MICA ENVIRONMENTAL LTD

Land to the East of Brynllwarch Gardens, Pentre, Kerry, Powys

Phase One and Two Environmental Risk Assessment Report

May 2018

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1 Introduction

1.1 Terms of Reference

Mica Environmental Limited has prepared this Site Report on behalf of Mr K Harris following instruction from Gwynfor Humphreys on 29th March 2018. The report relates to a plot of land to the east of Brynllwarch Gardens, Pentre, Kerry, Powys SY16 4 PD where outline planning permission has been granted under two separate applications for two affordable three-bedroom homes.

The investigation was undertaken in accordance with Mica Environmental Ltd's proposal dated 15th March 2018.

Outline planning consent was granted for the eastern part of the site on 30th August 2016 under reference P2016/0937 for 'erection of an affordable dwelling including new access and installation of sewage treatment plant.'

On 21st June 2017 outline planning consent was granted for the western part of the site for 'erection of affordable dwelling, installation of sewage treatment plant and formation of vehicular access.'

Both outline planning consents were subject to conditions, including phased condition number 7 (on both), which stated 'An investigation and risk assessment, in addition to any provided with the planning application must be completed in accordance with a scheme to assess the nature and extent of any contamination on the site, whether or not it originates on the site....'

1.2 Objectives

This combined Phase One and Two report (Desk Study with Intrusive Investigation) aims to meet the initial requirements of Condition 7 of the outline planning conditions referenced above, by assessing the nature and extent of possible contamination on the site and establish whether remedial actions will be necessary in order for the proposed residential development.

1.3 Sources of Information

The following sources of information have been consulted during the preparation of this report:

- Observations made during site visits on 16th, 19th and 23rd April 2018 (see Appendix A)
- Ordnance Survey Explorer Map 214, Llanidloes & Newtown, 1:25 000-scale.
- Landmark Envirocheck Report (see Appendix B).
- Historical and current maps at 1:10560, 1:10000 and 1:2500 scales dating from 1884 to 2018 within Landmark Report (see Appendix B).
- British Geological Survey website lexicon www.bgs.ac.uk/lexicon/
- ALS Laboratory Report Number 180424-86 (Appendix D)

- Ecological Assessment prepared by Turnstone Ecology dated August 2016
- https://historicwales.gov.uk/#zoom=6&lat=289351.80117&lon=315802.14307&layers=BTTTTTTFFTTT

1.4 Report Layout

The report is laid out as follows:

This section details the terms of reference, objectives and sources of information used in the assessment. Sections 2, 3 and 4 present the factual data relating to site layout, environmental setting and history of the site. Section 5 outlines the regulatory background to the assessment and Section 6 presents the conceptual site model. Details of the site investigation works undertaken are presented in Section 7, with results discussed in Section 8. A revised conceptual site model is presented in Section 9. A Summary is presented in Section 10 and Conclusions and Recommendations are presented in Section 11.

Figures are presented following the text.

Site photographs, where referenced in the text, are presented in Appendix A. The Landmark Environmental dataset, including historical maps, are provided in Appendix B. Appendix C contains the logs of the site investigation holes. The analytical laboratory report is contained in Appendix D.

1.5 Limitations

This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the client. Where any data or information supplied by the client or other external source, including that from previous desk studies or report, has been used, it has been assumed that the information is correct. No responsibility can be accepted by Mica Environmental Limited for inaccuracies within this data or information.

Information obtained during the site reconnaissance represents only visually obtainable data. There may be other conditions prevailing at the site, which have not been accessible and have therefore not been taken into account in this report. Trial holes by their very nature only investigate a small fraction of the whole site, as a balance needs to be struck between disturbance to the site, cost, and the confidence that can be gained from the assessment. Whilst the holes excavated on site are considered likely to represent the overall true characteristics of the site to the depth investigated, it remains possible that different conditions may pertain in the areas between sample locations or at considerably deeper locations.

The recommendations made relate to the Statutory Guidance at the time of report production, and the risk-based approach adopted by the Environment Agency (EA) and other regulatory authorities. The recommendations may need to be re-visited if significant changes are made to the risk-based approach currently adopted or the proposed development is altered.

This report provides an assessment of the potential risks from contamination issues only. Other issues such as slope stability are beyond the scope of this assessment.

This report is produced solely for the benefit of the client, and no liability is accepted for any reliance placed upon it by any other party unless specifically agreed in writing with Mica Environmental Limited.

2 Land Use and Site Setting

2.1 Site Location

The site is located at NGR 315380 289330 approximately 800m to the southeast of Kerry and 5km to the southeast of Newtown, Powys, as shown on Figure 1.

The subject site is the northern part of a larger rectangular plot of land which sits to the east of a lane off a C road which leads between Kerry and Pentre. It can be accessed via the lane in its northwest corner, (see Photo 1) or via the larger plot's access to the south (See Photo 2)

The site is located between two residential plots (to the northwest and southeast) and agricultural pasture land to the north and east. It is at an elevation of approximately 110m above sea level.

2.2 Site Description

2.2.1 Current

The site of some 0.14 hectares is an irregular pentagon shape with maximum dimensions of approximately 40m by 42.5m. The current site layout is indicated on Figure 2.

There is a considerable slope of about 1 in 8 downwards from the northwest corner towards the southeast. The natural slope in the southwest corner has been cut into for a length of approximately 9m to form a vertical slope with a flat area in front. A face up to 2m high of the natural mudstone rock is exposed, in the location indicated on Figure 2, also see Photo 3 in Appendix A. This flat area is partly roofed with a temporary structure and currently is occupied by a touring caravan in poor repair, packets of insulation material and corrugated metal panels. (See Photos 4 and 5).

The site is predominantly unmaintained grassed pastureland (See Photo 6). In the northwest corner a shallow layer of hardcore has been placed on a geofabric at the entrance gate, to a distance of 5 to 10m (visible in Photo 1). In the south west of the site a small area of concrete pavement is present – this extends into the landholding to the south of the site (visible in Photo 2).

An area recently used for a bonfire was noted in the central south of the site, some limited charring of the earth was noted.

The client reports there are no current buried services present on the site.

2.2.2 Proposed Layout

The proposed location on site of the new dwellings is not finalised, being in outline stage. However, the site is divided into two separate plots as shown on Figure 3. It is intended that the dwellings will be served by a mini treatment plant and soakaway, with the drainage field to the south of the development site.

2.3 Surrounding Land Use

2.3.1 North and East

Fields to the north and east of the site are pasture. It was noted that a horse and some cattle were grazing during the site walkover. Beyond this field to the north the property was noted to be a small haulage business.

2.3.2 West

Immediately to the west of the site is a lane serving the surrounding residential dwellings. Beyond the lane and in an elevated position is the dwelling known as Brynllywarch Garden. Further west is a wooded area and within that at a distance of some 500m, Brynllywarch School.

2.3.3 South

South of the subject site is land currently in the same landholding as the subject site. There is a static caravan and metal sheds. Also present is much stored materials such as tiles, two cars, trailer, touring caravan, insulation materials, metal sheets, tyres, timber, bicycle parts, dog kennel, metal shelving, ladders, paving slabs, metal gates, garden ornaments. Also noted was a disused double skinned oil tank in good condition, which is not installed on site, but is merely being stored at present.

2.4 Site Walkover

Site was initially visited on 16th April 2018 for a meeting with the client and a site walkover, and again on 23rd April to undertake trial pitting investigation. Observations are discussed above in section 2.2 and 2.3. Observations associated with the intrusive site investigation are discussed later in Section 7.

Photographs taken on both visits are presented in Appendix A and Appendix C (trial pit logs).

2.5 Previous Investigations

Mica Environmental is not aware of any previous site investigations undertaken specifically for contamination assessment at the site. However, an Ecological Assessment Report was prepared for the site by Turnstone Ecology in August 2016 which was submitted in support of planning application P/2016/0937.

3 Environmental Setting

3.1 Geology

The Geology Report within the Landmark information indicates an absence of significant drift geology (shallow deposits) at the site. This suggests bedrock is likely to be close to surface.

The bedrock at the site is indicated as the Gyfenni Wood Shale Formation. The BGS lexicon indicates this to be silty mudstone of grey brown colour when weathered, less than 100m thick. At its lower boundary the Gyfenni Wood Shale formation passes into undifferentiated Nantglyn Flags formation, also mudstone. Permeability of both units is likely to be low.

3.2 Hydrogeology

The solid geology of the Gyfenni Wood Shale Formation is classified as a Secondary (B) Aquifer: These are generally predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the units formerly classified as non-aquifers.

There are no groundwater abstraction licences or source protection zones recorded within 500m of the site.

Brynllwarch School, some 255m to the west of site, has a consent to discharge final/treated sewage effluent to land. The receiving water is listed as groundwater.

The site falls within an area of relatively low groundwater sensitivity; there is no groundwater vulnerability classification assigned.

3.3 Hydrology

The nearest surface water feature to site is the Nant Meheli, a stream flowing in a roughly north-easterly direction, at its nearest point some 77m to the south east of site, and at an elevation some 15m lower. This stream is part of the River Severn Catchment. The main River Severn flows in an easterly direction some 4km to the north of the site.

There is no Environment Agency River Quality data available within 500m of the site.

Lower Brynllywarch Farm has a licence to abstract surface water from Meheli Brook for general farming and domestic purposes at a point 100m to the east of site. There are no other surface water abstraction licences recorded within 1km of the site.

There is a single discharge consent within 250m of the site; Barn G Brynllywarch Farm has a discharge consent for domestic final treated effluent into a stream to the River Meheli. There are no current licensed discharge consents to surface water within 500m of the site.

3.3.1 Pollution Incidents to Controlled Waters

The Environment Agency has two records of pollution incidents within 1km of the site, and Natural Resources Wales has an additional one:

400m to the east of site- July 1998- Domestic property with grass cuttings in the brook affecting an abstraction, Minor incident

540m to the NE of site -August 1995- Cattle slurry into watercourse, fish killed, significant incident

250m to the NE of site – August 2005 – Agricultural Materials and Wastes, Slurry and Dilute Slurry, significant incident

However, these incidents will not have affected the subject site.

3.4 Ecological and Heritage Designations

There are no Special Protection Areas (SPA), Special Areas of Conservation (SAC), Environmentally Sensitive Areas (ESA), Ramsar sites, National Nature Reserves (NNR), Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB) or World Heritage Sites within 1km of the site.

There are some areas of Ancient Woodland within 200m of the site, to the north and northwest. These are not considered feasible receptors from potential contamination at the site.

Historic Wales website indicates that there are no archaeological features or scheduled monuments within 250m of the centre of the site.

The site is not in a particularly sensitive location with regard to ecological and heritage designations.

3.5 Waste Management and Landfill Activities

There are no operational or non-operational landfills, waste treatment, transfer or waste disposal sites recorded within 500m of the site.

3.6 Radon

The site is in a higher probability radon area as 10-30% of homes are above the action level. Consequently, the Building Research Establishment (as described in BR211) indicates that the site is in an area where full radon protective measures are required for new properties or extensions.

3.7 Environmental Permits, Consents, Licences, and Authorisations

There are no historic Industrial Pollution Control, Part A(1), Part A(2), Part B or IPPC activities or enforcements recorded within 500m of the site.

There are no COMAH or NIHHS sites recorded within 500m of the site.

There are no sites determined as Contaminated Land under Part IIa of the EPA 1990 within 500m of the site.

4 Site History

4.1 Historical Map Review

Historical Maps at 1:10560, 1:10000 and 1:2500 scales dating from 1884 to 2018 were reviewed. These maps are presented in Appendix B. A summary of the findings is presented in Table 1 below.

Table 1: Historical Map Review

Date/Map Scale	Site	Surrounding Area
1884-85 1:10560 1886 1:2500 1889 1:10560	Western part of the site is shown as having a stand of fir trees present. Eastern half of the site is part of a larger enclosed field.	250m to the west of site is a large property with what appears to be formal gardens, labelled as Bryn Llywarch. 50m or so to the southwest, a cluster of buildings are present which are labelled as Lower Bryn-llywarch. To their east is an orchard. Beyond them some 200m to the southwest a small reservoir water feature is labelled. Some 150m to the northeast a mill pond is shown, together with a Mill Race and associated Llyn Mawr Corn Mill, presumably water powered. 400m to the northwest of site a Saw Mill (also presumably water-powered) is labelled.
1903 1:10560 1903 1:2500	No discernible change	No major changes
1938 1:10560	No discernible change	Some woodland is no longer present to the southeast, else no major changes
1953 1:10560 1963-64 1:10560	No discernible change	No major changes
1983 1:2500 1983-84 1:10000	No trees shown on site area any more. Site is all blank, contained within a larger field.	Brynllwarch Hall is now labelled Brynllwarch School. A timber yard is shown 100m to the southwest of site.
1994: 1:2500	No discernible change	No major changes
2000 Aerial Photography	Aerial photography shows grassed area in the north, east and south of the site. Part of the site in the southwest appears to contain hardstanding and is edged by shrubs or trees.	To the north and east of site green fields are evident. A house has been constructed immediately beyond the lane to the west.
2000 1:10000	Mapping shows blank site.	Mapping shows open fields surrounding site. House is not indicated to the west.
2006 1:10000	Map now depicts a rectangle in the location of the hardstanding visible on the aerial photograph	Map shows Brynllywarch Garden, the house to the west of the site has been built.
2018 1:10000	No discernible change	No major changes

4.2 Other Site History Sources

4.2.1 Anecdotal Information

The client advises that he purchased the wider site around 15 years ago from the farm holders who live in the nearby house, Lower Brynllywarch. He has stored various items at the wider site including quite a few cars which he dismantled for electrical parts such as the headlight fittings. He states he has not undertaken commercial operations at the site, and his hobbying was small scale. As he has recently moved house he is storing quite a few household items in the temporary sheds on the wider site.

4.2.2 Internet Searches - Planning History

The Powys planning web pages were skimmed for relevant information regarding the site. It is noted that a memo was sent regarding planning reference P/2016/0937 from the

Contaminated Land Officer (CLO) to the Planning Department in February 2017: Information indicates that historic ordnance survey maps held on record do not identify any potential land contamination issues associated with the application site. The outline planning application form indicates that the last use of the site was agricultural -formerly a silage pit and paddock area, which was confirmed as having ceased on 01/01/2007. However, the Contaminated Land Officer notes that the Turnstone Ecology Ecological Assessment Report (ref TT2040 dated 26 August 2016) submitted in support of the planning application P/2016/0937 states, 'an area of hardstanding and bordering disturbed ground is present at the southwestern end of the plot. There are storage structures, damaged cars and piles of tyres, timber, rubble and building materials stored on the hardstanding with some spilling over into patches of disturbed ground and associated sparse vegetation'.

In addition, the CLO's memo notes that there was a previous retrospective Planning Application (M/2007/0732 Erection of a static caravan and shed for storage use (retrospective) on the land adjoining the application site. An objection raised against Planning Application P/2016/0937 in the letter dated 10/10/2016 provides anecdotal evidence that the site was known locally as a 'car workshop and scrap yard'. The CLO further indicates that a visit undertaken in February 2017 confirmed the site has been used for storage and activities other than agriculture.

4.3 Summary History

Historically the site has been in agricultural use, as a paddock and an area in the southwest that was part of a silage pit. This area in the southwest appears to have been excavated at some point (a wedge cut out of the shale rock slope to form flat area). More recently the southwest corner and north west to some extent (aerial photos) have received parked cars and storage of building supplies and scrap materials. The site walkover noted storage of building materials such as tiles, insulation panels, corrugated steel, tyres and scrapped engine-driven hand operated tool such as rotovators, lawn mowers etc.

The storage of materials and parking of vehicles does not appear to have encroached onto the north-eastern part of the site.

5 Regulatory Background

Part IIA of the 1990 Environmental Protection makes provisions for a risk-based framework for the identification, assessment and management of contaminated land within Wales.

This statutory contaminated land regime was introduced specifically to address the historical legacy of land contamination and provides a definition for contaminated land which applies where an 'unacceptable risk' (Significant Possibility of Significant Harm) to specific receptors is demonstrated based on current use.

Guidance on the Part IIA regime was issued by the Welsh Government – "Contaminated Land Statutory Guidance 2012". This Guidance introduced a new four-category system for classifying land under Part 2A for cases of a Significant Possibility of Significant Harm to human health, where Category 1 includes land where the level of risk is clearly unacceptable and

Category 4 includes land where the level of risk posed is acceptably low. In relation to the 4-category system, land is determined as 'contaminated land' under Part 2A if it falls within Categories 1 or 2, such that the Category 2/3 border defines the point at which land is determined under the legislation.

Statutory control for development on land affected by contamination is applied by the planning system under guidance in Planning Policy Wales (PPW) (current issue edition 9 November 2016). Generally, once development is complete, the land should not be capable of being determined as contaminated land under Part IIA:

'13.6.1 Local planning authorities should take into account the nature, scale and extent of contamination which may pose risks to health. Land contamination must be considered in the preparation of development plans to ensure that:

• new development is not undertaken without an understanding of the risks, including those associated with the previous land use, mine and landfill gas emissions, and rising groundwater from abandoned mines;

• development does not take place without appropriate remediation;

• consideration is given to the potential impacts which remediation of land contamination might have upon the natural and historic environments.

....

13.7.4 A development proposal may introduce changes to a site which may result in land being designated as contaminated under Part IIA, where such land would not be considered contaminated in its existing state under the provision of the regime. The onus will remain with the developer to ensure that the development of the site will not result in designation as contaminated land under Part IIA. The local planning authority will need to ensure that the land is suitable for its proposed use.

Guidance considers both the proposed development and the land, on the principle of 'suitable for use'. In this context, the sensitivity of the proposed end use is implicitly considered within the risk assessment process. The process of risk assessment is an evaluation of the probability of harm, and comprises the identification of sources of contamination (hazards), receptors that may be affected by the contamination and pathways by which the receptors may be harmed. Risk is defined as: 'a combination of probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence'.

Current best practice involves the development of a conceptual site model, identifying potential sources of contamination, receptors, contaminant migration or exposure pathways and whether potential 'pollutant linkages' exist, and thus the potential for 'significant risk'. This requires the identification of hazards associated with contamination and an assessment of the risk associated with these hazards in view of the end usage of the site.

6 Conceptual Site Model

6.1 Sources

Previous uses of the site may potentially have led to a low risk of metals, oils, fuels and other car engine fluids being present near surface due to the storage/dismantling of vehicles. It is noted that cars have been observed in the southwest corner of the site and also towards the centre of the site from past aerial photographs. Although there was no evidence of its presence on site, given the extent of storage of recovered building materials there is also a possibility that asbestos-containing materials may have inadvertently been brought on to site (or the adjoining part just beyond the south- western boundary) in the past. Potentially there may be acidic conditions from silage leachate from part of the site's former use as a silage pit (again in the southwest corner). Some bonfires were noted to have taken place at the site, potentially leading to elevated concentrations of metals or polyaromatic hydrocarbons. However, none of the sources are considered likely to have resulted in widespread contamination across the whole of the development site, and the potential for significant contamination is considered low.

Radon gas from the underlying geology is noted as a potential risk as the HPA define the property as being in an area where between than 10 and 30% of properties are above the action level.

6.2 Pathways

Potential pathways are the means by which an identified hazard can migrate or encounter any receptors. Typically, such migration pathways to humans (e.g. development workers or residents of the future property) can include inhalation of indoor vapours, inhalation of outdoor vapours, inhalation/ingestion of dust, dermal contact, ingestion of contaminants through fruit and vegetable consumption grown in contaminated soil, migration of ground gasses via fissures in underlying geology.

Should contaminated soils be present, development workers would be more likely to encounter these via inhalation/ingestion of dust, and dermal contact.

There is limited soil overlying the bedrock, and the underlying Gyfenni Shales are considered to have a very low leaching potential, being negligibly permeable. Movement of contamination via leaching of contaminants and transport in underlying groundwater is not considered a feasible pathway.

6.3 Receptors

Residential use is one of the most sensitive end-uses for a site, and the future site residents would be regarded as sensitive receptors. Construction workers can also be considered as a potential receptor, especially as they are most likely to be digging in the ground on site.

Nearby residents could potentially be impacted by dust movements migrating off site during redevelopment if not appropriately managed.

Building materials can potentially be affected by contaminants. The identified potential contamination includes hydrocarbons and organics which can impact on plastic water pipes and concrete materials.

There are no controlled water receptors considered as feasible targets from the potential contamination on site.

There are no ecological designations likely to be affected by the potential contamination.

6.4 Tabular Preliminary Conceptual Site Model and Risk Estimation

6.4.1 Feasible Pollutant Linkages and Risk Estimation

A two-stage assessment has been carried out based on the identified contaminants, pathways and receptors. As no site investigation data is available at this preliminary stage, this is based on professional judgement, with an estimate of the potential for a substance to be present on site, and in what potential concentration/quantity; at this stage the estimates are conservative. Initially, the column designated as 'Potential Consequence of Hazard' gives an indication of the sensitivity of a given receptor to a particular source/contaminant of concern (CoC) being considered. It is a worst-case classification and is based on full exposure via the particular linkage being examined. The derivation of the classes used to rank this particular aspect is as follows:

Table 2: Classification Definition

Classification	Human Health	Controlled Water	Ecological	Built Environment
Severe	Permanent damage to human health	Extensive pollution of sensitive water resources	Extensive change to the number of one or more species or ecosystems	Permanent damage to buildings, structures or the environment
Moderate	Non-permanent health effects to humans	Pollution of non-sensitive water resources or minor / localised pollution of sensitive water resources	Change to population densities of non-sensitive species	Damage to sensitive buildings, structures or the environment
Mild	Minor short-term health effects to humans	Minor / localised impact to non-sensitive water resources	Some change to population densities but with no negative effects on the function of the ecosystem	Easily repairable effects of damage to buildings or structures
Negligible	No measurable effects on humans	Insubstantial impact to non-sensitive water resources	No significant changes to population densities in the environment or in any ecosystem	Very slight non-structural damage or cosmetic harm to buildings or structures

Subsequently, in the column entitled 'Likelihood', an assessment is made of the probability of the selected source and receptor being linked by the identified pathway. This assessment is ranked based on site specific conditions as follows:

Very unlikely 0 to 5%;
Unlikely 5 to 45%;
Possible 45 to 55%;
Likely 55 to 95%;
Almost Certain 95 to 100% (i.e. impact noted during the investigation).

The 'Risk Estimation' column is an overall assessment of the actual risk, which considers the likely consequence of a given risk being realised and the likelihood of that risk being realised. The risk classifications are assigned using the following consequence/likelihood matrix:

Table 3: Consequence –Likelihood Matrix

		Risk				
Consequence	Severe	Low	Low to moderate	Moderate to high	Very High	Very High
	Moderate	Negligible to low	Low	Moderate	Moderate to high	High
	Mild	Negligible	Low	Low	Low to moderate	Moderate
	Negligible	Negligible	Negligible	Negligible to low	Low	Low
	Likelihood:	Very Unlikely	Unlikely	Possible	Likely	Almost Certain

Table 4 below details risk estimation classification scenarios.

Table 4: Risk Estimation Classification

Potential Significance – Risk Estimation Classification	Definition
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild or localised. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Negligible	The presence of an identified source does not give rise to the potential for significant harm.

6.4.2 Assessment

The highest identified risks (of low to moderate) relate to the potential source pathway receptor linkage between elevated metals, PAHs/Oils/Fuels concentrations in near surface soils on site and future site users. A similar risk was identified for construction workers and the PAHs/Oils/Fuels. A low risk was identified for future site users, construction workers and

nearby off-site residents from potential asbestos-containing soil during earthworks. A low risk was identified in respect of the potential for contaminants to impair building fabric and underground services. See Table 5 below.

An intrusive site investigation comprising trial pits and sampling was proposed to gather more information on the potential sources and to allow a revision of the preliminary risk assessment once empirical data was available. The background to this is that the client's own family will be living in the proposed development and he wishes to be confident that the site is suitable. The investigation is detailed in Section 7.

Table 5: Summary of Potential Feasible Pollutant Linkages and Preliminary Risk Estimation

Contaminant (Source)	Pathway(s)	Receptor	Potential Consequence of Hazard	Likelihood of Source-Pathway-Receptor Linkage&	Risk Estimation	Comments
Near-surface soils on site containing potentially elevated concentrations of metals	inhalation/ingestion of dust, dermal contact, ingestion of contaminants through fruit and vegetable consumption grown in contaminated soil	Humans (Future site users)	Severe	Unlikely	Low to Moderate	
Near-surface soils on site containing potentially elevated concentrations of metals	inhalation/ingestion of dust, dermal contact	Humans (Construction Workers)	Severe	Very Unlikely	Low	
Near-surface soils on site containing potentially elevated concentrations of metals, PAHs/Oils/Fuels	inhalation/ingestion of dust	Off-site residents	Severe	Very Unlikely	Low	
Soils on site containing potentially elevated concentrations of PAHs/Oils/Fuels	inhalation/ingestion of dust, inhalation of indoor vapours, inhalation of outdoor vapours, dermal contact, ingestion of contaminants through fruit and vegetable consumption grown in contaminated soil	Humans (Future site users)	Severe	Unlikely	Low to Moderate	

Contaminant (Source)	Pathway(s)	Receptor	Potential Consequence of Hazard	Likelihood of Source-Pathway-Receptor Linkage&	Risk Estimation	Comments
Soils on site containing potentially elevated concentrations of PAHs/Oils/Fuels	inhalation/ingestion of dust, inhalation of indoor vapours, inhalation of outdoor vapours, dermal contact	Humans (Construction Workers)	Moderate-Severe	Unlikely	Low to Moderate	
Soils on site containing potentially elevated concentrations of PAHs/Oils/Fuels	Direct Contact	Building Materials Plastic Pipes	Mild	Unlikely	Low	
Soils on site potentially containing asbestos	Inhalation of fibres	Humans (Future Residents, Construction Workers, Off-site residents)	Severe	Very Unlikely	Low	
Naturally occurring Radon gas	Migration through ground and build up of gas in enclosed spaces	Humans (Future Residents)	Severe	Unlikely	Low to Moderate	Risk can be managed through installation of appropriate radon gas protection measures during build

7 Site Investigation

7.1 Trial Holes

Intrusive site work was undertaken by Mica Environmental on the 23rd April 2018.

Nine trial holes were excavated using a mini mechanical excavator to a maximum depth of 0.75m bgl. Samples were collected directly from the trial pits using a stainless-steel trowel which was washed down with clean water between locations.

The trial hole locations are as indicated on Figure 4. These were selected to provide an overall coverage across the site, but with a greater coverage towards the south of the site near the identified area of silage storage and storage of vehicles and tyres.

Trial hole logs are presented in Appendix C.

7.2 Observations

No Made Ground was identified on site, and all the ground was logged as natural. The ground was found to comprise topsoil of a thickness of between 0.25m and 0.35m overlying weathered mudstone, although topsoil was absent in TP4 and TP6.

No visual or olfactory evidence of oil contamination was encountered.

No perched water or groundwater was encountered at any of the locations.

7.3 Sampling

One soil sample was collected from near surface at each of the trial holes.

The samples were all analysed for a toxic metals suite and pH. In addition, four samples were analysed for speciated polyaromatic hydrocarbons, three for asbestos screen, two for Total Petroleum Hydrocarbons and two for a semi-volatile organic suite. One sample was also analysed for soil organic matter.

Samples were dispatched the same day by courier for delivery to the UKAS and MCERTS accredited laboratory, ALS in Hawarden, Flintshire, along with a chain of custody form detailing the analysis required.

8 Generic Assessment Criteria and Analytical Results

8.1 General

Table 7 below summarises the main results. The full ALS laboratory certificates and analytical data set is presented in Appendix D.

8.2 Generic Assessment Criteria (GAC)

8.2.1 Human Health

An initial assessment of the data has been made against appropriate screening criteria representing concentrations of a substance where the level of risk posed to human health is acceptably low. The criteria used are shown below in Table 7.

There are different criteria according to land-use (residential, allotments, commercial) because people use land differently and this affects who and how people may be exposed to soil contamination. The criteria selected have been based on the assumption that the site is to be redeveloped for residential use, with the possibility of consumption of home-grown produce.

These assessment criteria do not assess other types of risk to human health such as fire, suffocation, explosion, or short-term and acute exposures. They also cannot be used to assess risks to controlled waters, property, pets and livestock, or ecological receptors. Professional judgement has been used to consider these other risks and identify feasible ones.

8.3 Statistical Tests

If soils were uniformly contaminated at concentration x, acceptance (or otherwise) with respect to a Screening Criterion (SC) would simply depend on whether x was less than or greater than SC. In reality, contaminant concentrations vary across a site, and the measured mean concentration, derived from a limited number of samples, may not equal the "true" mean. In any event it will have uncertainty associated with it. Because of this, simple comparisons of the measured mean value with the SC could be misleading. The approach here is to identify the 95% confidence limits of the measured mean and to compare the upper 95th percentile (US_{95} value) with the SC using the mean value test as described in CLR7 (DEFRA and the EA, 2002).

The data for the main contaminants are summarised in the table together with the minimum value, maximum value, arithmetic mean value, standard deviation and US_{95} value.

It has been assumed that the data sets have a normal distribution, although this has not been tested statistically, due to project constraints.

Table 6: Chemical Data Summary

Test	Units	No of samples analysed	Min Value	Max Value	Mean	Standard Deviation	Upper Confidence 95th percentile	No. of exceedences of Assessment criterion	Assessment Criterion
pH	pH units	9	5.34	7.33	n.c	n.c	n.c	n.c.	-
Arsenic	mg/kg	9	6.45	10.6	9.05	1.33	9.88	0	37 [1,2]
Cadmium	mg/kg	9	0.392	0.502	0.459	0.036	0.481	0	22 [1]
Chromium (total)	mg/kg	9	18.6	23.2	21.1	1.43	22.0	0	910 [2 **]
Copper	mg/kg	9	21	47.5	26.5	8.28	31.7	0	2400 [2]
Lead	mg/kg	9	16.2	56.5	37.3	12.3	44.9	0	200 [1]
Mercury	mg/kg	9	<0.14	<0.14	n.c.	n.c.	n.c.	0	40 [2]
Nickel	mg/kg	9	27.2	45.3	33.1	5.36	36.4	0	130 [3]
Selenium	mg/kg	9	<1	<1	n.c.	n.c.	n.c.	0	250 [2]
Zinc	mg/kg	9	94.5	126	114	12.0	121	0	3700 [2]
Acenaphthene	ug/kg	6	<8	<100	n.c.	n.c.	n.c.	0	510000 [2]
Acenaphthylene	ug/kg	6	<12	<100	n.c.	n.c.	n.c.	0	420000 [2]
Anthracene	ug/kg	6	<16	<100	n.c.	n.c.	n.c.	0	5400000 [2]
Benz(a)anthracene	ug/kg	6	20.1	722	194	261	409	0	11000 [2]
Benzo(a)pyrene	ug/kg	6	21.9	1730	390	934	662	0	5000 [1]/2700[2]
Benzo(b)fluoranthene	ug/kg	6	37.7	2480	556	954	1341	0	2600 [2]
Benzo(g,h,i)perylene	ug/kg	6	<24	1700	386	650	921	0	340000 [2]
Benzo(k)fluoranthene	ug/kg	6	<14	<14	216	319	478	0	93000 [2]
Chrysene	ug/kg	6	21.2	763	203	277	431	0	22000 [2]
Dibenzo(a,h)anthracene	ug/kg	6	<23	**330**	105	116	200	1	280 [2]
Fluoranthene	ug/kg	6	35.5	982	258	359	553	0	560000 [2]
Fluorene	ug/kg	6	<10	<100	n.c.	n.c.	n.c.	0	400000 [2]
Indeno(1,2,3-cd)pyrene	ug/kg	6	<18	1370	315	521	744	0	36000 [2]
Naphthalene	ug/kg	6	<9	<100	n.c.	n.c.	n.c.	0	5600 [2]
Phenanthrene	ug/kg	6	<15	109	66.1	42.0	101	0	220000 [2]
Pyrene	ug/kg	6	28.5	1050	272	386	590	0	1200000 [2]

1: C4SL value – SP1010 Development of Final Category 4 Screening Levels for Land Affected by Contamination Policy Companion Document (DEFRA, 2014)

3: LQM/CIEH S4UL revised Aug 2105 ^ 2.5% soil organic matter (4.17% measured) n.c.=not calculated

Where results <limit of detection (LOD), statistics have been calculated using the LOD Residential with home-grown produce scenario criteria used

Table 7: Petroleum Hydrocarbon (TPH CWG) Results

Test	Units	No of samples analysed	TP4 0.05-0.15m	TP5 0.05-0.15m	Mean	No. of exceedances of Assessment criterion	Assessment Criterion
Aliphatics >C5-C6	ug/kg	2	<10	<10	n.c.	0	78000 [1]
Aliphatics >C6-C8	ug/kg	2	<10	<10	n.c.	0	230000 [1]
Aliphatics >C8-C10	ug/kg	2	<10	<10	n.c.	0	65000 [1]
Aliphatics >C10-C12	ug/kg	2	<10	<10	n.c.	0	330000 [1]
Aliphatics >C12-C16	ug/kg	2	<100	<100	n.c.	0	2400000 [1]
Aliphatics >C16-C35	ug/kg	2	12460	5210	8835	0	92000000 [1]
Aliphatics >C35-C44	ug/kg	2	<100	<100	n.c.	0	92000000 [1]
Aromatics >EC5-EC7	ug/kg	2	<10	<10	n.c.	0	140000 [1]
Aromatics >EC7-EC8	ug/kg	2	<10	<10	n.c.	0	290000 [1]
Aromatics >EC8-EC10	ug/kg	2	<10	<10	n.c.	0	83000 [1]
Aromatics >EC10-EC12	ug/kg	2	<10	<10	n.c.	0	180000 [1]
Aromatics >EC12-EC16	ug/kg	2	<100	1940	1020	0	330000 [1]
Aromatics >EC16-EC21	ug/kg	2	<100	6170	3135	0	540000 [1]
Aromatics >EC21-EC35	ug/kg	2	3200	33400	18300	0	1500000 [1]
Aromatics >EC35-EC44	ug/kg	2	2790	13330	n.c.	0	1500000 [1]
Methyl Tertiary Butyl Ether	ug/kg	2	<10	<10	n.c.	0	n.c
Benzene	ug/kg	2	<9	<9	n.c.	0	170[1]
Toluene	ug/kg	2	<7	<7	n.c.	0	290000[1]
Ethyl Benzene	ug/kg	2	<4	<4	n.c.	0	110000[1]
Xylenes	ug/kg	2	<20	<20	n.c.	0	130000[1]

Where results <limit of detection (LOD), statistics have been calculated using the LOD Residential with home-grown produce scenario criteria used
2.5% soil organic matter used
n.c. : not calculated

8.4 Results – Inorganics

8.4.1 Metals

A suite of toxic metals comprising arsenic, cadmium, total chromium, copper, lead, mercury, nickel, selenium and zinc was tested in all nine samples. All recorded metal concentrations were below their respective criteria.

8.4.2 pH

All samples were analysed for pH. Results ranged from a slightly acidic pH of 5.34 in the organic rich topsoil of TP2, to a neutral pH of 7.33 in the sample collected from TP6 where topsoil was absent.

8.4.3 Asbestos Screen

The samples from TP4, TP5 and TP7 were screened for fibres and asbestos identification. No fibres were detected.

8.5 Results- Organics

8.5.1 Polyaromatic Hydrocarbons (PAHs)

Four samples were analysed for speciated 16 PAHs, and in addition a general SVOC suite (which includes PAHs) was analysed on an additional two samples. All samples reported all of the individual PAHs well below their screening criterion, with the exception of the sample collected from TP3 which showed a single result for dibenzo(ah) anthracene of 330ug/kg compared with the screening criterion of 280ug/kg. The mean and US_{95} concentrations for the dibenzo(ah)anthracene data set are 105ug/kg and 200ug/kg respectively; well below the assessment criterion. A maximum value test undertaken at the 10% (conservative) level indicated the 330ug/kg result was not an outlier. The result is therefore not considered to indicate any particular issue at the site.

8.5.2 Semi-volatile organic compounds

Two samples (TP6 and TP9) were analysed for the general suite of semi-volatile organic compounds. The results for the standard suite library substances were all reported below the limit of detection of 100ug/kg.

8.5.3 Petroleum Hydrocarbons

Two samples (TP4 and TP5), from the area near the car storage, were analysed for a suite of banded petroleum hydrocarbons and BTEX (benzene, toluene, ethylbenzene and xylenes). There were no exceedences of the screening criteria and all values were low.

9 Revised Conceptual Site Model and Risk Assessment

The preliminary conceptual model and risk assessment has been revised to take into account the information obtained from the site investigation and is presented below. No significant contamination was identified at the site, and so the likelihood of source-pathway-receptor linkages from contaminants in the soil has been able to be reduced to very unlikely (0-5%).

The highest identified risk is the risk from naturally occurring radon gas which was assessed as low to moderate as a consequence of the HPA classification of the site within a radon affected area.

Table 8: Summary of Potential Feasible Pollutant Linkages and Risk Estimation following Site Investigation

Contaminant (Source)	Pathway(s)	Receptor	Potential Consequence of Hazard	Likelihood of Source-Pathway-Receptor Linkage&	Risk Estimation	Comments
Near-surface soils on site containing potentially elevated concentrations of metals	inhalation/ingestion of dust, dermal contact, ingestion of contaminants through fruit and vegetable consumption grown in contaminated soil	Humans (Future site users)	Moderate	Very Unlikely	Negligible to Low	No elevated metal concentrations found on site during investigation
Near-surface soils on site containing potentially elevated concentrations of metals	inhalation/ingestion of dust, dermal contact	Humans (Construction Workers)	Moderate	Very Unlikely	Negligible to Low	No elevated metal concentrations found on site during investigation
Near-surface soils on site containing potentially elevated concentrations of metals, PAHs/Oils/Fuels	inhalation/ingestion of dust	Off-site residents	Mild	Very Unlikely	Negligible	No indication of PAH or Oil or Fuel contamination found on site during investigation
Soils on site containing potentially elevated concentrations of PAHs/Oils/Fuels	inhalation/ingestion of dust, inhalation of indoor vapours, inhalation of outdoor vapours, dermal contact, ingestion of contaminants through fruit and	Humans (Future site users)	Severe	Very Unlikely	Low	No indication of PAH or Oil or Fuel contamination found on site during investigation

Contaminant (Source)	Pathway(s)	Receptor	Potential Consequence of Hazard	Likelihood of Source-Pathway-Receptor Linkage&	Risk Estimation	Comments
	vegetable consumption grown in contaminated soil					
Soils on site containing potentially elevated concentrations of PAHs/Oils/Fuels	inhalation/ingestion of dust, inhalation of indoor vapours, inhalation of outdoor vapours, dermal contact	Humans (Construction Workers)	Moderate	Very Unlikely	Negligible to Low	No indication of PAH or Oil or Fuel contamination found on site during investigation
Soils on site containing potentially elevated concentrations of PAHs/Oils/Fuels	Direct Contact	Building Materials Plastic Pipes	Mild	Very Unlikely	Negligible	No indication of PAH or Oil or Fuel contamination found on site during investigation
Soils on site potentially containing asbestos	Inhalation of fibres	Humans (Future Residents, Construction Workers, Off-site residents)	Severe	Very Unlikely	Low	No indication of asbestos contamination found on site during investigation, no fibres found in screened soil samples
Naturally occurring Radon gas	Migration through ground and build up of gas in enclosed spaces	Humans (Future Residents)	Severe	Unlikely	Low to Moderate	Risk can be managed through installation of appropriate radon gas protection measures during build

10 Summary

Nine trial holes were dug at the site to a maximum depth of 0.75m bgl using a mechanical excavator

No Made Ground was encountered on site – the soils were logged as topsoil or weathered bedrock (Shale).

Nine soil samples were collected and variously analysed for contaminants including metals, pH, PAHs, TPH, SVOCs. The results compared to DEFRA C4SL values and CIEH/LQM suitable for use screening criteria. There was a single exceedance of a residential with home-grown produce criteria. The sample collected from TP3 in the north of the site recorded a dibenzo(ah)anthracene concentration of 330ug/kg compared to the screening criterion of 280ug/kg. The result was not considered an outlier per the maximum value test, and the US_{95} value for the dibenzo(ah)anthracene data set as a whole was only 200ug/kg.

Statistical analysis of the data indicates that the true mean concentrations of potential contaminants are less than the screening criteria used, suggesting the level of risk posed to human health under the proposed residential scenario is acceptably low.

A revised risk assessment was produced incorporating the additional information gathered. The risks have been revised downwards, based on the lack of significant concentrations of potential contaminants recorded.

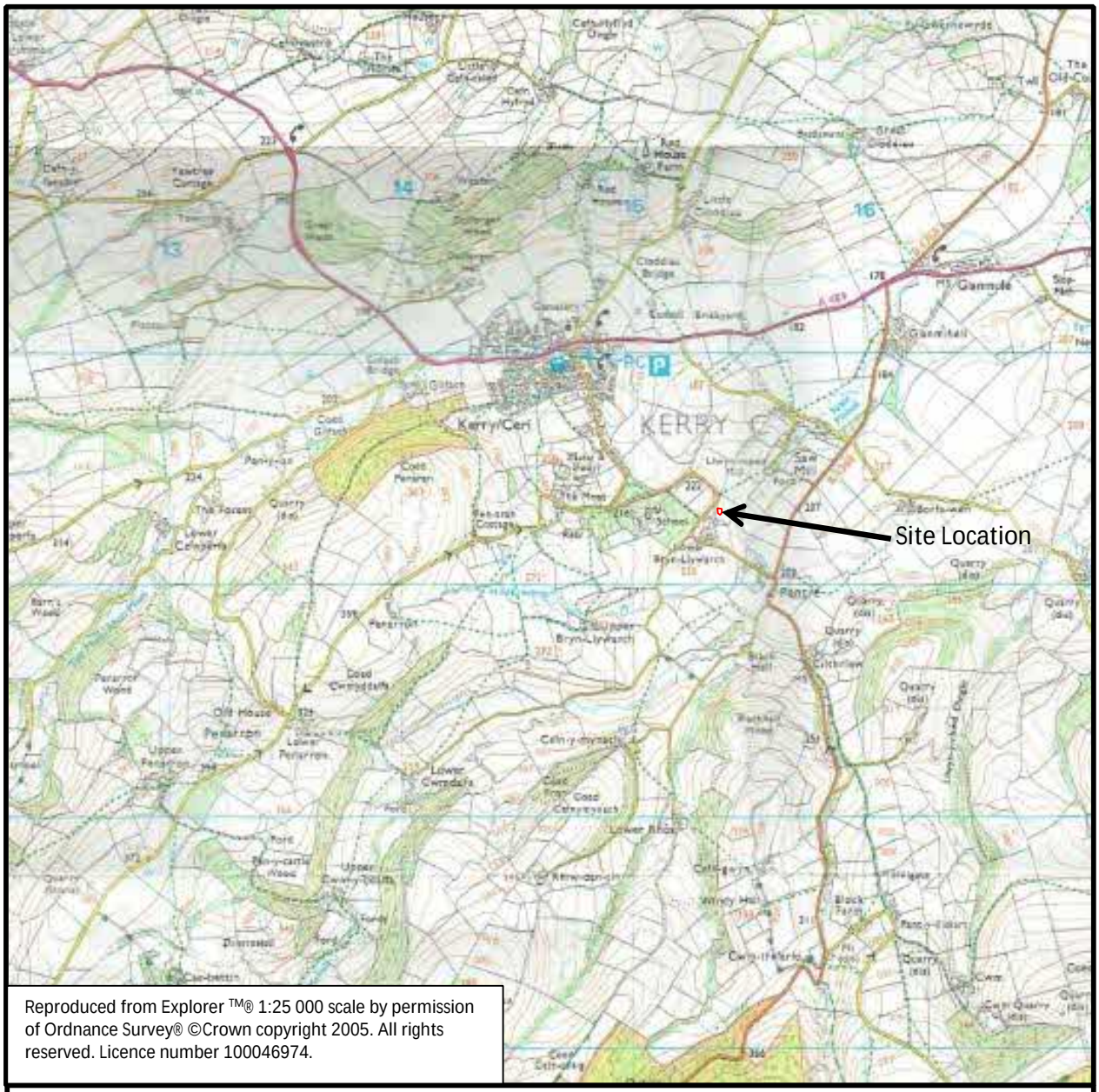
The site falls within an area where full radon protection measures are required in new build dwellings under Building Regulations as between 10 and 30% of properties exceed the Health Protection Agency action level.

11 Conclusions & Recommendations

It is the conclusion of this report that provided appropriate radon protection measures are installed in the new dwellings to the satisfaction of the Building Inspector, then no specific remedial actions are required in respect of developing the site for residential use.

In the event that any suspect material or contamination is found at any time when carrying out the approved development that was not previously identified, it should be reported in writing immediately to the Local Planning Authority, and an appropriate re-assessment undertaken.

Figures

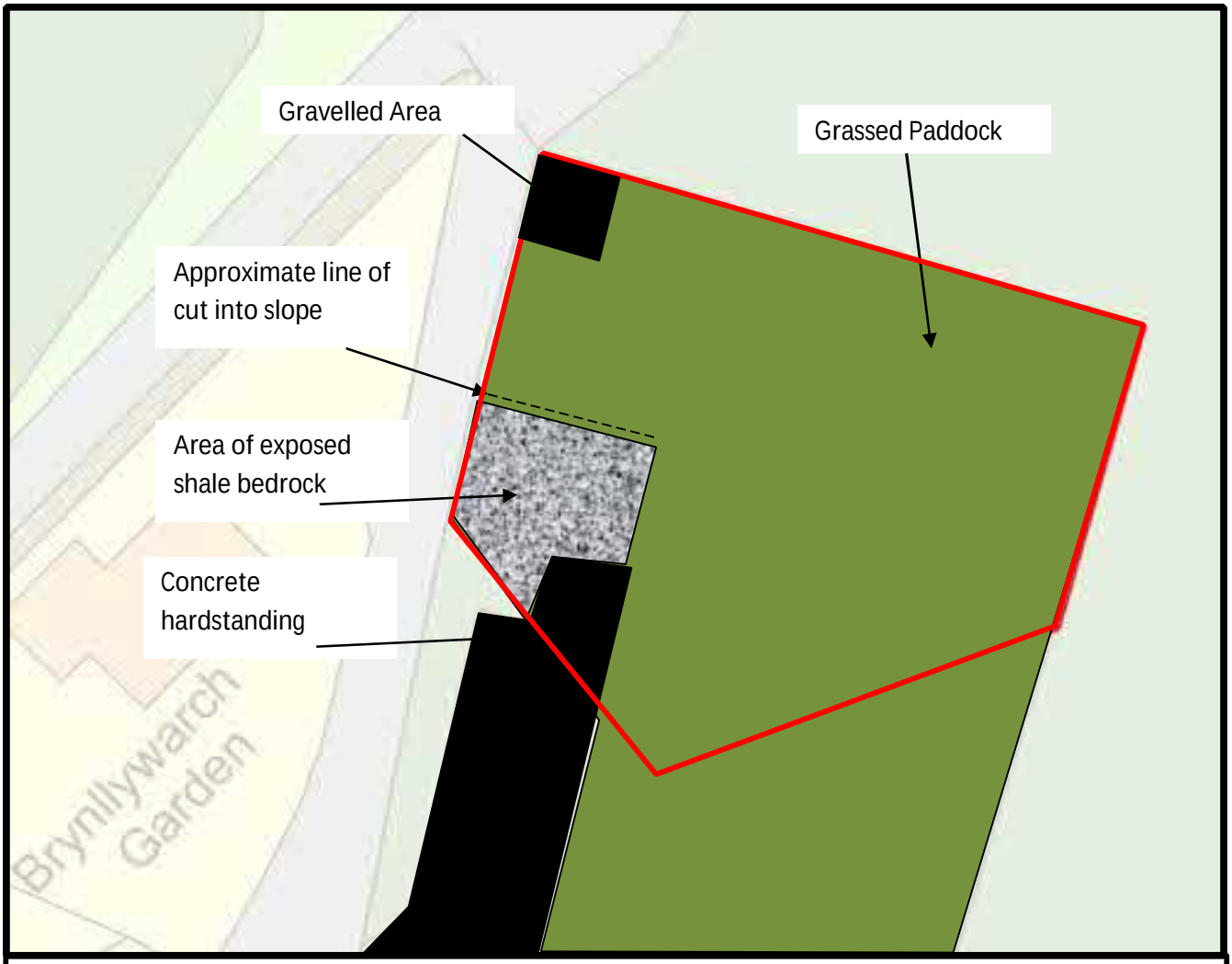


MENV07112 – Land at Brynllywarch Garden, Kerry, Powys

Figure 1: Site Location Map

Scale (Approx) : 0 1km

N



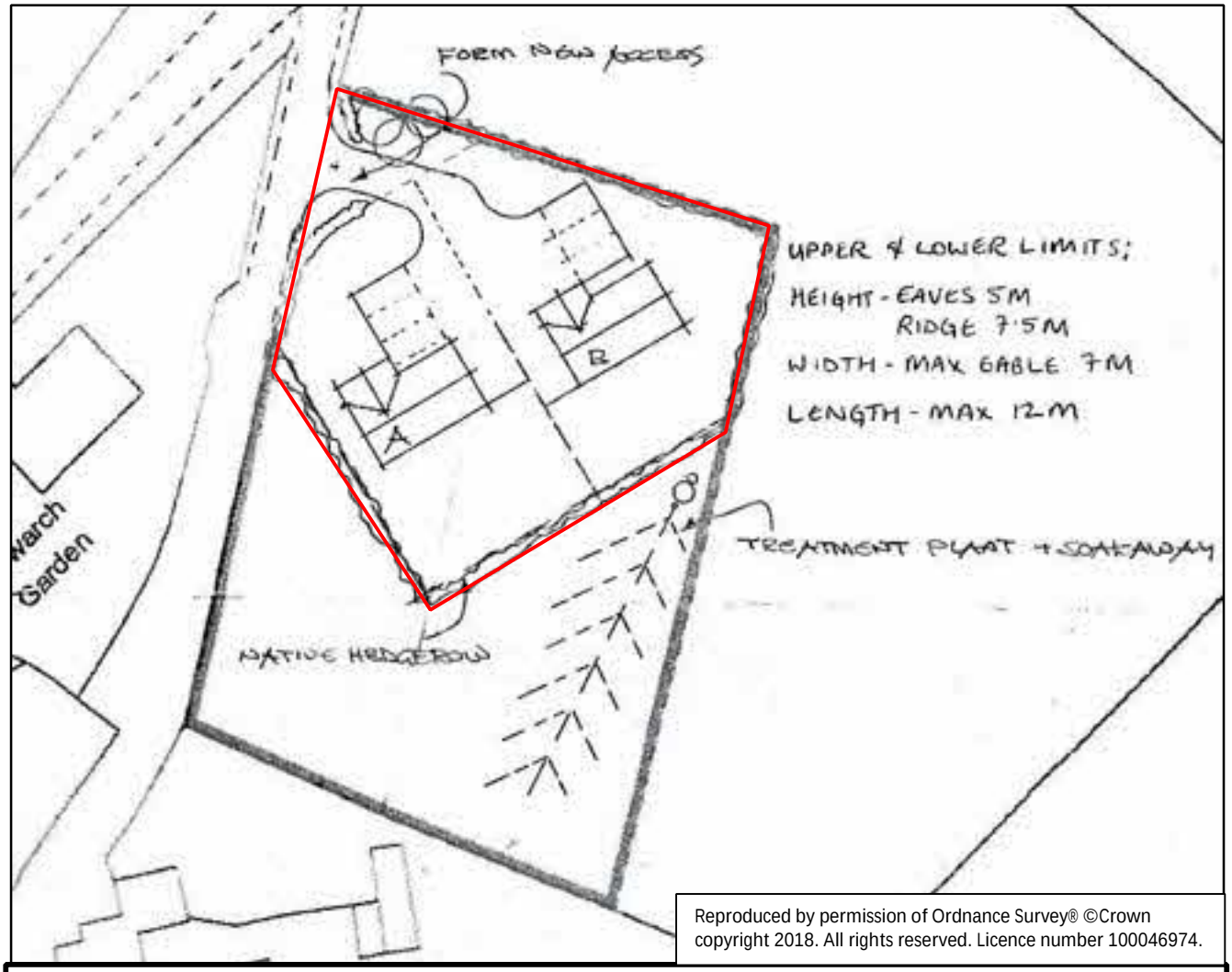
MENV07114 Land at Brynllwarch Garden, Kerry, Powys

Figure 2: Current Site Layout

Scale (approx): 0 25m

N

Approx Site Boundary:

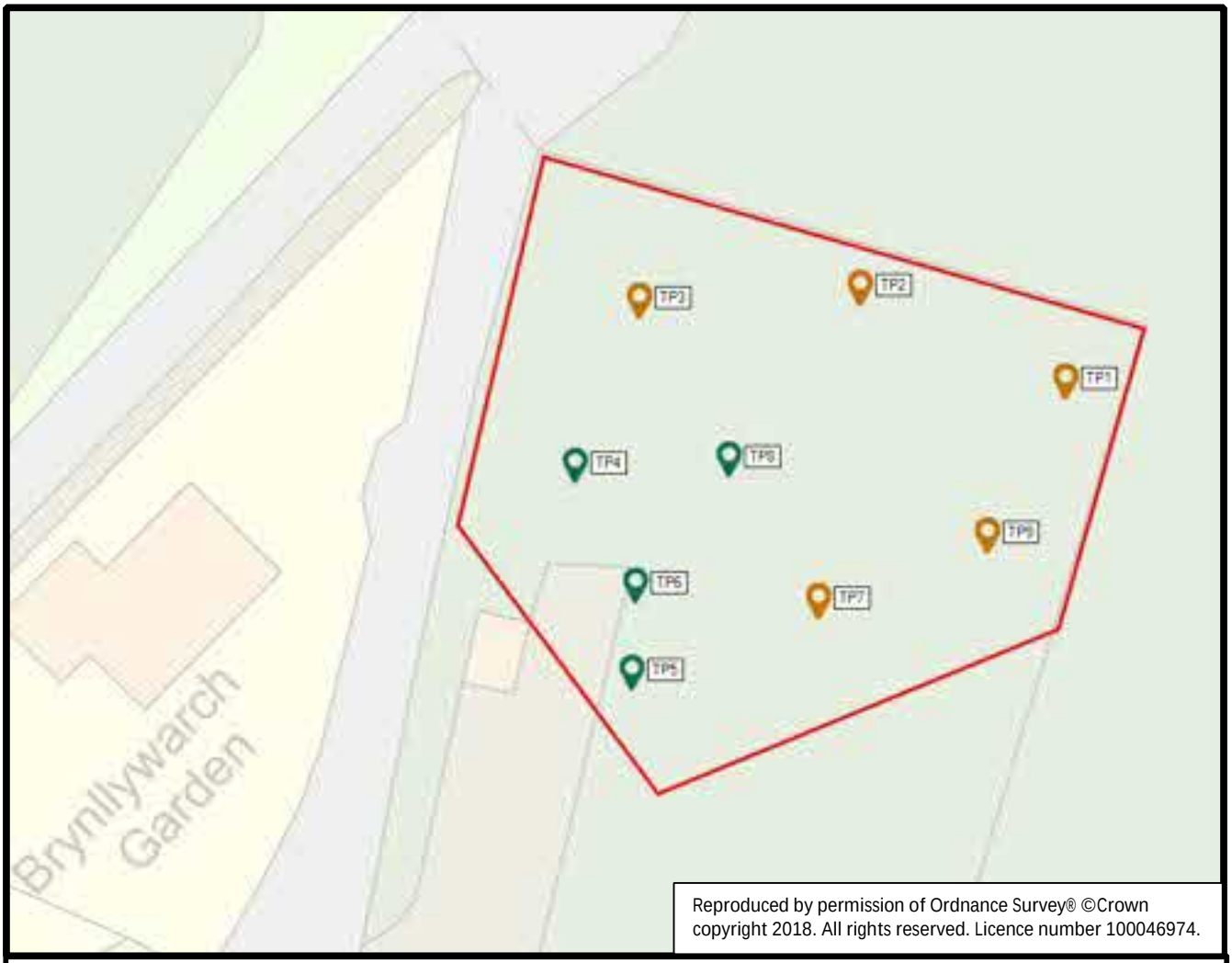


MENV07114 Land at Brynllywarch Garden, Kerry, Powys

Figure 3: Proposed Site Layout

Scale (approx): 0 25m

N



MENV07114 Land at Brynllwarch Garden, Kerry, Powys

Figure 4: Trial Hole Locations

Scale (approx): 0 25m

N

Appendix A

Photographs

Photo 1: NW Corner of site

Photo 2: At S of site, looking offsite towards wider plot area and access.

Photo 3: Area of cutting into shale

Photo 4: area adjacent cutting

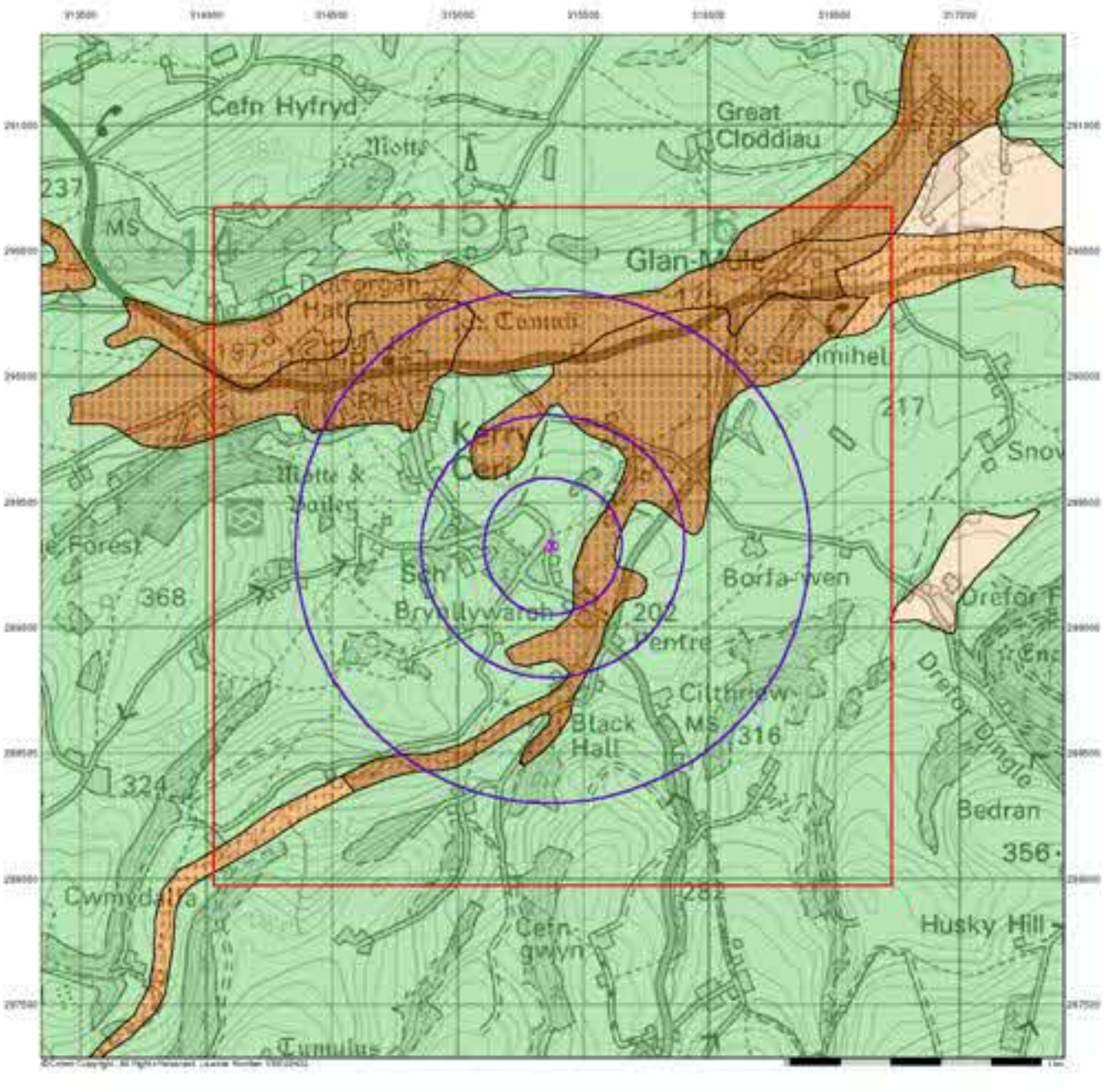
Photo 5: temporary roofed area in front of cutting

Photo 6: Grassed pastureland/paddock

Photo 7: Site looking SW towards Brynllywarch Gardens

Appendix B

Landmark Envirocheck Data



Envirocheck

LANDMARK INFORMATION GROUP

Groundwater Vulnerability

General

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

Agency and Hydrological

Geological Classes | **Soil Classes**

- Major Aquifer (Highly Permeable) — High (H) 1, 2, 3, U; Intermediate (I) 1, 2; Low
- Minor Aquifer (Variably Permeable) — High (H) 1, 2, 3, U; Intermediate (I) 1, 2; Low
- Non Aquifer (Negligibly Permeable)
- Water or Sea
- Drift Deposit

Site Sensitivity Context Map - Slice A

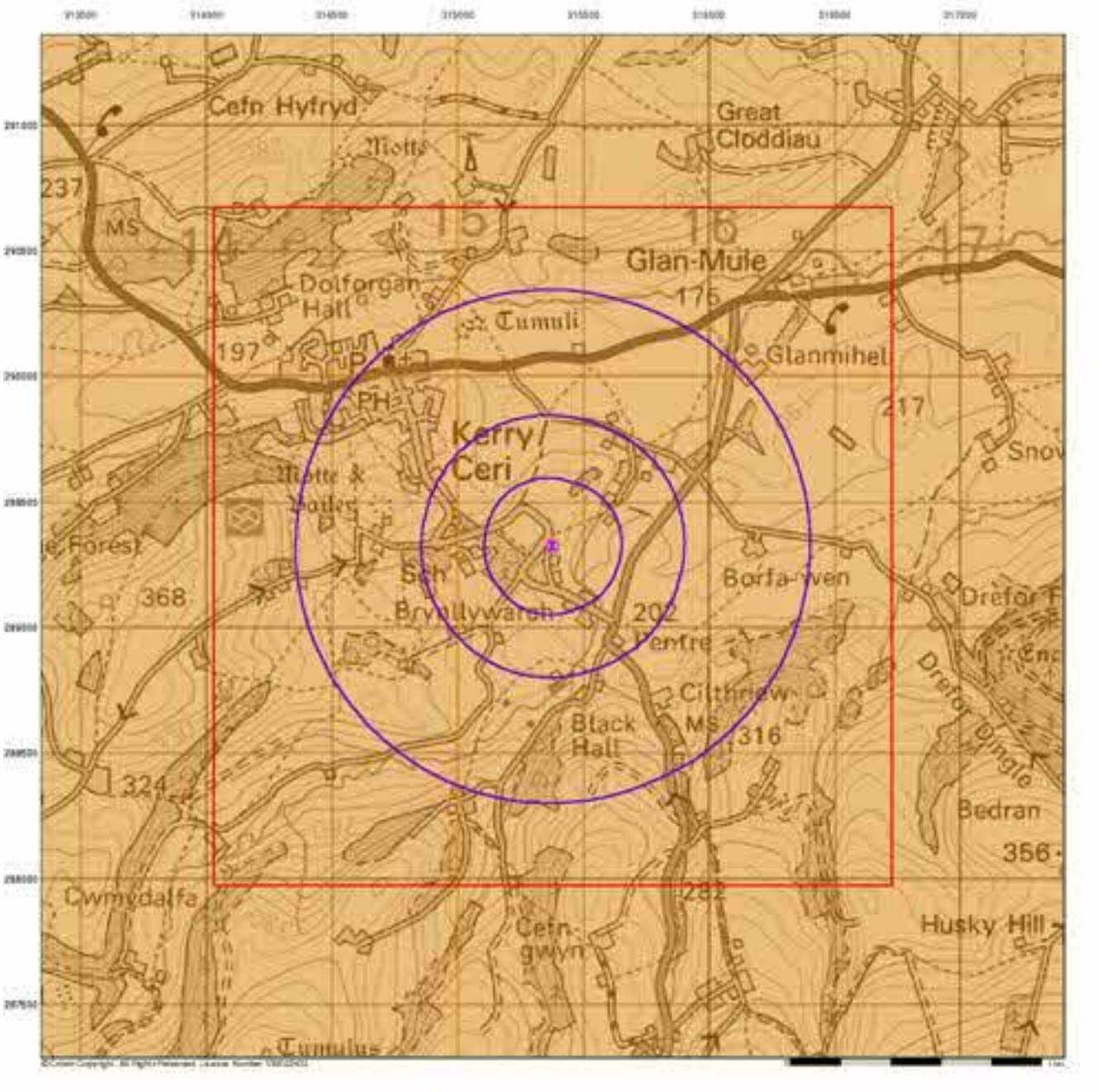
Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

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



Envirocheck

LANDMARK INFORMATION GROUP

Bedrock Aquifer Designation

General

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

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A

Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
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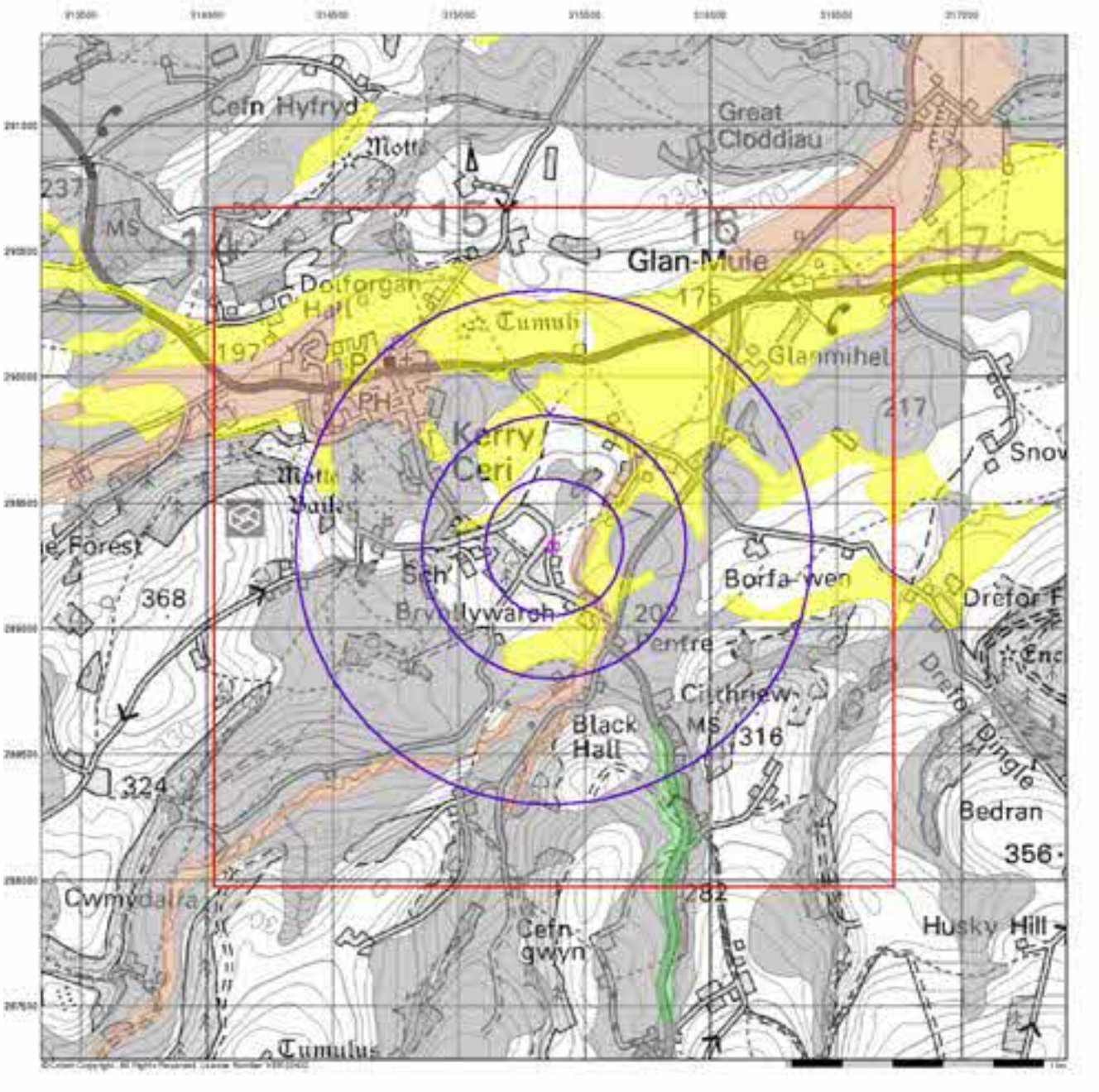

Envirocheck

LANDMARK INFORMATION GROUP

Superficial Aquifer Designation

General

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

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A

Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

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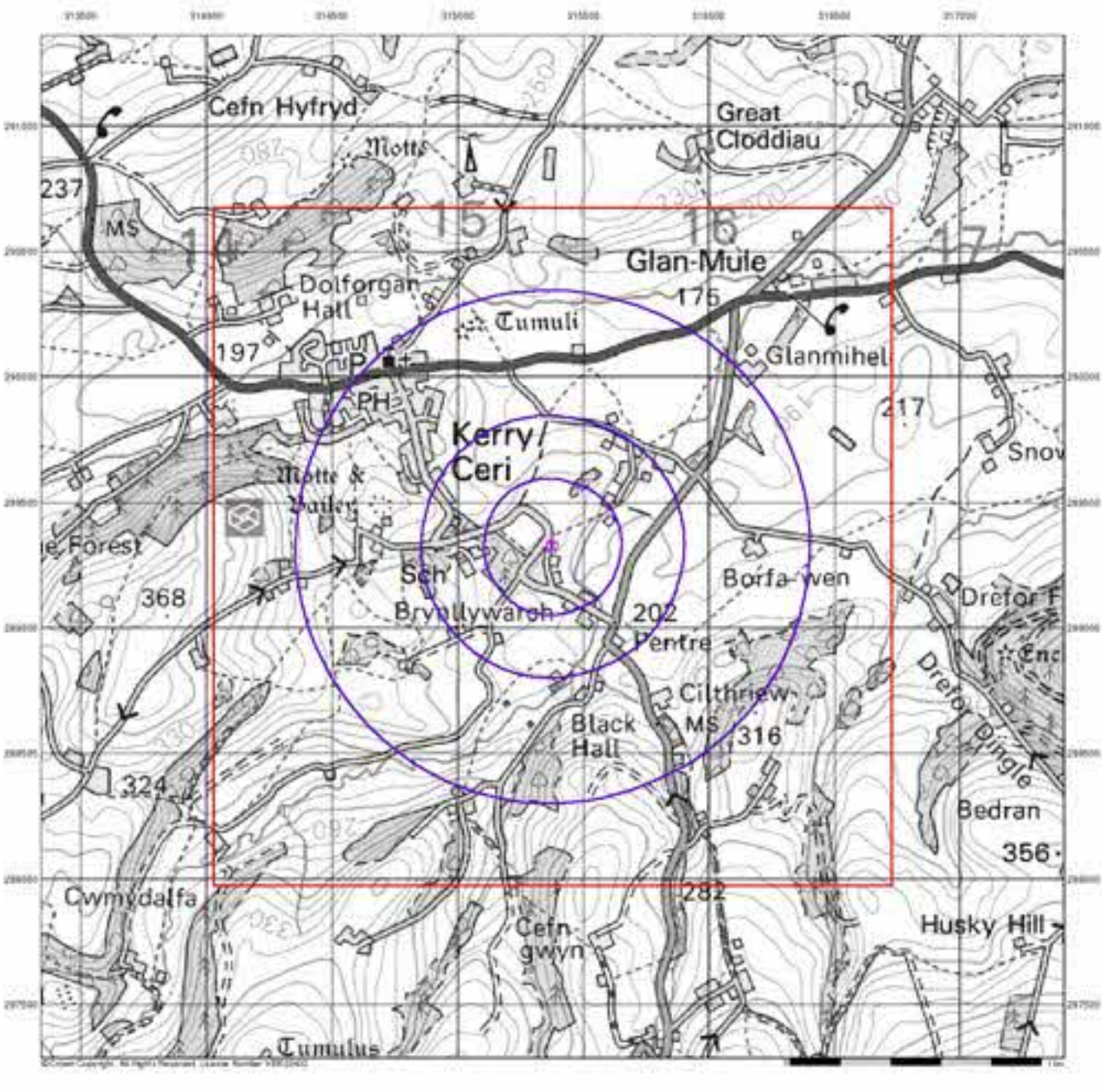

Envirocheck

LANDMARK INFORMATION GROUP

Source Protection Zones

General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A

Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

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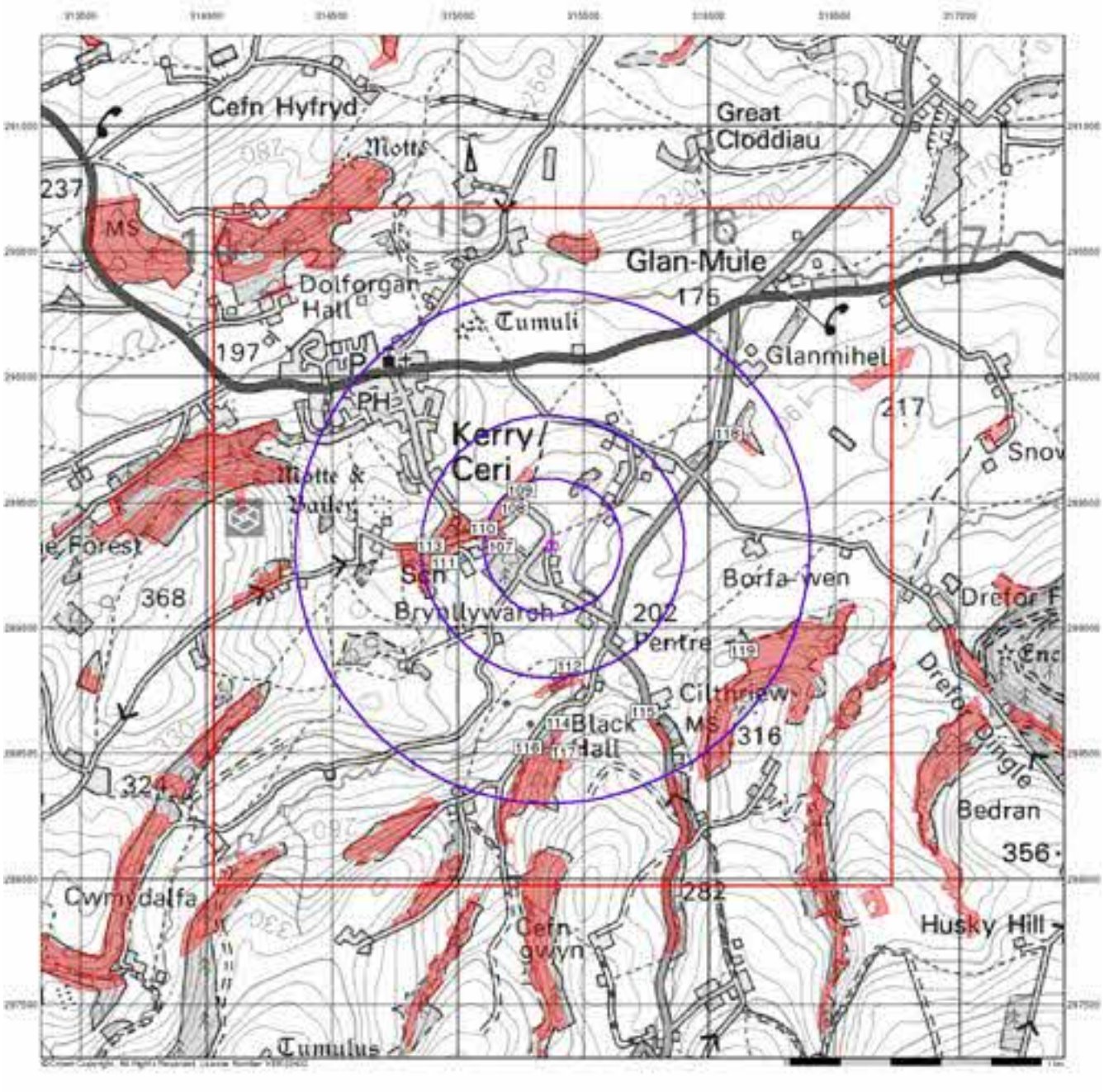

Envirocheck

LANDMARK INFORMATION GROUP

Sensitive Land Uses

General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A

Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

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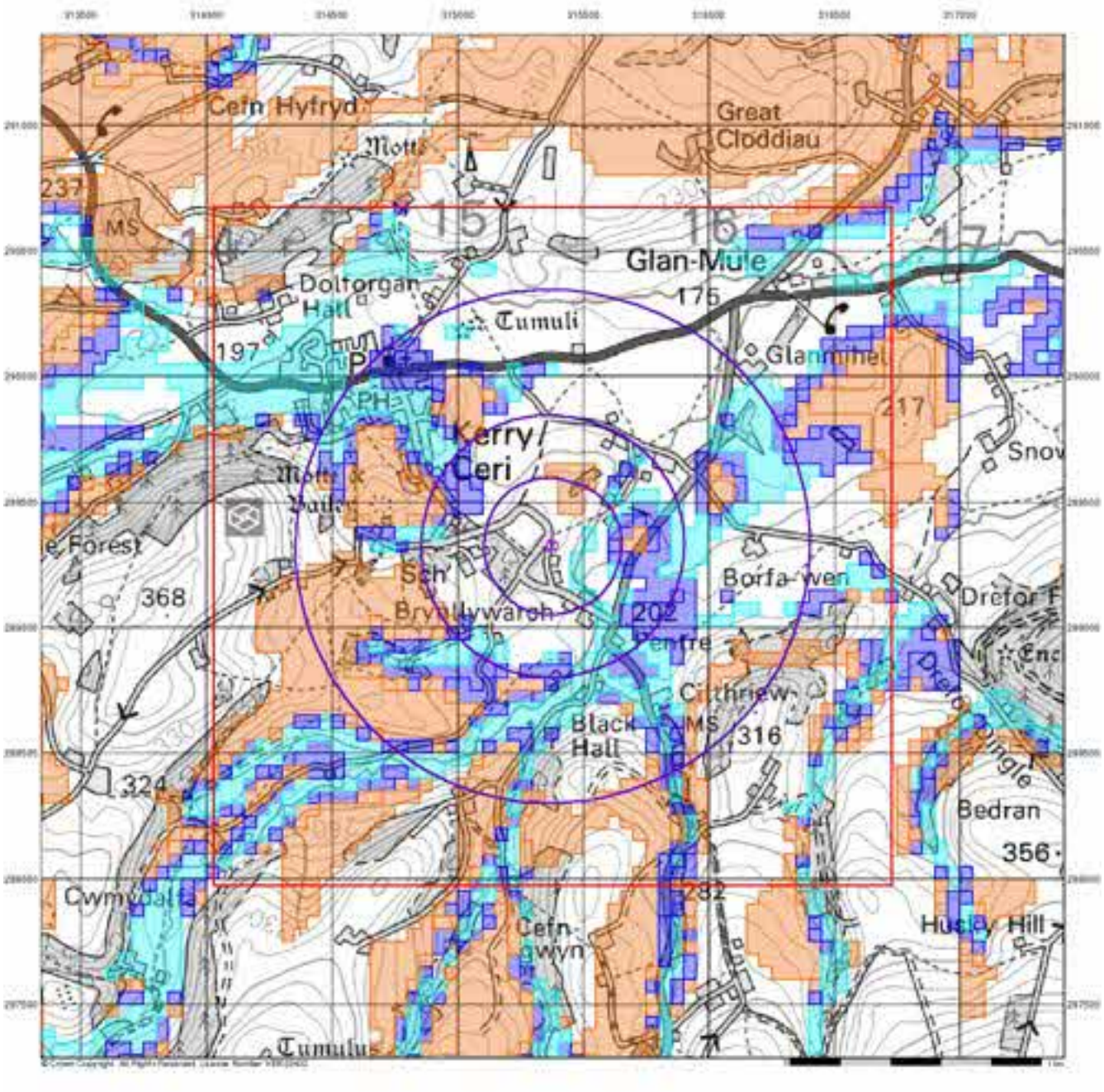

Envirocheck

LANDMARK INFORMATION GROUP

BGS Flood GFS Data

General

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

Agency and Hydrological (Flood)

Limited Potential for Groundwater Flooding to Occur

Potential for Groundwater Flooding of Property Situated Below Ground Level

Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A

Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

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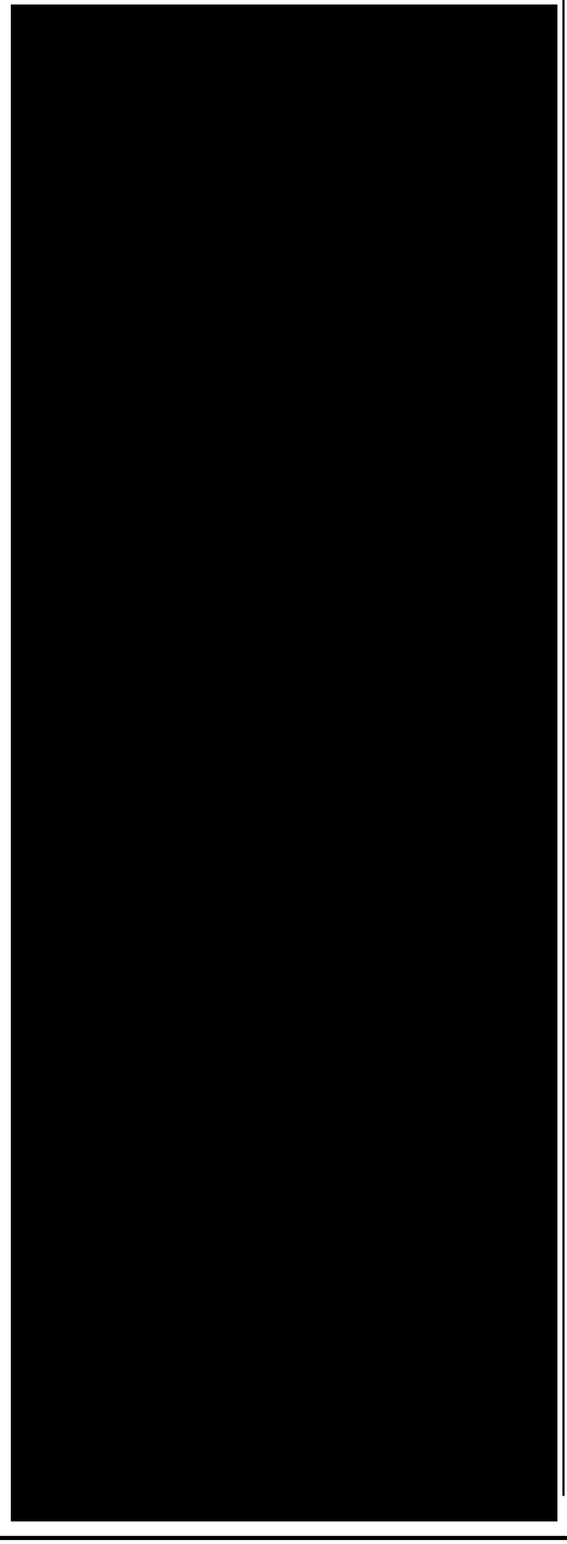
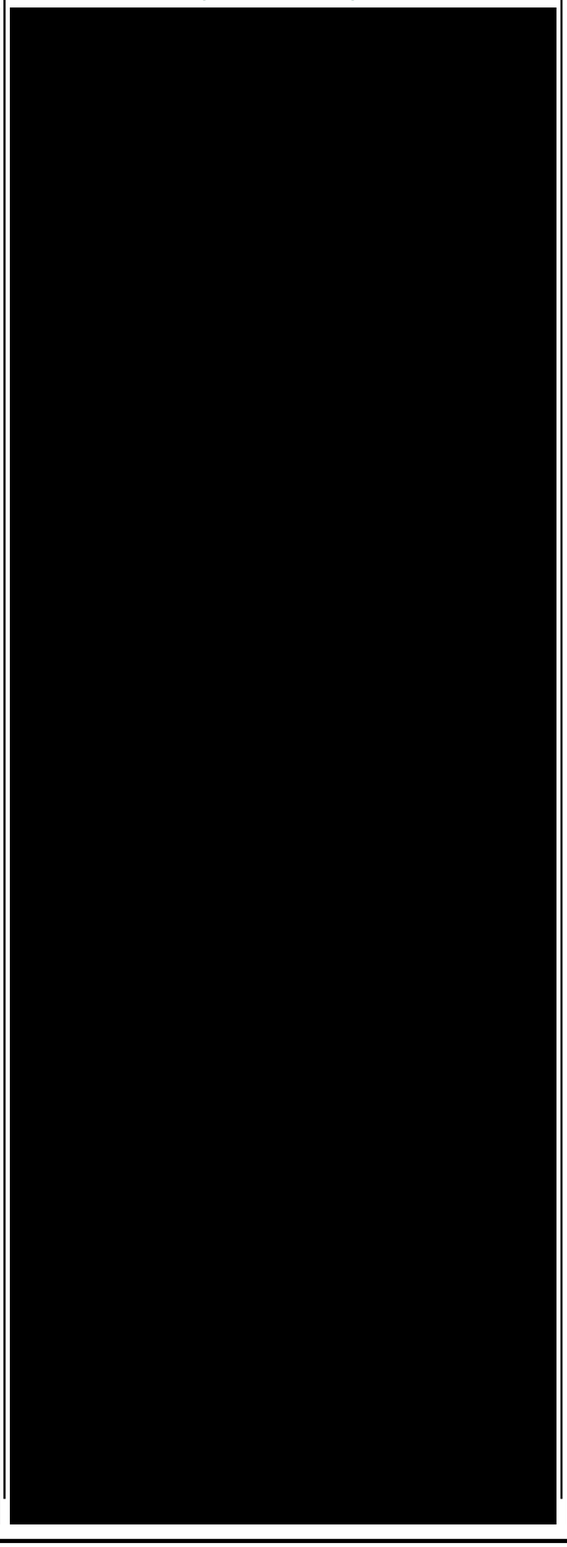
Historical Mapping Legends

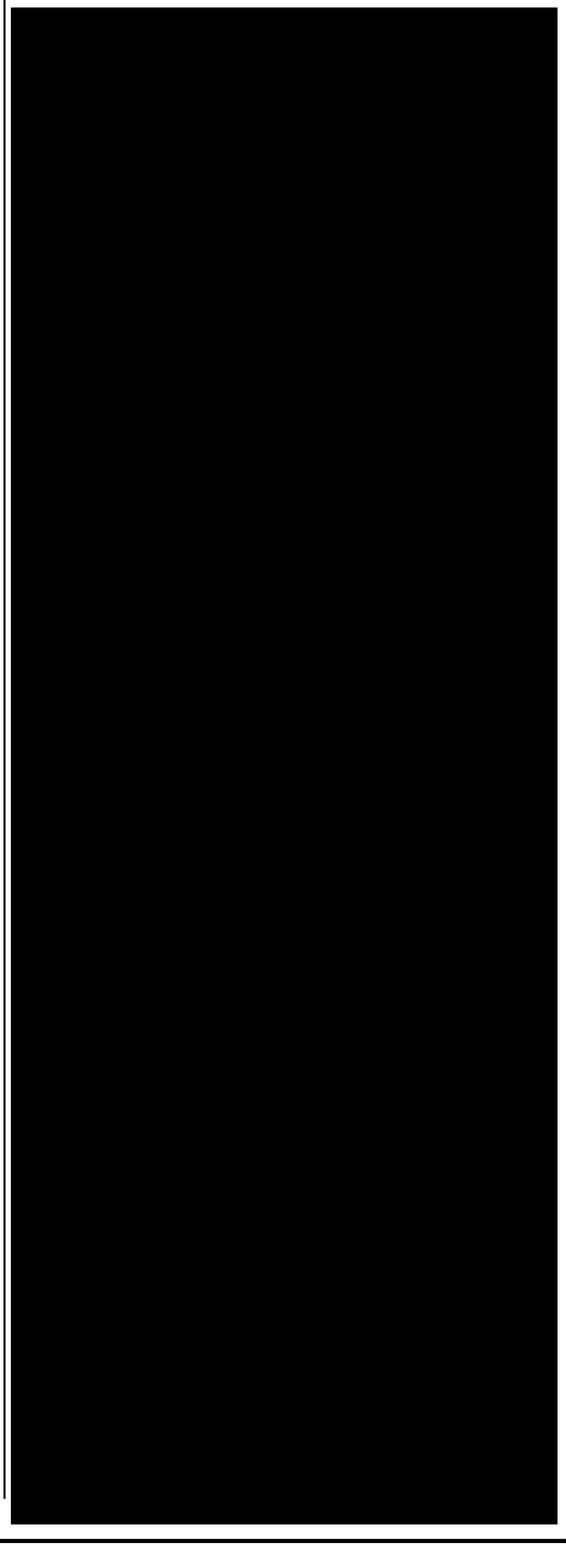
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



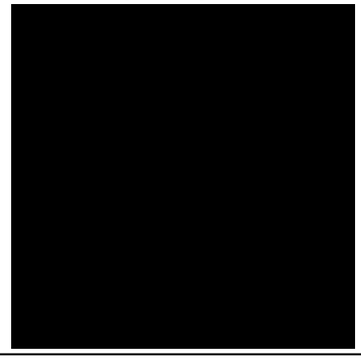
Large-Scale National Grid Data 1:2,500 and 1:1,250



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Montogomeryshire	1:2,500	1886	2
Montogomeryshire	1:2,500	1903	3
Ordnance Survey Plan	1:2,500	1983	4
Large-Scale National Grid Data	1:2,500	1994	5
Historical Aerial Photography	1:2,500	2000	6

Historical Map - Segment A13



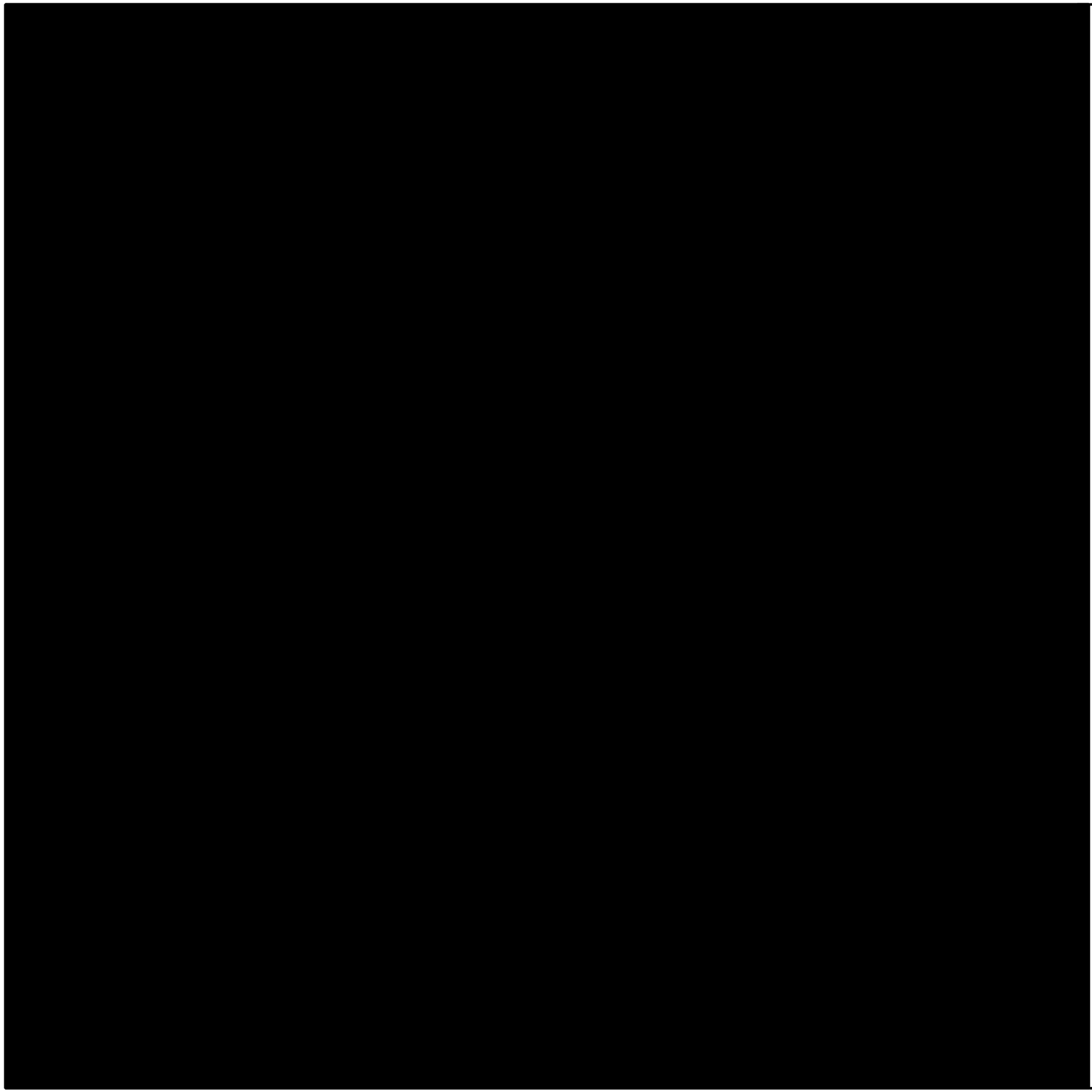
Order Details

Order Number: 162311708_1_1
Customer Ref: MENV07115
National Grid Reference: 315380, 289330
Slice: A
Site Area (Ha): 0.14
Search Buffer (m): 100

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

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



Montogomeryshire

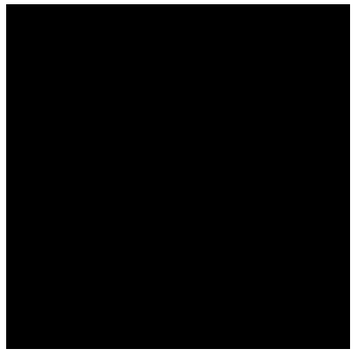
Published 1886

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	100

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

[redacted]

Montogomeryshire

Published 1903

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)

[redacted]

Historical Map - Segment A13

[redacted]

Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	100

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

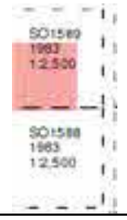
Ordnance Survey Plan

Published 1983

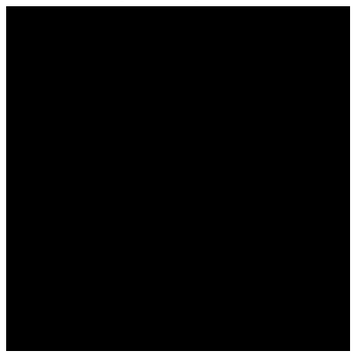
Source map scale - 1:2,500

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	100

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

[redacted]

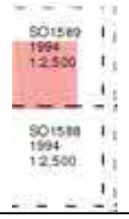
Large-Scale National Grid Data

Published 1994

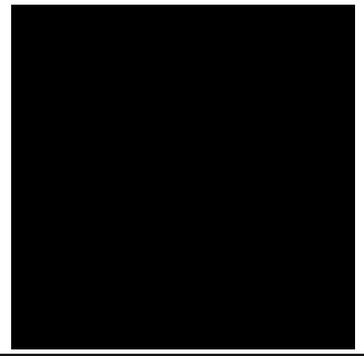
Source map scale - 1:2,500

'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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	100

Site Details

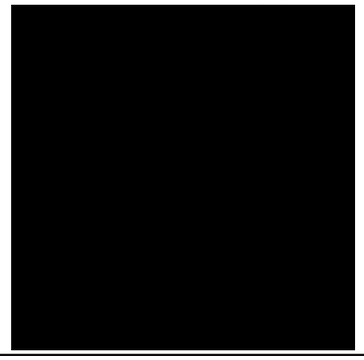
Land at Brynllywarch Garden, Kerry/Ceri, Powys

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	100

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
162311708_1_1

Customer Reference:
MENV07115

National Grid Reference:
315380, 289330

Slice:
A

Site Area (Ha):
0.14

Search Buffer (m):
1000

Site Details:

Land at Brynllywarch Garden
Kerry/Ceri
Powys

Client Details:

Mrs C Williams
Mica Environmental Ltd
2 Lawn Cottage
Wattlesborough
Shrewsbury
Shropshire
SY5 9DY

Prepared For:

Mr K Harris

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LANDMARK INFORMATION GROUP

Contents

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

Envirocheck
LANDMARK INFORMATION GROUP

Report Version v53.0

Contents

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1		Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 3		2	2	1
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 4		Yes		
Pollution Incidents to Controlled Waters	pg 4			1	1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 5				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 5			1	1
Water Abstractions	pg 5		1		(*1)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 5	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 6	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 6		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 6		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 6		11	15	41

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 14				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 14				1
Local Authority Landfill Coverage	pg 14	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 14				1
Potentially Infilled Land (Non-Water)	pg 14				1
Potentially Infilled Land (Water)	pg 14		2	1	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					

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 15	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 15	Yes			
BGS Recorded Mineral Sites	pg 15				2
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 15	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 15	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 15		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 16		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas	pg 16	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures	pg 16	Yes	n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 17		1	1	6
Fuel Station Entries					
Points of Interest - Commercial Services	pg 17				7
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 18			1	2
Points of Interest - Public Infrastructure	pg 18		1	4	
Points of Interest - Recreational and Environmental					
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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 19		3	4	6
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (E)	56	1	315450 289300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (E)	98	1	315500 289326
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	111	1	315400 289450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	194	1	315500 289150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	198	1	315600 289326
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	199	1	315600 289350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	201	1	315600 289300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (E)	209	1	315600 289400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (E)	214	1	315600 289250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	248	1	315650 289326
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	249	1	315650 289350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	251	1	315650 289300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	257	1	315650 289400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	259	1	315600 289500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	262	1	315650 289250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	264	1	315550 289100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	274	1	315650 289450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	280	1	315100 289450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	293	1	315600 289550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	302	1	315100 289500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	303	1	315650 289150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	306	1	315700 289400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	331	1	315100 289550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	332	1	315650 289100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	341	1	315700 289500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	348	1	315750 289326
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	364	1	315650 289600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	372	1	315700 289100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	375	1	315000 289450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (SW)	390	1	315200 288950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	401	1	315050 289600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (S)	402	1	315377 288900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	404	1	315400 288900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12NE (W)	406	1	314950 289350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	406	1	315050 289050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14SW (E)	407	1	315800 289250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	412	1	314950 289400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (NW)	414	1	315000 289550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	423	1	314950 289450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	435	1	315700 289650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	438	1	314950 289500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	439	1	315050 289000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (SW)	446	1	315000 289050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	452	1	315377 288850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (NW)	458	1	314950 289550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	458	1	315150 288900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	461	1	314900 289400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	461	1	315600 288900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (SW)	461	1	314950 289100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12NE (NW)	471	1	315000 289650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (NW)	471	1	315050 289700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	476	1	315000 289000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (NW)	481	1	315100 289750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	483	1	315200 288850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	483	1	315850 289150
1	**Discharge Consents** Operator: Mr Dennis And Mrs Emma Catton Property Type: Domestic Property (Single) Location: Barn G, Lower Brynllywarch, Kerry, Newtown, Wales, Sy16 4pd Authority: Natural Resources Wales Catchment Area: Severn Upper Reference: Npswqd003621 Permit Version: 1 Effective Date: 7th August 2008 Issued Date: 7th August 2008 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Stream To River Meheli **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A13SE (S)	132	2	315396 289173
1	**Discharge Consents** Operator: Mr Dennis And Mrs Emma Catton Property Type: Domestic Property (Single) Location: Barn G Lower Brynllywarch, Kerry, Newtown, Wales, Sy16 4pd Authority: Environment Agency, Midlands Region Catchment Area: Upper Severn Catchment (Above Montford) Reference: Npswqd003621 Permit Version: 1 Effective Date: 7th August 2008 Issued Date: 7th August 2008 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Stream To River Meheli **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A13SE (S)	132	3	315396 289173

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	**Discharge Consents** Operator: Powys County Council Property Type: Education Location: Stp At Brynllywarch Hall School, Kerry, Newtown, Powys, Sy16 4pb Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Eprtb3935al Permit Version: 1 Effective Date: 22nd May 2013 Issued Date: 22nd May 2013 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Into Land Receiving Water: Groundwater **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NW (W)	255	2	315101 289347
2	**Discharge Consents** Operator: Powys County Council Property Type: Recreational & Cultural Location: Stp At Brynllywarch Hall School, Kerry, Newtown, Powys, Sy16 4pb Authority: Natural Resources Wales Catchment Area: THE MULE - SOURCE TO CONF R SEVERN Reference: Tb3935al Permit Version: 1 Effective Date: 22nd May 2013 Issued Date: 22nd May 2013 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Into Land Receiving Water: Groundwater **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A13NW (W)	255	2	315101 289347
3	**Discharge Consents** Operator: John Joseph Pelly Property Type: Not Given Location: The Pound, Cym-Erl Farm, Sarn, NEWTON, Powys Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: WQ/72/544 /1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 11th June 1976 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge Environment: Groundwater Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	656	3	315401 290001
	Nearest Surface Water Feature	A13SE (SE)	76	-	315458 289270
4	**Pollution Incidents to Controlled Waters** Property Type: Domestic/Residential Location: KERRY Authority: Environment Agency, Midlands Region Pollutant: Organic Wastes: Other Note: Water Abstraction Affected; Grass Cuttings In Brook Incident Date: 6th July 1998 Incident Reference: 2503801 Catchment Area: Severn Catchment : Upper Severn (Above Montford) Receiving Water: Watercourse Cause of Incident: Poor Operational Practice Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	400	3	315800 289300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Pollution Incidents to Controlled Waters** Property Type: Dairy Cattle Location: Location Description Not Available Authority: Environment Agency, Midlands Region Pollutant: Organic Wastes: Cattle slurry Note: Fish Killed Incident Date: 17th August 1995 Incident Reference: 1500253 Catchment Area: Severn Catchment : Upper Severn (Above Montford) Receiving Water: Watercourse Cause of Incident: Poor Operational Practice Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	541	3	315800 289700
	River Quality Name: Mule R GQA Grade: River Quality A Reach: A489 Gilfach Br Kerry To R.Severn Estimated Distance (km): 11 Flow Rate: Flow less than 1.25 cumecs Flow Type: River Year: 2000	A18NE (N)	927	3	315493 290263
6	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 9th August 2005 Incident Reference: 336632 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Agricultural Materials And Wastes: Slurry And Dilute Slurry	A13NE (NE)	251	2	315601 289487
7	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 24th November 2015 Incident Reference: 1389988 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Other Pollutant: Noise	A19SW (NE)	551	2	315830 289681
8	**Water Abstractions** Operator: M H & C A Evans Licence Number: 18/54/01/0130 Permit Version: 100 Location: Lower Brynllywarch Farm-Miheli Brook Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Lower Brynllywarch Farm, Kerry Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 12th June 1986 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SE (E)	104	3	315500 289300
	Water Abstractions Operator: Mr D R Warren Licence Number: 18/54/01/0400 Permit Version: 100 Location: Lower Rhos Farm - Spring Fed Catchpit Authority: Environment Agency, Midlands Region Abstraction: Private Water Undertaking: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Lower Rhos Farm - Spring Fed Catchpit Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 19th December 1980 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NW (S)	1313	3	315200 288000
	Groundwater Vulnerability Soil Classification: Not classified Map Sheet: Sheet 21 West Shropshire Scale: 1:100,000	A13NW (SW)	0	3	315377 289326

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13NW (SW)	0	1	315377 289326
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	62	2	315440 289270
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	62	2	315440 289270
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	62	2	315440 289270
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
9	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 188.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A13SE (SE)	77	4	315458 289269
10	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 250.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13SE (S)	79	4	315405 289231
11	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 158.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A13SE (SE)	91	4	315457 289247
12	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NE (NE)	165	4	315553 289400
13	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 119.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NE (NE)	165	4	315553 289400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13SW (SW)	199	4	315216 289175
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13SW (SW)	199	4	315217 289174
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 237.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13SW (SW)	200	4	315215 289174
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 55.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13SE (SE)	220	4	315520 289132
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 320.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A13SE (SE)	220	4	315520 289132
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 830.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13SE (SE)	238	4	315482 289092
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A13NE (NE)	271	4	315620 289495
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A13NE (NE)	272	4	315621 289496
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 189.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NW (NW)	274	4	315160 289534

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NE (NE)	335	4	315648 289561
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 713.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 2	A13NE (NE)	335	4	315648 289561
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 127.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A13NE (NE)	336	4	315651 289559
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A18SW (NW)	402	4	315163 289696
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 145.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A18SW (NW)	404	4	315164 289699
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NW (NE)	442	4	315768 289580
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 107.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A8NE (S)	444	4	315512 288883
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1126.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A8NE (S)	444	4	315512 288883
31	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 90.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NW (NE)	446	4	315773 289580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 184.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NW (E)	479	4	315850 289501
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NW (NE)	498	4	315854 289541
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A18SW (N)	500	4	315231 289829
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12NE (W)	502	4	314853 289339
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 258.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A18SW (N)	503	4	315234 289833
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 391.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A14NW (E)	508	4	315871 289528
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 80.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A8NE (S)	519	4	315471 288793
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A8NE (S)	519	4	315471 288793
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Nant Meheli Catchment Name: Severn Primacy: 1	A8NE (S)	538	4	315453 288771

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1090.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A8NE (S)	539	4	315450 288770
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 133.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A17SE (NW)	540	4	314937 289681
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A8NE (S)	587	4	315451 288722
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 522.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A8NE (S)	588	4	315451 288721
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12NE (W)	612	4	314743 289331
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12SE (W)	616	4	314738 289324
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 143.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12SW (W)	678	4	314678 289284
48	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 109.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A7NE (SW)	730	4	314801 288843
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A7NW (SW)	761	4	314691 288949

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 57.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A7NE (SW)	775	4	314708 288892
51	**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: Severn Primacy: 1	A12SW (W)	780	4	314585 289196
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 98.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12NW (W)	785	4	314578 289430
53	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 41.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Hildermere Catchment Name: Severn Primacy: 1	A7NW (SW)	790	4	314668 288930
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A17NE (NW)	802	4	314922 290018
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 182.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A7NW (SW)	814	4	314633 288943
56	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 20.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SE (NE)	856	4	316135 289775
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 280.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12NW (W)	857	4	314518 289507
58	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 15.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SE (NE)	874	4	316147 289791

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 146.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SE (NE)	874	4	316147 289791
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 809.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19SE (NE)	889	4	316160 289798
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 82.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12SW (W)	895	4	314502 289049
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12SW (W)	895	4	314502 289049
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12SW (W)	901	4	314491 289063
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12SW (W)	901	4	314491 289063
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 623.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Miwl Catchment Name: Severn Primacy: 1	A18NW (N)	938	4	315280 290281
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 781.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A18NE (N)	961	4	315547 290288
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19NE (NE)	965	4	316065 290034

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 209.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19NE (NE)	965	4	316065 290034
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19NE (NE)	967	4	316071 290033
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A19NE (NE)	969	4	316096 290009
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 342.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A12SW (W)	977	4	314429 289010
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 77.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A17SW (NW)	982	4	314482 289785
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 529.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A17SW (NW)	984	4	314513 289846
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 161.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A8SW (S)	992	4	315228 288321
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 62.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Severn Primacy: 1	A8SW (S)	992	4	315228 288321

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Kerry, Powys Name: Kerry Brickyard Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD34454 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: CS12/43	A18NE (N)	886	2	315502 290220
77	**Licensed Waste Management Facilities (Locations)** Licence Number: LB3790HA Location: Anaerobic Digester, Newtown, Powys, Powys, SY16 4LN Operator Name: Mr Geraint Powell And Mrs Anabel Powell Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Not Supplied **Licence Status: Effective** Issued: 15th July 2015 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	855	2	316070 289868
	Local Authority Landfill Coverage Name: Powys County Council - Has supplied landfill data		0	5	315377 289326
78	**Local Authority Recorded Landfill Sites** Location: Kerry Brickyard Reference: CS12/43 Authority: Powys County Council **Last Reported Status: Unknown** Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A18NE (N)	886	5	315502 290220
79	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1983	A18NE (N)	765	-	315470 290103
80	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1963	A13NE (E)	137	-	315532 289375
81	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1963	A13SW (SW)	168	-	315240 289194
82	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1963	A14NW (NE)	441	-	315769 289577
83	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A17SE (NW)	721	-	314859 289863
84	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SW (NW)	971	-	314530 289849
85	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A17SW (NW)	972	-	314519 289832

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Ludlow Rocks (Undifferentiated)	A13NW (SW)	0	1	315377 289326
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (SW)	0	1	315377 289326
86	**BGS Recorded Mineral Sites** Site Name: Clitheriew Location: Cilthriew, Kerry, Newtown, Powys Source: British Geological Survey, National Geoscience Information Service Reference: 11476 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Silurian Geology: Bailey Hill Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	777	1	315903 288725
87	**BGS Recorded Mineral Sites** Site Name: Wood Cottage Location: Kerry, Newtown, Powys Source: British Geological Survey, National Geoscience Information Service Reference: 113456 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Silurian Geology: Bailey Hill Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	799	1	316090 288918
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	69	1	315460 289290
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	239	1	315164 289482
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	69	1	315460 289290
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	239	1	315164 289482

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	56	1	315380 289398
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	71	1	315456 289276
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	239	1	315164 289482
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	56	1	315380 289398
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	69	1	315460 289290
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	132	1	315517 289264
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	217	1	315484 289116
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	239	1	315164 289482
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	132	1	315517 289264
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	206	1	315170 289425
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	211	1	315504 289519
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	217	1	315484 289116
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	239	1	315164 289482
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	249	1	315146 289473
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Higher probability radon area (10 to 30% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326
	Radon Potential - Radon Protection Measures Protection Measure: Full radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NW (SW)	0	1	315377 289326

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	**Contemporary Trade Directory Entries** Name: Russell J Francis Location: Ty-Bryn, Kerry, Newtown, SY16 4PD Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (N)	92	-	315381 289435
89	**Contemporary Trade Directory Entries** Name: D P Pryce Precision Engineering Location: Copper View, Kerry, Newtown, Powys, SY16 4PD Classification: Precision Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	259	-	315486 289070
90	**Contemporary Trade Directory Entries** Name: N Whitehall & Son Location: Springfield House, Kerry, NEWTOWN, Powys, SY16 4LL Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	523	-	315532 289841
91	**Contemporary Trade Directory Entries** Name: Duma Technical Services Location: Black Hall, Kerry, NEWTOWN, Powys, SY16 4PE Classification: Trailers & Towing Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	572	-	315495 288745
92	**Contemporary Trade Directory Entries** Name: David Corfield Location: 11, The Village, Kerry, Newtown, Powys, SY16 4NR Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	904	-	314770 290030
92	**Contemporary Trade Directory Entries** Name: Prymec Location: Rose Hill, Kerry, Newtown, Powys, SY16 4NU Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	937	-	314739 290048
93	**Contemporary Trade Directory Entries** Name: Richard Edwards Haulage Ltd Location: 28, Dolforgan View, Kerry, Newtown, SY16 4DZ Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	961	-	314541 289848
94	**Contemporary Trade Directory Entries** Name: Tanat Valley Motors Location: Nook la, Kerry, Newtown, Powys, SY16 4NS Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	998	-	314753 290138
95	**Points of Interest - Commercial Services** Name: N Whitehall & Son Location: Springfield House, Kerry, Newtown, SY16 4LL Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18SE (N)	523	6	315532 289841
96	**Points of Interest - Commercial Services** Name: Les Hughes & Son Ltd Location: The Old Foresters House, Kerry, Newtown, SY16 4NY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A17SE (NW)	714	6	314799 289788
97	**Points of Interest - Commercial Services** Name: David Corfield Location: 11 The Village, Kerry, Newtown, SY16 4NR Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A17NE (NW)	904	6	314770 290030
97	**Points of Interest - Commercial Services** Name: David Corfield Location: 11 The Village, Kerry, Newtown, SY16 4NR Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A17NE (NW)	904	6	314770 290030

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
98	**Points of Interest - Commercial Services** Name: Richard Edwards Haulage Ltd Location: 28 Dolforgan View, Kerry, Newtown, SY16 4DZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A17SW (NW)	959	6	314543 289847
99	**Points of Interest - Commercial Services** Name: R G Bliss Bennett Location: Nooklands, Nook Lane, Kerry, Newtown, SY16 4NS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17NE (NW)	995	6	314753 290134
99	**Points of Interest - Commercial Services** Name: R G Bliss Bennett Location: Nooklands, Nook Lane, Kerry, Newtown, SY16 4NS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17NE (NW)	995	6	314753 290134
100	**Points of Interest - Manufacturing and Production** Name: Tank Location: SY16 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	268	6	315640 289457
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: SY16 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	776	6	316177 289297
102	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: SY16 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A9NE (SE)	816	6	316107 288915
103	**Points of Interest - Public Infrastructure** Name: Weir Location: SY16 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13NE (E)	155	6	315544 289395
104	**Points of Interest - Public Infrastructure** Name: Sluices Location: SY16 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	343	6	315665 289554
104	**Points of Interest - Public Infrastructure** Name: Weir Location: SY16 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	351	6	315660 289571
105	**Points of Interest - Public Infrastructure** Name: Weir Location: SY16 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	454	6	315529 288878
106	**Points of Interest - Public Infrastructure** Name: Sluice Location: SY16 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	489	6	315849 289531

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
107	**Ancient Woodland** Name: Not Supplied Reference: 35105 Area(m²): 14337.43 Type: Restored Ancient Woodland Site	A13SW (W)	179	2	315175 289323
108	**Ancient Woodland** Name: Not Supplied Reference: 29994 Area(m²): 10078.69 Type: Ancient and Semi-Natural Woodland	A13NW (NW)	189	2	315224 289477
109	**Ancient Woodland** Name: Not Supplied Reference: 35359 Area(m²): 4096.62 Type: Restored Ancient Woodland Site	A13NW (NW)	230	2	315251 289549
110	**Ancient Woodland** Name: Not Supplied Reference: 35106 Area(m²): 9625.69 Type: Restored Ancient Woodland Site	A13NW (W)	262	2	315103 289398
111	**Ancient Woodland** Name: Not Supplied Reference: 46481 Area(m²): 11099.26 Type: Plantation on Ancient Woodland	A12SE (W)	408	2	314948 289286
112	**Ancient Woodland** Name: Not Supplied Reference: 46480 Area(m²): 8549.25 Type: Plantation on Ancient Woodland	A8NE (S)	461	2	315448 288848
113	**Ancient Woodland** Name: Not Supplied Reference: 45242 Area(m²): 6790.27 Type: Plantation on Ancient Woodland	A12NE (W)	461	2	314894 289329
114	**Ancient Woodland** Name: Not Supplied Reference: 35103 Area(m²): 20570.44 Type: Restored Ancient Woodland Site	A8SE (S)	681	2	315403 288623
115	**Ancient Woodland** Name: Not Supplied Reference: 35335 Area(m²): 3900.92 Type: Restored Ancient Woodland Site	A9NW (SE)	736	2	315743 288664
116	**Ancient Woodland** Name: Not Supplied Reference: 28580 Area(m²): 26341.09 Type: Restored Ancient Woodland Site	A8SE (S)	779	2	315397 288524
117	**Ancient Woodland** Name: Not Supplied Reference: 35102 Area(m²): 2721.88 Type: Restored Ancient Woodland Site	A8SE (S)	799	2	315426 288506
118	**Ancient Woodland** Name: Not Supplied Reference: 46572 Area(m²): 3249.52 Type: Plantation on Ancient Woodland	A19SE (NE)	807	2	316077 289776
119	**Ancient Woodland** Name: Not Supplied Reference: 28736 Area(m²): 128919.59 Type: Restored Ancient Woodland Site	A9NE (SE)	846	2	316139 288911

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Powys County Council - Public Protection Department	February 2015	Annual Rolling Update
Shropshire Council - Environmental Health Department	March 2015	Annually
South Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	May 2009	Not Applicable
Discharge Consents		
Environment Agency - Midlands Region	January 2018	Quarterly
Natural Resources Wales	January 2018	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Midlands Region	March 2013	As notified
Environment Agency - Welsh Region	March 2013	As notified
Integrated Pollution Controls		
Environment Agency - Midlands Region	October 2008	Variable
Environment Agency - Welsh Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - Midlands Region	January 2018	Quarterly
Environment Agency - Welsh Region	January 2018	Quarterly
Natural Resources Wales	January 2018	Quarterly
Local Authority Integrated Pollution Prevention And Control		
South Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	June 2008	Not Applicable
Powys County Council - Public Protection Department	May 2014	Variable
Shropshire Council - Environmental Health Department	October 2014	Variable
Local Authority Pollution Prevention and Controls		
South Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	June 2008	Not Applicable
Powys County Council - Public Protection Department	May 2014	Annual Rolling Update
Shropshire Council - Environmental Health Department	October 2014	Annually
Local Authority Pollution Prevention and Control Enforcements		
South Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	June 2008	Not Applicable
Powys County Council - Public Protection Department	May 2014	Variable
Shropshire Council - Environmental Health Department	October 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	September 2017	
Pollution Incidents to Controlled Waters		
Environment Agency - Midlands Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Midlands Region	July 2015	As notified
Environment Agency - Welsh Region	March 2013	As notified
Natural Resources Wales	March 2013	As notified
Prosecutions Relating to Controlled Waters		
Environment Agency - Midlands Region	March 2013	As notified
Environment Agency - Welsh Region	March 2013	As notified
Natural Resources Wales	March 2013	As notified
Registered Radioactive Substances		
Natural Resources Wales	January 2015	As notified
Environment Agency - Midlands Region	January 2015	
Environment Agency - Welsh Region	January 2015	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable

Data Currency

Agency & Hydrological	Version	Update Cycle
Substantiated Pollution Incident Register		
Environment Agency - Midlands Region - Upper Severn Area	January 2018	Quarterly
Environment Agency - Midlands Region - West Area	January 2018	Quarterly
Environment Agency Wales - North Area	January 2018	Quarterly
Environment Agency Wales - South East Area	January 2018	Quarterly
Natural Resources Wales	January 2018	Quarterly
Water Abstractions		
Environment Agency - Midlands Region	January 2018	Quarterly
Natural Resources Wales	January 2018	Quarterly
Water Industry Act Referrals		
Natural Resources Wales	January 2018	Quarterly
Environment Agency - Midlands Region	October 2017	Quarterly
Environment Agency - Welsh Region	October 2017	Quarterly
Groundwater Vulnerability		
Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits		
Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations		
British Geological Survey - National Geoscience Information Service	August 2015	As notified
Superficial Aquifer Designations		
British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones		
Natural Resources Wales	November 2016	As notified
Extreme Flooding from Rivers or Sea without Defences		
Natural Resources Wales	February 2018	Quarterly
Flooding from Rivers or Sea without Defences		
Natural Resources Wales	February 2018	Quarterly
Areas Benefiting from Flood Defences		
Natural Resources Wales	February 2018	Quarterly
Flood Water Storage Areas		
Natural Resources Wales	February 2018	Quarterly
Flood Defences		
Natural Resources Wales	February 2018	Quarterly
OS Water Network Lines		
Ordnance Survey	January 2018	Quarterly
Surface Water 1 in 30 year Flood Extent		
Natural Resources Wales	October 2013	As notified
Surface Water 1 in 100 year Flood Extent		
Natural Resources Wales	October 2013	As notified
Surface Water 1 in 1000 year Flood Extent		
Natural Resources Wales	October 2013	As notified
Surface Water Suitability		
Natural Resources Wales	October 2013	As notified
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Natural Resources Wales	July 2017	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Midlands Region	October 2008	Not Applicable
Environment Agency - Welsh Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Midlands Region - Upper Severn Area	January 2018	Quarterly
Environment Agency - Midlands Region - West Area	January 2018	Quarterly
Environment Agency Wales - North Area	January 2018	Quarterly
Environment Agency Wales - South East Area	January 2018	Quarterly
Natural Resources Wales	January 2018	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Midlands Region - Upper Severn Area	January 2018	Quarterly
Environment Agency - Midlands Region - West Area	January 2018	Quarterly
Environment Agency Wales - North Area	January 2018	Quarterly
Environment Agency Wales - South East Area	January 2018	Quarterly
Natural Resources Wales	January 2018	Quarterly
Local Authority Landfill Coverage		
Powys County Council	May 2000	Not Applicable
Shropshire County Council (now part of Shropshire Council) - Shropshire Records And Research Centre	May 2000	Not Applicable
South Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Powys County Council	May 2000	Not Applicable
Shropshire County Council (now part of Shropshire Council) - Shropshire Records And Research Centre	May 2000	Not Applicable
South Shropshire District Council (now part of Shropshire Council) - Environmental Health Department	May 2003	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Midlands Region - Upper Severn Area	March 2003	Not Applicable
Environment Agency - Midlands Region - West Area	March 2003	Not Applicable
Environment Agency Wales - North Area	March 2003	Not Applicable
Environment Agency Wales - South East Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Midlands Region - Upper Severn Area	March 2003	Not Applicable
Environment Agency - Midlands Region - West Area	March 2003	Not Applicable
Environment Agency Wales - North Area	March 2003	Not Applicable
Environment Agency Wales - South East Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Midlands Region - Upper Severn Area	March 2003	Not Applicable
Environment Agency - Midlands Region - West Area	March 2003	Not Applicable
Environment Agency Wales - North Area	March 2003	Not Applicable
Environment Agency Wales - South East Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	September 2017	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Variable
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Powys County Council - Planning Department	February 2016	Variable
Shropshire Council - Planning Department	February 2016	Variable
South Shropshire District Council (now part of Shropshire Council) - Planning Department	January 2008	Not Applicable
Shropshire County Council (now part of Shropshire Council)	March 2009	Annual Rolling Update
Planning Hazardous Substance Consents		
Powys County Council - Planning Department	February 2016	Variable
Shropshire Council - Planning Department	February 2016	Variable
South Shropshire District Council (now part of Shropshire Council) - Planning Department	January 2008	Not Applicable
Shropshire County Council (now part of Shropshire Council)	March 2009	Annual Rolling Update

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	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	November 2017	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	As notified
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	June 2015	As notified
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	July 2011	As notified

Data Currency

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	February 2018	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2018	Quarterly
Gas Pipelines National Grid	July 2014	Quarterly
Points of Interest - Commercial Services PointX	March 2018	Quarterly
Points of Interest - Education and Health PointX	March 2018	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2018	Quarterly
Points of Interest - Public Infrastructure PointX	March 2018	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2018	Quarterly
Underground Electrical Cables National Grid	December 2015	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural Resources Wales	October 2017	Bi-Annually
Areas of Adopted Green Belt		
Shropshire Council - Planning Department	February 2018	As notified
Areas of Unadopted Green Belt		
Shropshire Council - Planning Department	February 2018	As notified
Areas of Outstanding Natural Beauty		
Natural England	February 2018	Bi-Annually
Natural Resources Wales	February 2018	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2018	Bi-Annually
Powys County Council	February 2018	Bi-Annually
Marine Nature Reserves		
Natural Resources Wales	October 2017	Bi-Annually
National Nature Reserves		
Natural Resources Wales	February 2018	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Natural Resources Wales	February 2018	Annually
Nitrate Vulnerable Zones		
Natural Resources Wales	July 2017	Bi-Annually
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	October 2005	
Ramsar Sites		
Natural Resources Wales	February 2018	Bi-Annually
Sites of Special Scientific Interest		
Natural Resources Wales	February 2018	Bi-Annually
Special Areas of Conservation		
Natural Resources Wales	February 2018	Bi-Annually
Special Protection Areas		
Natural Resources Wales	February 2018	Bi-Annually

Data Suppliers

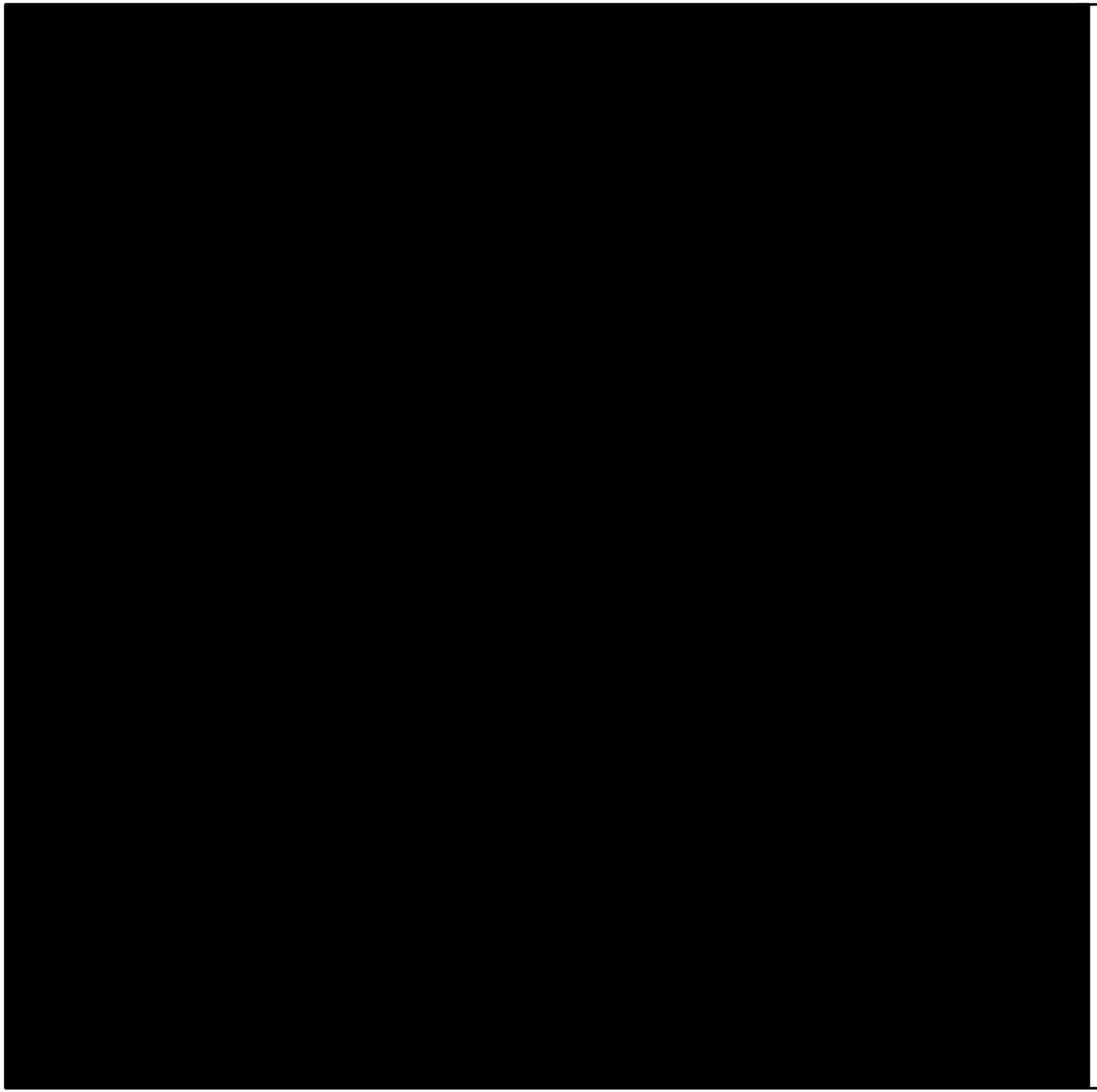
A selection of organisations who provide data within this report

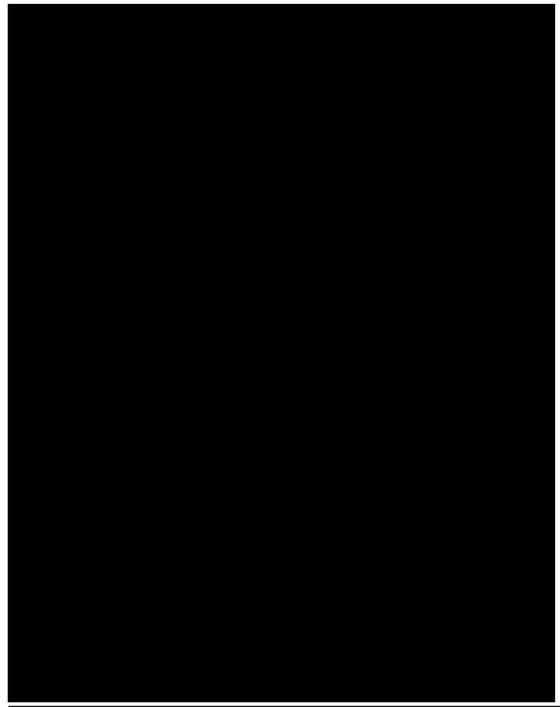
Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett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

Useful Contacts

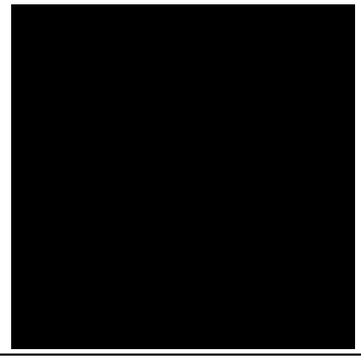
Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Natural 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	**Powys County Council** County Hall, Llandrindod Wells, Powys, LD1 5LG	Telephone: 01597 826000 Fax: 01597 826230 Website: www.powys.gov.uk
6	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** 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.





Site Sensitivity Map - Segment A13



Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Plot Buffer (m):	100

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

Landmark INFORMATION GROUP

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

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WGR	Worked Ground (Undivided)	Void	Holocene - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Quaternary - Quaternary

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	NGF	Nantglyn Flags Formation	Mudstone	Ludlow - Wenlock
		Faults		

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Flandrian - Flandrian
	TILLD	Till, Devensian	Diamicton	Devensian - Devensian
	GLDDD	Glaciolacustrine Deltaic Deposits, Devensian	Sand and Gravel	Devensian - Devensian
	GLLDD	Glaciolacustrine Deposits, Devensian	Clay and Silt	Devensian - Devensian
	ALF1	Alluvial Fan Deposits 1	Clay and Silt	Quaternary - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Quaternary - Quaternary
	ALF1	Alluvial Fan Deposits 1	Gravel	Quaternary - Quaternary
	SUPD	Superficial Deposits	Sediment	Quaternary - Quaternary
	RTDU	River Terrace Deposits (Undifferentiated)	Sand and Gravel	Quaternary - Quaternary
	ALF	Alluvial Fan Deposits	Sand and Gravel	Quaternary - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	KCA	Knucklas Castle Formation	Mudstone, Siltstone and Sandstone	Ludfordian - Ludfordian
	GFS	Gyfenni Wood Shale Formation	Mudstone	Gorstian - Gorstian
	BAI	Bailey Hill Formation	Sandstone and Siltstone, Interbedded	Ludfordian - Gorstian
	DIM	Dingle Mudstone Member	Siltstone	Gorstian - Gorstian

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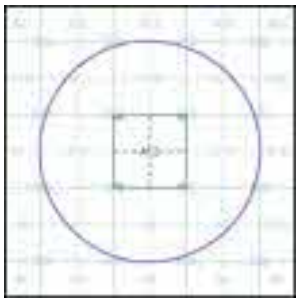
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	**1**
Map Sheet No:	**165**
Map Name:	**Montgomery**
Map Date:	**1994**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Available**
Faults:	**Not Supplied**
Landslip:	**Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice A



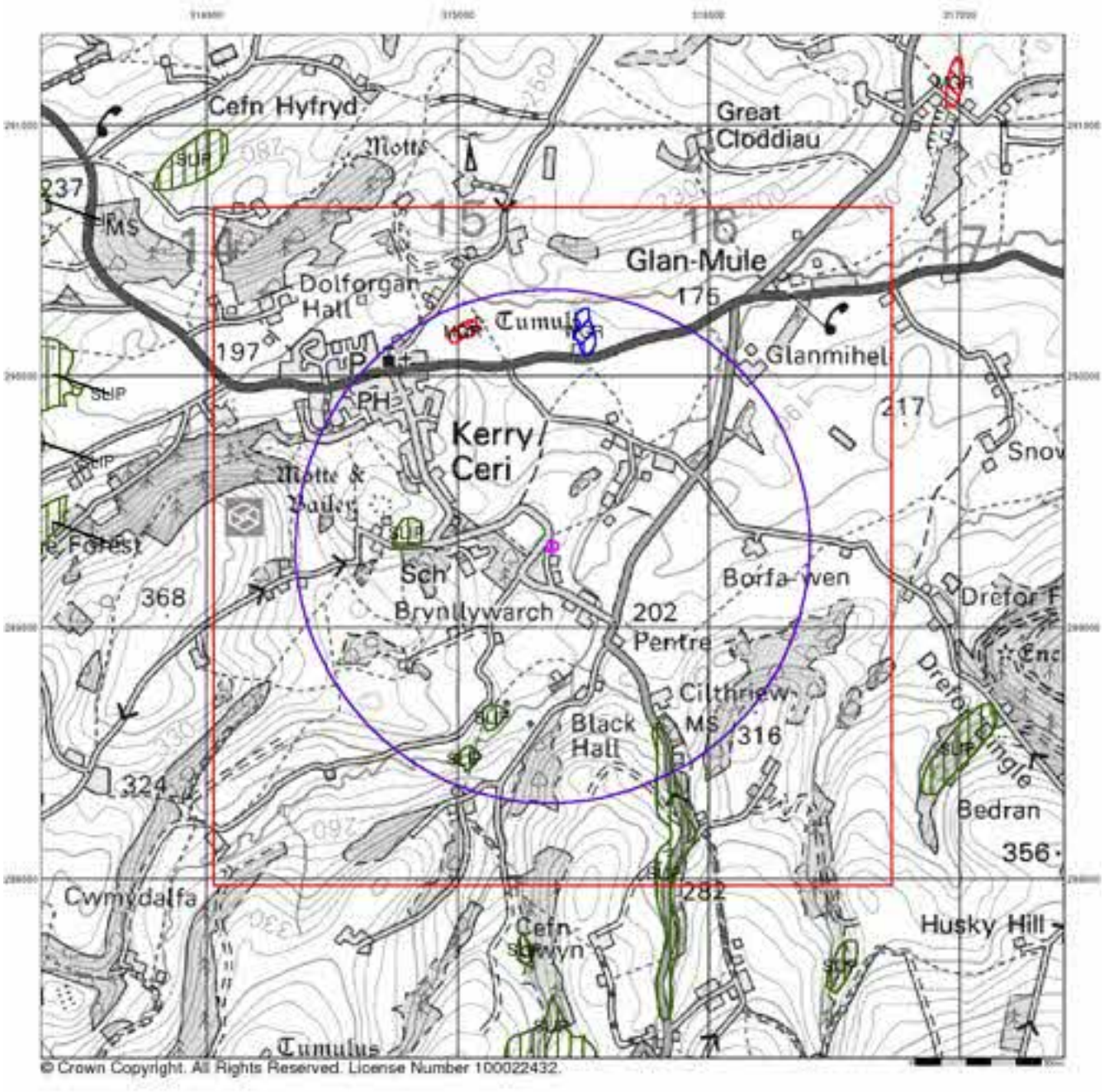
Order Details:

Order Number:	162311708_1_1
Customer Reference:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details:

Land at Brynllywarch Garden, Kerry/Ceri, Powys

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



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Artificial Ground and Landslip

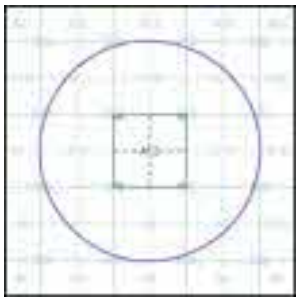
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A



Order Details:

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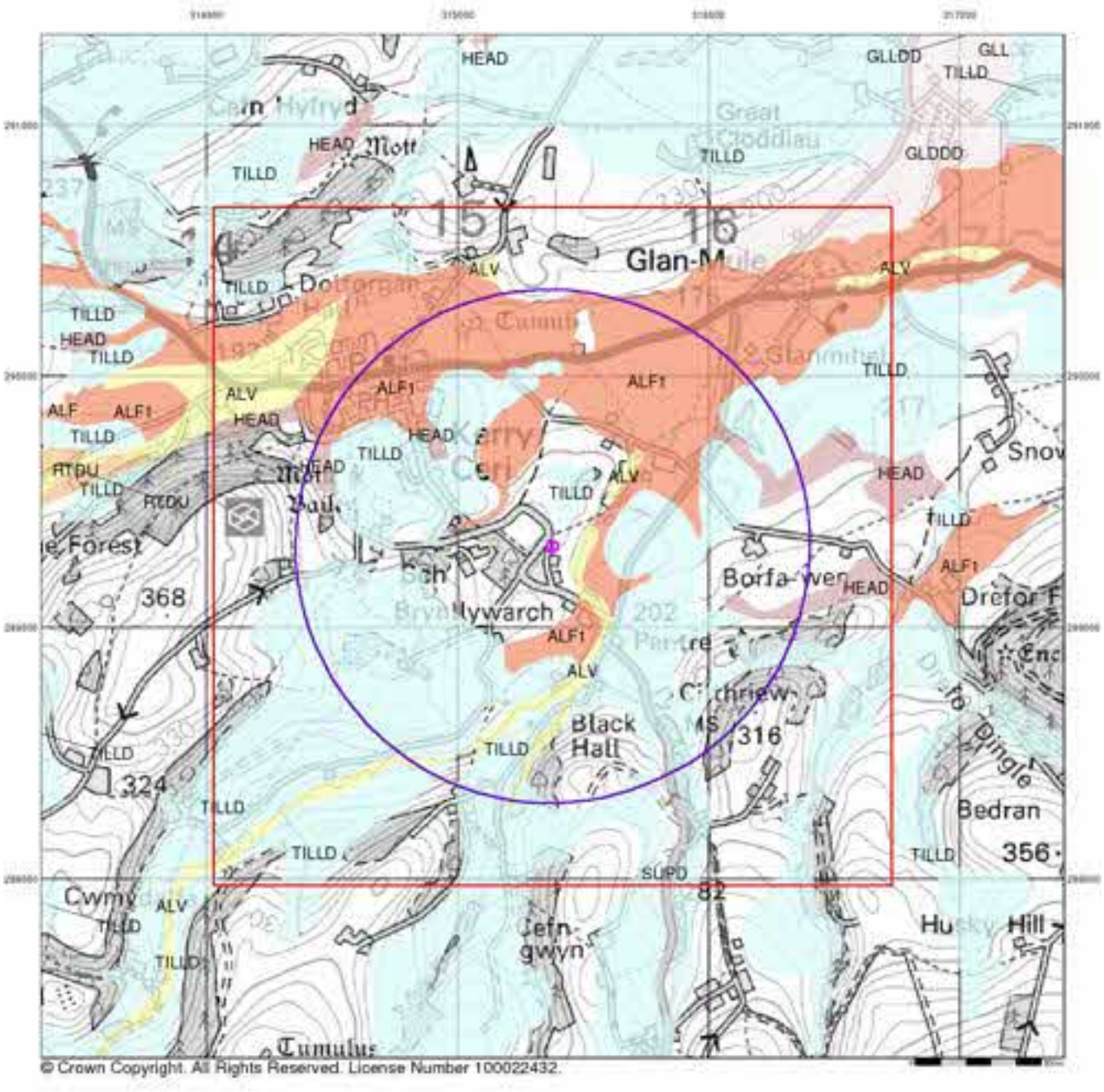

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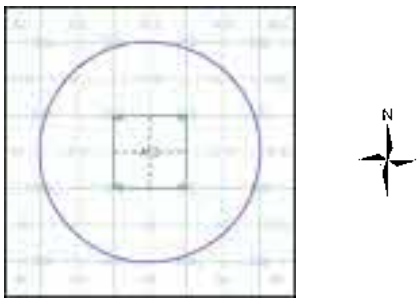
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



Order Details:

Order Number:	162311708_1_1
Customer Reference:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

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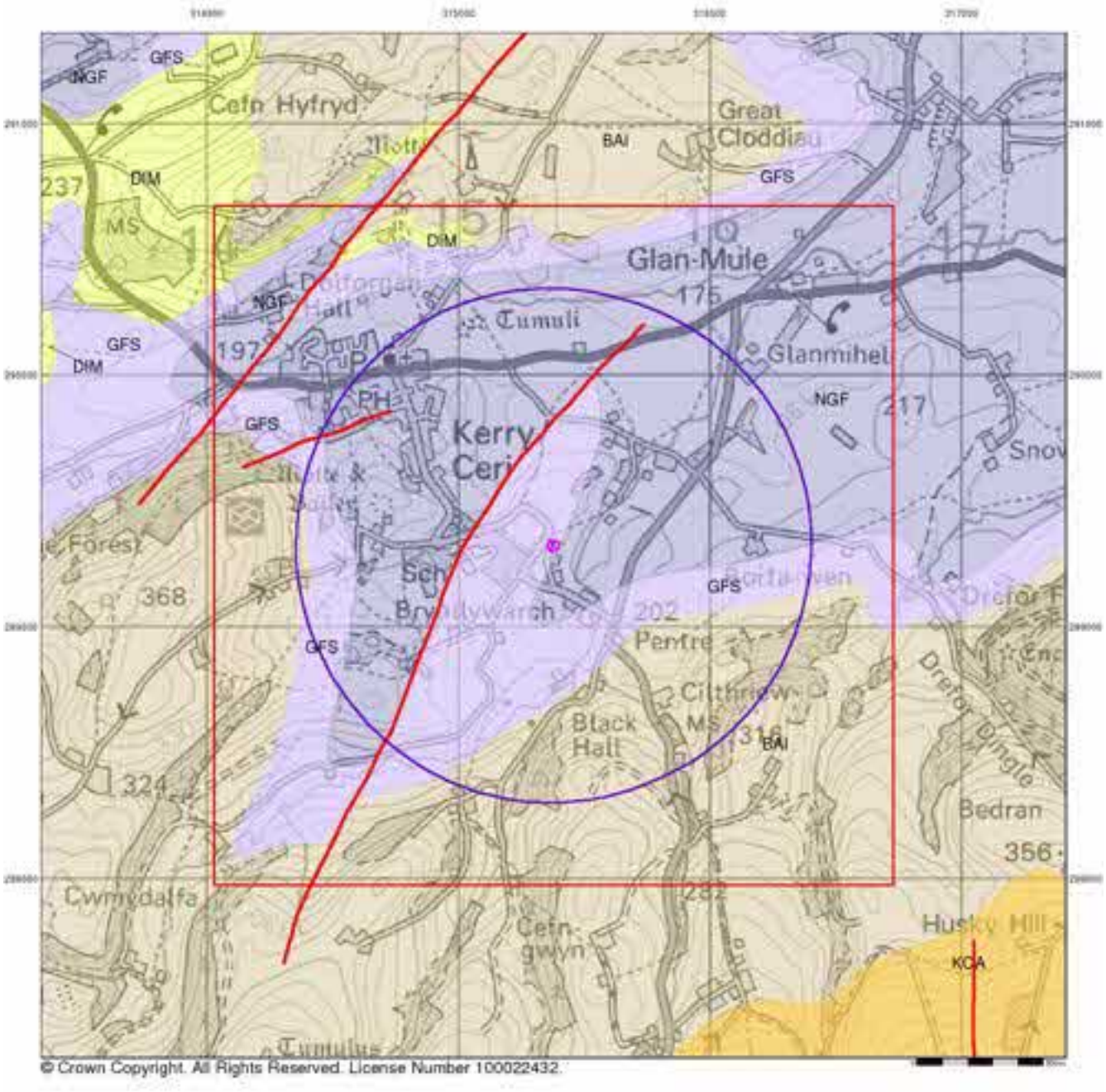

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Bedrock and Faults

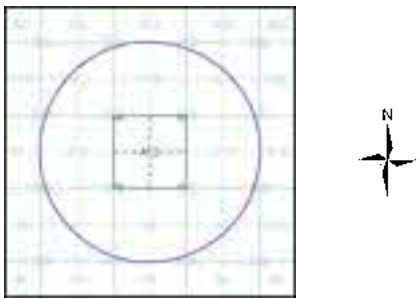
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



Order Details:

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Customer Reference:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
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Site Details:

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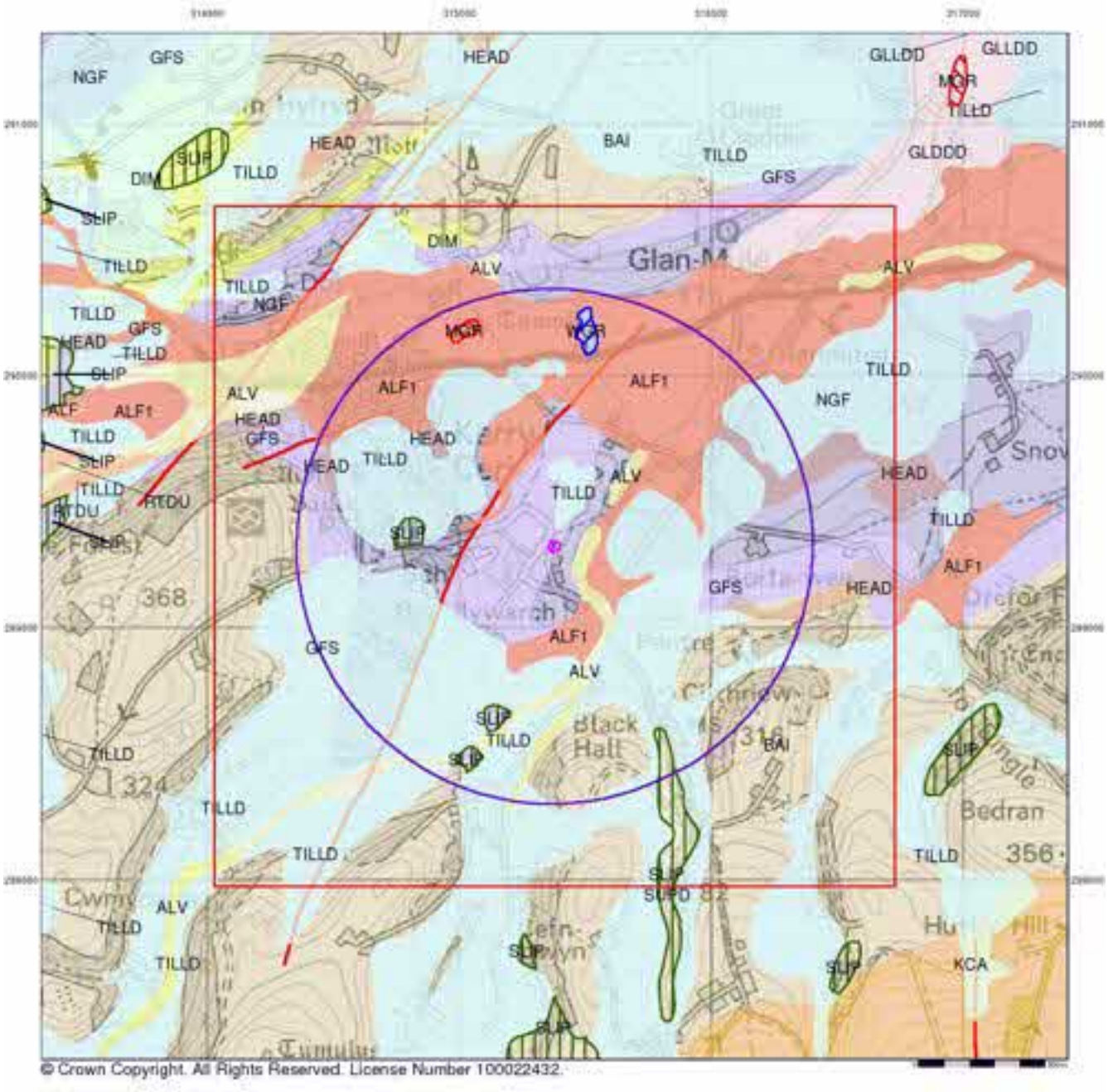

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Combined Surface Geology

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

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

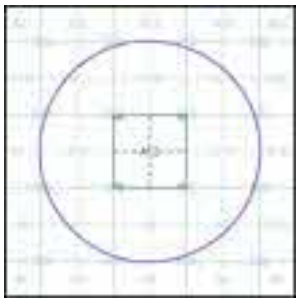
Additional Information

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

Contact

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

Combined Geology Map - Slice A



Order Details:

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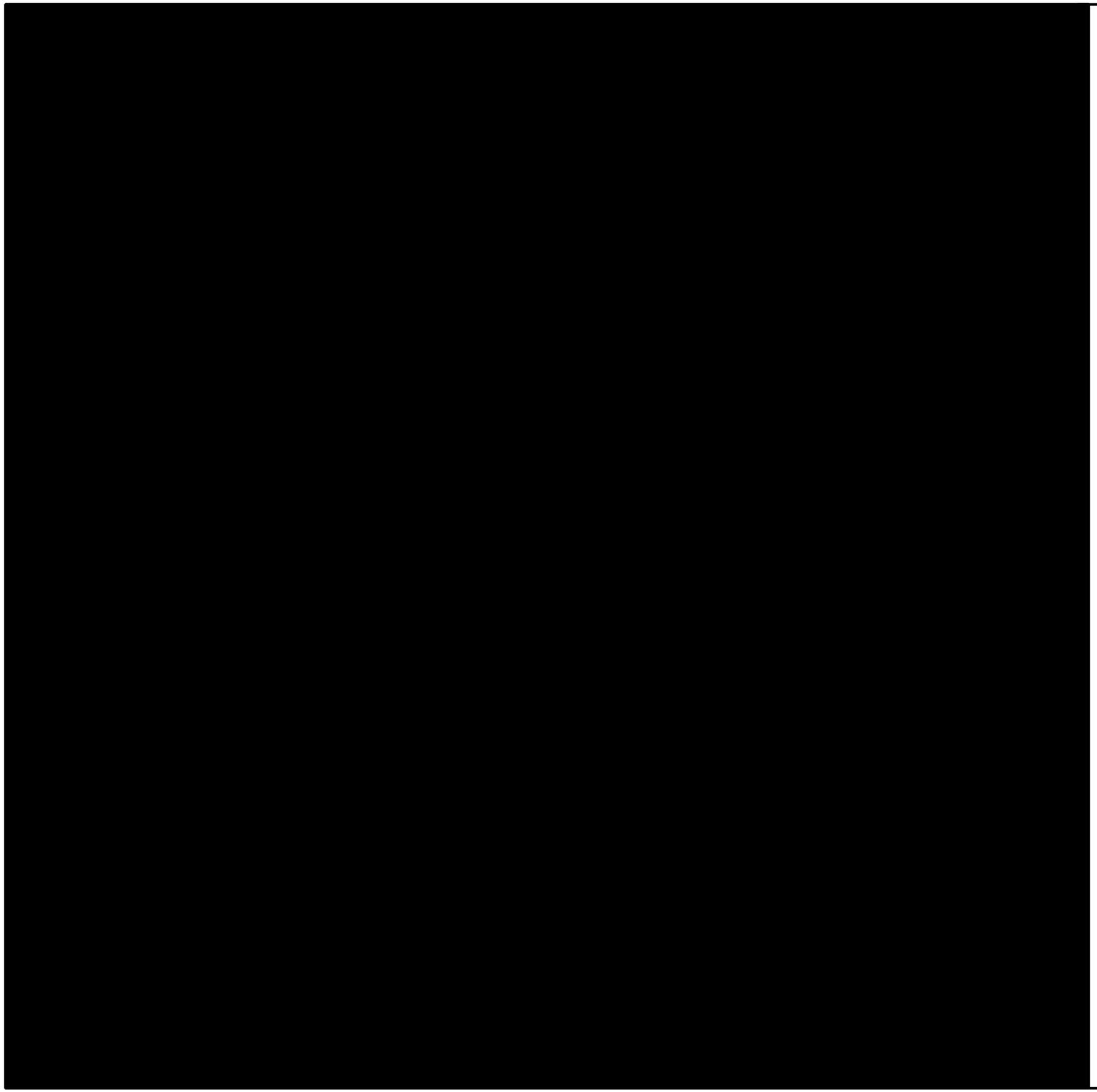
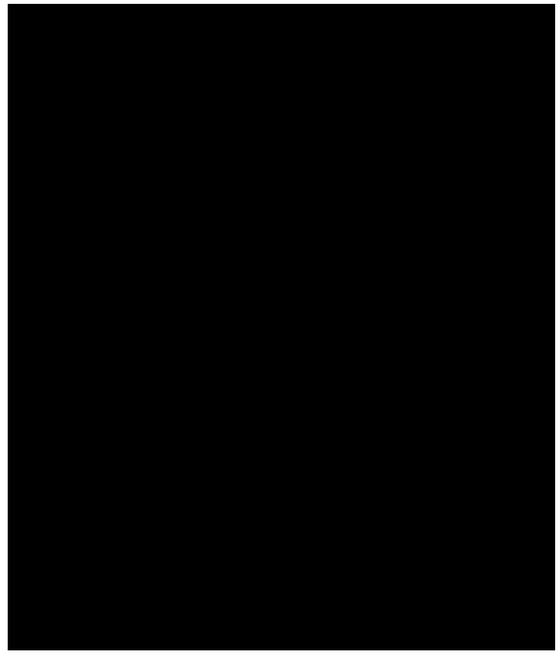
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details:

Land at Brynllywarch Garden, Kerry/Ceri, Powys





Estimated Soil Chemistry Arsenic - Slice A

Order Details

Order Details:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

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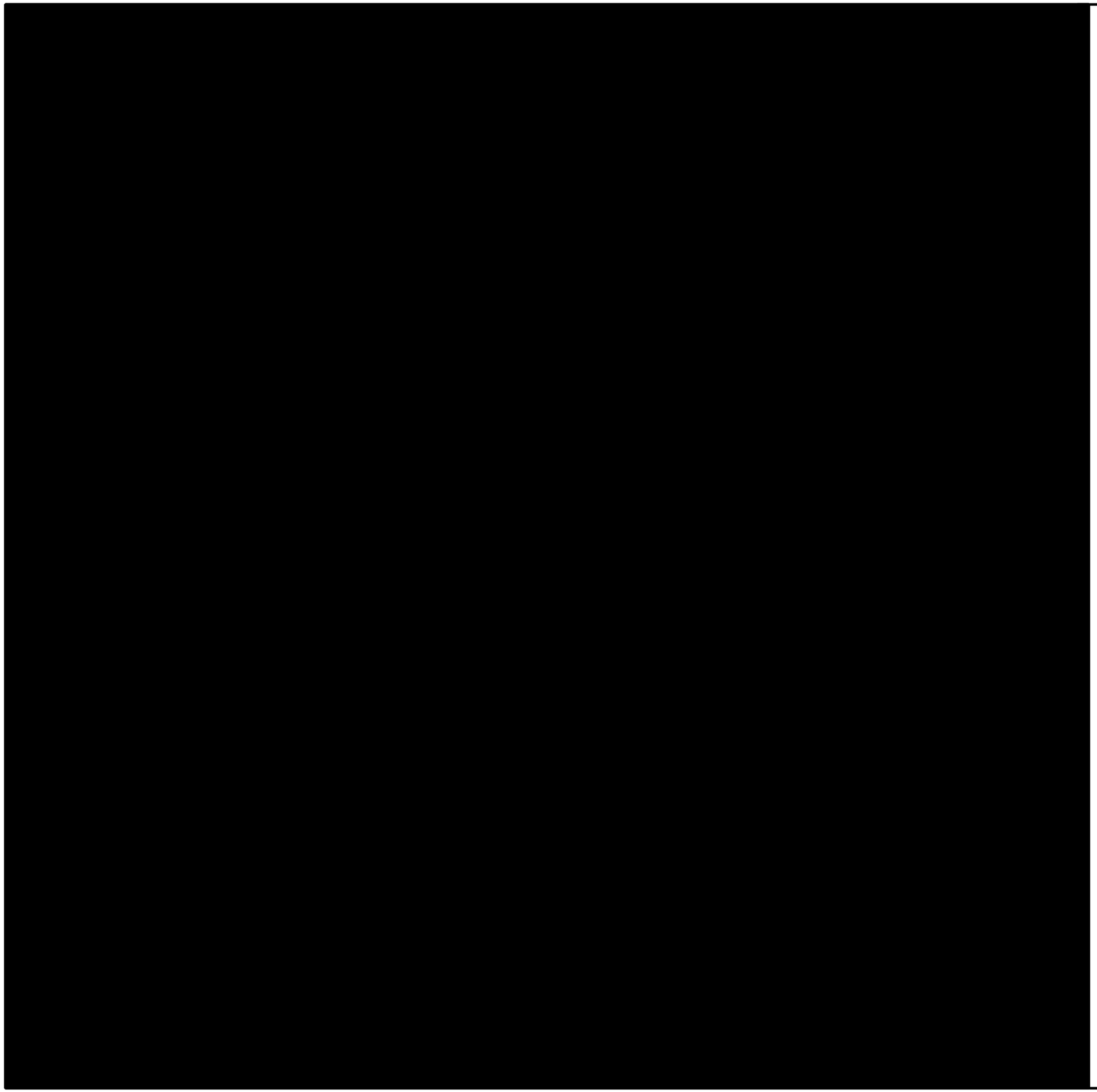
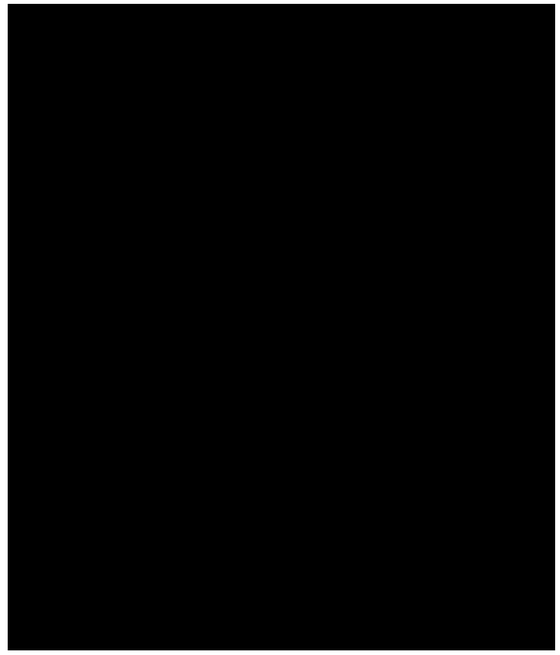




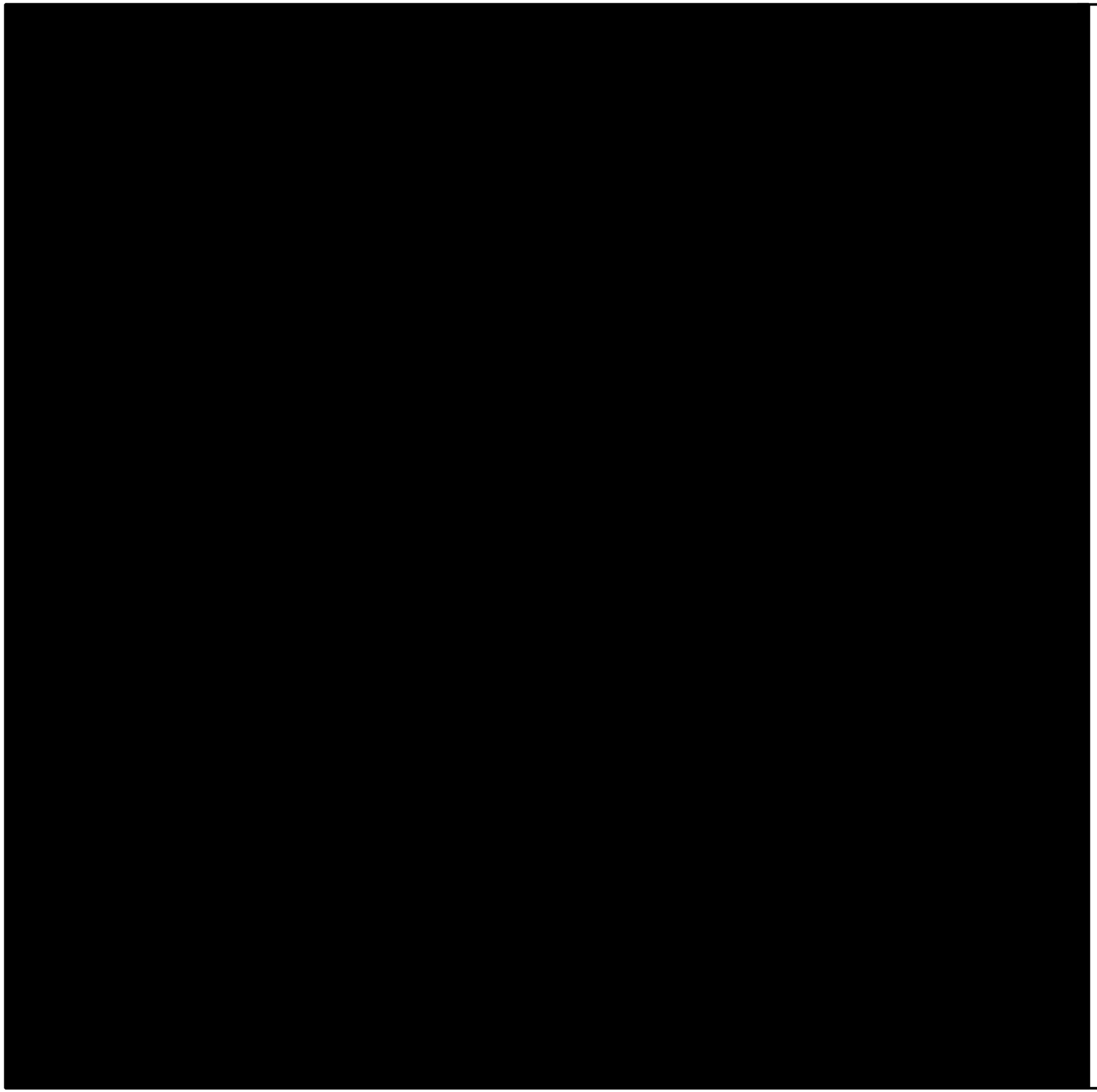
Estimated Soil Chemistry Cadmium - Slice A

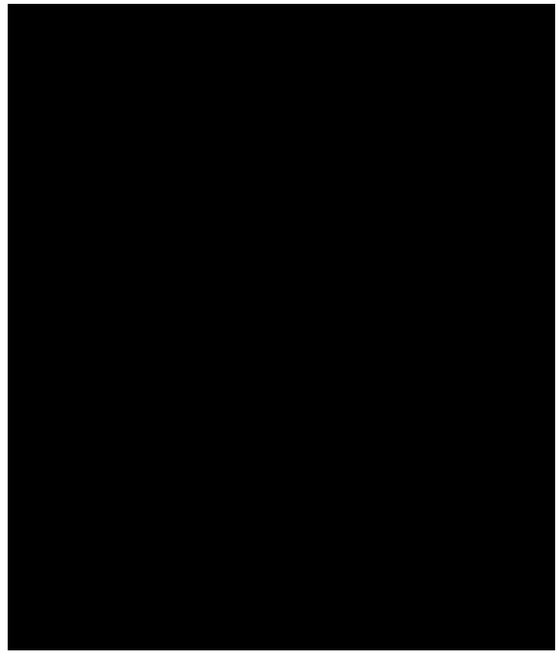
Order Details

Order Details:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys





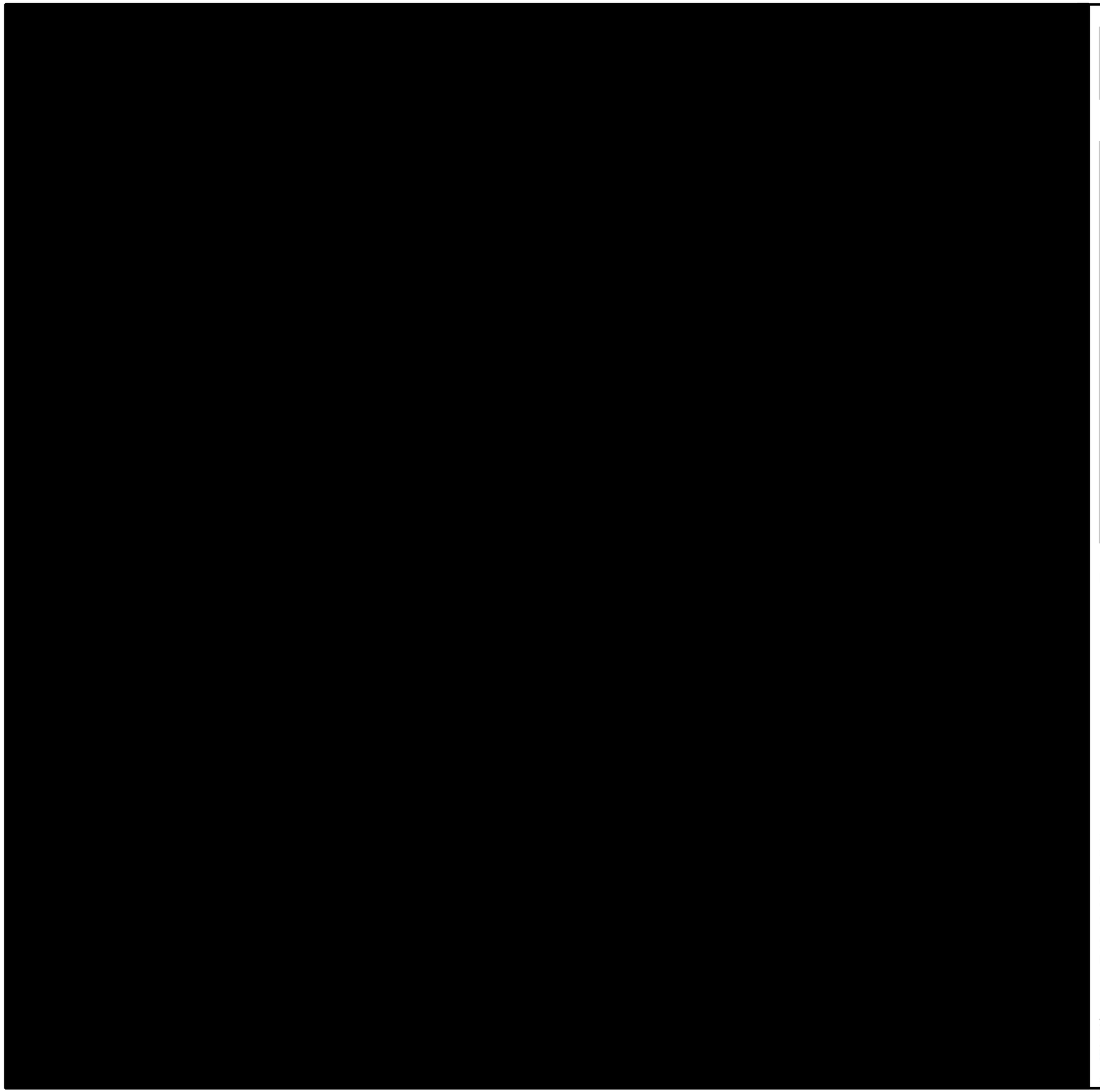
Estimated Soil Chemistry Chromium - Slice A

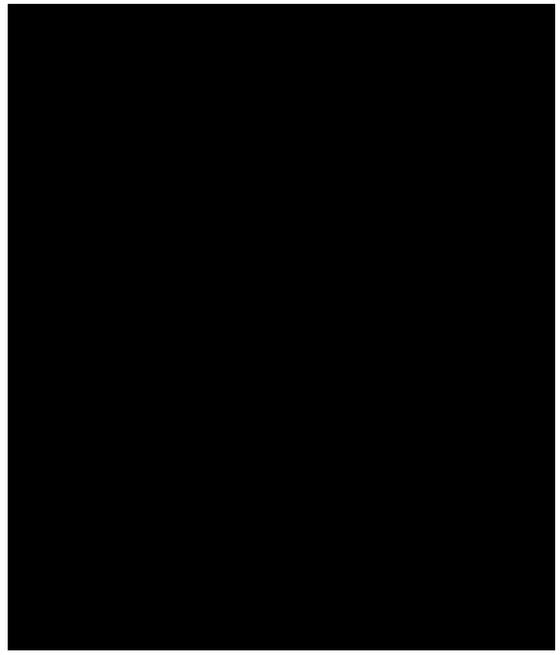
Order Details

Order Details:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys





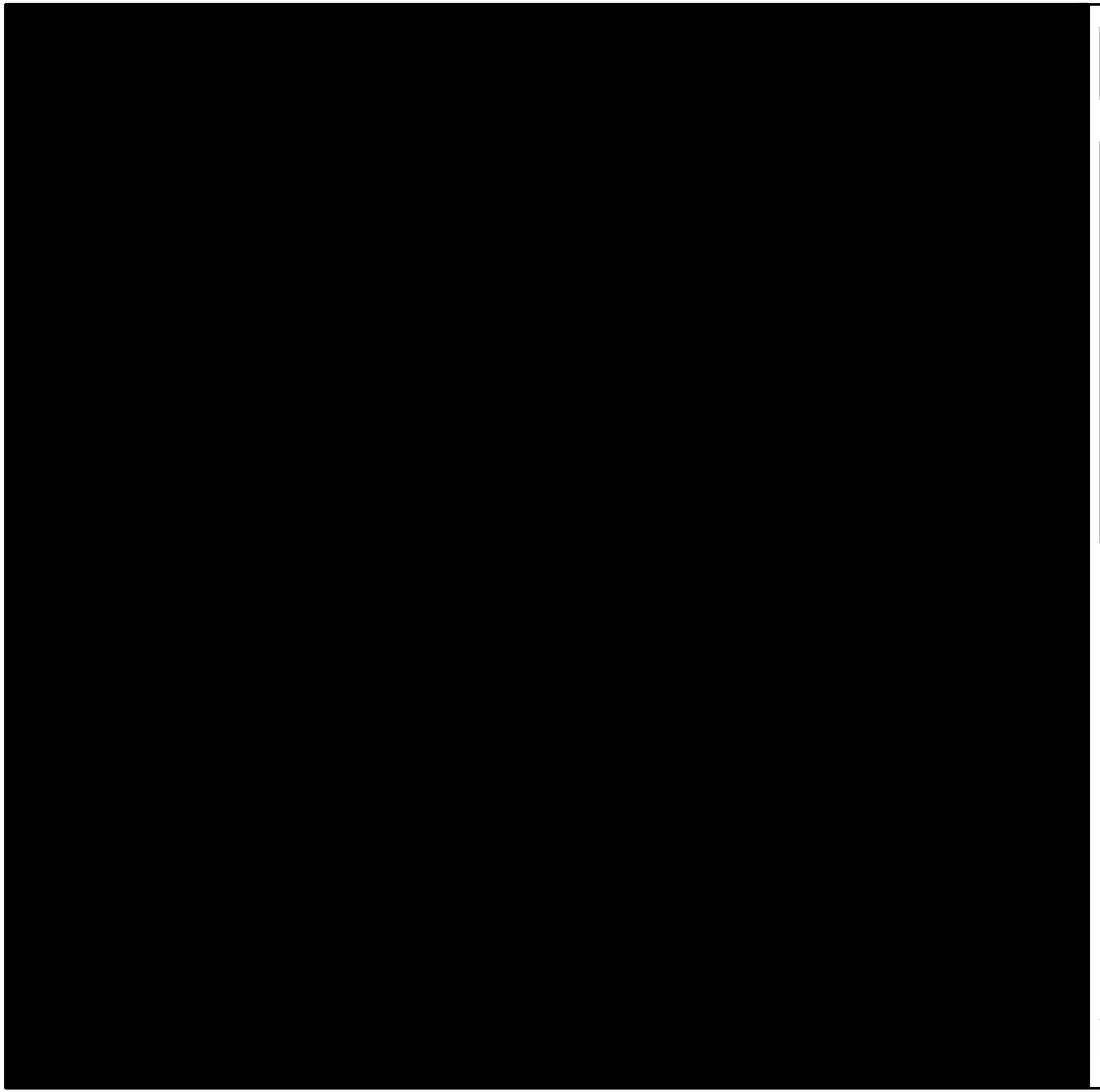
Estimated Soil Chemistry Lead - Slice A

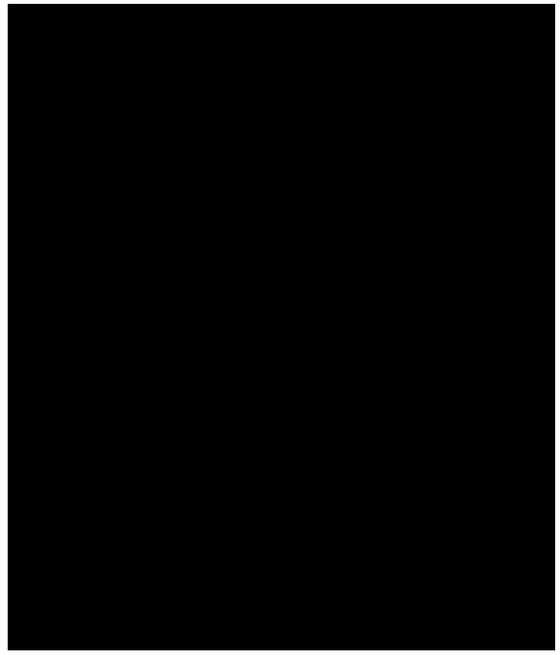
Order Details

Order Details:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys





Estimated Soil Chemistry Nickel - Slice A

Order Details

Order Details:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

[redacted]

[redacted]

Site Sensitivity Map - Slice A

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Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

Landmark INFORMATION GROUP

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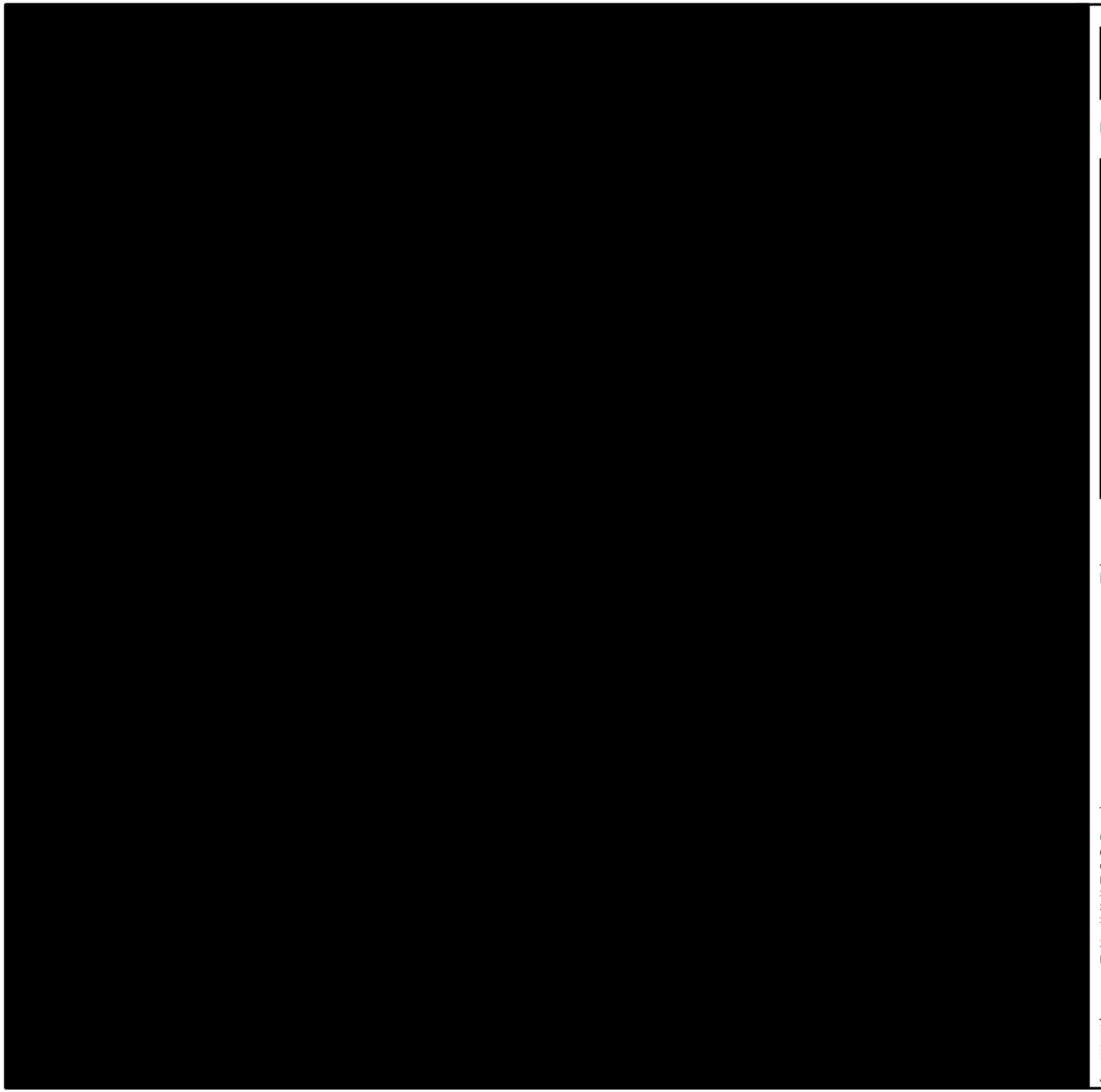
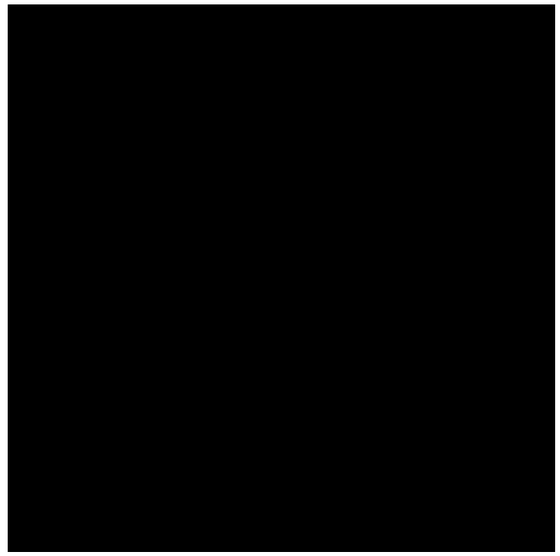
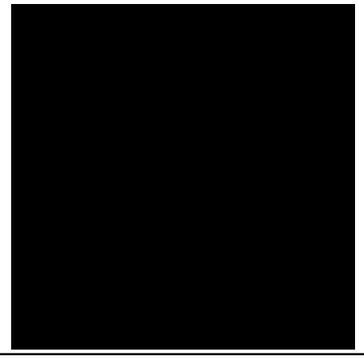


Industrial Land Use Map



Industrial Land Use Map - Slice A



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Order Number:	162311708_1_1
Customer Ref:	MENV07115
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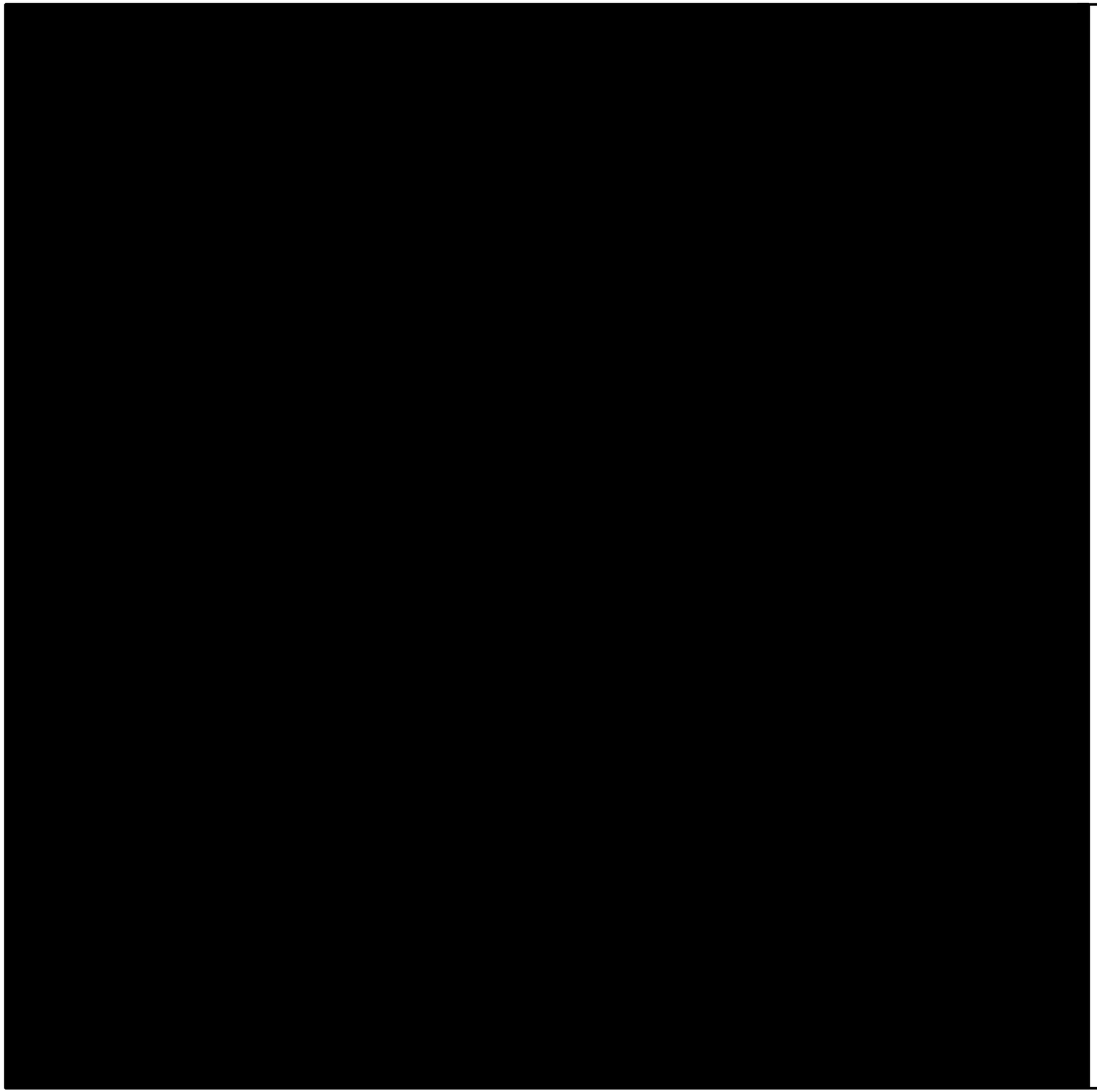
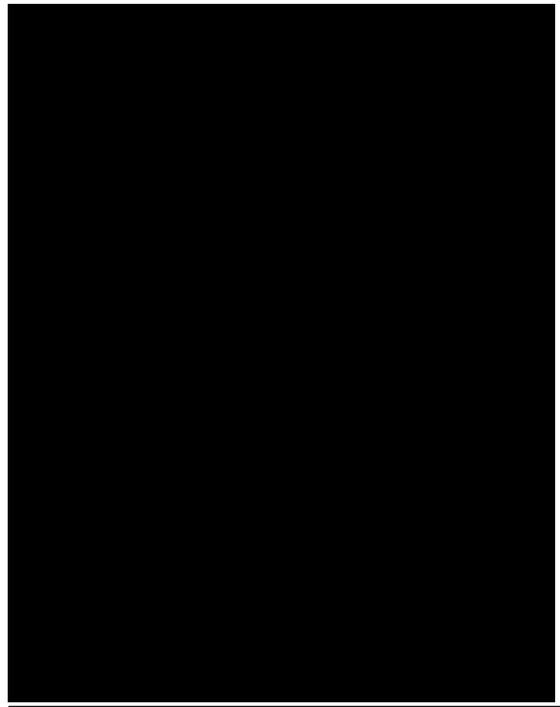
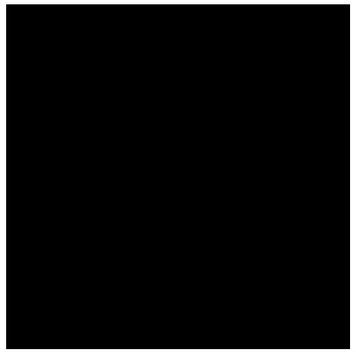
Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys





Flood Map - Slice A



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National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

[redacted]

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

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

Borehole Map - Slice A

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Order Details

Order Number:	162311708_1_1
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National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

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OS Water Network Map - Slice A

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Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

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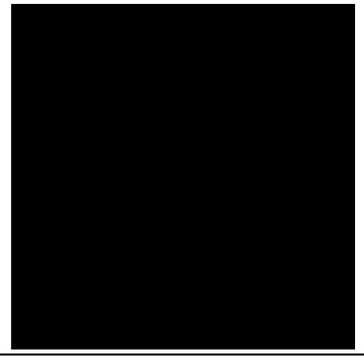
EA/NRW Suitability Map - Slice A



Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

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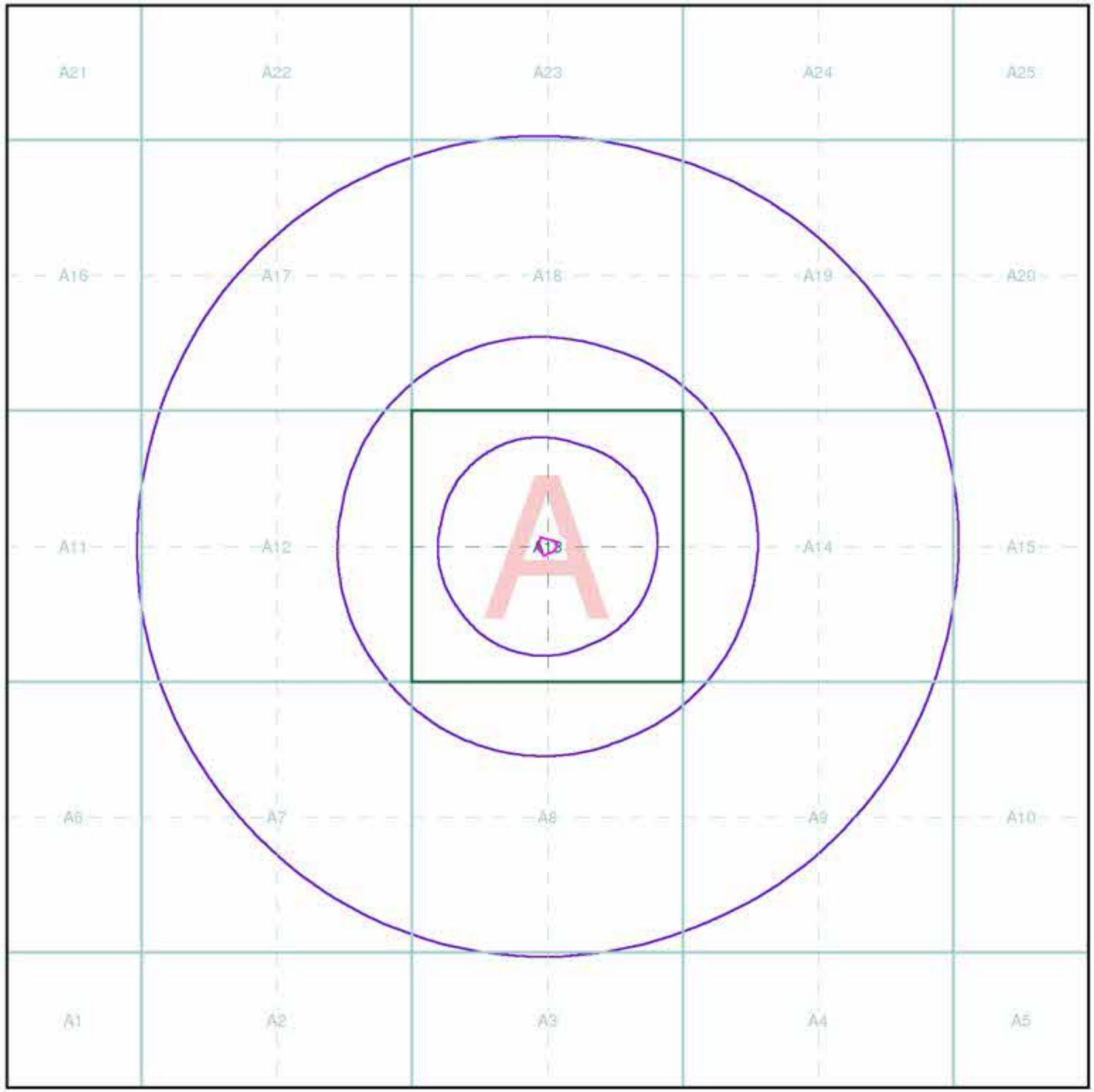

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Index Map

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

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

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

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

A selection of organisations who provide data within this report:

Map data
British Geological Survey
Cyfoeth Naturiol Cymru Natural Resources Wales

Envirocheck reports are compiled from 136 different sources of data.

Prepared For
Mr K Harris

Client Details
Mrs C Williams, Mica Environmental Ltd, 2 Lawn Cottage, Wattlesborough, Shrewsbury, Shropshire, SY5 9DY

Order Details
Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289320
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details
Land at Brynllywarch Garden, Kerry/Ceri, Powys

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

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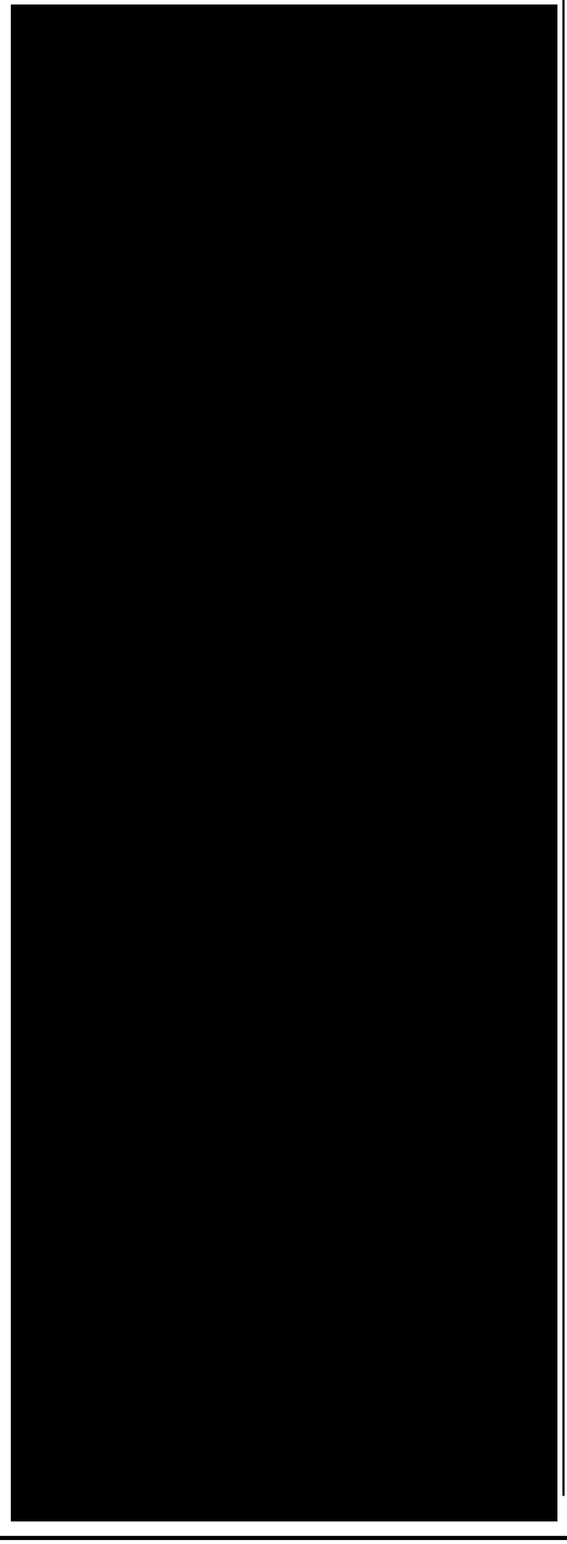
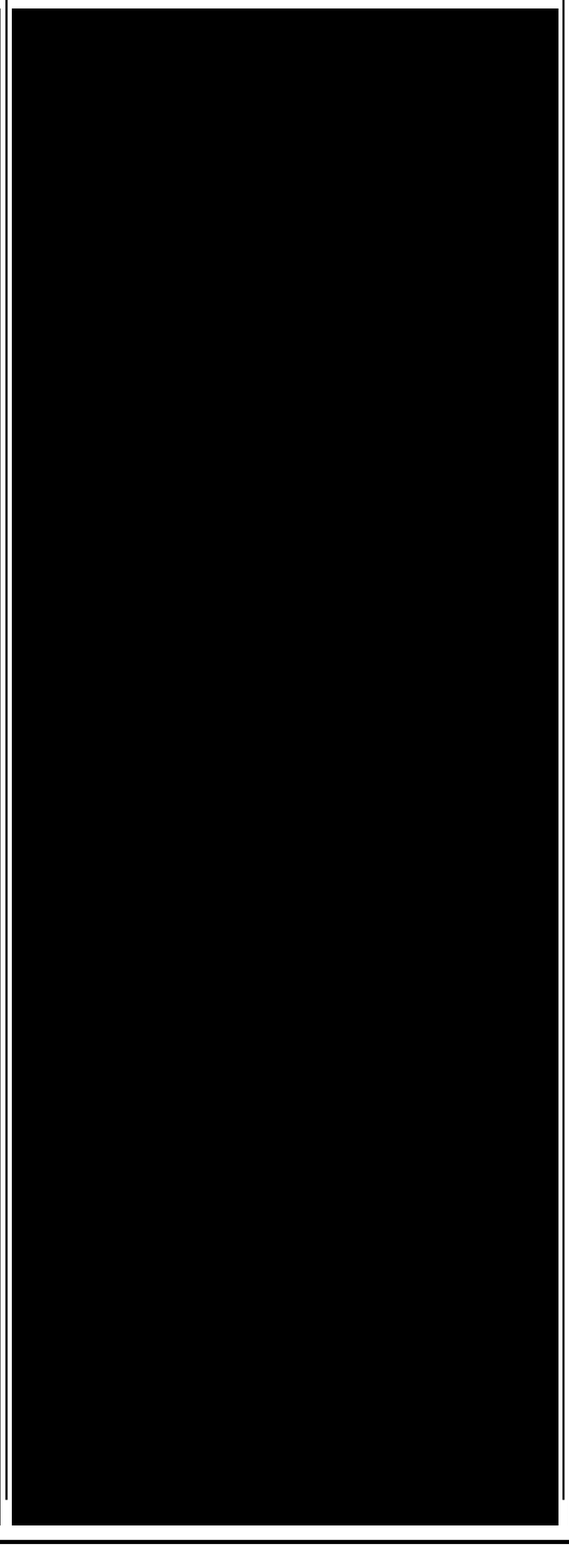
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

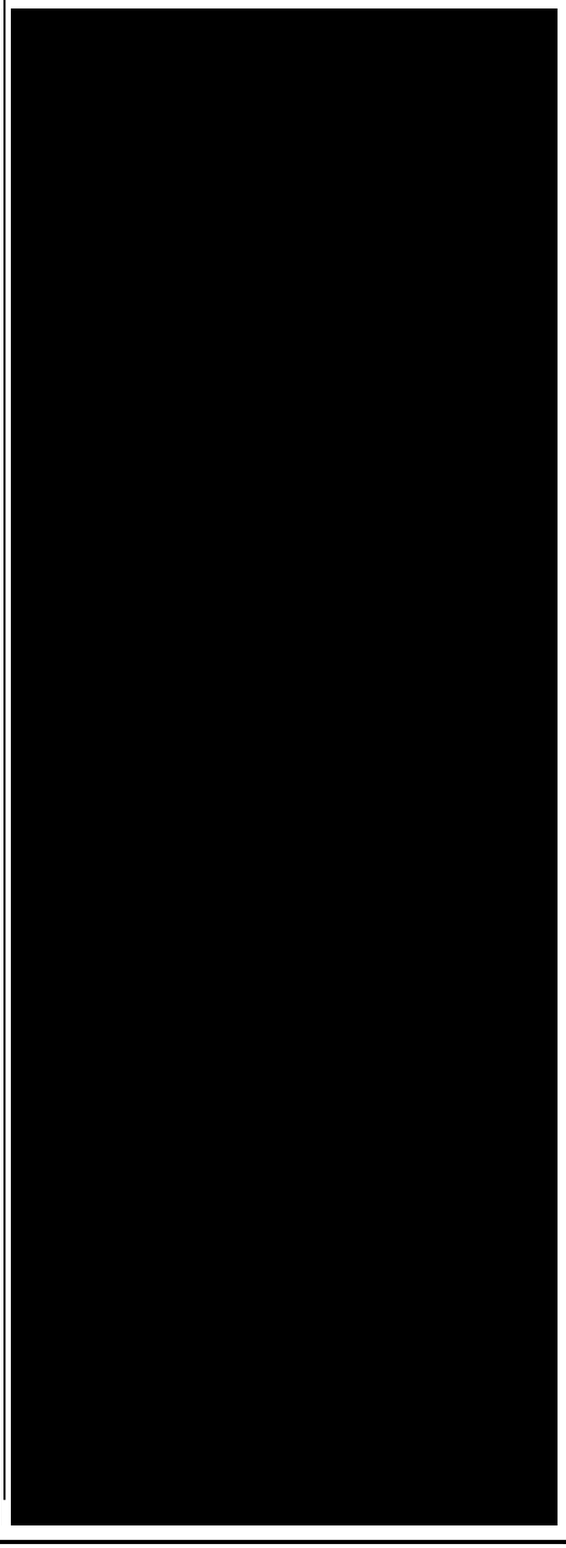
Ordnance Survey County Series 1:10,560



Ordnance Survey Plan 1:10,000



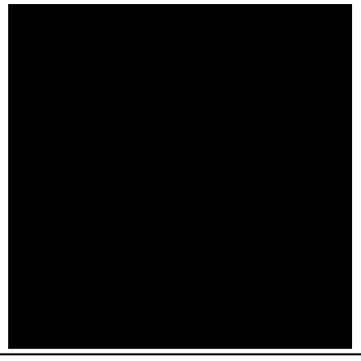
1:10,000 Raster Mapping



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Montogomeryshire	1:10,560	1884 - 1885	2
Montogomeryshire	1:10,560	1889	3
Montogomeryshire	1:10,560	1903	4
Montogomeryshire	1:10,560	1903	5
Montogomeryshire	1:10,560	1938 - 1953	6
Montogomeryshire	1:10,560	1953	7
Ordnance Survey Plan	1:10,000	1963 - 1964	8
Ordnance Survey Plan	1:10,000	1983 - 1984	9
10K Raster Mapping	1:10,000	2000	10
10K Raster Mapping	1:10,000	2006	11
VectorMap Local	1:10,000	2018	12

Historical Map - Slice A



Order Details

Order Number: 162311708_1_1
Customer Ref: MENV07115
National Grid Reference: 315380, 289330
Slice: A
Site Area (Ha): 0.14
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Web: www.envirocheck.co.uk

[redacted]

[redacted]

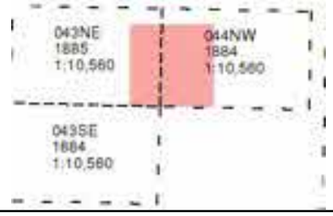
Montogomeryshire

Published 1884 - 1885

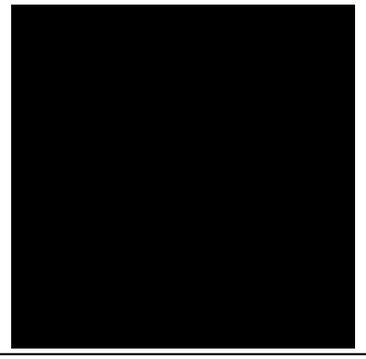
Source map scale - 1:10,560

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

Landmark INFORMATION GROUP

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

Montogomeryshire

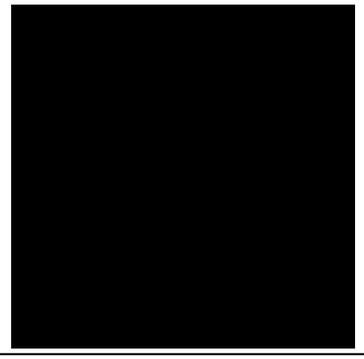
Published 1889

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

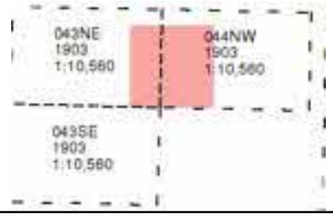
Montogomeryshire

Published 1903

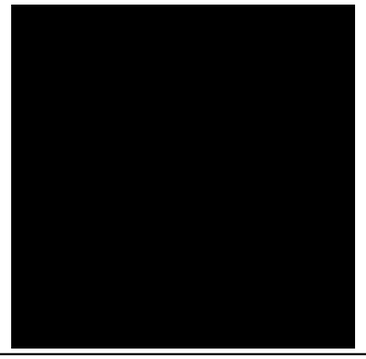
Source map scale - 1:10,560

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

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

Montogomeryshire

Published 1903

Source map scale - 1:10,560

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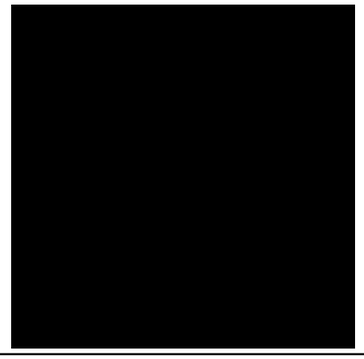
Map Name(s) and Date(s)

Historical Map - Slice A



Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

[redacted]

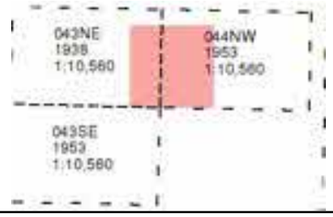
Montogomeryshire

Published 1938 - 1953

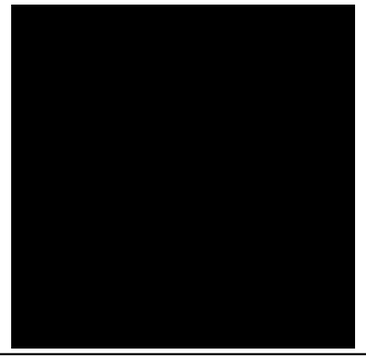
Source map scale - 1:10,560

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

Landmark INFORMATION GROUP

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

[redacted]

[redacted]

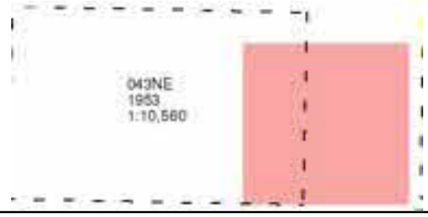
Montogomeryshire

Published 1953

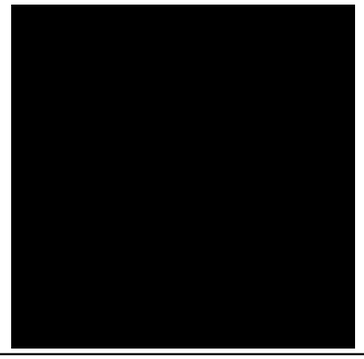
Source map scale - 1:10,560

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:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

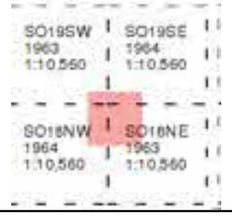
Ordnance Survey Plan

Published 1963 - 1964

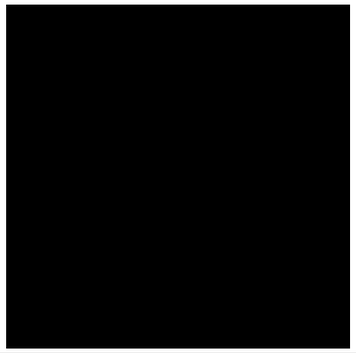
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

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

Ordnance Survey Plan

Published 1983 - 1984

Source map scale - 1:10,000

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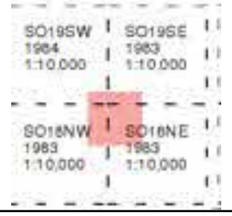
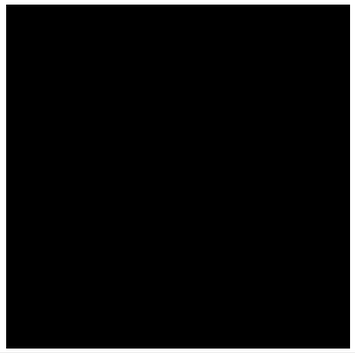
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

Landmark INFORMATION GROUP

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

[redacted]

[redacted]

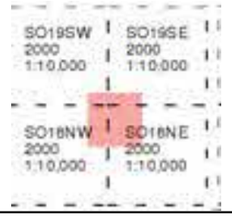
10k Raster Mapping

Published 2000

Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A

[redacted]

Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

[redacted]

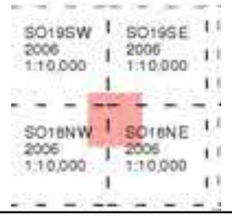
10k Raster Mapping

Published 2006

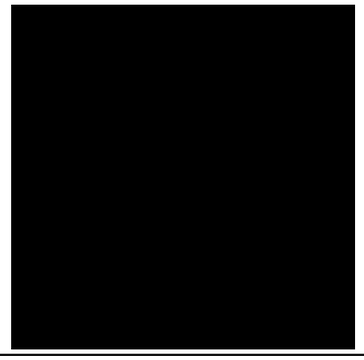
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	162311708_1_1
Customer Ref:	MENV07115
National Grid Reference:	315380, 289330
Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

[redacted]

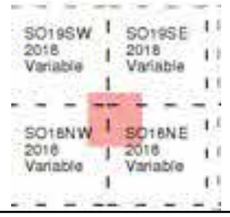
VectorMap Local

Published 2018

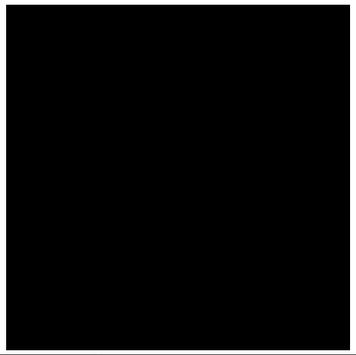
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	162311708_1_1
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Slice:	A
Site Area (Ha):	0.14
Search Buffer (m):	1000

Site Details

Land at Brynllywarch Garden, Kerry/Ceri, Powys

Appendix C

Trial Pit Logs

Trial Pit 1

Depth (m bgl)	Description
0-0.3	Brown TOPSOIL, friable with rootlets
0.3-0.7	Weak to moderately weak light grey brown highly weathered MUDSTONE recovered as blocky fine to coarse gravels and cobbles of mudstone in a silty clay matrix. (Gyfenni Wood Shale Formation)
Comments & Sampling:	TD 0.7m. Pit dry. No odour. Dimensions 1.5m x 0.9m. Sample collected from 0.15-0.2m bgl (J).

Trial Pit 2

Depth (m bgl)	Description
0-0.25	Brown TOPSOIL, friable with many rootlets
0.25-0.6	Weak light grey brown highly weathered MUDSTONE recovered as angular fine to coarse gravels and cobbles of mudstone in a silty clay matrix. (Gyfenni Wood Shale Formation)
Comments & Sampling:	TD 0.6m bgl. Pit dry. No odour. Sample collected from 0.2m bgl (J). Dimensions 1.3m x 0.9m.

Trial Pit 3

Depth (m bgl)	Description
0-0.35	Brown TOPSOIL, friable with rootlets
0.35-0.7	Very weak, grey mottled orange silty CLAY with much fine to coarse angular and subangular gravels and cobbles of mudstone. (Completely weathered Gyfenni Wood Shale Formation)
Comments & Sampling:	TD 0.7m bgl. Pit dry. No odour. Dimensions 1.2m x 0.9m. Sample collected from 0.10m bgl (J).

Trial Pit 4

Depth (m bgl)	Description
0-0.45	Weak, highly weathered grey brown MUDSTONE with occasional iron staining. Recovered as fine to coarse angular gravel and occasional cobbles in a clay matrix.
Comments & Sampling:	TD 0.45m. Dimensions 0.9m x 0.9m. Sample collected from 0.05m-0.2 (J, VOC). Trial Pit dry. No odour.

Trial Pit 5

Depth (m bgl)	Description
0-0.15	Brown TOPSOIL, friable with rootlets.
0.15-0.60	Weak highly weathered grey brown MUDSTONE with occasional iron staining. Recovered as fine to coarse angular gravel and occasional cobbles in a clay matrix.
Comments & Sampling:	TD 0.60m bgl. Pit dry. No odour. Dimensions 1.2m x 1.0m. Sampled from 0.05-0.15m (J, VOC).

Trial Pit 6

Depth (m bgl)	Description
0.0-0.70	Stiff grey mottled orange silty CLAY with much fine to coarse angular and subangular gravels and cobbles of mudstone. Some part decomposed root matter in top 0.4m. Becoming stiffer with depth. (Completely weathered Gyfenni Wood Shale Formation).
Comments & Sampling:	TD 0.70m bgl. Pit dry. No odour. Dimensions 1.2m x 1.0m. Sampled from 0.15-0.25m (J, VOC).

Trial Pit 7

Depth (m bgl)	Description
0-0.35	Brown TOPSOIL, friable with rootlets.
0.35-0.75	Soft to firm brown very silty CLAY with much sub-rounded gravel and cobbles. (Completely weathered Gyfenni Wood Shale Formation)
Comments & Sampling:	TD 0.75m bgl. Pit dry. No odour. Dimensions 1.1m x 0.9m. Sampled from 0.1-0.2m (J).

Trial Pit 8

Depth (m bgl)	Description
0-0.3	Brown TOPSOIL, friable with rootlets.
0.3-0.45	Weak, light grey brown highly weathered MUDSTONE recovered as angular fine to coarse angular and subangular gravels and cobbles of mudstone in a silty sandy clay matrix. (Gyfenni Wood Shale Formation)
Comments & Sampling:	TD 0.60m bgl. Pit dry. No odour. Dimensions 1.2m x 0.9m. Sampled from 0.05-0.10m (J). Redundant blue HDPE water pipe encountered at 0.15mbgl.

Trial Pit 9

Depth (m bgl)	Description
0-0.35	Brown TOPSOIL, friable with rootlets.
0.35-0.7	Weak, brown/grey highly weathered MUDSTONE recovered as plately and angular fine to coarse gravels and cobbles of mudstone in a silty matrix. (Gyfenni Wood Shale Formation)
Comments & Sampling:	TD 0.70m bgl. Pit dry. No odour. Dimensions 1.2m x 0.9m. Sampled at 0.15m (J).

Abbreviations:

m bgl – metres below ground level

TD – terminal depth (base of pit)

Samples – T,J,V – Tub, Jar, VOC vials

Appendix D

Analytical Laboratory Report

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Mica Environmental
2 Lawn Cottage
Wattlesborough
Shrewsbury
Shropshire
SY5 9DY

Attention: Catherine Hitchcock

CERTIFICATE OF ANALYSIS

Date:	02 May 2018
Customer:	H_MICAENV_SHW
Sample Delivery Group (SDG):	180424-86
Your Reference:	MENV07115
Location:	KERRY, POWYS
Report No:	454433

We received 9 samples on Tuesday April 24, 2018 and 9 of these samples were scheduled for analysis which was completed on Wednesday May 02, 2018. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Approved By:

[redacted]

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
17435562	TP1		0.15 - 0.20	23/04/2018
17435563	TP2		0.20 - 0.20	23/04/2018
17435564	TP3		0.10 - 0.10	23/04/2018
17435565	TP4		0.05 - 0.20	23/04/2018
17435566	TP5		0.05 - 0.15	23/04/2018
17435567	TP6		0.15 - 0.25	23/04/2018
17435568	TP7		0.10 - 0.20	23/04/2018
17435569	TP8		0.05 - 0.10	23/04/2018
17435570	TP9		0.15 - 0.15	23/04/2018

Maximum Sample/Coolbox Temperature (°C) : **9.2**

ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			17435562	17435563	17435564	17435565		17435566	17435567	17435568	17435569	17435570
Customer Sample Reference			TP1	TP2	TP3	TP4		TP5	TP6	TP7	TP8	TP9
AGS Reference												
Depth (m)			0.15 - 0.20	0.20 - 0.20	0.10 - 0.10	0.05 - 0.20		0.05 - 0.15	0.15 - 0.25	0.10 - 0.20	0.05 - 0.10	0.15 - 0.15
Container			250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3				X		X		X		
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 2				X		X				
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 2				X		X				
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2					X		X			
Metals in solid samples by OES	All	NDPs: 0 Tests: 9	X	X	X	X		X		X	X	X	X
PAH by GCMS	All	NDPs: 0 Tests: 4	X		X						X	X	
pH	All	NDPs: 0 Tests: 9	X	X	X	X		X		X	X	X	X
Sample description	All	NDPs: 0 Tests: 9	X	X	X	X		X		X	X	X	X
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 2								X			X
Total Organic Carbon	All	NDPs: 0 Tests: 1	X										
TPH CWG GC (S)	All	NDPs: 0 Tests: 2				X		X					
VOC MS (S)	All	NDPs: 0 Tests: 2					X		X				

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	< 0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	> 10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
17435562	TP1	0.15 - 0.20	Dark Brown	Loamy Sand	Vegetation	None
17435563	TP2	0.20 - 0.20	Dark Brown	Loamy Sand	Vegetation	None
17435564	TP3	0.10 - 0.10	Dark Brown	Loamy Sand	Vegetation	Stones
17435565	TP4	0.05 - 0.20	Dark Brown	Dry Sample Received	None	Vegetation
17435566	TP5	0.05 - 0.15	Dark Brown	Sandy Loam	Stones	Vegetation
17435567	TP6	0.15 - 0.25	Dark Brown	Sandy Loam	Stones	Vegetation
17435568	TP7	0.10 - 0.20	Dark Brown	Silt Loam	Stones	Vegetation
17435569	TP8	0.05 - 0.10	Dark Brown	Sandy Loam	Vegetation	None
17435570	TP9	0.15 - 0.15	Dark Brown	Loamy Sand	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			TP1	0.15 - 0.20	Soil/Solid (S)	23/04/2018	.	24/04/2018	180424-86	17435562	
			TP2	0.20 - 0.20	Soil/Solid (S)	23/04/2018	.	24/04/2018	180424-86	17435563	
			TP3	0.10 - 0.10	Soil/Solid (S)	23/04/2018	.	24/04/2018	180424-86	17435564	
			TP4	0.05 - 0.20	Soil/Solid (S)	23/04/2018	.	24/04/2018	180424-86	17435565	
			TP5	0.05 - 0.15	Soil/Solid (S)	23/04/2018	.	24/04/2018	180424-86	17435566	
			TP6	0.15 - 0.25	Soil/Solid (S)	23/04/2018	.	24/04/2018	180424-86	17435567	
Moisture Content Ratio (% of as received sample)	%	PM024	28	34	33	8.3	24	20			
Soil Organic Matter (SOM)	<0.35 %	TM132	4.17 #								
pH	1 pH Units	TM133	5.95 M	5.34 M	5.83 M	7.13 #	6.42 M	7.33 M			
Arsenic	<0.6 mg/kg	TM181	10.2 M	9.64 M	9.44 M	6.45 #	8.42 M	7.89 M			
Cadmium	<0.02 mg/kg	TM181	0.464 M	0.486 M	0.475 M	0.421 #	0.442 M	0.392 M			
Chromium	<0.9 mg/kg	TM181	21 M	23.1 M	21.7 M	20.3 #	20.3 M	18.6 M			
Copper	<1.4 mg/kg	TM181	22.4 M	21.6 M	22.5 M	47.5 #	25.1 M	22.8 M			
Lead	<0.7 mg/kg	TM181	46.9 M	37.8 M	37.7 M	20.9 #	56.5 M	16.2 M			
Mercury	<0.14 mg/kg	TM181	<0.14 M	<0.14 M	<0.14 M	<0.14 #	<0.14 M	<0.14 M			
Nickel	<0.2 mg/kg	TM181	29.1 M	29.1 M	32.2 M	45.3 #	27.2 M	36.1 M			
Selenium	<1 mg/kg	TM181	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #			
Zinc	<1.9 mg/kg	TM181	113 M	113 M	112 M	95.3 #	121 M	94.5 M			

Validated

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Results Legend

- # ISO17025 accredited.
- M *m*CERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted test.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- (F) Trigger breach confirmed
- 1-5&♦§@ Sample deviation (see appendix)

Customer Sample Ref.			TP7	TP8	TP9			
Depth (m)			0.10 - 0.20	0.05 - 0.10	0.15 - 0.15			
Sample Type			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
Date Sampled			23/04/2018	23/04/2018	23/04/2018			
Sample Time			.	.	.			
Date Received			24/04/2018	24/04/2018	24/04/2018			
SDG Ref			180424-86	180424-86	180424-86			
Lab Sample No.(s)			17435568	17435569	17435570			
AGS Reference								
Component	**LOD/Units**	**Method**						
Moisture Content Ratio (% of as received sample)	%	PM024	28	28	25			
pH	1 pH Units	TM133	6.33 M	6.3 M	5.66 M			
Arsenic	<0.6 mg/kg	TM181	8.64 M	10.6 M	10.2 M			
Cadmium	<0.02 mg/kg	TM181	0.452 M	0.494 M	0.502 M			
Chromium	<0.9 mg/kg	TM181	21.1 M	23.2 M	21 M			
Copper	<1.4 mg/kg	TM181	28.6 M	27.2 M	21 M			
Lead	<0.7 mg/kg	TM181	39.1 M	38.7 M	41.9 M			
Mercury	<0.14 mg/kg	TM181	<0.14 M	<0.14 M	<0.14 M			
Nickel	<0.2 mg/kg	TM181	34.2 M	33 M	31.4 M			
Selenium	<1 mg/kg	TM181	<1 #	<1 #	<1 #			
Zinc	<1.9 mg/kg	TM181	126 M	125 M	124 M			

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CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP1	TP3	TP7	TP8		
			Depth (m)	0.15 - 0.20	0.10 - 0.10	0.10 - 0.20	0.05 - 0.10		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	23/04/2018	23/04/2018	23/04/2018	23/04/2018		
			Sample Time	.	.	.	.		
			Date Received	24/04/2018	24/04/2018	24/04/2018	24/04/2018		
			SDG Ref	180424-86	180424-86	180424-86	180424-86		
			Lab Sample No.(s)	17435562	17435564	17435568	17435569		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		111	112	107	106		
Acenaphthene-d10 % recovery**	%	TM218		111	109	99.9	101		
Phenanthrene-d10 % recovery**	%	TM218		107	107	103	105		
Chrysene-d12 % recovery**	%	TM218		95.6	108	99.1	100		
Perylene-d12 % recovery**	%	TM218		100	127	104	99.7		
Naphthalene	<9 µg/kg	TM218		44.9 M	<9 M	<9 M	<9 M		
Acenaphthylene	<12 µg/kg	TM218		<12 M	49.8 M	<12 M	<12 M		
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	<8 M	<8 M		
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	<10 M	<10 M		
Phenanthrene	<15 µg/kg	TM218		48.3 M	109 M	24 M	<15 M		
Anthracene	<16 µg/kg	TM218		<16 M	82.1 M	<16 M	<16 M		
Fluoranthene	<17 µg/kg	TM218		35.5 M	982 M	205 M	128 M		
Pyrene	<15 µg/kg	TM218		28.5 M	1050 M	223 M	128 M		
Benz(a)anthracene	<14 µg/kg	TM218		20.1 M	722 M	136 M	87 M		
Chrysene	<10 µg/kg	TM218		21.2 M	763 M	147 M	89.5 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		37.7 M	2480 M	450 M	170 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		<14 M	860 M	152 M	70.8 M		
Benzo(a)pyrene	<15 µg/kg	TM218		21.9 M	1730 M	277 M	111 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		<18 M	1370 M	227 M	76.4 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	330 M	51 M	<23 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		<24 M	1700 M	295 M	99.9 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		258	12200	2190	960		

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP6	TP9				
			Depth (m)	0.15 - 0.25	0.15 - 0.15				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	23/04/2018	23/04/2018				
			Sample Time	.	.				
			Date Received	24/04/2018	24/04/2018				
			SDG Ref	180424-86	180424-86				
			Lab Sample No.(s)	17435567	17435570				
			AGS Reference						
Phenol	<100 µg/kg	TM157		<100	<100				
Pentachlorophenol	<100 µg/kg	TM157		<100	<100				
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157		<100	<100				
Nitrobenzene	<100 µg/kg	TM157		<100	<100				
Isophorone	<100 µg/kg	TM157		<100	<100				
Hexachloroethane	<100 µg/kg	TM157		<100	<100				
Hexachlorocyclopentadiene	<100 µg/kg	TM157		<100	<100				
Hexachlorobutadiene	<100 µg/kg	TM157		<100	<100				
Hexachlorobenzene	<100 µg/kg	TM157		<100	<100				
n-Dioctyl phthalate	<100 µg/kg	TM157		<100	<100				
Dimethyl phthalate	<100 µg/kg	TM157		<100	<100				
Diethyl phthalate	<100 µg/kg	TM157		<100	<100				
n-Dibutyl phthalate	<100 µg/kg	TM157		<100	<100				
Dibenzofuran	<100 µg/kg	TM157		<100	<100				
Carbazole	<100 µg/kg	TM157		<100	<100				
Butylbenzyl phthalate	<100 µg/kg	TM157		<100	<100				
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157		<100	<100				
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157		<100	<100				
bis(2-Chloroethyl)ether	<100 µg/kg	TM157		<100	<100				
Azobenzene	<100 µg/kg	TM157		<100	<100				
4-Nitrophenol	<100 µg/kg	TM157		<100	<100				
4-Nitroaniline	<100 µg/kg	TM157		<100	<100				
4-Methylphenol	<100 µg/kg	TM157		<100	<100				
4-Chlorophenylphenylether	<100 µg/kg	TM157		<100	<100				
4-Chloroaniline	<100 µg/kg	TM157		<100	<100				
4-Chloro-3-methylphenol	<100 µg/kg	TM157		<100	<100				
4-Bromophenylphenylether	<100 µg/kg	TM157		<100	<100				
3-Nitroaniline	<100 µg/kg	TM157		<100	<100				
2-Nitrophenol	<100 µg/kg	TM157		<100	<100				
2-Nitroaniline	<100 µg/kg	TM157		<100	<100				
2-Methylphenol	<100 µg/kg	TM157		<100	<100				
1,2,4-Trichlorobenzene	<100 µg/kg	TM157		<100	<100				
2-Chlorophenol	<100 µg/kg	TM157		<100	<100				

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP6	TP9				
			Depth (m)	0.15 - 0.25	0.15 - 0.15				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	23/04/2018	23/04/2018				
			Sample Time	.	.				
			Date Received	24/04/2018	24/04/2018				
			SDG Ref	180424-86	180424-86				
			Lab Sample No.(s)	17435567	17435570				
			AGS Reference						
2,6-Dinitrotoluene	<100 µg/kg	TM157		<100	<100				
2,4-Dinitrotoluene	<100 µg/kg	TM157		<100	<100				
2,4-Dimethylphenol	<100 µg/kg	TM157		<100	<100				
2,4-Dichlorophenol	<100 µg/kg	TM157		<100	<100				
2,4,6-Trichlorophenol	<100 µg/kg	TM157		<100	<100				
2,4,5-Trichlorophenol	<100 µg/kg	TM157		<100	<100				
1,4-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
1,3-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
1,2-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
2-Chloronaphthalene	<100 µg/kg	TM157		<100	<100				
2-Methylnaphthalene	<100 µg/kg	TM157		<100	<100				
Acenaphthylene	<100 µg/kg	TM157		<100	<100				
Acenaphthene	<100 µg/kg	TM157		<100	<100				
Anthracene	<100 µg/kg	TM157		<100	<100				
Benzo(a)anthracene	<100 µg/kg	TM157		<100	<100				
Benzo(b)fluoranthene	<100 µg/kg	TM157		<100	<100				
Benzo(k)fluoranthene	<100 µg/kg	TM157		<100	<100				
Benzo(a)pyrene	<100 µg/kg	TM157		<100	<100				
Benzo(g,h,i)perylene	<100 µg/kg	TM157		<100	<100				
Chrysene	<100 µg/kg	TM157		<100	<100				
Fluoranthene	<100 µg/kg	TM157		<100	<100				
Fluorene	<100 µg/kg	TM157		<100	<100				
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157		<100	<100				
Phenanthrene	<100 µg/kg	TM157		<100	<100				
Pyrene	<100 µg/kg	TM157		<100	<100				
Naphthalene	<100 µg/kg	TM157		<100	<100				
Dibenzo(a,h)anthracene	<100 µg/kg	TM157		<100	<100				
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157		<100	<100				

Validated

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP4	TP5				
			Depth (m)	0.05 - 0.20	0.05 - 0.15				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	23/04/2018	23/04/2018				
			Sample Time	.	.				
			Date Received	24/04/2018	24/04/2018				
			SDG Ref	180424-86	180424-86				
			Lab Sample No.(s)	17435565	17435566				
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		105	73				
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089		<44	<44				
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10				
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10				
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10				
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	<10				
Aliphatics >C12-C16	<100 µg/kg	TM173		<100	<100				
Aliphatics >C16-C21	<100 µg/kg	TM173		1160	<100				
Aliphatics >C21-C35	<100 µg/kg	TM173		11300	5110				
Aliphatics >C35-C44	<100 µg/kg	TM173		<100	<100				
Total Aliphatics >C12-C44	<100 µg/kg	TM173		12500	5110				
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10				
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10				
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10				
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10				
Aromatics >EC12-EC16	<100 µg/kg	TM173		<100	1940				
Aromatics >EC16-EC21	<100 µg/kg	TM173		<100	6170				
Aromatics >EC21-EC35	<100 µg/kg	TM173		3200	33400				
Aromatics >EC35-EC44	<100 µg/kg	TM173		2790	13300				
Aromatics >EC40-EC44	<100 µg/kg	TM173		1680	5120				
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		5990	54800				
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		18400	59900				

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP4	TP5				
			Depth (m)	0.05 - 0.20	0.05 - 0.15				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	23/04/2018	23/04/2018				
			Sample Time	.	.				
			Date Received	24/04/2018	24/04/2018				
			SDG Ref	180424-86	180424-86				
			Lab Sample No.(s)	17435565	17435566				
			AGS Reference						
Dibromofluoromethane**	%	TM116		105	107				
Toluene-d8**	%	TM116		95.3	91.1				
4-Bromofluorobenzene**	%	TM116		85.8	75.3				
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<10 #	<10 M				
Benzene	<9 µg/kg	TM116		<9 #	<9 M				
Toluene	<7 µg/kg	TM116		<7 #	<7 M				
Ethylbenzene	<4 µg/kg	TM116		<4 #	<4 M				
p/m-Xylene	<10 µg/kg	TM116		<10 #	<10 #				
o-Xylene	<10 µg/kg	TM116		<10 #	<10 M				

Validated

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Asbestos Identification - Solid Samples

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP4 0.05 - 0.20 SOLID 23/04/2018 00:00:00 25/04/2018 17:52:43 180424-86 17435565 TM048	30/04/2018	Lucy Caroe	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP5 0.05 - 0.15 SOLID 23/04/2018 00:00:00 25/04/2018 18:01:58 180424-86 17435566 TM048	01/05/2018	Barbara Urbanek-Walsh	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP7 0.10 - 0.20 SOLID 23/04/2018 00:00:00 25/04/2018 17:44:05 180424-86 17435568 TM048	01/05/2018	Lucy Caroe	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description
PM001		Preparation of Samples for Metals Analysis
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	180424-86	**Client Reference:**	MENV07115	**Report Number:**	454433
Location:	KERRY, POWYS	**Order Number:**		**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	17435562	17435563	17435564	17435565	17435566	17435567	17435568	17435569	17435570
Customer Sample Ref.	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	TP9
AGS Ref.									
Depth	0.15 - 0.20	0.20 - 0.20	0.10 - 0.10	0.05 - 0.20	0.05 - 0.15	0.15 - 0.25	0.10 - 0.20	0.05 - 0.10	0.15 - 0.15
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Asbestos ID in Solid Samples				30-Apr-2018	01-May-2018		01-May-2018		
EPH CWG (Aliphatic) GC (S)				01-May-2018	30-Apr-2018				
EPH CWG (Aromatic) GC (S)				01-May-2018	30-Apr-2018				
GRO by GC-FID (S)				28-Apr-2018	28-Apr-2018				
Metals in solid samples by OES	30-Apr-2018	30-Apr-2018	30-Apr-2018	27-Apr-2018	30-Apr-2018	27-Apr-2018	30-Apr-2018	27-Apr-2018	30-Apr-2018
PAH by GCMS	02-May-2018		01-May-2018				01-May-2018	01-May-2018	
pH	28-Apr-2018	28-Apr-2018	27-Apr-2018	27-Apr-2018	27-Apr-2018	27-Apr-2018	28-Apr-2018	27-Apr-2018	28-Apr-2018
Sample description	25-Apr-2018	25-Apr-2018	25-Apr-2018	25-Apr-2018	25-Apr-2018	25-Apr-2018	25-Apr-2018	25-Apr-2018	25-Apr-2018
Semi Volatile Organic Compounds						30-Apr-2018			30-Apr-2018
Total Organic Carbon	27-Apr-2018								
TPH CWG GC (S)				01-May-2018	30-Apr-2018				
VOC MS (S)				27-Apr-2018	27-Apr-2018				

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analy for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NI BRE method, VOC TICs and SVOC TICs.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge fc days after analysis is completed (e-mailed) for all sample types unless the sample is on testing. The prepared soil sub sample that is analysed for asbestos will be retai period of 6 months after the analysis date. All bulk samples will be retained for a p months after the analysis date. All samples received and not scheduled will be dis one month after the date of receipt unless we are instructed to the contrary. Once t period has expired, a storage charge will be applied for each month or part thereof client cancels the request for sample storage. ALS reserve the right to charge for received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinan are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in hou presence of asbestos fibres and asbestos containing material by our documented method TM048 based on HSG 248 (2005), which is accredited to ISO17025. asbestos fibre type is not found this will be reported as "Not detected". If no asbe types are found all will be reported as "Not detected" and the sub sample analysed to be clear of asbestos. If an asbestos fibre type is found it will be reported as det each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reporte Determination Possible (NDP). The quantity of asbestos present is not determin specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or se present in the volatile sample, the integrity of the data may be compromised. flagged up as an invalid VOC on the test schedule and the result marked as d the test certificate.

8. If appropriate preserved bottles are not received preservation will take place However, the integrity of the data may be compromised.

9. NDP - No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent metals - total metals must be requested separately.

11. Results relate only to the items tested.

12. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenc and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to th being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as t performed on a dried and crushed sample.

20. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

General

21. For the BSEN 12457-3 two batch process to allow the cumulative calculated, the volume of the leachate produced is measured and filtered We therefore cannot carry out any unfiltered analysis. The tests affected include GCFID/GCMS and all subcontracted analysis.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, c materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part c Other coarse granular material such as concrete, gravel and brick are not ac they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by rete only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes a xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although thi commonly used for the quantification of gasoline range organics (GRO), the system v also detect other compounds such as chlorinated solvents, and this may lead to high result with respect to hydrocarbons only. It is not possible to specific these non-hydrocarbons, as standards are not routinely run for any other c and for more definitive identification, volatiles by GCMS should be utilised.

24. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained fro bulk materials which have been examined to determine the presence of asbest using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homoge sample which has been examined to determine the presence of asbestos fil ALS (Hawarden) in-house method of transmitted/polarised light microscopy ar stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredite than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.