

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:



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

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

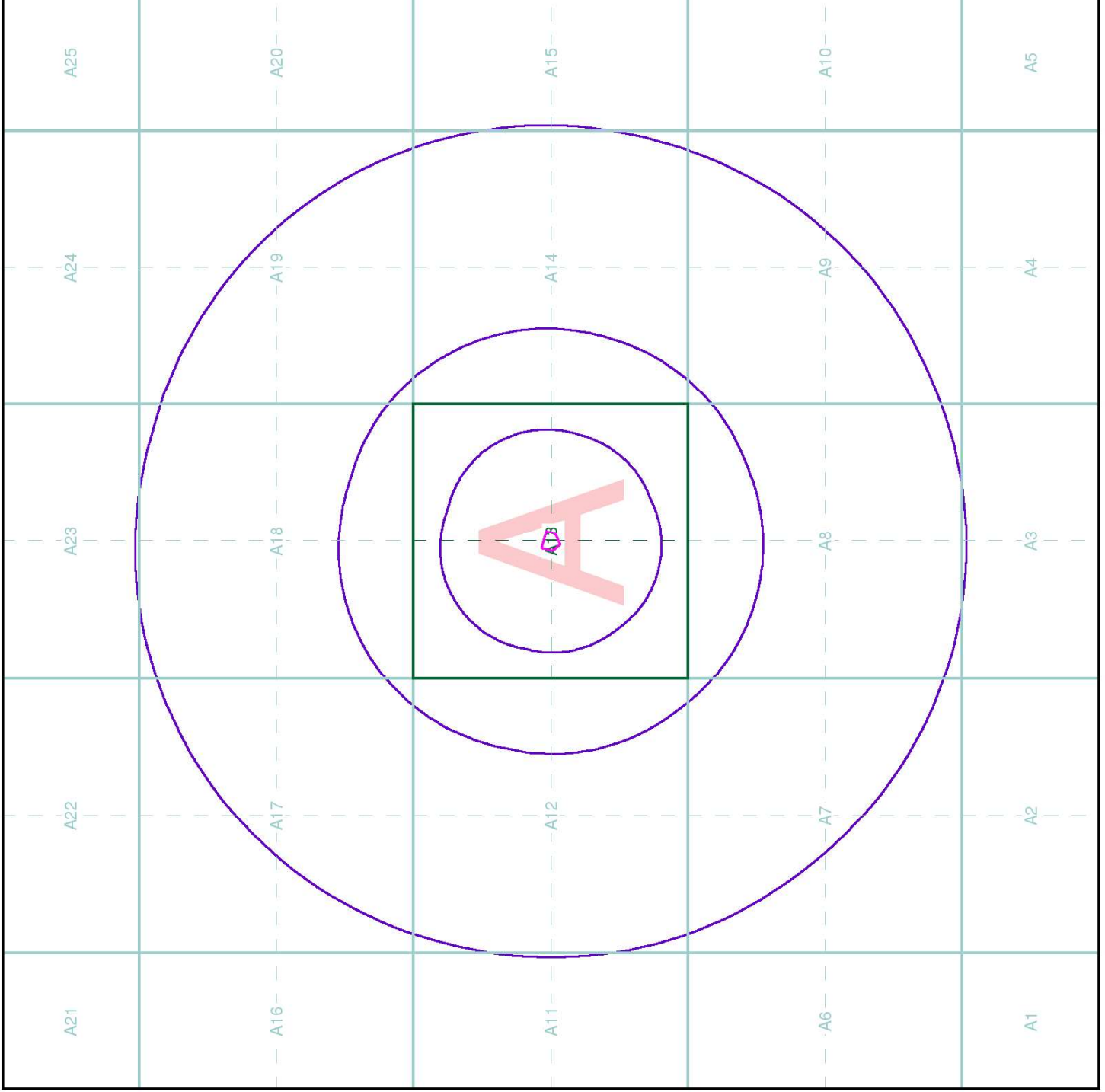
Order Details

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 Brynlywarch Garden, Kerry/Cerri, Powys

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show515>



Historical Mapping & Photography included:

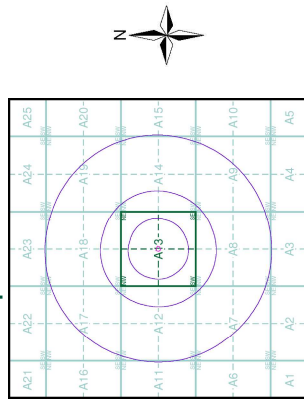
Mapping Type	Scale	Date	Eq.
Montgomeryshire	1:10,560	1884 - 1885	2
Montgomeryshire	1:10,560	1889	3
Montgomeryshire	1:10,560	1903	4
Montgomeryshire	1:10,560	1903	5
Montgomeryshire	1:10,560	1938 - 1953	6
Montgomeryshire	1:10,560	1953	7
Ordnance Survey Plan	1:10,000	1963 - 1964	8
Ordnance Survey Plan	1:10,000	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

1:10,000 Raster Mapping

Ordnance Survey Plan 1:10,000

Ordnance Survey County Series 1:10,560

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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Site Details

Land at Brynlywarch Garden, Kerry/Ceri, Powys

Montgomeryshire

Published 1884 - 1885

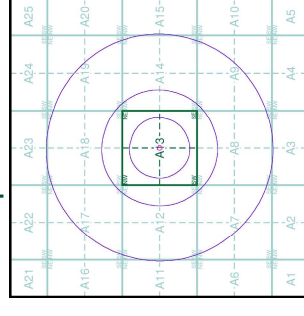
Source map scale - 1:10,560

The historical maps shown are reproduced from maps predominantly held at the Ordnance Survey (OS) archives in the UK. The maps were first published in 1884 for England, Wales and Scotland in the 1840's. In 1854 the OS introduced the Ordnance Survey (OS) maps for Ireland. The maps were used to update the 1:10,560 scale. The published date refers to the year the map was first published, not the date of the survey. 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 overlaid 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)

043NE	1885	1:10,560
044NW	1884	1:10,560
043SE	1884	1:10,560

Historical Map - Slice A

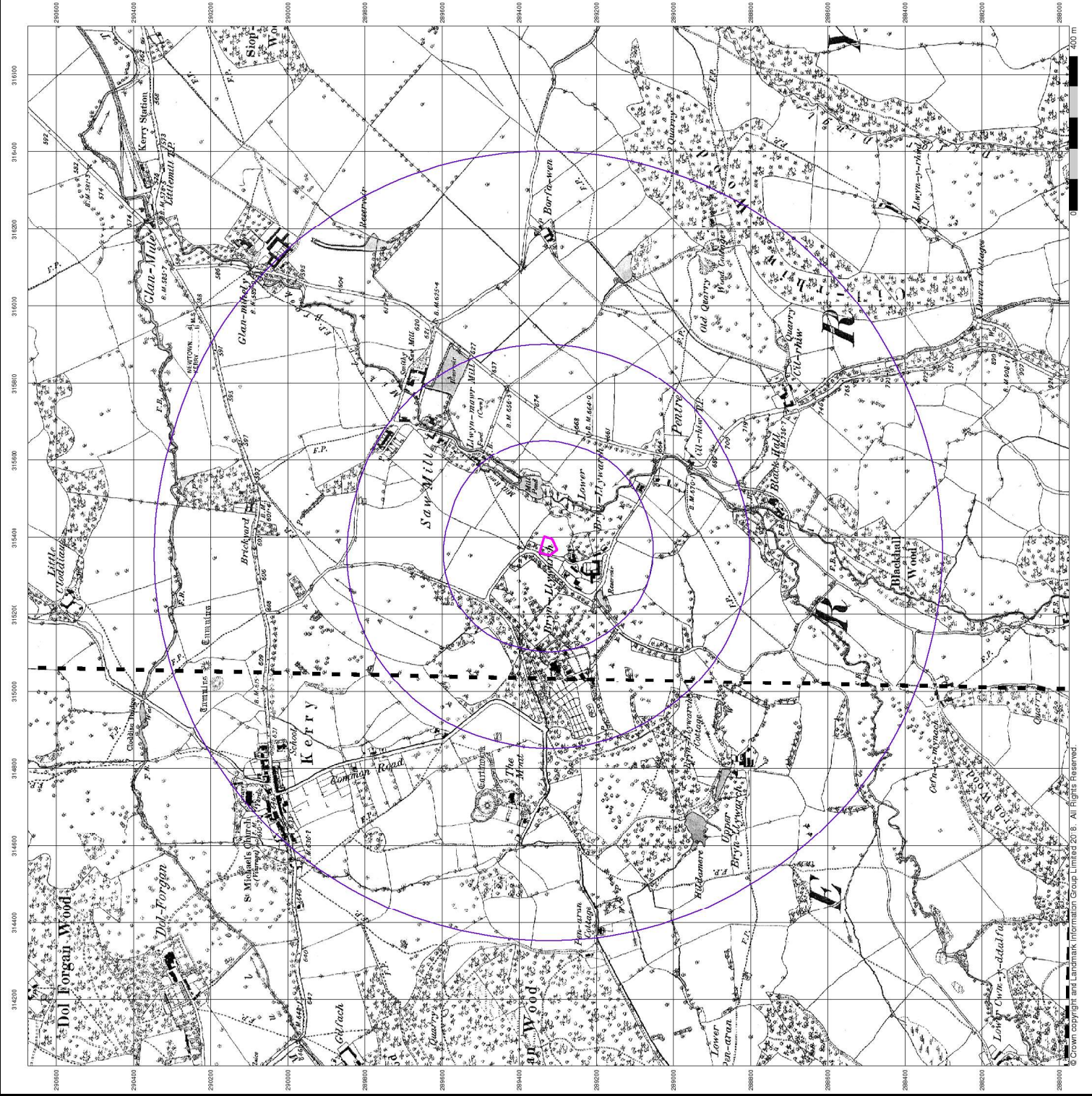


Order Details

Order Number: 16231708_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 Brynlywarch Garden, Kerry/Cerri, Powys



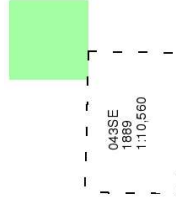
Montgomeryshire

Published 1889

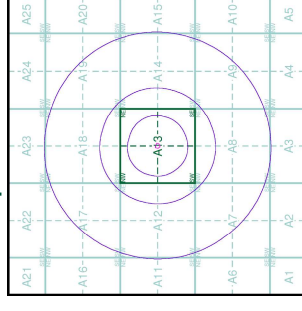
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the National Library of Wales and Scotland in the 1940's. In 1889 the Ordnance Survey produced a series of maps for Montgomeryshire at a scale of 1:10,560. The published date of these maps 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

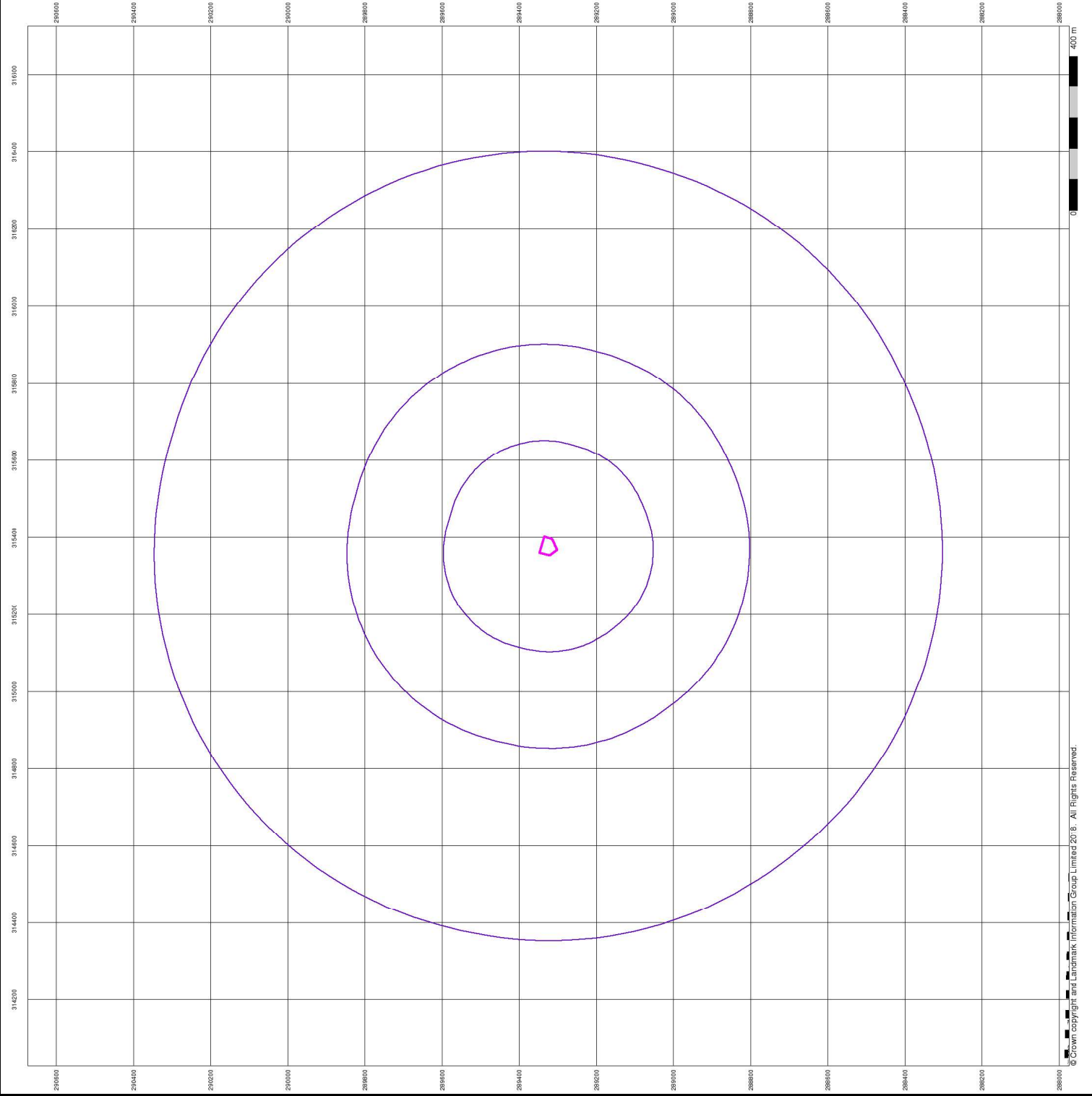


Order Details

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 Brynlywarch Garden, Kerry/Ceri, Powys



Montgomeryshire

Published 1903

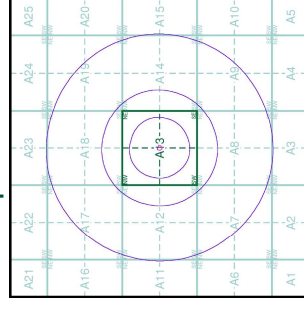
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, which were adopted for England, Wales and Scotland in the 1840's. In 1854 the Ordnance Survey published the first 1:10,560 scale maps. These maps were used to update the 1:10,560 scale maps. The published date on the maps are often some years later than the survey 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 overlaid 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)

043NE	1903	044NW
1:10,560	1903	1:10,560
043SE	1903	
1:10,560		

Historical Map - Slice A

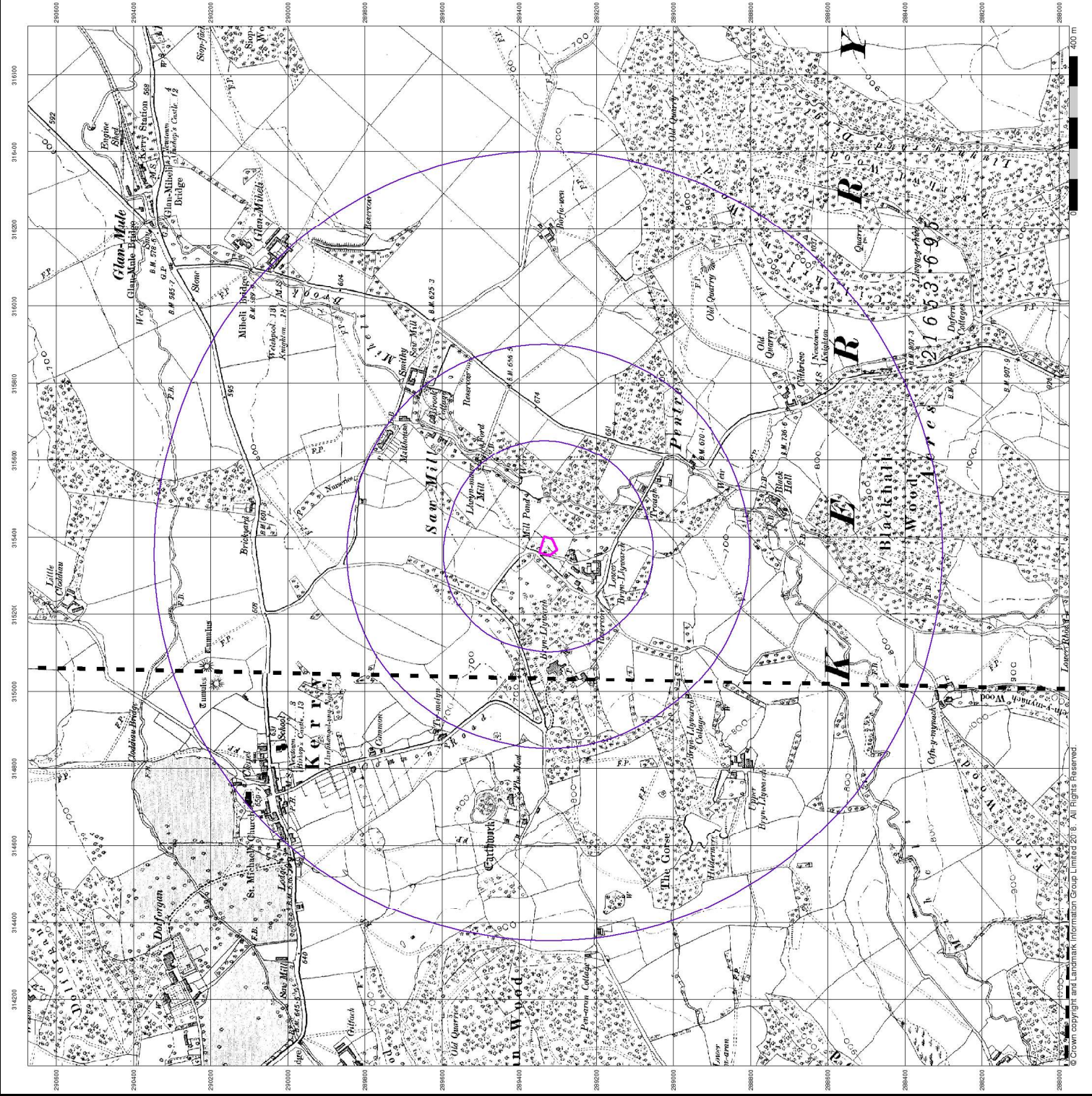


Order Details

Order Number: 162317708_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 Brynlywarch Garden, Kerry/Ceri, Powys



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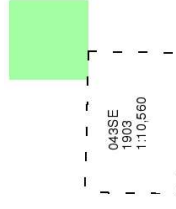
Montgomeryshire

Published 1903

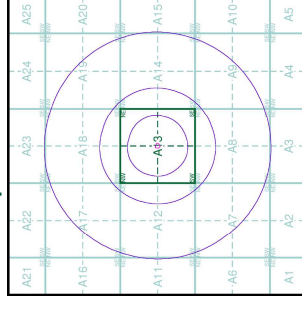
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the National Library of Wales and Scotland in the 1940's. In 1894 the Ordnance Survey produced maps for military purposes. These maps were used to update the 1:10,560 maps. The published date is the date the maps were first published, not the date the survey was conducted. 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 Brynlywarch Garden, Kerry/Ceri, Powys

Montgomeryshire

Published 1938 - 1953

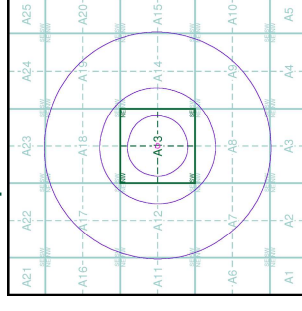
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, which were adopted for England, Wales and Scotland in the 1840's. In 1854 the Ordnance Survey published the first OS maps. The published OS maps were used to update the 1:10,560 maps. The published OS maps were used for some years later than the survey 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 overlaid 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)

043NE	1938	1:10,560
044NW	1953	1:10,560
043SE	1953	1:10,560

Historical Map - Slice A

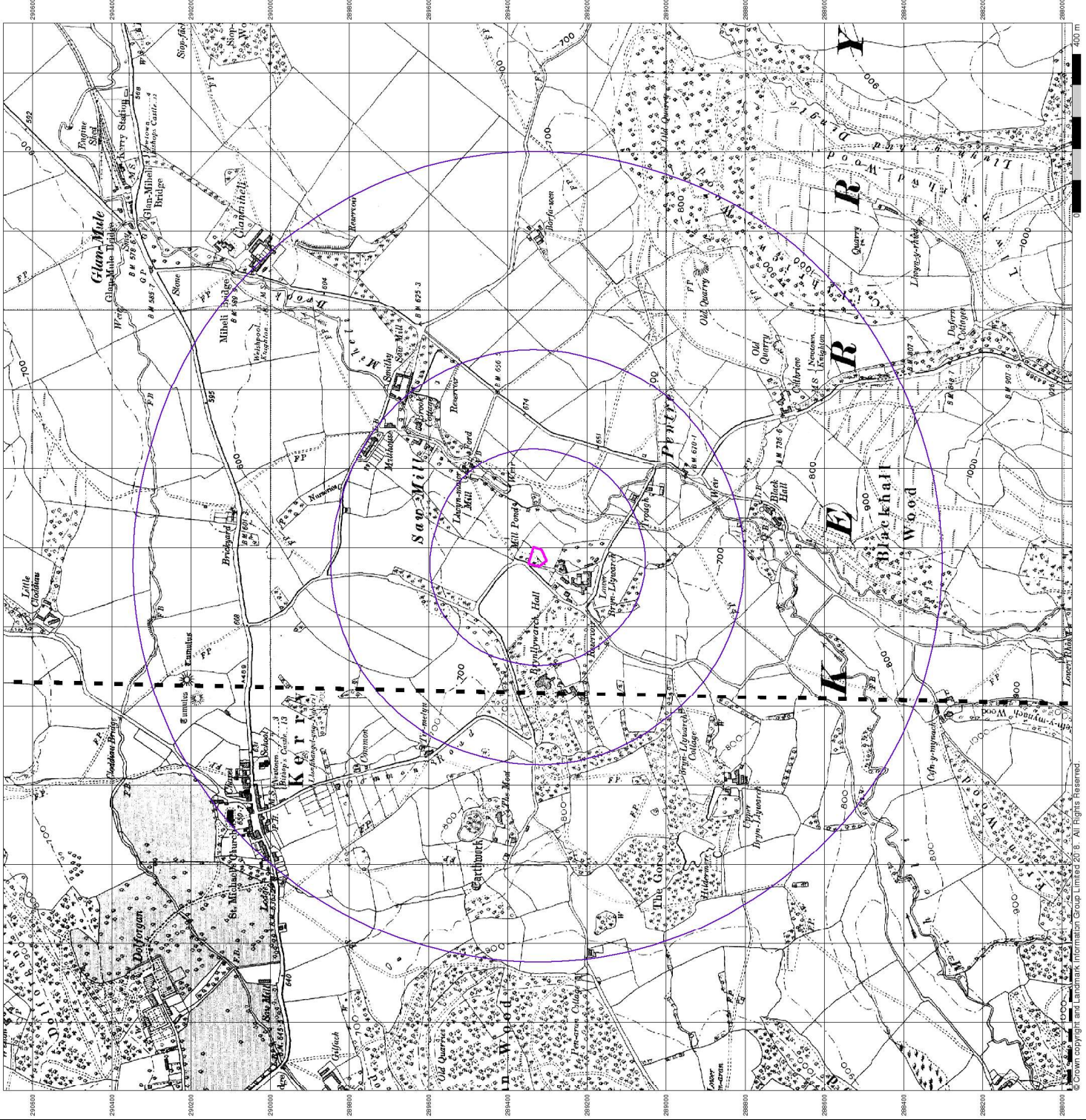


Order Details

Order Number: 162317708_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 Brynilywarch Garden, Kerry/Ceri, Powys



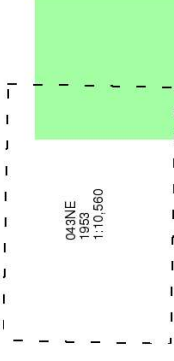
Montgomeryshire

Published 1953

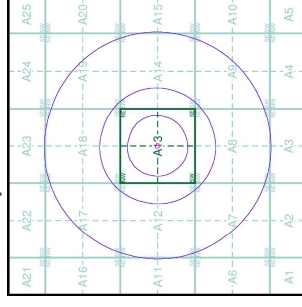
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Wales and Scotland in the 1940's. In 1854 the Ordnance Survey began to publish maps of the British Isles, and these were used to update the 1:10,560 maps. The published date on the maps are 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



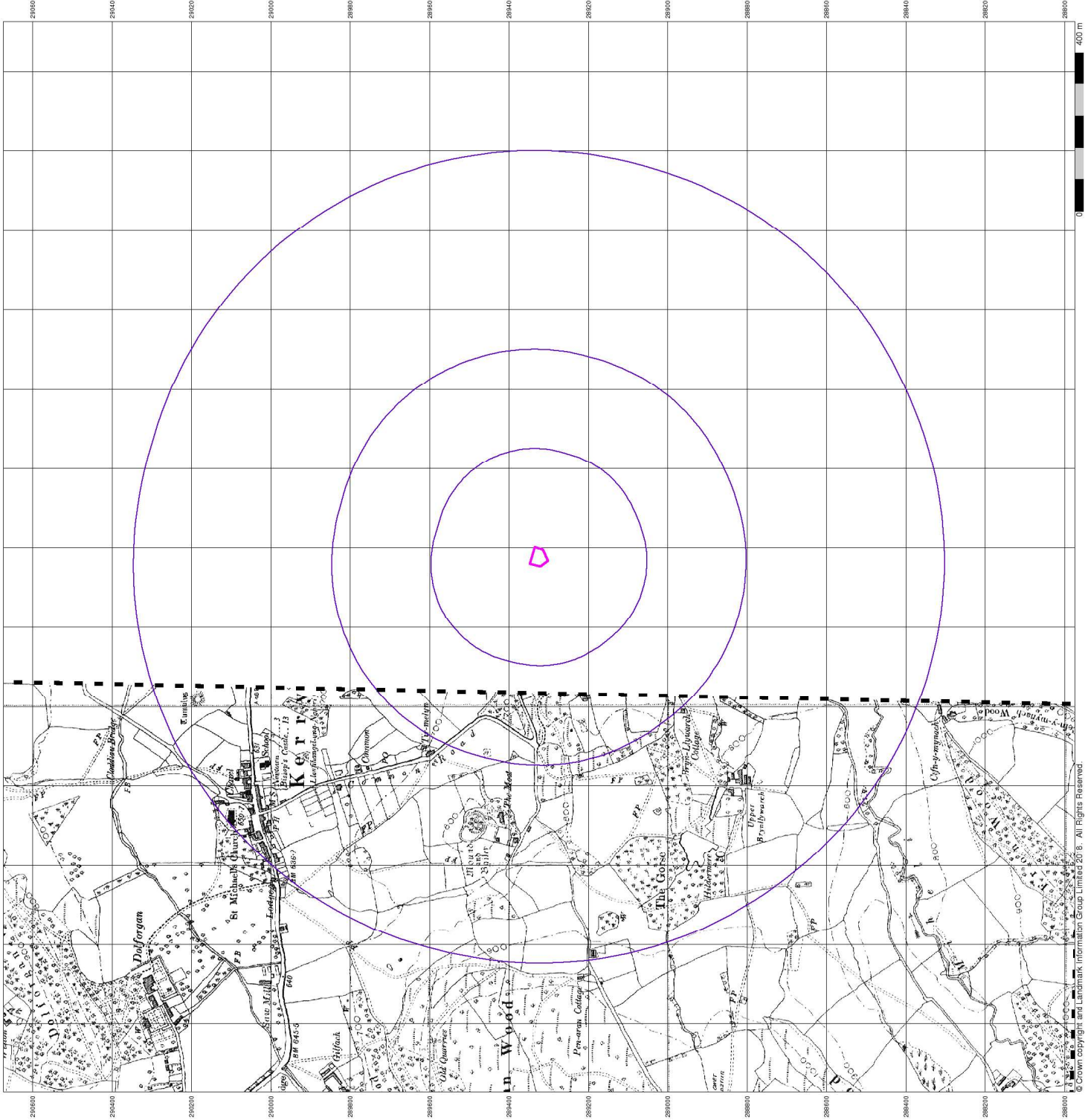
Order Details

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 Brynlywarch Garden, Kerry/Ceri, Powys



Ordnance Survey Plan

Published 1963 - 1964

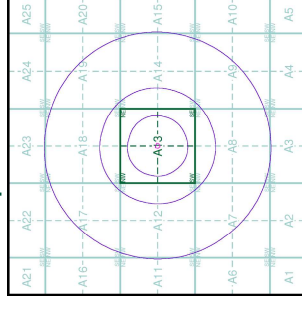
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey (OS) archives in the 1940's. In 1964 the OS maps of England, Wales and Scotland in the 1:10,000 scale were used to update the 1:10,000 maps. The published date on the maps are 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 1:10,000 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)

SO19SW	SO19SE
1963	1964
1:10,000	1:10,000
---	---
SO18NW	SO18NE
1964	1964
1:10,000	1:10,000

Historical Map - Slice A

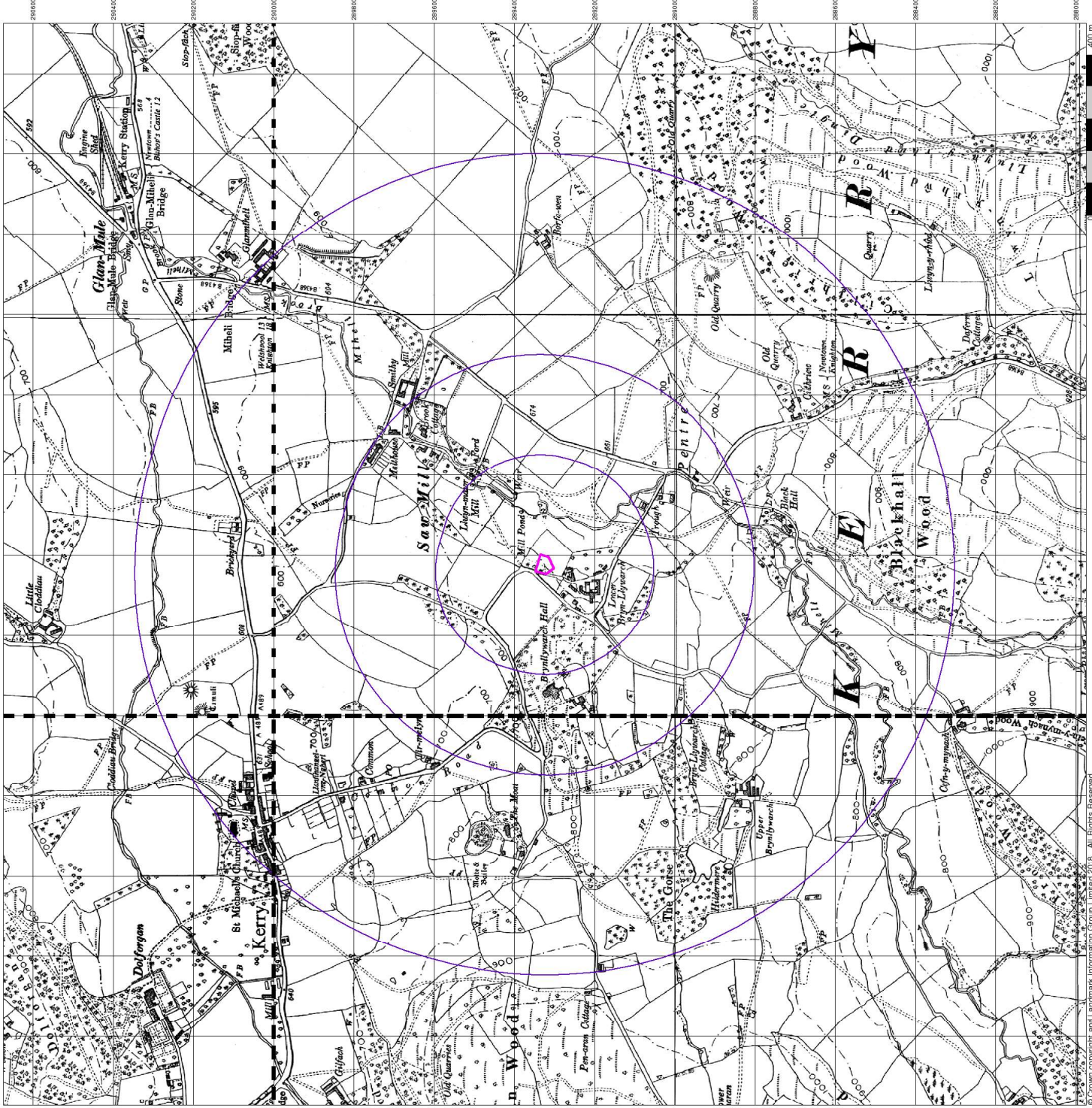


Order Details

Order Number: 162317708_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 Brynilywarch Garden, Kerry/Ceri, Powys



Ordnance Survey Plan

Published 1983 - 1984

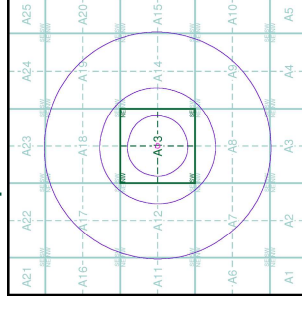
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey for England, Wales and Scotland in the 1840's. In 1854 the OS maps were updated to include the areas of the OS maps were used to update the 1:10,000 scale. The published OS maps are 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 1:10,000 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overlaid 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)

SO19SW	SO19SE
1984	1983
1:10,000	1:10,000
---	---
SO18NW	SO18NE
1983	1983
1:10,000	1:10,000

Historical Map - Slice A



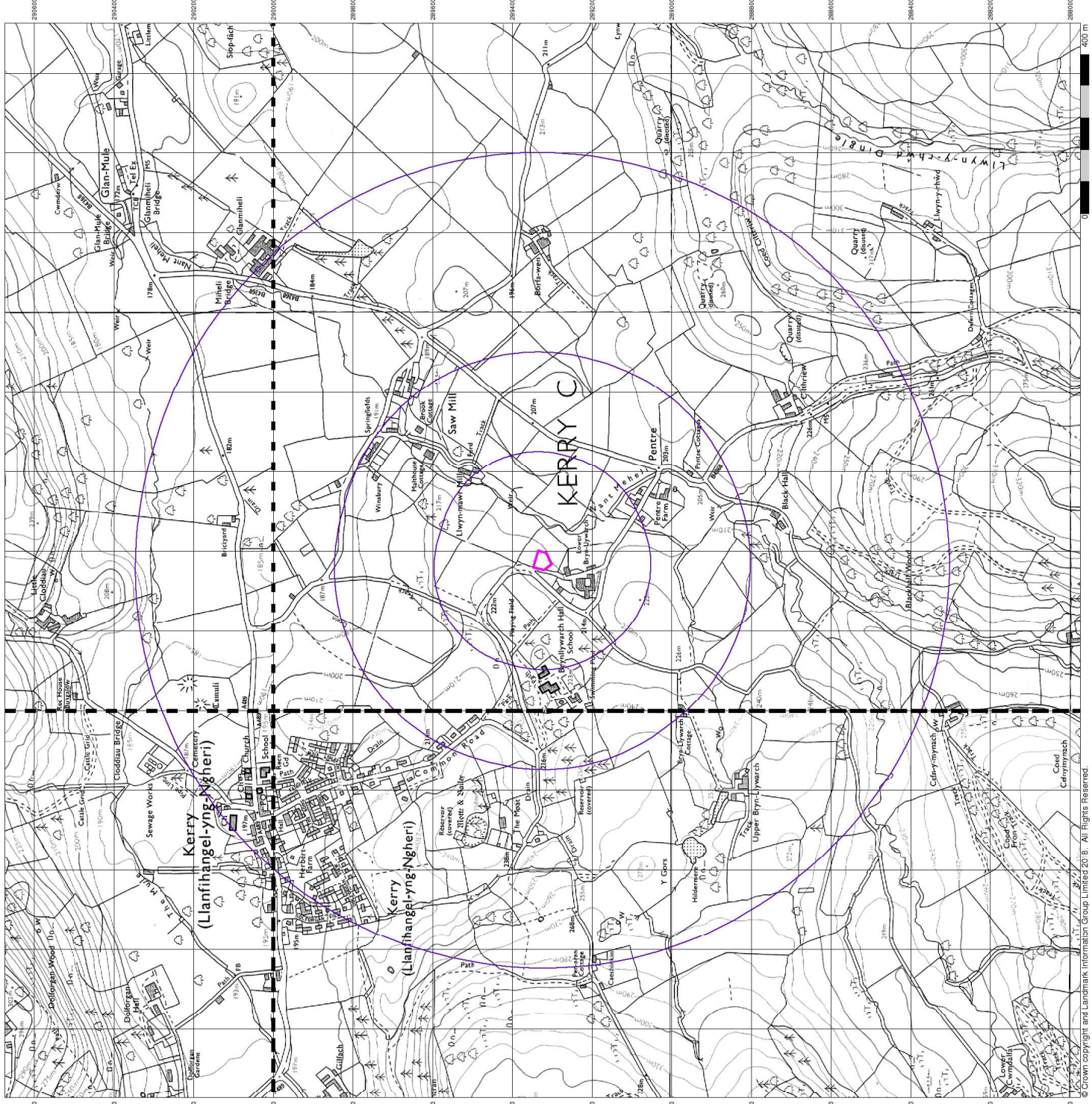
Order Details

Order Number: 16231708_1_1
 Customer Ref: MENV07115
 National Grid Reference: 315380, 289330

Slice: A
 Site Area (Ha): 0.14
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Site Details

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10k Raster Mapping

Published 2000

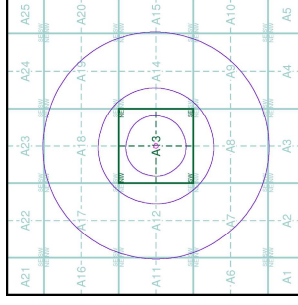
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from planar data which is highly detailed showing buildings, roads, 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 depicted includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SO19SW	SO19SE	SO18NE
2000	2000	2000
1:10,000	1:10,000	1:10,000

Historical Map - Slice A

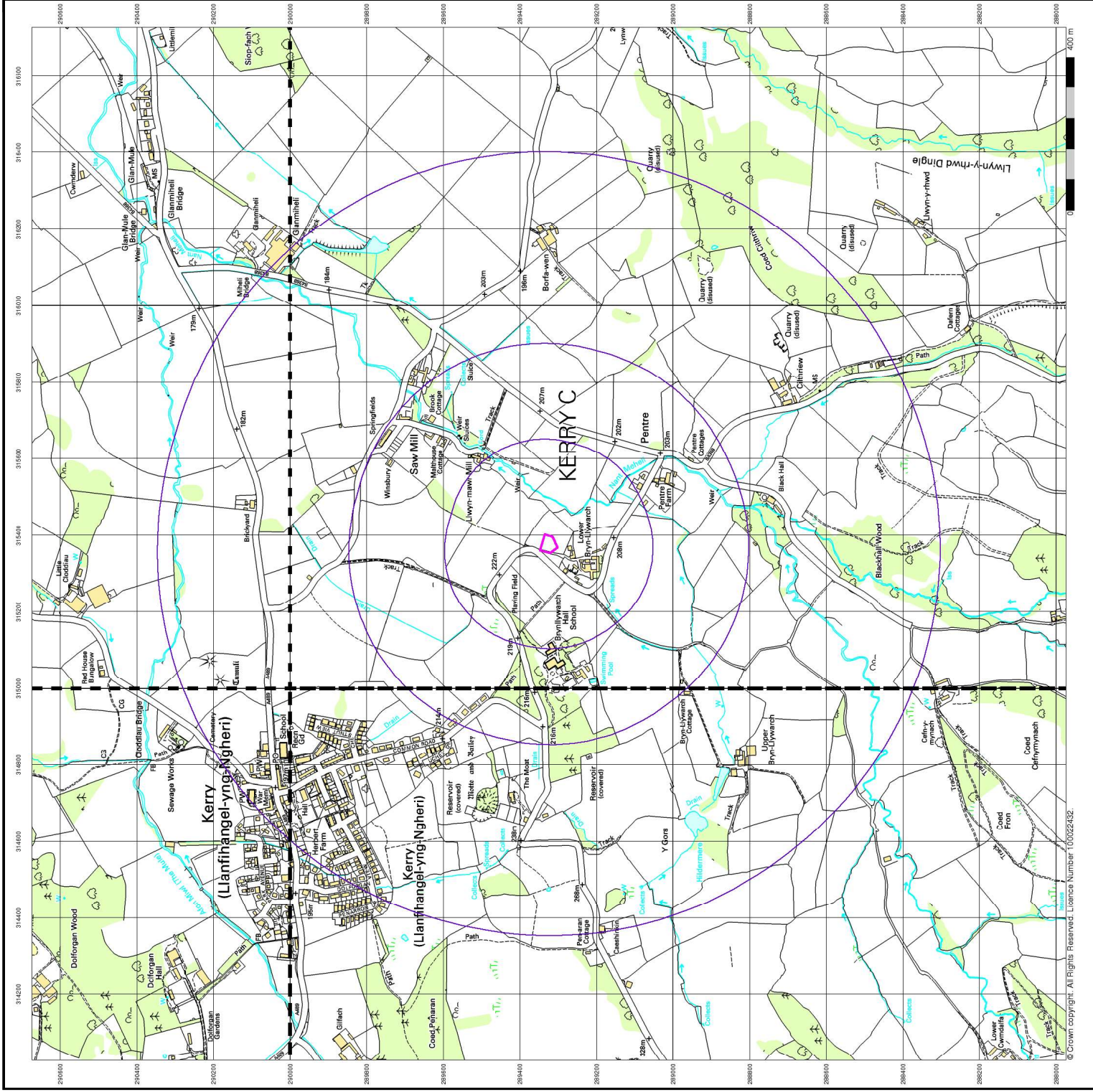


Order Details

Order Number: 16231708_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 Brynlywarch Garden, Kerry/Ceri, Powys



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10k Raster Mapping

Published 2006

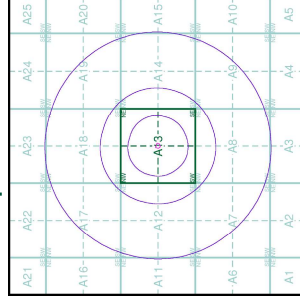
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from historical data which is highly detailed showing buildings, 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 depicted includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SO19SW	SO19SE
2006	2006
1:10,000	1:10,000
SO18NW	SO18NE
2006	2006
1:10,000	1:10,000

Historical Map - Slice A

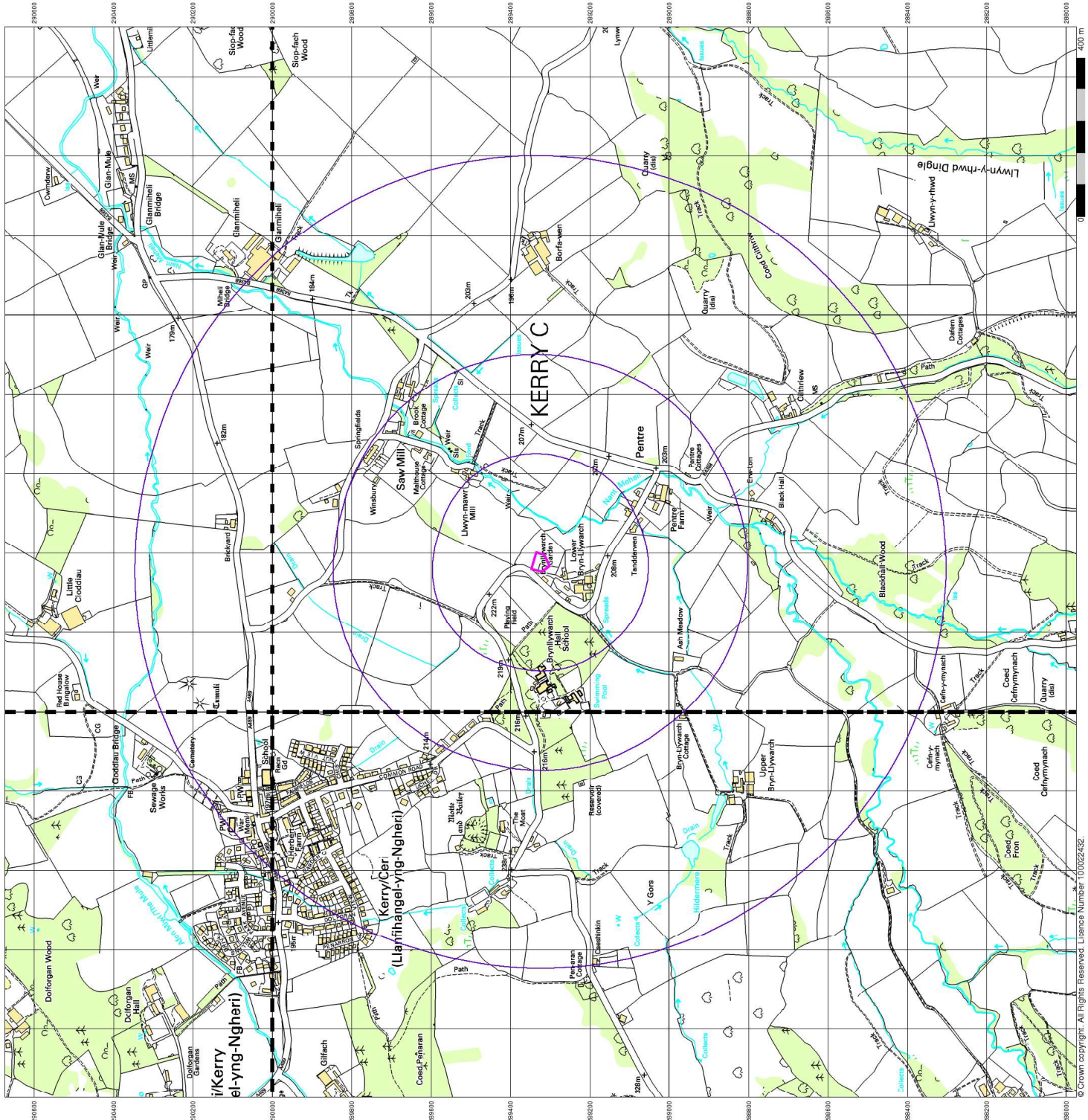


Order Details

Order Number: 16231708_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 Brynlywarch Garden, Kerry/Ceri, Powys



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VectorMap Local Published 2018

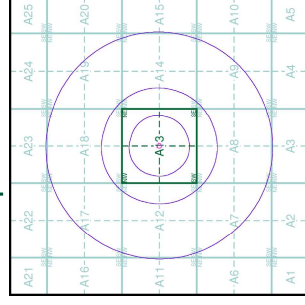
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced at a scale of 1:10,000. VectorMap Local, a digital map of Great Britain that has been designed to support the production of OS VectorMap Local, is derived from large-scale information surveyed at 1:250 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)

SO19SW	SO19SE
2018	2018
Variable	Variable
---	---
SO18NW	SO18NE
2018	2018
Variable	Variable

Historical Map - Slice A

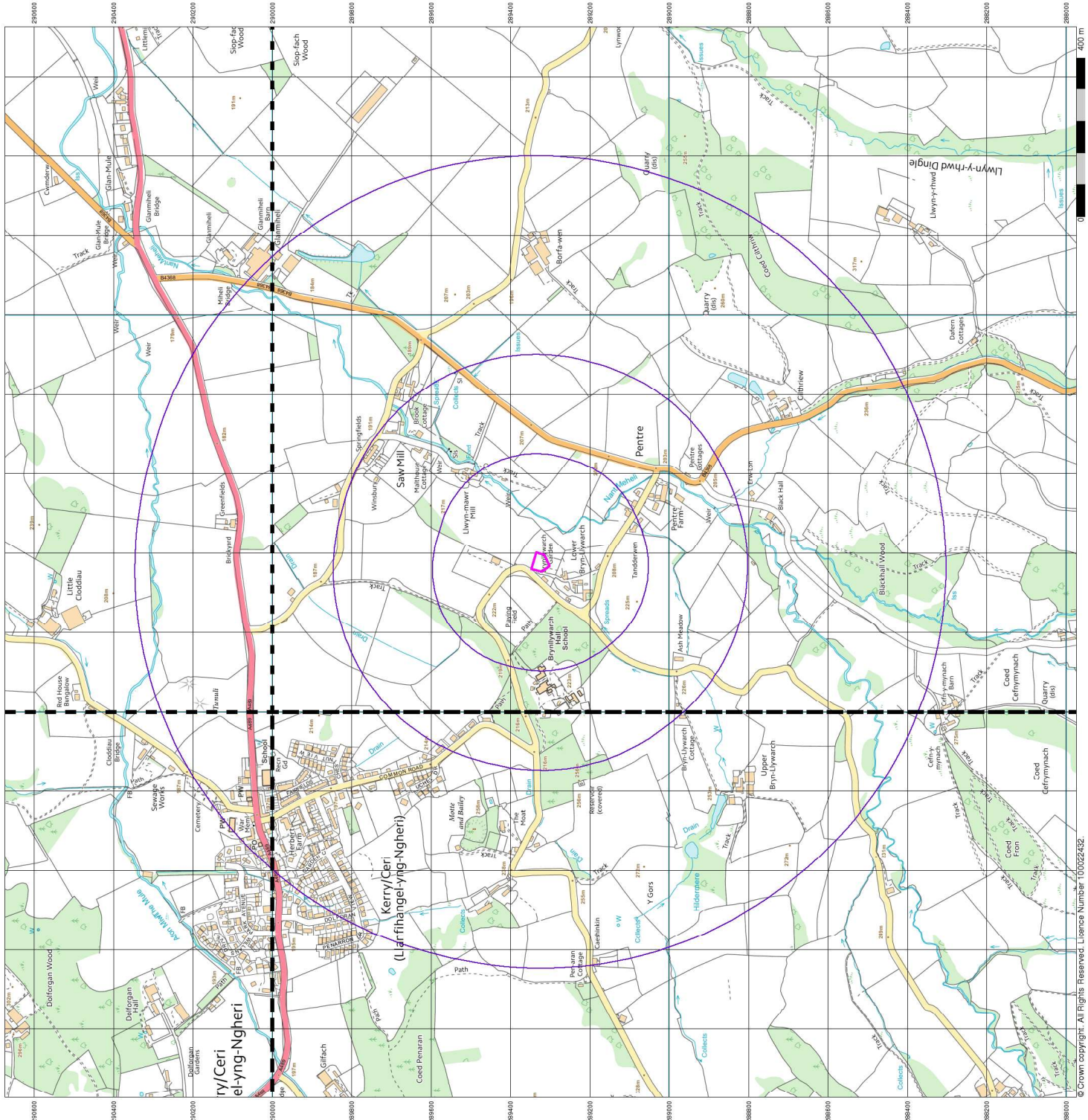


Order Details

Order Number: 16231708_1_1
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 Slice: A
 Site Area (Ha): 0.14
 Search Buffer (m): 1000

Site Details

Land at Brynlywarch 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.



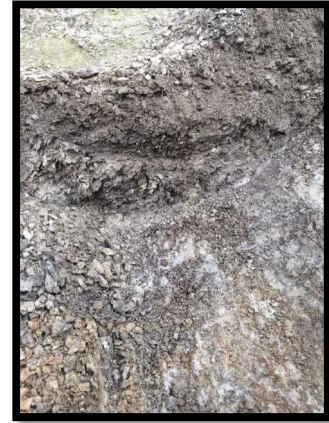
Trial Pit 3

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 platy 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
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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:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

Validated

SDG: 180424-86
Location: KERRY, POWYS

Client Reference: MENV07115
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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) :

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.

9.2

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.



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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)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
	17435562	TP1		0.15 - 0.20	250g Amber Jar (ALE210)	S
	17435563	TP2		0.20 - 0.20	250g Amber Jar (ALE210)	S
	17435564	TP3		0.10 - 0.10	250g Amber Jar (ALE210)	S
	17435565	TP4		0.05 - 0.20	60g VOC (ALE215)	S
	17435566	TP5		0.05 - 0.15	250g Amber Jar (ALE210)	S
	17435567	TP6		0.15 - 0.25	250g Amber Jar (ALE210)	S
	17435568	TP7		0.10 - 0.20	250g Amber Jar (ALE210)	S
	17435569	TP8		0.05 - 0.10	250g Amber Jar (ALE210)	S
	17435570	TP9		0.15 - 0.15	250g Amber Jar (ALE210)	S
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3				
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 2				
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 2				
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2				
Metals in solid samples by OES	All	NDPs: 0 Tests: 9				
PAH by GCMS	All	NDPs: 0 Tests: 4				
pH	All	NDPs: 0 Tests: 9				
Sample description	All	NDPs: 0 Tests: 9				
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 2				
Total Organic Carbon	All	NDPs: 0 Tests: 1				
TPH CWG GC (S)	All	NDPs: 0 Tests: 2				
VOC MS (S)	All	NDPs: 0 Tests: 2				



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Sample Descriptions

Grain Sizes

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



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Results Legend # ISO17025 accredited. M mCERTS 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.	TP1	TP2	TP3	TP4	TP5	TP6	
Component	LOD/Units	Method	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)
Moisture Content Ratio (% of as received sample)	%	PM024	0.15 - 0.20	Soil/Solid (S)	23/04/2018	23/04/2018	23/04/2018	23/04/2018	17435562
Soil Organic Matter (SOM)	<0.35 %	TM132	0.20 - 0.20	Soil/Solid (S)	23/04/2018	23/04/2018	23/04/2018	23/04/2018	17435563
pH	1 pH Units	TM133	0.10 - 0.10	Soil/Solid (S)	23/04/2018	23/04/2018	23/04/2018	23/04/2018	17435564
Arsenic	<0.6 mg/kg	TM181	0.05 - 0.20	Soil/Solid (S)	23/04/2018	23/04/2018	23/04/2018	23/04/2018	17435566
Cadmium	<0.02 mg/kg	TM181	0.15 - 0.25	Soil/Solid (S)	23/04/2018	23/04/2018	23/04/2018	23/04/2018	17435567
Chromium	<0.9 mg/kg	TM181							
Copper	<1.4 mg/kg	TM181							
Lead	<0.7 mg/kg	TM181							
Mercury	<0.14 mg/kg	TM181							
Nickel	<0.2 mg/kg	TM181							
Selenium	<1 mg/kg	TM181							
Zinc	<1.9 mg/kg	TM181							



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Results Legend		Customer Sample Ref.	TP7	TP8	TP9			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.10 - 0.20	0.05 - 0.10	0.15 - 0.15			
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
aq	Aqueous / settled sample.		23/04/2018	23/04/2018	23/04/2018			
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.		24/04/2018	24/04/2018	24/04/2018			
**	Subcontracted test.		180424-86	180424-86	180424-86			
	% 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		17435568	17435569	17435570			
(F)	Trigger breach confirmed							
1-5&*\$@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
Moisture Content Ratio (% of as received sample)	%	PM024	28	28	25			
pH	1 pH Units	TM133	6.33	6.3	5.66			
Arsenic	<0.6 mg/kg	TM181	8.64	10.6	10.2			
Cadmium	<0.02 mg/kg	TM181	0.452	0.494	0.502			
Chromium	<0.9 mg/kg	TM181	21.1	23.2	21			
Copper	<1.4 mg/kg	TM181	28.6	27.2	21			
Lead	<0.7 mg/kg	TM181	39.1	38.7	41.9			
Mercury	<0.14 mg/kg	TM181	<0.14	<0.14	<0.14			
Nickel	<0.2 mg/kg	TM181	34.2	33	31.4			
Selenium	<1 mg/kg	TM181	<1	<1	<1			
Zinc	<1.9 mg/kg	TM181	126	125	124			



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PAH by GCMS

Results Legend		Customer Sample Ref.	TP1	TP3	TP7	TP8		
#	ISO17025 accredited.							
M	mCERTS 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	Depth (m)	0.15 - 0.20	0.10 - 0.10	0.10 - 0.20	0.05 - 0.10		
(F)	Trigger breach confirmed	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
1-5&*&@	Sample deviation (see appendix)	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						
Component	LOD/Units	Method						
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	<9	<9	<9		
			M	M	M	M		
Acenaphthylene	<12 µg/kg	TM218	<12	49.8	<12	<12		
			M	M	M	M		
Acenaphthene	<8 µg/kg	TM218	<8	<8	<8	<8		
			M	M	M	M		
Fluorene	<10 µg/kg	TM218	<10	<10	<10	<10		
			M	M	M	M		
Phenanthrene	<15 µg/kg	TM218	48.3	109	24	<15		
			M	M	M	M		
Anthracene	<16 µg/kg	TM218	<16	82.1	<16	<16		
			M	M	M	M		
Fluoranthene	<17 µg/kg	TM218	35.5	982	205	128		
			M	M	M	M		
Pyrene	<15 µg/kg	TM218	28.5	1050	223	128		
			M	M	M	M		
Benz(a)anthracene	<14 µg/kg	TM218	20.1	722	136	87		
			M	M	M	M		
Chrysene	<10 µg/kg	TM218	21.2	763	147	89.5		
			M	M	M	M		
Benzo(b)fluoranthene	<15 µg/kg	TM218	37.7	2480	450	170		
			M	M	M	M		
Benzo(k)fluoranthene	<14 µg/kg	TM218	<14	860	152	70.8		
			M	M	M	M		
Benzo(a)pyrene	<15 µg/kg	TM218	21.9	1730	277	111		
			M	M	M	M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	<18	1370	227	76.4		
			M	M	M	M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	<23	330	51	<23		
			M	M	M	M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218	<24	1700	295	99.9		
			M	M	M	M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	258	12200	2190	960		



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Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	TP6	TP9			
# ISO17025 accredited. M mCERTS 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)		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.15 - 0.25 Soil/Solid (S) 23/04/2018 180424-86 17435567	0.15 - 0.15 Soil/Solid (S) 23/04/2018 180424-86 17435570			
Component	LOD/Units	Method					
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			



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Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	TP6	TP9			
#	ISO17025 accredited.						
M	mCERTS 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)						
		AGS Reference					
Component	LOD/Units	Method					
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			



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TPH CWG (S)

Table with columns: Results Legend, Customer Sample Ref., TP4, TP5, Component, LOD/Units, Method. Rows include GRO Surrogate % recovery, GRO TOT, Aliphatics >C5-C6, Aromatics >EC5-EC7, etc.



Validated

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Location:	KERRY, POWYS	Order Number:		Superseded Report:	

VOC MS (S)

#	Customer Sample Ref.	TP4	TP5			
<p>Results Legend</p> <p># ISO17025 accredited. M mCERTS 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)</p>						
Component	LOD/Units	Method	Depth (m)	Sample Type	Date Sampled	Date Received
			0.05 - 0.20	Soil/Solid (S)	23/04/2018	24/04/2018
			0.05 - 0.15	Soil/Solid (S)	23/04/2018	24/04/2018
			180424-86	180424-86	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



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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 Received 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 (#)
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received 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 (#)
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received 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 (#)



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Location: KERRY, POWYSClient Reference: MENV07115
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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

Validated

SDG: 180424-86
Location: KERRY, POWYS

Client Reference: MENV07115
Order Number:

Report Number: 454433
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				



CERTIFICATE OF ANALYSIS

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

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the 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 for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples 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 so many 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 determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO 17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for 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 reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

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

8. If appropriate preserved bottles are not received preservation will take place on receipt. 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 dissolved 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 corrected 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 due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 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 the sample 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 cause the method detection limit to be raised.

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

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

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

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

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and 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 this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, 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 preservation 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 from supplied bulk materials which have been examined to determine the presence of asbestos fibres 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 homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Aste stos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Coöiolite	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 accredited test other 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.