Date: 13/01/2025 Engineer: Jamie Alderman Borehole: BH11
Depth: 30.00m

Water Level: 1.90m

V1 Issued: Nov 2020

Reviewed: Nov 2020

#### TEST 1

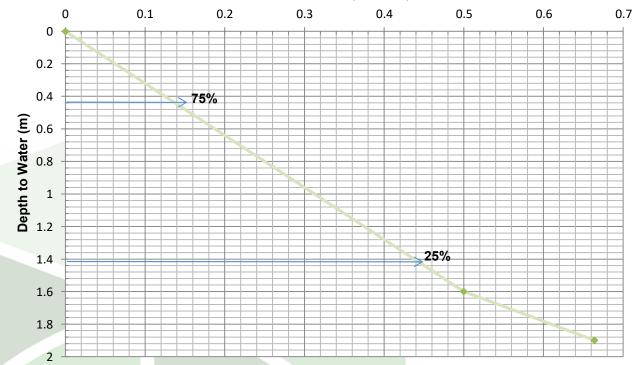
Borehole Diameter 0.11 m
Depth 1.90 m
Fill Level 0.00 m

 $\begin{array}{ccc} V_{p75\text{-}25} & & 0.009 \text{ m}^3 \\ a_{p50} & & 0.338 \text{ m}^2 \\ t_{p75\text{-}25} & & 0.3 \text{ minutes} \end{array}$ 

Soil Infiltration Rate, f 1.48E-03 ms<sup>-1</sup>

**Provisional Only** 

#### Time (minutes)



#### **REMARKS**:

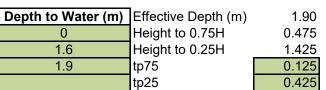
1.6

1.9

Time (mins)

0 0.5

0.664







terra firma

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

**Date:** 13/01/2025 **Engineer:** Jamie Alderman

Borehole: BH11
Depth: 30.00m

Water Level: 1.90m

V1 Issued: Nov 2020

Reviewed: Nov 2020

#### TEST 2

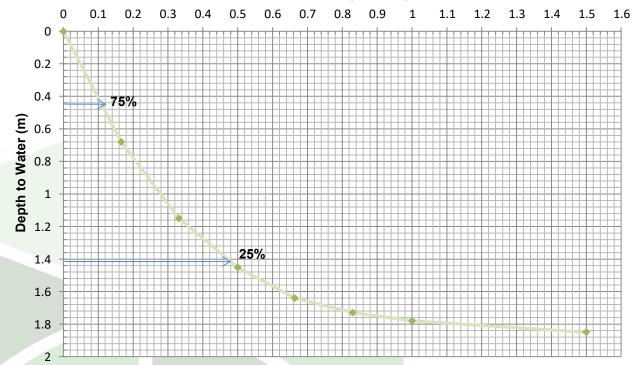
Borehole Diameter 0.11 m
Depth 1.90 m
Fill Level 0.00 m

 $\begin{array}{ccc} V_{p75\text{-}25} & & 0.009 \text{ m}^3 \\ a_{p50} & & 0.338 \text{ m}^2 \\ t_{p75\text{-}25} & & 0.36 \text{ minutes} \end{array}$ 

Soil Infiltration Rate, f 1.24E-03 ms<sup>-1</sup>

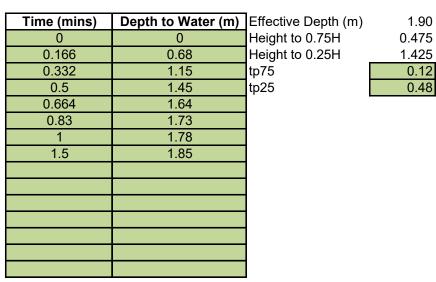
**Provisional Only** 

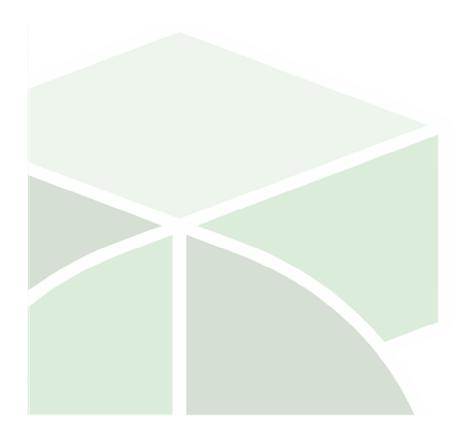
#### Time (minutes)



#### REMARKS:







firma

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Date: 13/01/2025 Engineer: Jamie Alderman Borehole: BH11
Depth: 30.00m

Water Level: 1.90m

V1 Issued: Nov 2020

Reviewed: Nov 2020

#### TEST 3

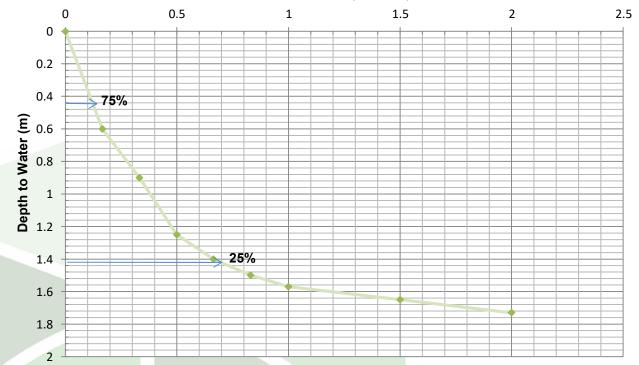
Borehole Diameter 0.11 m
Depth 1.90 m
Fill Level 0.00 m

 $\begin{array}{ccc} V_{p75\text{-}25} & & 0.009 \text{ m}^3 \\ a_{p50} & & 0.338 \text{ m}^2 \\ t_{p75\text{-}25} & & 0.39 \text{ minutes} \end{array}$ 

Soil Infiltration Rate, f 1.14E-03 ms<sup>-1</sup>

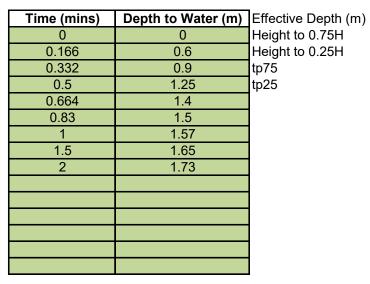
**Provisional Only** 

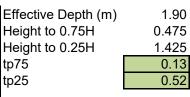
#### Time (minutes)



#### REMARKS:











terra firma

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Date: 14/01/2025 Engineer: Jamie Alderman Borehole: BH12

Depth: 5.00m Water Level: 5.00m

V1 Issued: Nov 2020

Reviewed: Nov 2020

#### TEST 1

Borehole Diameter 0.11 m
Depth 5.00 m
Fill Level 0.00 m

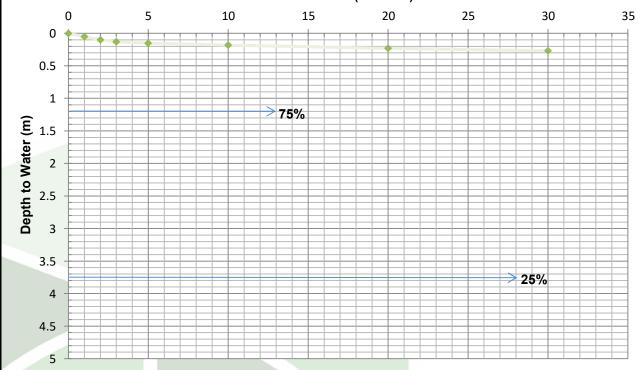
 $\begin{array}{ccc} V_{p75\text{-}25} & & 0.024 \text{ m}^3 \\ a_{p50} & & 0.873 \text{ m}^2 \\ t_{p75\text{-}25} & & 0 \text{ minutes} \end{array}$ 

#### Soil Infiltration Rate, f

Too little water intake to calculate infiltration rate

ms<sup>-1</sup>

#### Time (minutes)



#### **REMARKS**:

0.05

0.1

0.13

0.15

0.18

0.23

0.27

Time (mins)

0 1

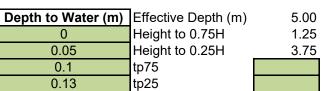
2

3

5 10

20

30







firma

V1 Issued: Nov 2020

Reviewed: Nov 2020

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Date: 14/01/2025

Engineer: Jamie Alderman

Borehole:

BH12

15.00m

Water Level:

1.40m

#### TEST 1

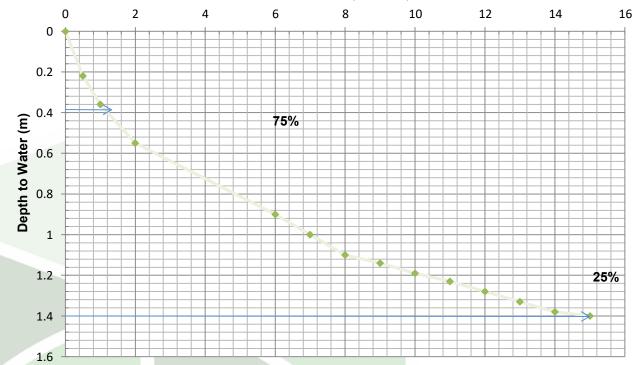
Borehole Diameter 0.11 m
Depth 1.60 m
Fill Level 0.00 m

 $\begin{array}{ccc} V_{p75\text{-}25} & & 0.008 \text{ m}^3 \\ a_{p50} & & 0.286 \text{ m}^2 \\ t_{p75\text{-}25} & & 13.5 \text{ minutes} \end{array}$ 

Soil Infiltration Rate, f 3.28E-05 ms<sup>-1</sup>

**Provisional Only** 

#### Time (minutes)



#### **REMARKS**:

0.22

0.36

0.55

0.9

1

1.1

1.14

1.19 1.23

1.280

1.330

1.380

1.400

Time (mins)

0 0.5

1

2

6

8

9

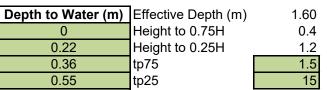
10

11

12 13

14

15







terra firma

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Date: 14/01/2025 Engineer: Jamie Alderman Borehole: BH12
Depth: 30.00m

Water Level: 1.95m

V1 Issued: Nov 2020

Reviewed: Nov 2020

#### TEST 1

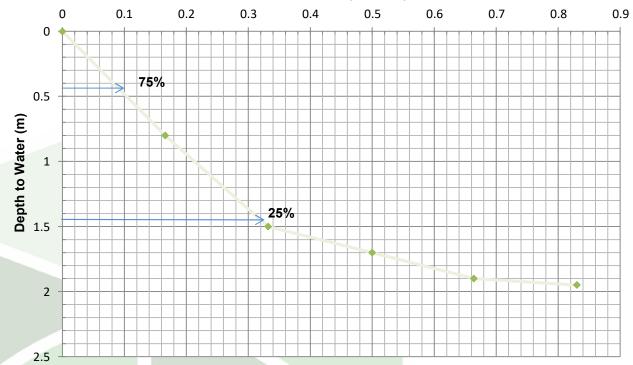
Borehole Diameter 0.11 m
Depth 1.95 m
Fill Level 0.00 m

 $\begin{array}{ccc} V_{p75\text{-}25} & & 0.009 \text{ m}^3 \\ a_{p50} & & 0.346 \text{ m}^2 \\ t_{p75\text{-}25} & & 3.1 \text{ minutes} \end{array}$ 

Soil Infiltration Rate, f 1.44E-04 ms<sup>-1</sup>

**Provisional Only** 

#### Time (minutes)



#### REMARKS:



Time (mins)	Depth to Water (m)	l
0	0	l
0.166	0.8	l
0.332	1.5	ŀ
0.5	1.7	ŀ
0.664	1.9	
0.83	1.95	

Effective Depth (m) 1.95
Height to 0.75H 0.4875
Height to 0.25H 1.4625
tp75 0.1
tp25 3.2



V1 Issued: Nov 2020

Reviewed: Nov 2020

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Date: 14/01/2025

**BH12** Borehole: Engineer: Jamie Alderman Depth: 30.00m Water Level: 1.95m

#### TEST 2

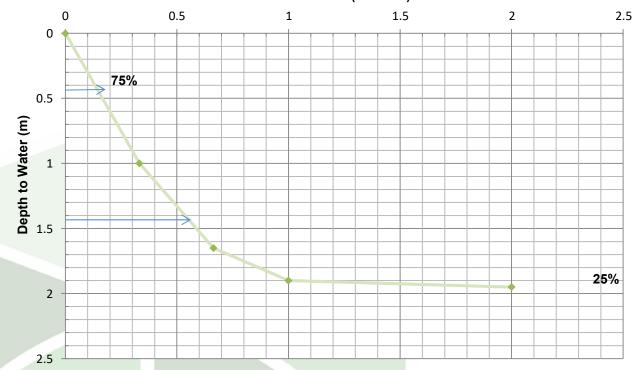
Borehole Diameter 0.11 m Depth 1.60 m Fill Level 0.00 m

 $V_{p75-25}$  $0.008 \, m^3$  $0.286 \text{ m}^2$  $a_{p50}$ 0.4 minutes  $t_{p75-25}$ 

1.11E-03 ms<sup>-1</sup> Soil Infiltration Rate, f

Provisional Only

#### Time (minutes)



#### REMARKS:

1.65

1.9

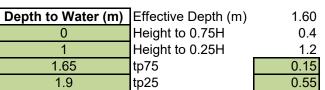
1.95

Time (mins)

0 0.332

0.664

2







V1 Issued: Nov 2020

Reviewed: Nov 2020

Site Name: Lon Cardi Bach, Cilgerran

**Project Number: 16166** 

Date: 14/01/2025

**BH12** Borehole: Engineer: Jamie Alderman Depth:

30.00m Water Level: 1.95m

#### TEST 3

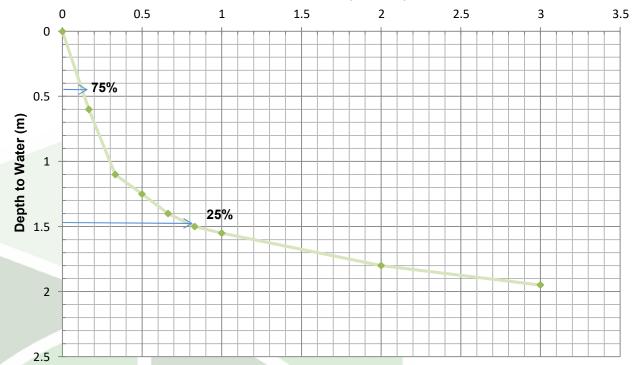
Borehole Diameter 0.11 m Depth 1.95 m Fill Level 0.00 m

 $V_{p75-25}$  $0.009 \, m^3$  $0.346 \text{ m}^2$  $a_{p50}$ 0.65 minutes  $t_{p75-25}$ 

6.86E-04 ms<sup>-1</sup> Soil Infiltration Rate, f

**Provisional Only** 

#### Time (minutes)



#### REMARKS:



Time (mins)	Depth to Water (m)
0	0
0.166	0.6
0.332	1.1
0.5	1.25
0.664	1.4
0.83	1.5
1	1.55
2	1.8
3	1.95

Effective Depth (m) 1.95
Height to 0.75H 0.4875
Height to 0.25H 1.4625
tp75 0.15
tp25 0.8

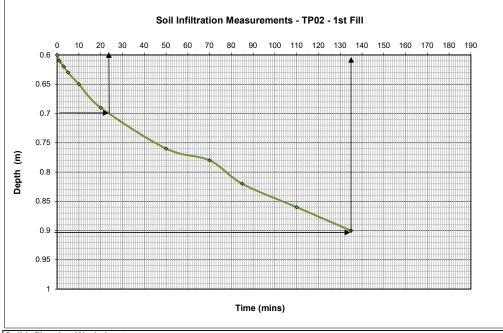


Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP02 - 1st Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.6	0
	0.61	1
	0.62	3
	0.63	5
	0.65	10
	0.69	20
	0.76	50
	0.78	70
	0.82	85
	0.86	110
(effective depth - 0%)	0.90	135

Length of Trial Pit (m)	1.20
Width of Trial Pit (m)	0.65
Depth of Trial Pit (m)	1.00
Effective Storage Depth (m)	0.40
Vp25	0.7000
Vp75	0.9000
Vp75-25	0.156
Outflow (%)	75
500/ - # - + + - / )	1 0.000
50% effective depth (m)	0.200
Mean Surface area ap50 (m2)	1.520

Time for 25% Outflow (tp25)	24	From Graph
Time for 75% <b>Outflow</b> (tp75)	135	From Graph
tp75 - 25	111	
Sail Infiltration Data (m/a)	1 E4101E 0E	



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.
This worksheet can be used to determine soil infiltration rates from trial pit field measurements.
Worksheet options are identified by a green background.



Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP02 - 2nd Fill

I	Depth to Water (m)	Time (Mins)
	Deptil to water (iii)	Tille (Wills)
(effective depth - 100%)	0.63	0
	0.64	2
	0.67	20
	0.74	60
	0.77	80
	0.8	110
	0.83	125
	0.86	150
(effective depth - 0%)	0.92	210

Length of Trial Pit (m)	1.20
Width of Trial Pit (m)	0.65
Depth of Trial Pit (m)	1.00
Effective Storage Depth (m)	0.37
Vp25	0.7225
Vp75	0.9075
Vp75-25	0.144
Outflow (%)	78
50% effective depth (m)	0.185
Mean Surface area ap50 (m2)	1.465

Soil Infiltration Rate (m/s)	1.05608E-05
tp75 - 25	155.5
Time for 75% Outflow (tp75)	205
Time for 25% Outflow (tp25)	49.5

From Graph From Graph



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.

This worksheet can be used to determine soil infiltration rates from trial pit field measurements.

Worksheet options are identified by a green background.

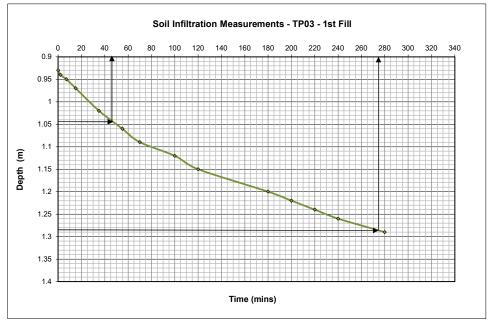


Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP03 - 1st Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.93	0
	0.94	2
	0.95	7
	0.97	15
	1.02	35
	1.06	55
	1.09	70
	1.12	100
	1.15	120
	1.2	180
	1.22	200
	1.24	220
	1.26	240
(effective depth - 0%)	1.29	280

2.10
0.70
1.40
0.47
1.0475
1.2825
0.345
77
0.235
2.786

Time for 25% Outflow (tp25)	46	From Graph
Time for 75% Outflow (tp75)	275	From Graph
tp75 - 25	229	
Soil Infiltration Rate (m/s)	9.02438E-06	1

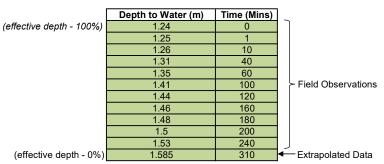


Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'. This worksheet can be used to determine soil infiltration rates from trial pit field measurements. Worksheet options are identified by a green background.



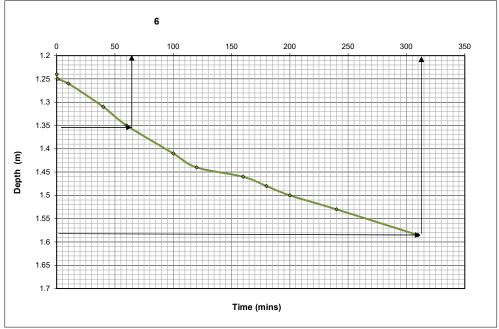
Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP06 - 1st Fill



Length of Trial Pit (m)	2.00
Width of Trial Pit (m)	0.70
Depth of Trial Pit (m)	1.70
Effective Storage Depth (m)	0.46
Vp25	1.3550
Vp75	1.5850
Vp75-25	0.322
Outflow (%)	63
50% effective depth (m)	0.230
Mean Surface area ap50 (m2)	2.642

Time for 25% Outflow (tp25)	62.5	From Graph
Time for 75% Outflow (tp75)	310	From Graph
tn75 - 25	247.5	

Soil Infiltration Rate (m/s) 8.20723E-06



Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365'. This worksheet can be used to determine soil infiltration rates from trial pit field measurements. Worksheet options are identified by a green background.



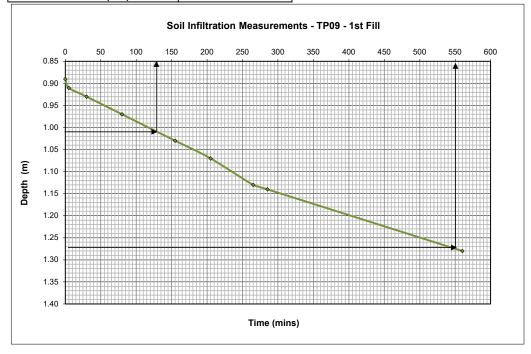
Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP09 - 1st Fill

	Depth to Water (m)	Time (Mins)	
(effective depth - 100%)	0.89	0	
	0.91	5	
	0.93	30	
	0.97	80	Field Observations
	1.03	155	Field Observations
	1.07	205	
	1.13	265	
	1.14	285	
(effective depth - 0%)	1.28	560	Extrapolated Data

Length of Trial Pit (m)	1.70
Width of Trial Pit (m)	0.65
Depth of Trial Pit (m)	1.40
Effective Storage Depth (m)	0.51
Vp25	1.0175
Vp75	1.2725
Vp75-25	0.282
Outflow (%)	76
	•
50% effective depth (m)	0.255
Mean Surface area ap50 (m2)	2.304

Time for 25% Outflow (tp25)	130	From Grap
Time for 75% <b>Outflow</b> (tp75)	545	From Grap
tp75 - 25	415	
Soil Infiltration Rate (m/s)	4.91264E-06	

ph



Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365'. This worksheet can be used to determine soil infiltration rates from trial pit field measurements. Worksheet options are identified by a green background.

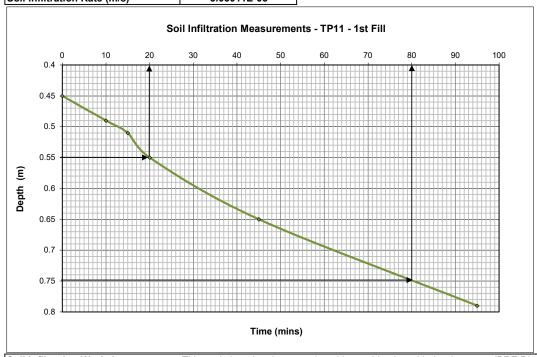


Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP11 - 1st Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.45	0
	0.49	10
	0.51	15
	0.55	20
	0.65	45
(effective depth - 0%)	0.79	95

Length of Trial Pit (m)	1.60
Width of Trial Pit (m)	0.70
Depth of Trial Pit (m)	0.85
Effective Storage Depth (m)	0.40
Vp25	0.5500
Vp75	0.7500
Vp75-25	0.224
Outflow (%)	85
50% effective depth (m)	0.200
Mean Surface area ap50 (m2)	2.040

Time for 25% Outflow (tp25)	20	Measured
Time for 75% Outflow (tp75)	80	From Graph
tp75 - 25	60	
Soil Infiltration Rate (m/s)	3.05011E-05	7



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'. This worksheet can be used to determine soil infiltration rates from trial pit field measurements. Worksheet options are identified by a green background.

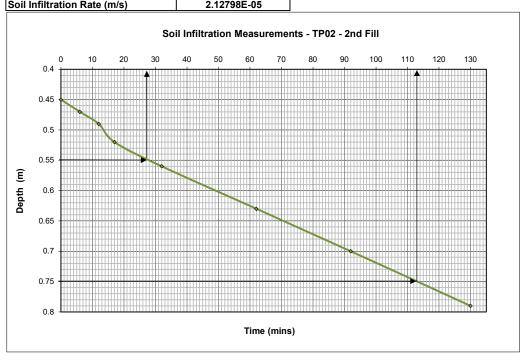


Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP11 - 2nd Fill

Depth to Water (m)	Time (Mins)
0.45	0
0.47	6
0.49	12
0.52	17
0.56	32
0.63	62
0.7	92
0.79	130
	0.45 0.47 0.49 0.52 0.56 0.63 0.7

Length of Trial Pit (m)	1.60
Width of Trial Pit (m)	0.70
Depth of Trial Pit (m)	0.85
Effective Storage Depth (m)	0.40
Vp25	0.5500
Vp75	0.7500
Vp75-25	0.224
Outflow (%)	85
50% effective depth (m)	0.200
Mean Surface area ap50 (m2)	2.040

Time for 25% Outflow (tp25)	27	From Graph
Time for 75% Outflow (tp75)	113	From Graph
tp75 - 25	86	
Cail Infiltration Data (m/a)	2.42700E.0E	1



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.

This worksheet can be used to determine soil infiltration rates from trial pit field measurements.

Worksheet options are identified by a green background.

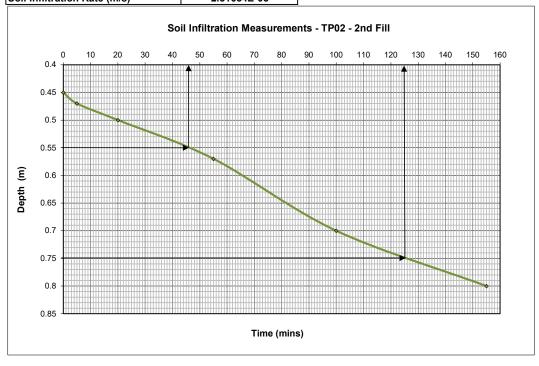


Job Name: Cilgerran Job Number: 16166 Date of Test: 04.08.2020 Test No.: TP11 - 2nd Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.45	0
	0.47	5
	0.5	20
	0.57	55
	0.7	100
(effective depth - 0%)	0.80	155

Length of Trial Pit (m)	1.60
Width of Trial Pit (m)	0.70
Depth of Trial Pit (m)	0.85
Effective Storage Depth (m)	0.40
Vp25	0.5500
Vp75	0.7500
Vp75-25	0.224
Outflow (%)	88
50% effective depth (m)	0.200
Mean Surface area ap50 (m2)	2.040

Time for 25% Outflow (tp25)	46	From Graph
Time for 75% <b>Outflow</b> (tp75)	125	From Graph
tp75 - 25	79	
Soil Infiltration Rate (m/s)	2.31654E-05	



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.

This worksheet can be used to determine soil infiltration rates from trial pit field measurements.

Worksheet options are identified by a green background.





ANNEX F Boreholes Logs

January 2025 16166

Tel: 02920 735354								Borehole No.		
firmo info@terrafirmawales.co.uk			Borehole Log			BH01				
Geotechnical & Geoenvironmental Specialists							Sheet 1 of 1			
Project Name: Lon Cardi Bach, Cilgerran					Project No: 16166		Co-ords	:	Hole Type RO	
Location: Lon Cardi Bach, Cilgerran						Level:			Scale 1:100	
Client: Wales and West Housing Association							Dates:	02/02/2022 -	Logged By	
Water		and I	n Situ Testing	Depth	Level	Well	Legend	Stratum Description		1
				Depth (m)  4.30 4.50	Level (m)	Well	Legend	Stratum Description  MADE GROUND  Light grey MUDSTONE Medium strong light grey MUDSTONE. F very closely to closely spaced subhorizor bedding fractures with dark reddish brow staining on fracture face.  Fractures are closely spaced  End of Borehole at 9.000m	ntal smooth 5 5 n and orange 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0001113333444
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									= 20	)
Remarks:										

Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk					Borehole Log				Borehole No. <b>BH02</b>	
Geotechi Project Name:	Lon Cardi E	ts	.5.60.uK	Project No: 16166 Co-ords:			Sheet 1 of 1 Hole Type RO			
Location							Level:		Scale	
Client:						Dates: 03/02/2022 -			1:100 Logged By	
Water	Sample	and l	n Situ Testing	Depth	Level		Legend	Stratum Description		
Strikes	Depth (m)  4.00	SPT	Fesults  50 (25 for 140mm/50 for 115mm)	(m) 3.70 4.00	(m)	Well	Legeria	Light grey MUDSTONE  Medium strong light grey MUDSTONE. Fevery closely spaced subhorizontal smoot fractures with dark reddish brown and on on fracture face.  Heavily fractured zone  End of Borehole at 8.000m	h bedding E	

Tel: 02920 735354							Borehole No.		
Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk					Borehole Log				BH03
Geotechnical & Geoenvironmental Specialists								_	Sheet 1 of 1
Project Name: Lon Cardi Bach, Cilgerran						Project No: 16166 Co-ords:			Hole Type RO
Location: Lon Cardi Bach, Cilgerran							Level:		Scale
									1:100 Logged By
Client:			Housing Association				Dates:	03/02/2022 -	33 7
Water Strikes	Sample Depth (m)	Type	n Situ Testing  Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
				1.80 2.00				Light grey MUDSTONE End of Borehole at 2.000m	2 3 4 4 5 5 4 6 6 4 7 4 8 4 9 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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	terr		Tel: 02920 7353	354					Borehole No.	
	firm	no	info@terrafirmawale www.terrafirmawale	es.co.uk			Bore	ehole Log	BH04	
	nical & Geoenvironment	al Specialis		75.00.UK			T	_	Sheet 1 of 1	
Project Name:	Lon Cardi E	Bach, C	Cilgerran		Project N 16166	0:	Co-ords	:	Hole Type RO	
Location	ı: Lon Cardi E	Bach, C	Cilgerran				Level:		Scale 1:100	
Client:	Wales and	West H	lousing Association				Dates:	03/02/2022 -	Logged By	
Water Strikes			n Situ Testing	Depth	Level	Well	Legend	Stratum Description		
Strikes	Depth (m)	Туре	Results	(m)	(m)			MADE GROUND	=	$\dashv$
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				1.80				Light grey MUDSTONE		
				2.00				End of Borehole at 2.000m		
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$\wedge$	terr		Tel: 02920 7353	354					Borehole No.
	firm	nc	info@terrafirmawale www.terrafirmawale	es.co.uk			Bore	ehole Log	BH05
	nical & Geoenvironment	al Specialis		75.00.UK					Sheet 1 of 1
Project Name:	Lon Cardi E	Bach, C	ilgerran		Project N 16166	0:	Co-ords	:	Hole Type RO
Location	: Lon Cardi E	Bach, C	ilgerran		•		Level:		Scale 1:100
Client:	Wales and	West H	lousing Association				Dates:	03/02/2022 -	Logged By
Water	Sample	and l	n Situ Testing	Depth	Level	Well	Legend	Stratum Description	
Strikes	Depth (m)	Туре	Results	(m)	(m)	Well	Legend	MADE GROUND	
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				4.00				Linkt arey MUDOTONE	1
				4.50				Light grey MUDSTONE  End of Borehole at 4.500m	E
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	terr		Tel: 02920 735	354					Borehole No.
	firr	20	info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	BH06
Geotechr	nical & Geoenvironmen	tal Specialis		es.co.uk				•	Sheet 1 of 1
Project Name:	Lon Cardi I	Bach, C	Cilgerran		Project N 16166	o:	Co-ords	:	Hole Type RO
Location	: Lon Cardi l	Bach, C	Cilgerran				Level:		Scale 1:100
Client:	Wales and	West F	lousing Association				Dates:	03/02/2022 -	Logged By
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Strikes	Depth (m)	Туре	Results	(111)	(111)			MADE GROUND	=
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				4.00					E
				4.50				Light grey MUDSTONE  End of Borehole at 4.500m	E I
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$\bigvee$	Tel: 02920 735354						Borehole No.		
	firm	no	info@terrafirmawale www.terrafirmawale	es.co.uk			Bore	ehole Log	BH07
	nical & Geoenvironmen	tal Specialis		53.00.uk					Sheet 1 of 1
Project Name:	Lon Cardi I	Bach, C	Cilgerran		Project N 16166	lo:	Co-ords	:	Hole Type RO
Location	: Lon Cardi l	Bach, C	Cilgerran				Level:		Scale 1:100
Client:	Wales and	West H	Housing Association				Dates:	03/02/2022 -	Logged By
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Cumoo	Depth (m)	Туре	Results	()	()			MADE GROUND and CLAY	
									1
				1.50				Light grey MUDSTONE	<u> </u>
				2.00		X///XV/		End of Borehole at 2.000m	2
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Remark	s:								20

$\bigvee$	terr		Tel: 02920 7353	354					Borehole No.
	firm	nc	info@terrafirmawale www.terrafirmawale	es.co.uk			Bore	ehole Log	BH08
	nical & Geoenvironment	tal Specialis		75.00.UK			ı		Sheet 1 of 1
Project Name:	Lon Cardi E	Bach, C	Cilgerran		Project N 16166	o:	Co-ords	:	Hole Type RO
Location	n: Lon Cardi E	Bach, C	Cilgerran				Level:		Scale 1:100
Client:	Wales and	West H	lousing Association				Dates:	03/02/2022 -	Logged By
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Cuntoo	Depth (m)	Туре	Results	()	()			MADE GROUND and CLAY	<u> </u>
									1
				1.50				Light grey MUDSTONE	1
				2.00		(///X(//		End of Borehole at 2.000m	
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	terr		Tel: 02920 735	354					Borehole No.
	firm	20	info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	BH09
Geotech	nical & Geoenvironment	tal Specialis		es.co.uk					Sheet 1 of 1
Project Name:	Lon Cardi E	Bach, C	Cilgerran		Project N 16166	o:	Co-ords	:	Hole Type RO
Location	: Lon Cardi E	Bach, C	Cilgerran				Level:		Scale 1:100
Client:	Wales and	West H	Housing Association				Dates:	03/02/2022 -	Logged By
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Strikes	Depth (m)	Type	Results	4.00 4.50	(m)			MADE GROUND  Light grey MUDSTONE  End of Borehole at 4.500m	1 2 3 4 4 5 6 6 7 8 8 9 10 11 11 12 13 13 14 15 16 16 17 17 18 18 19 19 20
Remark	5:								

$\wedge$	terr		Tel: 02920 7353	354					Borehole N	lo.
	firm	no	info@terrafirmawale	s.co.uk			Bore	ehole Log	BH10	
	nical & Geoenvironment	al Specialis		3.00.un			I		Sheet 1 of	
Project Name:	Lon Cardi E	Bach, C	Cilgerran		Project N 16166	0:	Co-ords	:	Hole Type RO	•
Location	: Lon Cardi E	Bach, C	Cilgerran		•		Level:		Scale 1:100	
Client:	Wales and	West H	lousing Association				Dates:	04/02/2022 -	Logged By	у
Water	Sample	and l	n Situ Testing	Depth	Level	\/\ell	Legend	Stratum Description		
Strikes	Depth (m)	Туре	Results	(m)	(m)	Well	Legend	MADE GROUND		
	4.50	SPT	50 (25 for 125mm/50 for 125mm)	4.20 4.50				Light grey MUDSTONE  Medium strong light grey MUDSTONE. For very closely to closely spaced subhorizor bedding fractures with dark reddish brown staining on fracture face and closey space rough with orangsih brown staining on fractured zone  Heavily fractured zone  End of Borehole at 8.000m  End of Borehole at 8.000m	ntal smooth n and orange sed horizontal acture face.	1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
l Remarks	S:	I			I	I				1

	terr		Tel: 02920 735	35/					Borehole N	0.
	firn	na	info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	BH11	
Geotechr	nical & Geoenvironment	al Specialist	S						Sheet 1 of	
Project lame:	Lon Cardi E	Bach, C	ilgerran		Project N 16166	lo:	Co-ords:	:	Hole Type RO	•
ocation.	: Lon Cardi E	Bach, C	ilgerran				Level:		Scale 1:100	
Client:	Wales and	West H	lousing Association				Dates:	13/01/2025 - 14/01/2013	Logged By	/
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description		
Suikes	Depth (m)	Туре	Results	(111)	(111)		******	Soft CLAV fill (Drillors description)		
	Depth (iii)	Туре	TVGSUITS	3.20				Grey SILTSTONE/MUDSTONE (Drillers	description)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 10 11 12 13 14 15 16 17 18 19 10 11 12 13 14 15 16 17 18 19 10 11 11 12 13 14 15 16 17 18 19 10 11 11 12 13 14 15 16 17 18 19 10 11 11 11 11 11 11 11 11 11 11 11 11
										19

Remarks: 1. Borehole cased to 1.50m. 2. Groundwater encountered at 2.50m and between 4.00-10.00m. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole soakaway installed on completion.

	terr firr	a na	Tel: 02920 735; info@terrafirmawale www.terrafirmawale	es.co.uk			Bor	ehole Log	Borehole N	
	nical & Geoenvironment		ts		Project N	lo:			Sheet 2 of Hole Type	
Project Name:	Lon Cardi E	Bacn, C	digerran		16166		Co-ords	:	RO Scale	
Location	: Lon Cardi E	Bach, C	Cilgerran				Level:		1:100	
Client:	Wales and	West H	lousing Association				Dates:	13/01/2025 - 14/01/2013	Logged By	У
Water	Sample	and li	n Situ Testing	Depth	Level	Well	Legend	Stratum Description		
Strikes	Depth (m)	Туре	Results	(m)	(m)		9		d \	
								Grey SILTSTONE/MUDSTONE (Drillers of	description)	Ē
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Remarks: 1. Borehole cased to 1.50m. 2. Groundwater encountered at 2.50m and between 4.00-10.00m. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole soakaway installed on completion.

- 40

	terr		Tel: 02920 7353	354					Borehole N	0.
	firn	na	info@terrafirmawale	es.co.uk			Bore	ehole Log	BH12	
Geotechn	nical & Geoenvironment	al Specialist	s						Sheet 1 of	
Project lame:	Lon Cardi E	Bach, C	ilgerran		Project N 16166	lo:	Co-ords	:	Hole Type RO	)
ocation	: Lon Cardi E	Bach, C	ilgerran				Level:		Scale 1:100	
Client:	Wales and	West H	lousing Association				Dates:	14/01/2025 - 15/01/2025	Logged By	У
Water	Sample	and Ir	n Situ Testing	Depth	Level	Well	Legend	Stratum Description		
Strikes	Depth (m)	Туре	Results	(m)	(m)		3	Soft CLAY, fill (Drillers description)		=
				0.80				Grey weathered SILTSTONE/MUDSTON	IE (Drillers	1
								description)	· <b>_ (</b> _ ······	
				2.30				Grey SILTSTONE/MUDSTONE (Drillers	doscription)	2
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Remarks: 1. Borehole cased to 1.50m. 2. Groundwater encountered between 6.00-10.00m. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole soakaway installed on completion.

	terr	a	Tel: 02920 73				Dor	shala Lag	Borehole No. <b>BH12</b>	-
	firr	na	www.terrafirmawa	ales.co.uk			DUI	ehole Log	Sheet 2 of 2	
Project Name:	Lon Cardi I		gerran		Project N	lo:	Co-ords	:	Hole Type RO	-
_ocation	: Lon Cardi l	Bach, Cilo	gerran		1		Level:		Scale 1:100	
Client:	Wales and	West Ho	using Association				Dates:	14/01/2025 - 15/01/2025	Logged By	
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	Depth (m)	Туре	Results					Grey SILTSTONE/MUDSTONE (Drillers	2: 	2 3 4 7
				30.00				End of Borehole at 30.000r		0 1 2 3 4

Remarks: 1. Borehole cased to 1.50m. 2. Groundwater encountered between 6.00-10.00m. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole soakaway installed on completion.



ANNEX G
Laboratory Soil Chemical Test Results

January 2025 16166



# eurofins Chemtest

Eurofins Chemtest Ltd Depot Road Newmarket CB8 0AL

Tel: 01638 606070 Email: info@chemtest.com

### **Final Report**

**Report No.:** 20-20920-1

Initial Date of Issue: 18-Aug-2020

Client Terra Firma (Wales) Ltd

Client Address: 5 Deryn Court

Wharfedale Road

Pentwyn Cardiff CF23 7HA

Contact(s): Jamie Alderman

**Project** 16166 Cilgerran

Quotation No.: Date Received: 10-Aug-2020

Order No.: Date Instructed: 10-Aug-2020

No. of Samples: 8

Turnaround (Wkdays): 5 Results Due: 14-Aug-2020

Date Approved: 18-Aug-2020

Approved By:

**Details:** Glynn Harvey, Technical Manager

### Results - Leachate

### Project: 16166 Cilgerran

Client: Terra Firma (Wales) Ltd					Job No.:	20-20920
Quotation No.:			Chem	test San	nple ID.:	1045727
			5		_ocation:	TP03
					ole Type:	SOIL
					epth (m):	1.2
					Sampled:	05-Aug-2020
Determinand	Accred.	SOP	Type	Units	LOD	
рН	U	1010	10:1		N/A	7.5
Sulphate	U	1220	10:1	mg/l	1.0	11
Cyanide (Total)	U	1300	10:1	mg/l	0.050	< 0.050
Arsenic (Dissolved)	U	1450	10:1	μg/l	1.0	< 1.0
Boron (Dissolved)	U	1450	10:1	μg/l	20	33
Cadmium (Dissolved)	U	1450	10:1	μg/l	0.080	< 0.080
Chromium (Dissolved)	U	1450	10:1	μg/l	1.0	2.3
Copper (Dissolved)	U	1450	10:1	μg/l	1.0	< 1.0
Nickel (Dissolved)	U	1450	10:1	μg/l	1.0	< 1.0
Lead (Dissolved)	U	1450	10:1	μg/l	1.0	< 1.0
Selenium (Dissolved)	U	1450	10:1	μg/l	1.0	< 1.0
Zinc (Dissolved)	U	1450	10:1	μg/l	1.0	< 1.0
Mercury Low Level	U	1460	10:1	μg/l	0.010	< 0.010
Total Organic Carbon	U	1610	10:1	mg/l	2.0	8.6
Total Of 16 PAH's	U	1800	10:1	μg/l	2.0	< 2.0
Resorcinol	U	1920	10:1	mg/l	0.0050	< 0.0050
Phenol	U	1920	10:1	mg/l	0.0050	< 0.0050
Cresols	U	1920	10:1	mg/l	0.0050	< 0.0050
Xylenols	U	1920	10:1	mg/l	0.0050	< 0.0050
1-Naphthol	N	1920	10:1	mg/l	0.0050	< 0.0050
Trimethylphenols	U	1920	10:1	mg/l	0.0050	< 0.0050
Total Phenois	U	1920	10:1	mg/l	0.030	< 0.030

### **Results - Soil**

### Project: 16166 Cilgerran

Project: 16166 Cligerran												
Client: Terra Firma (Wales) Ltd		Che	mtest Jo	ob No.:	20-20920	20-20920	20-20920	20-20920	20-20920	20-20920	20-20920	20-20920
Quotation No.:	(	Chemte	st Sam	ple ID.:	1045726	1045727	1045728	1045729	1045730	1045731	1045732	1045733
		Sa	ample Lo	ocation:	TP01	TP03	TP07	TP08	TP10	TP12	TP13	TP14
			Sampl	е Туре:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top De	oth (m):	0.4	1.2	0.9	0.2	0.5	0.7	1.0	1.4
			Date Sa	ampled:	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020
			Asbest	os Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A	-	-	-	-	-	Cement	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	Chrysotile	No Asbestos Detected	No Asbestos Detected				
ACM Detection Stage	U	2192		N/A	-	-	-	-	-	Screen Visible by Eye	-	-
Moisture	N	2030	%	0.020	22	8.9	11	14	8.9	10	8.9	13
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones and Roots	Stones	Stones	Stones and Roots	Stones	Stones and Roots	Stones and Roots	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Clay	Sand	Sand	Sand	Sand	Clay
pH	М	2010		4.0	6.6	7.7	7.1	6.9	6.8	7.9	8.0	7.5
Boron (Hot Water Soluble)	М	2120	mg/kg	0.40	0.65	< 0.40	0.53	0.50	0.43	< 0.40	< 0.40	0.42
Cyanide (Complex)	М	2300	mg/kg	0.50	< 0.50	< 0.50	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Free)	М	2300	mg/kg	0.50	< 0.50	0.60	0.50	0.70	0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	М	2300	mg/kg	0.50	< 0.50	0.90	1.0	0.80	0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)	М	2430	%	0.010	0.11	< 0.010	< 0.010	0.055	0.032	0.13	< 0.010	< 0.010
Arsenic	М	2450	mg/kg	1.0	15	23	15	13	15	17	14	12
Beryllium	U	2450	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium	М	2450	mg/kg	0.10	0.14	< 0.10	< 0.10	< 0.10	< 0.10	0.16	< 0.10	< 0.10
Chromium	М	2450	mg/kg	1.0	32	35	41	29	32	25	24	30
Mercury Low Level	M	2450	mg/kg	0.05	0.11	< 0.05	< 0.05	0.10	0.07	0.12	0.08	< 0.05
Manganese	М	2450	mg/kg	5.0	640	850	450	940	900	610	650	690
Molybdenum	М	2450	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Antimony	N	2450	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Copper	М	2450	mg/kg	0.50	27	39	28	22	33	27	26	24
Nickel	M	2450	mg/kg	0.50	26	42	38	23	38	26	27	31
Lead	М	2450	mg/kg	0.50	870	31	20	36	25	87	33	26
Selenium	М	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	М	2450	mg/kg	0.50	78	86	73	71	89	140	96	66
Chromium (Trivalent)	N	2490	mg/kg	1.0	32	35	41	29	32	25	24	30
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N		mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
•	_											

### **Results - Soil**

### Project: 16166 Cilgerran

Froject. 10100 Cligerran												
Client: Terra Firma (Wales) Ltd			mtest Jo		20-20920	20-20920	20-20920	20-20920	20-20920	20-20920	20-20920	20-20920
Quotation No.:			st Sam		1045726	1045727	1045728	1045729	1045730	1045731	1045732	1045733
		Sa	ample Lo	ocation:	TP01	TP03	TP07	TP08	TP10	TP12	TP13	TP14
			Sample	e Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Dep	oth (m):	_	1.2	0.9	0.2	0.5	0.7	1.0	1.4
			Date Sa	ampled:	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020
			Asbest	os Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD								
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	М	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	800	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	810	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10	< 10	< 10	810	< 10	< 10
Naphthalene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	0.25	< 0.10	< 0.10	< 0.10	< 0.10	1.3	< 0.10	0.38
Anthracene	M	2700	mg/kg	0.10	0.12	< 0.10	< 0.10	< 0.10	< 0.10	0.44	< 0.10	0.10
Fluoranthene	M		mg/kg	0.10	0.45	< 0.10	< 0.10	< 0.10	< 0.10	3.5	0.39	0.95
Pyrene	M	2700	mg/kg	0.10	0.55	< 0.10	< 0.10	< 0.10	< 0.10	2.9	0.33	0.80
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.2	< 0.10	0.51
Chrysene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.3	< 0.10	0.75
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.5	< 0.10	0.73
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.88	< 0.10	0.33
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.7	< 0.10	0.48
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.4	< 0.10	0.40
	M	2700		0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.49	< 0.10	0.29
Dibenz(a,h)Anthracene			mg/kg									
Benzo[g,h,i]perylene	M M	2700	mg/kg	0.10	< 0.10 < 2.0	< 0.10	< 0.10	< 0.10	< 0.10	1.6 21	< 0.10 < 2.0	0.44 5.6
Total Of 16 PAH's	_	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0			
PCB 28	U	2815	mg/kg	0.010						< 0.010	< 0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010						< 0.010	< 0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010						< 0.010	< 0.010	< 0.010
PCB 118	U		mg/kg	0.010	ļ					< 0.010	< 0.010	< 0.010
PCB 153	U		mg/kg	0.010						< 0.010	< 0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010						< 0.010	< 0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010						< 0.010	< 0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10						< 0.10	< 0.10	< 0.10
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	1.4	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Organic Matter BS1377	N	2930	%	0.10	4.5	0.20	0.50	3.1	1.8	1.4	0.70	0.80

### **Test Methods**

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	рН	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	рН	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2680	TPH A/A Split	Aliphatics: >C5-C6, >C6-C8,>C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21- C35, >C35- C44Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Dichloromethane extraction / GCxGC FID detection

### **Test Methods**

SOP	Title	Parameters included	Method summary
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1- Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
2930	Organic Matter	Organic Matter	Acid Dichromate digestion/Titration
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

### **Report Information**

### Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

#### **Sample Deviation Codes**

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

### **Sample Retention and Disposal**

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

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

Charges may apply to extended sample storage

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



ANNEX H
Laboratory Soil Geotechnical Test
Results

January 2025 16166

### **TEST REPORT**

### LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS EN ISO 17892-12:2018 C

Clauses 5.3/5.5/6.5

Project No:

D20270

Client:

**Project Name:** 

Cilgeran

Address:

Terra Firma

Deryn Court

5 Wharfdale Road

**ATS Sample No:** 

21257

Cardiff CF23 7HA

Site Ref / Hole ID:

TP03

Depth (m):

1.00

Sample No:

\_\_\_

Sample Type:

Disturbed

Received:

Sampling Certificate No

**Material Description:** 

Yellowish brown slightly

gravelly CLAY

Location in Works:

N/A

**Material Source:** 

Unknown

**Date Sampled:** 

Unknown

**Material Supplier:** 

Unknown

Sampled By:

Client

Specification:

ISO 17892

Date Received:

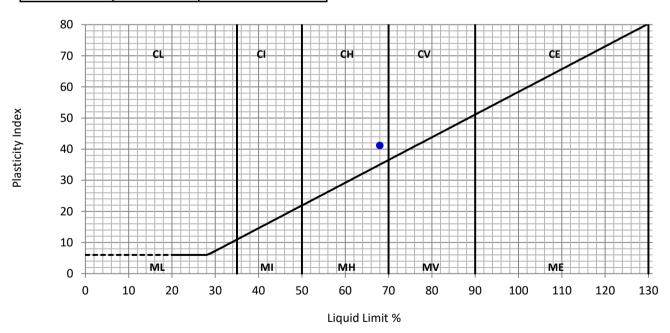
13 August 2020

Date Tested: 19 August 2020

#### **Test Results**

Liquid Limit	68	%
Plastic Limit	27	%
Plasticity Index	41	%

Preparation:	4.2.4 Sieved Spe	ecimen	
Proportion retained	d on 425µm sieve:	6	%



Remarks:

QA Ref.

EN ISO 17892-12:2018:E



**Apex Testing Solutions** 

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

Tel: 01656 746762 Fax: 01656 749096

UKAS

Approver

L Davis

Date

Fig.

20/08/2020

ATT

L Davis, Quality Manager

### **TEST REPORT**

### LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS EN ISO 17892-12:2018 (

Clauses 5.3/5.5/6.5

Project No:

D20270

Client:

\_\_\_\_\_\_

**Project Name:** 

Cilgeran

Address:

Deryn Court

5 Wharfdale Road Cardiff

**ATS Sample No:** 

21258

CF23 7HA

Terra Firma

Site Ref / Hole ID:

TP08

Depth (m):

1.20

Sample No:

Sample Type:

Disturbed

Received:

Sampling Certificate No

**Material Description:** 

Light grey slightly gravelly

CLAY

**Location in Works:** 

N/A

**Material Source:** 

Unknown

**Date Sampled:** 

Unknown

**Material Supplier:** 

Unknown

Sampled By:

Client

Specification:

ISO 17892

**Date Received:** 

13 August 2020

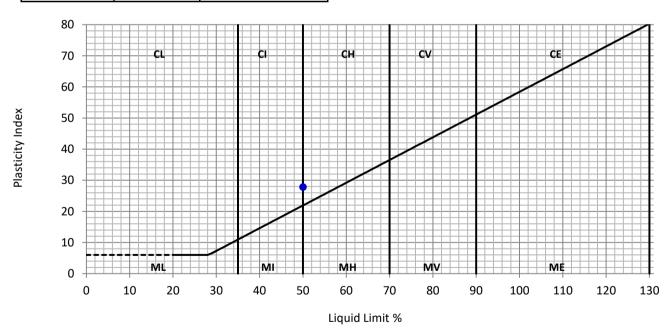
Date Tested:

19 August 2020

#### **Test Results**

Liquid Limit	50	%
Plastic Limit	22	%
Plasticity Index	28	%

Preparation:	4.2.4 Sieved Sp	ecimen	
Proportion retained	on 425µm sieve:	25	%



Remarks:

QA Ref.

EN ISO 17892-12:2018:E



**Apex Testing Solutions** 

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

Tel: 01656 746762 Fax: 01656 749096

UKAS

Approver

L Davis

Date

Fig.

20/08/2020

ATT

L Davis, Quality Manager



# ANNEX I TRL-DCP Results

January 2025 16166



Site Name: Cilgerran DCP01 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	70	Dat	um bgl (mm)	(	)				
	scale	penetration	depth bgl	DCP	CBR (%)						
blows	reading	increment	(m)	(mm/blow)				CBR (%	6)		
	(mm)	(mm)									
1	130	60	0.06	60	4.0	0.00	.0 :	20.0	40.0	60	0.0
1	190	60	0.12	60	4.0						
1	230	40	0.16		6.1		•				
1	255	25	0.19	25	10.1		ľ				
1	280	25	0.21	25	10.1	0.10					-
1	310	30	0.24	30	8.3		<b>\</b>				
1	345	35	0.28	35	7.0						
1	370	25	0.30	25	10.1	0.00	•				
1	390	20	0.32	20	12.7	0.20	<b>*</b>				
1	415	25	0.35	25	10.1		<b>*</b>				
1	450	35	0.38	35	7.0						
1	480	30	0.41	30	8.3	0.30 -					
1		15	0.43	15	17.3						
1	500	5	0.43	5	55.1		<b>*</b>				
1	510	10	0.44	10	26.5						
1	515	5	0.45	5	55.1	0.40 -					-
1	520	5	0.45	5	55.1					<b>\Q</b>	
1	530	10	0.46	10	26.5	Ê		<b>*</b>		8	
1	560	30	0.49	30	8.3	F.	<b>A</b>				
1	590	30	0.52	30	8.3	Deptrh (m)					
1		10	0.53	10	26.5			<b>*</b>			
1	630	30	0.56	30	8.3		<b>*</b>				
1	670	40	0.60	40	6.1	0.60					
1	740	70	0.67	70	3.4	0.00					
1	810	70	0.74	70	3.4						
1	880	70	0.81	70	3.4		<b>♦</b>				
						0.70 -					-
						0.80	<b>♦</b>				-
			1			0.90					-

### REMARKS:



Site Name: Cilgerran DCP02 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	75		um bgl (mm)		0					
no. of	scale	penetration	depth bgl		CBR (%)							
blows	reading	increment	(m)	(mm/blow)				C	BR (%)			
	(mm)	(mm)										
1	135	60	0.06	60	4.0	0.00	).0 20	0.0 4	0.0 60	0.0 8	30.0 1	00.0
1	170	35	0.10	35	7.0							
1	210	40	0.14	40	6.1		•					
1		40	0.18		6.1							
1		40	0.22		6.1	0.10						1
1	330	40	0.26	40	6.1		<b>♦</b>					
1	350	20	0.28		12.7							
1	370	20	0.30		12.7	0.20						
1	390	20		20	12.7	0.20	<b>♦</b>					
1	410	20	0.34	20	12.7							
1		20	0.36		12.7							
1	450	20	0.38	20	12.7	0.30	<b>•</b>					_
1	470	20	0.40	20	12.7		<b>†</b>					
1	495	25	0.42	25	10.1		Ŭ .					
1	510	15	0.44	15	17.3		<b>♦</b>					
1	530	20	0.46		12.7	0.40	<b>*</b>					$\dashv$
1	540	10	0.47		26.5		•					
1	550	10			26.5	Ê	<b>*</b>					
1	560	10			26.5	F.						
1	565	5	0.49		55.1	<b>Deptrh (m)</b>	<b>*</b>					1
1		5	0.50		55.1	_						
1	590	20	0.52	20	12.7			/				
1	600	10	0.53		26.5	0.60		<b>♦</b>				
5		60	0.59	12	21.8	0.00						
5		80	0.67	16	16.1		/					
5		40	0.71	8	33.5		4					
5		30	0.74		45.4	0.70		0				_
5	825	15	0.75		94.6							
5	840	15	0.77	3	94.6						*	
											•	
						0.80						$\dashv$
						0.65						
						0.90	-			'		

### REMARKS:



Site Name: Cilgerran DCP03 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	70	Dat	um bgl (mm)	C	)				
no. of		penetration	depth bgl		CBR (%)						
blows		increment	(m)	(mm/blow)				CBR (	<b>%</b> )		
	(mm)	(mm)					0 20	0.0 40	0.0	.0.0	0.0
1	115	45	0.05	45	5.4	0.00	0 20	).0 40 	).0 6 	0.0	30.0 ⊣
1	160	45	0.09	45	5.4						
1	200	40	0.13		6.1		<b></b>				
1	235	35	0.17	35	7.0						
1	250	15	0.18		17.3	0.10					1
1	270	20	0.20		12.7		<b>*</b>				
1	285	15	0.22		17.3		<b>*</b>				
1	300	15			17.3	0.20					
1	315	15	0.25		17.3	0.20					
1	330	15	0.26		17.3		•				
1	345	15	0.28		17.3		<b>\$</b>				
1	360	15	0.29		17.3	0.30	<b></b>				_
1	370	10	<del> </del>	10	26.5						
5	410	40		8				<b>&gt;</b>			
5	460	50		10	26.5						
5	520	60	<del></del>		21.8	0.40		<u> </u>			-
5	590	70	<del> </del>		18.6			/			
5	675	85		17	15.1	Ê		<b>*</b>			
2	710	35				£					
1	720	10			26.5	Deptrh (m)					1
1	730	10	0.66		26.5		Ĭ				
5	770	40	0.70								
5	800	30			45.4	0.60					
5	820	20	0.75	4		0.00					
5	840	20	0.77	4	69.8		<b>\</b>	8			
						0.70					-
									•		
										<b>*</b>	
										<b> </b>	
						0.80					-
						0.90 1		1		1	

### REMARKS:



Site Name: Cilgerran DCP04 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	65	Dat	um bgl (mm)		0									
	scale	penetration	depth bgl	DCP	CBR (%)											
blows	reading (mm)	increment (mm)	(m)	(mm/blow)					(	CBR (	%)					
						0	.0	100.	0 2	200.0	30	0.0	400	0.0	500.	0
1		45	0.05	45	5.4	0.00		+							_	-
1	150	40	0.09	40	6.1											
1	200	50	0.14		4.8											
1		35	0.17	35												
1	250	15	0.19		17.3	0.05		$\top$								
1		20	0.21	20	12.7											
1		15	0.22	15	17.3		<b>\rightarrow</b>									
1	295	10	0.23		26.5	0.10										
1	305	10	0.24		26.5	0.10										
1	315	10	0.25	10	26.5											
5	340	25	0.28	5	55.1		<b>&gt;</b>									
5	360	20	0.30		69.8	0.15		_							_	
5		15	0.31	3												
5		10	0.32	2	145.1		<b>♦</b>									
5		15	0.34	3	94.6		<b>\langle</b>									
5	415	15	0.35	3	94.6	0.20		+							$\dashv$	
5	435	20	0.37	4	69.8											
5	450	15	0.39	3	94.6	Ê										
5	470	20	0.41	4		<del>[</del>	<b>♦</b>									
15	480	10	0.42	1	463.6	<b>Deptrh (m)</b>		+							$\dashv$	
							1									
						0.20										
						0.30										
									<b>*</b>							
						0.35										
							l ,									
·																
								<b>\$</b>								
						0.40		4		_					_	
															,	
						0.45										

### REMARKS:



Site Name: Cilgerran DCP05 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	80	Dat	um bgl (mm)		0							
no. of	scale	penetration	depth bgl	DCP	CBR (%)									
blows	reading	increment	(m)	(mm/blow)					(	CBR (%	<b>6</b> )			
	(mm)	(mm)					•	00	•	40.0	00.0			
1	120	40	0.04	40	6.1	0.00	.0	20.	0	40.0	60.0	80	).0 <i>^</i>	100.0
1	160	40	0.08	40	6.1									
1	205	45	0.13	45	5.4		<b></b>							
1		45	0.17	45	5.4									
1		10	0.18	10	26.5	0.10	$\vdash$							_
1	280	20	0.20	20	12.7		<b></b>							
1	295	15	0.22	15	17.3									
1	310	15	0.23	15	17.3		<b>\$</b>							
1	330	20	0.25	20	12.7	0.20			<b>*</b>					
1	345	15	0.27	15	17.3	0.20		<b>\</b>						
1		15	0.28	15	17.3									
1	380	20	0.30	20	12.7			•						
1	410	30	0.33	30	8.3	0.00								
1	440	30	0.36	30	8.3	0.30								
1	470	30	0.39	30	8.3		<b>*</b>							
1	500	30	0.42	30	8.3		<b>*</b>							
1	540	40	0.46		6.1									
1	560	20	0.48		12.7	€ 0.40								
1	570	10	0.49	10	26.5	<b>Deptrh (m)</b>								
1	590	20	0.51	20	12.7	)ept								
1	610	20	0.53	20	12.7	_		<b>A</b>						
1	638	28	0.56	28	8.9	0.50		_	<b>\</b>					_
1	665	27	0.59	27	9.3									
1	690	25	0.61	25	10.1									
1	720	30	0.64	30	8.3									
1	735	15	0.66	15	17.3	0.60				$\perp$				_
1		5	0.66		55.1									
1	750	10	0.67	10	26.5									
1	760	10	0.68	10	26.5				<b>\$</b>		<b>*</b>			
5	780	20	0.70	4	69.8	0.70			<b>\rightarrow</b>			<b>^</b>		
5	800	20	0.72	4	69.8	0.70								
10	830	30	0.75	3	94.6									
						0.00								
						0.80	_							

### REMARKS:



Site Name: Cilgerran DCP06 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	70		um bgl (mm)	(	0				
	scale	penetration	depth bgl		CBR (%)						
blows		increment	(m)	(mm/blow)				CBR (	(%)		
	(mm)	(mm)					.0 10	0.0 2	0.00	300.0	400.0
1	130	60	0.06	60	4.0	0.00	10	10.0 2	1	300.0	400.0
1	180	50		50	4.8						
1	220	40	0.15	40	6.1						
1	250	30	0.18	30	8.3						
1	290	40	0.22	40	6.1	0.10 -					
1	350	60	0.28		4.0						
1	390	40	0.32	40	6.1		<b>♦</b>				
1	410	20	0.34		12.7						
1	430	20		20	12.7	0.20	<u> </u>				
1	450	20	0.38	20	12.7		<b>♦</b>				
1	470	20	0.40	20	12.7						
1	510	40	0.44	40	6.1						
1	530	20	0.46	20	12.7	0.30 -					
1	545	15	0.48	15	17.3	0.30	•				
1	555	10		10	26.5		<b>\</b>				
1	565	10	0.50	10	26.5		<b>♦</b>				
1	580	15	0.51	15	17.3		<b>♦</b>				
1	590	10		10	26.5	<b>Deptrh (m)</b>	<b></b>				
1	595	5		5		tr tr	<b>♦</b>				
5	635	40	0.57	8		Der	<b>\</b>				
5 5	660 695	25 35	0.59	5 7	55.1		<b>\$</b>				
<u> </u>	720	25	0.63 0.65	5	38.6 55.1	0.50	4				
5	750	30		6							
5	760	10	-	2							
5	780	20	<b>.</b>	4							
10	790	10	<del> </del>	1		0.60			+		
10	730	10	0.72	1	302.0						
							<b>&gt;</b>				
							<b>—</b>				
						0.70	<b>*</b>	<b>\</b>	+		
										<b>*</b>	
						0.80					

### REMARKS:



Site Name: Cilgerran DCP07 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	60	Dat	um bgl (mm)		0				
no. of	scale	penetration	depth bgl	DCP	CBR (%)						
blows	"	increment	(m)	(mm/blow)				CBR (	%)		
	(mm)	(mm)					.0 10	0.0	20.0	200.0	100.0
1	110	50	0.05	50	4.8	0.00	.0 10	0.0 20	0.00 3	300.0 4	00.0
1	150	40	0.09	40	6.1						
1	210	60	0.15	60	4.0		<b>\$</b>				
1		40	0.19	40	6.1						
1		30	0.22	30	8.3	0.10	<b>*</b>				_
1	310	30	0.25	30	8.3						
1	340	30	0.28		8.3		<b>&gt;</b>				
1	370	30		30	8.3						
1	395	25	0.34	25	10.1	0.20	<b>♦</b>				
1	425	30	0.37	30	8.3	0.20	<b>♦</b>				
1		35	0.40	35	7.0						
1	490	30	0.43	30	8.3		Y				
1	520	30	0.46	30	8.3	0.00	<b>♦</b>				
1	540	20	0.48	20	12.7	0.30	<b>\$</b>				
1	555	15	0.50	15	17.3		<b>♦</b>				
1		10	0.51	10	26.5						
1	570	5	<del> </del>	5	55.1						
1	585	15			17.3	<b>Deptrh (m)</b>	<b>*</b>				_
5		30	<del></del>		45.4	<u> </u>	<b>♦</b>				
5		15	0.57	3	94.6	Depi	<b>\</b>				
5		20	0.59	4	69.8	-	<b>\</b>				
5	656	6	0.60	1	249.1	0.50					_
5		24	0.62	5	57.5						
5		10	0.63	2	145.1						
5		10	0.64	2	145.1						
5		10	0.65	2	145.1	0.60	<b>—</b>		<b>\</b>	1	_
5		5	0.66		302.0		<b>*</b>				
5	730	15	0.67	3	94.6						
5		20		4	69.8		_				
5		20	0.71	4	69.8	0.70	4				
5	780	10	0.72	2	145.1	0.70	<b>—</b>	<b>\</b>			
						0.00					
						0.80		'	-	1	

### REMARKS:



Site Name: Cilgerran DCP08 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	100	Dat	um bgl (mm)	(	ס				
	scale	penetration	depth bgl	DCP	CBR (%)						
olows	reading	increment	(m)	(mm/blow)				СВІ	R (%)		
	(mm)	(mm)									
1	160	60	0.06	60	4.0	0.00	.0 20	0.0	400.0	600.0	800.0
1	225	65	0.13	65	3.7						
1	265	40	0.17	40	6.1						
1	295	30	0.20	30	8.3		<b>&gt;</b>				
1	320	25	0.22	25	10.1						
1	340	20	0.24	20	12.7	0.10 -					
1	360	20	0.26	20	12.7		<b>&gt;</b>				
1	380	20	0.28	20	12.7						
1		50	0.33	50	4.8		<b>&gt;</b>				
1	460	30	0.36	30	8.3						
1	480	20	0.38	20	12.7	0.20					
1	510	30	0.41	30	8.3						
1		20	0.43	20	12.7		Ĭ				
1	540	10	0.44	10	26.5		Ĭ				
1	560	20	0.46	20	12.7	0.30 -					
1		15	0.48	15	17.3	0.50					
1	590	15	0.49	15	17.3	•	<b>&gt;</b>				
1	610	20	0.51	20	12.7	Ê					
1	620	10	0.52	10	26.5	F.	<b>♦</b>				
1		15	0.54	15	17.3	Deptrh (m)					
1		10	0.55	10	26.5	-					
5		10	0.56	2	145.1		<b>&gt;</b>				
5		45	0.60	9	29.6		<b>♦</b>				
5		30	0.63	6	45.4		<b></b>				
5		15	0.65	3	94.6	0.50 -					
5		10	0.66	2	145.1		<b>&gt;</b>				
10	760	5	0.66	1	628.3		8				
						0.60 -	1				
							4				
							_			<b>*</b>	
						0.70					
	1		I			0.70 -	-				

### REMARKS:



Site Name: Cilgerran DCP09 Project Number: 16166

Date: 04/08/2020

Initial Sc	ale Reading	(mm)	70	Dat	um bgl (mm)		0					
	1	penetration	depth bgl		CBR (%)							
blows		increment	(m)	(mm/blow)					CBR	(%)		
	(mm)	(mm)					0	400		00.0	200.0	400.0
1	130	60	0.06	60	4.0	0.00	.0	100	1.0 2	0.00	300.0	400.0
1	170	40	0.10	40	6.1							
1	210	40	0.14	40	6.1							
1	250	40	0.18	40	6.1							
1	300	50	0.23	50	4.8							
1	320	20	0.25	20	12.7							
1	330	10	0.26	10	26.5	0.10	<b>^</b>					
1	350	20	0.28	20	12.7							
1	365	15	0.30	15	17.3		<b>♦</b>					
1	380	15	0.31	15	17.3							
1	390	10	0.32	10	26.5		<b>♦</b>					
1	410	20	0.34	20	12.7	0.20						
1	425	15	0.36	15	17.3	0.20						
1	440	15	0.37	15	17.3		<b>&gt;</b>					
1	450	10	0.38	10	26.5		•					
1	460	10	0.39	10	26.5		<b>&gt;</b>					
1	465	5	0.40	5	55.1		<b>♦</b>					
5	485	20	0.42	4	69.8	Deptrh (m)		$\dashv$		+		
5	490	5	0.42	1	302.0	۔ ج	<b>&gt;</b>					
5	510	20	0.44	4	69.8	epti	<b>♦</b>					
5	520	10	0.45	2	145.1		<b>♦</b>					
5	535	15	0.47	3	94.6		<b>\</b>					
5	550	15	0.48	3	94.6	0.40						
10	560	10	0.49	1	302.0	0.40						
											<b>*</b>	
								<b>\</b>	<b>*</b>			
								•				
								<b>\ \</b>				
						0.50						
						0.60	L					

### REMARKS:



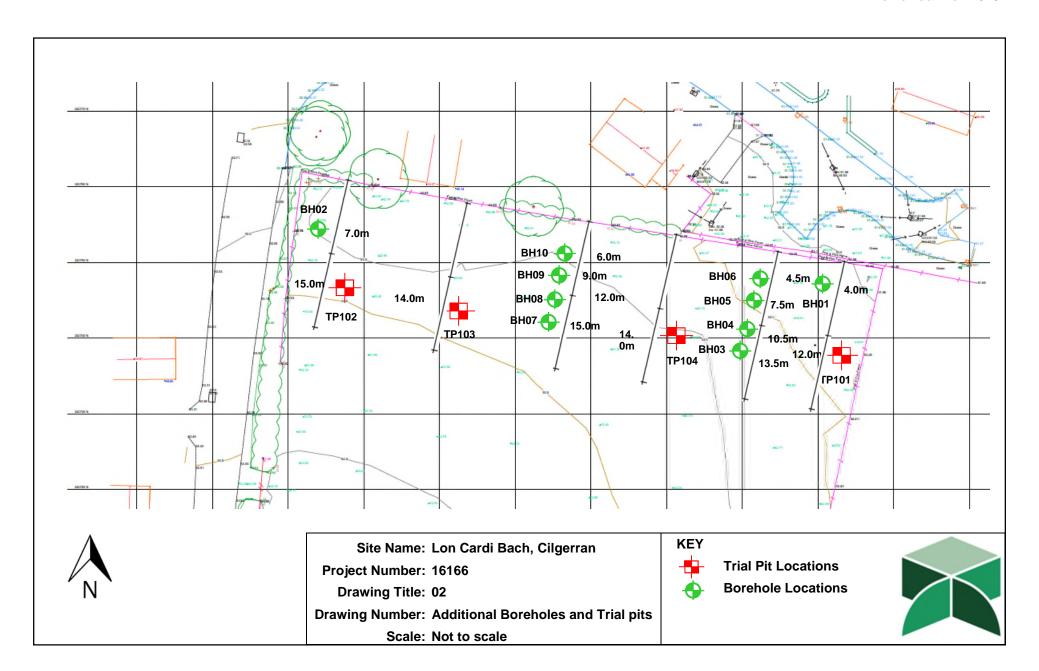
DRAWINGS

January 2025 16166





Ref: QF-047 V1 Issued: Nov 2020 Reviewed: Nov 2020





Ref: QF-047 V1 Issued: Nov 2020 Reviewed: Nov 2020

