

Handbook for Geophysics Field School near Abbeycwmhir, Radnorshire lead by Dr Ian Brooks

Investigating our landscape with hands-on
Geophysical Survey

Taster Sessions

3rd, 4th, 6th October 10am – 4pm



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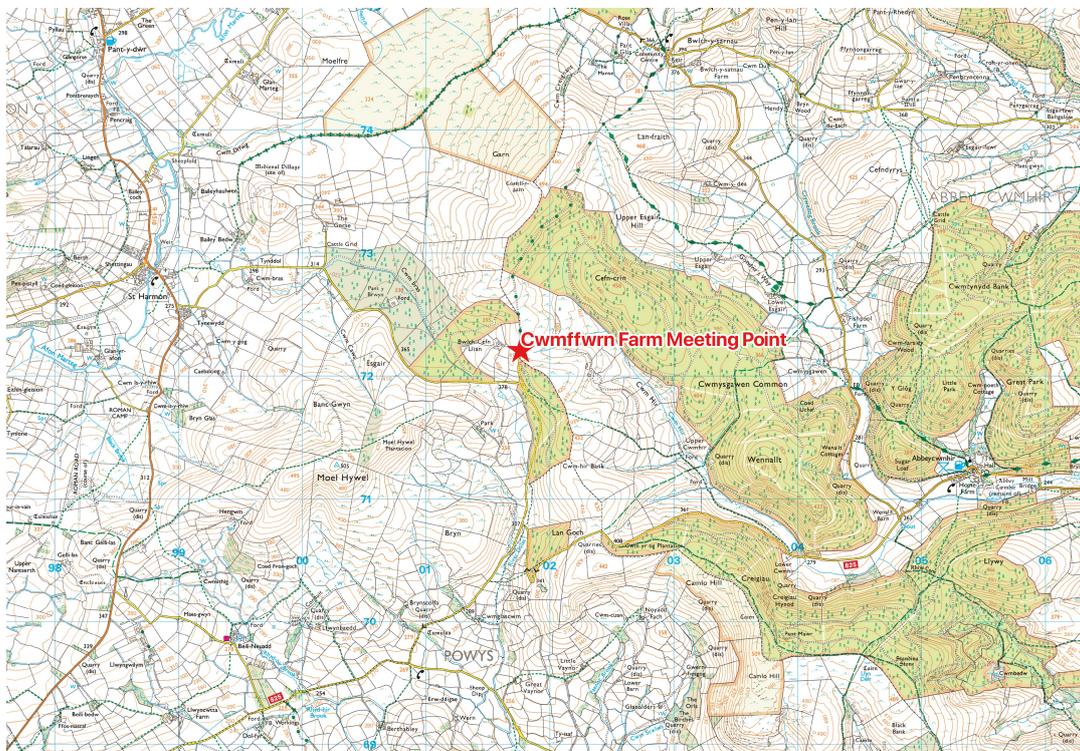
1. Directions and what to bring

The geophysical surveying will take place at Cwmffwrn Farm near Abbeycwmhir, where we are fortunate to still find building platforms and banks and ditches with likely ancient origins. The location was part of the medieval Home Grange of Cwmhir Abbey.

Days 1, 2 and 3 (3rd, 4th, 6th October) – Cwmffwrn Farm

PLEASE NOTE that the usual ways to get to Cwmffwrn Farm are likely to be affected by road closures so we will meet at 9.30 at St Mary's Church, Abbeycwmhir LD1 6PH and then progress together through a forestry route to Cwmffwrn Farm meeting point.

If it is very inconvenient for you to meet us in Abbeycwmhir and you would rather make your way to the normal meeting point shown on the map below – then please let Julian Lovell know 01597 850098 (Sunday) or Mel Walters 07712 663202 (Monday and Wednesday).



Please bring:

Suitable clothing and footwear. We recommend stout comfortable boots and long trousers as we will be walking in steep hilly terrain, parts will be very uneven underfoot. We will encounter nettles and long grass.

The instrument being used for the magnetometer survey is very sensitive so it is important that anyone using this equipment is non-magnetic, so no metal clips, zips or eyes on shoes or boots.

Please bring a rucksack, waterproofs, sunscreen, food and drink, your own first-line medicines, hand sanitiser, notebook and pencil/pen. You may also wish to bring a folding chair, as we will be having lunch on-site.

2. Programme, background, aims and objectives

The aim of these 'taster sessions' will be to demonstrate the technique of geophysical surveying in the context of archaeology. Ian will be demonstrating two surveying techniques: resistivity and magnetometry. Both techniques detect very small changes in soil characteristics up to 0.5m of the ground surface and are used as reconnaissance methods to look for indicators of features of archaeological interest. The attraction of this field school is that, as well as learning aspects of the heritage of the area, those attending will be able to use the equipment themselves and Ian will show findings from the surveying at the end of each day.

Over the course of the 3 days of the Field School we hope to investigate 4 locations within the farm including two building platforms, a circular bank and a possible Bronze Age cairn. Each day will be stand-alone, and as the demonstration of the methods is best achieved with small groups of up to 6-7 people, we recommend that anyone interested in joining us attends for one day only. Whilst we would love to find suggestions of a Bronze Age burial chamber or a farmstead midden, such results are not of course guaranteed.

The intention is to take the geophysical process through from starting the on-site survey to seeing the results of the processing of the data.

Magnetometry:

This relies on variations in soil magnetic susceptibility and magnetic remanence which often result from past human activities. Using a Fluxgate Gradiometer these variations can be mapped. This technique is particularly useful for locating features where the fill is different from the surrounding material. It is also useful for locating areas of burning.

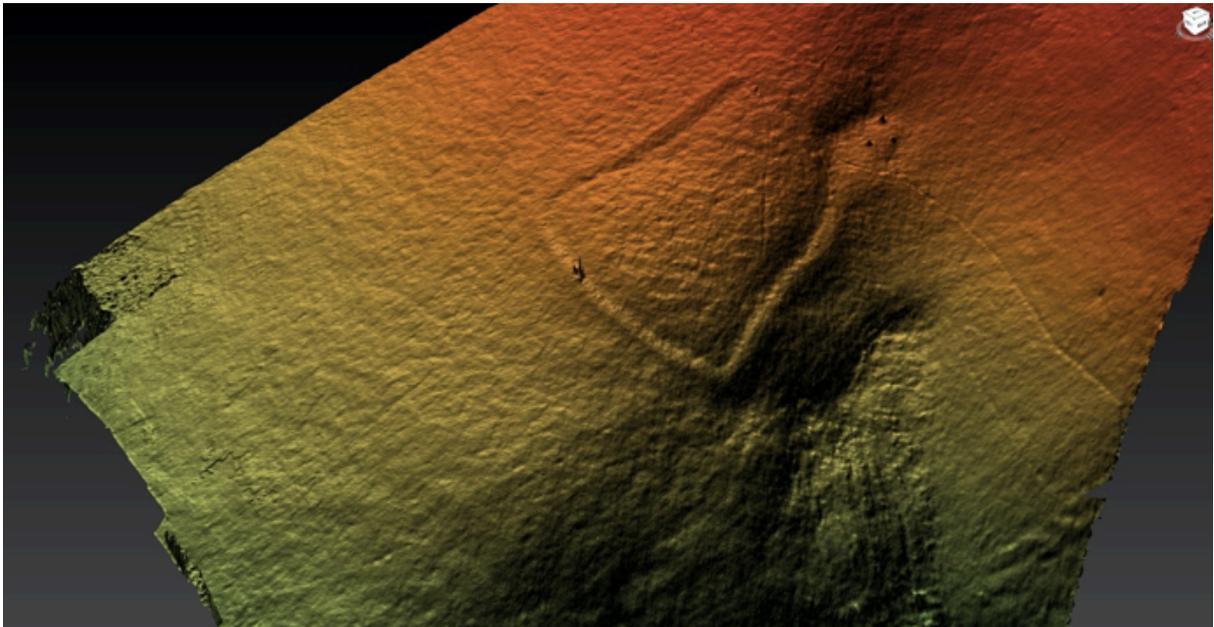
Resistivity:

This relies on variations in the electrical conductivity of the soil and subsoil which in general is related to soil moisture levels. As such, results can be seasonally dependant. Slower than Magnetometry this technique is best suited to locating positive features such as buried walls that give rise to high resistance anomalies. Large features such as ditches or pits where moisture is retained in the fill can also be located.

Both techniques that are to be used rely on taking a series of readings on a regular grid pattern. The results are recorded automatically within the machine and at the end of the day, they will be downloaded onto a laptop computer and processed so that we can see the initial results.

The sites we hope to survey are:

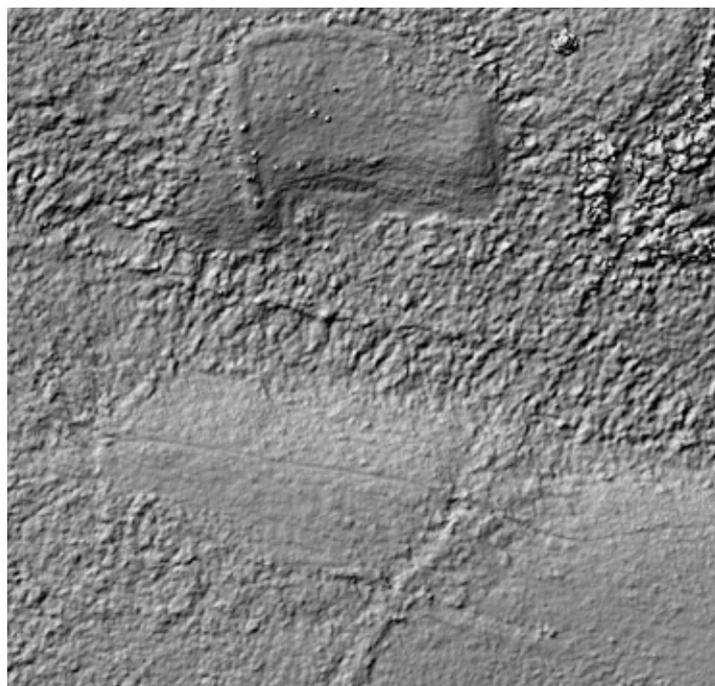
Possible 'Hafod'



A possible 'hafod' site (Photography Julian Ravest © CPAT)

An enclosure and platform has been found on the upper reached of the sheepwalk close to its highest point. The enclosure, formed by low earth banks, is rectilinear with one side, the narrowest, open. The south east side dips to a platform. The whole is set above a natural spring, the outflow of which has eroded the side of the hill.

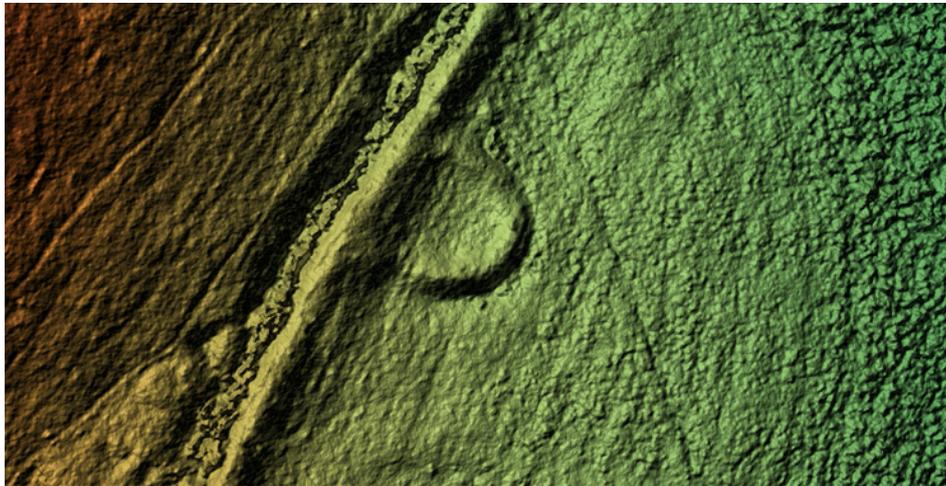
Upper farmstead



An upper farmstead site (Photography Julian Ravest © CPAT)

This building and its surrounding field system appear to be an abandoned farmstead. It is set next to a small stream which is now silted up and overgrown. The vegetation of the stream has encroached on the lower part of the building. The stream appears to split into two as it enters the Cwm Hir brook. One of the branches is manmade and cuts through a pre-existing enclosure. This may have been made to improve drainage near the building.

Circular enclosure



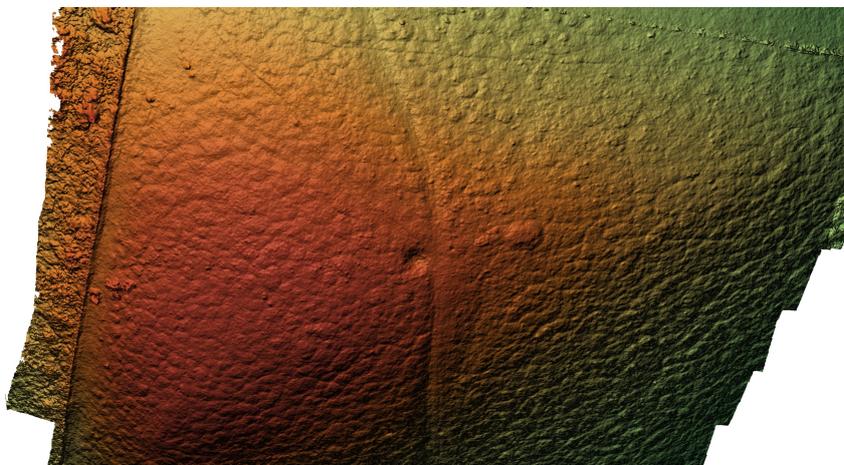
(Photography Vic Pardoe)

While clearing vegetation from one of the abandoned areas, the farmer discovered a near complete circular earth work that immediately adjoined the head bank.

The feature has an external ditch and no obvious entrance . The head bank obscures the north west sector of the bank. The headbank is almost completely straight but shows a small deviation which accommodates the circle. However, from the visible remains it is not possible to determine whether the bank pre-dates the circle or if it was constructed over part of an earlier feature.

The function of the circle is unclear though its state of preservation suggests a post-medieval construction.

Possible bronze age cairn



(Photography Vic Pardoe)

A possible, previously unrecorded, circular bronze age cairn has been discovered near the highest point of Cwmhir Bank in an area which has never been improved. It is still visible

on the skyline when entering the open farmland from the south. There is some suggestion of at least another cairn nearby. There are other attested bronze age cairns on other ridges visible from this high spot.

The mound is close to the N-S ridgeway and near a hole. It does not appear that the mound is a spoil heap from the hole and is independent of it. The ridgeway separates the two.

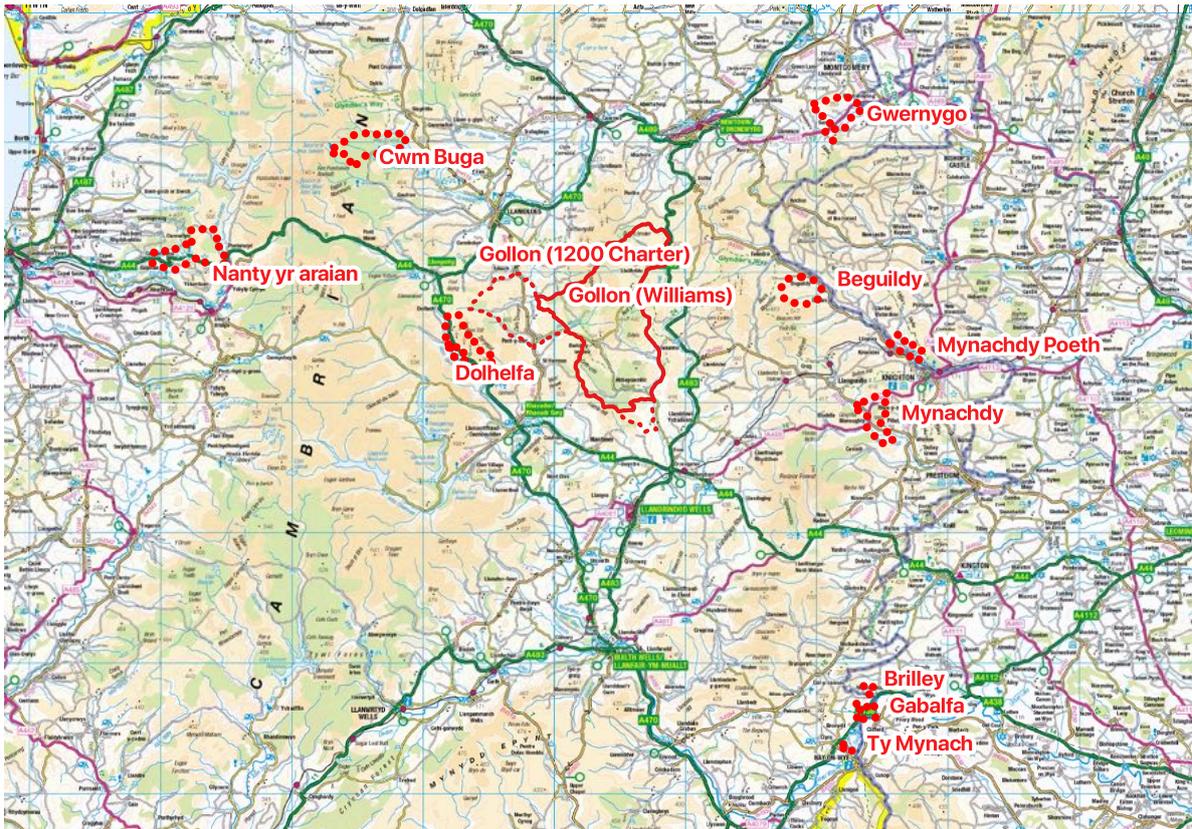
3. Follow-on after Field School

This Field School is part of the series of expert-led training events hosted by Abbey Cwmhir Heritage Trust and funded by Wales Council for Voluntary Action. The motivations of WCVA are to help organisations to grow their teams of volunteers in a sound, safe and inspiring manner and they ask us to report back on our volunteers experience. Our Trust's interpretation of this is to encourage a group of volunteers to 'Demystifying our Landscape'. The aim of our Expert Led training is therefore that you can discover more about our mid-Wales landscape. Following the training you have the opportunity to join with other volunteer observers/researchers to share landscape observations to help us grow our understanding of Cwmhir Abbey and its lands.

It is our hope that, as a result of the training you have received, you will be able to interpret our landscape more fully in terms of its heritage, geology and/or botany and that you will be inspired to stay in touch with us and join our group of community heritage volunteers. Our aspiration is that our volunteer observers/researchers will feedback to us - via our website discussion area on www.abbeycwmhir.org - any relevant heritage observations that they make when visiting our Abbey and the granges (lands) that it owned (these areas are shown below). We will collate your new findings and host discussions with you and other volunteers on-line, through our website and through Zoom discussions, so that we can all learn more about the fascinating history of our countryside.

By agreeing to be a Demystifying our Landscape volunteer - all we need you to do is to allow us to have a discussion with you about your motivations for staying in touch with us, let us introduce you to our volunteer's agreement, and for you to report back to us the number of hours that you spend engaging with Demystifying our Landscape between now and the end of the grant period at end March 2022 along with whether the volunteering experience has increased your sense of wellbeing. And, of course, enjoy sharing your findings with our other volunteer observers/researchers! The number of hours that you give to this is entirely up to you.

The motivations of WCVA are to help organisations to grow their teams of volunteers in a sound, safe and inspiring manner and they ask us to report back on our volunteers experience.



Cwmhir Abbey Granges

4. Health and Safety including essential contacts

All participants will be required to sign the COVID contact tracing form on site. A copy of this form is an appendix to this document.

Essential contacts

Julian Lovell (AHT co-ordinator for 3rd October training) 01597 850098/07963 549538
jlo.theabbey@gmail.com

Mel Walters (AHT co-ordinator for 4th and 6th October) 07712 663202
history.cwmhirabbey@gmail.com

Rhayader doctors surgery 01597 810231

Minor Injuries Dept Llandrindod Wells War Memorial Hospital, Temple St., Llandrindod Wells, LD1 5HF. 01597 822951

Coronavirus Measures

All reasonable means have been taken to ensure safe working practices have been assessed.

- Contact details of participants and visitors to be recorded and kept for minimum 14 days

- Participants with Covid symptoms will be asked to not attend and to inform AHT co-ordinator within 14 days of the end of the project.
- 2m distance will be advised where possible
- Face coverings are advised when working at close quarters
- Car sharing will be minimised and face coverings where unavoidable
- Hand sanitiser will be provided
- Communication of these measures and the risk assessment will be shared with all participants.

Risk Assessment

Risk	Mitigation
Weather, dehydration, heat stroke, sunburn, cold and hypothermia	Participants will be asked to be cognisant of the weather forecast before setting out each day. Appropriate clothing should be worn: waterproof coat, hat, sun screen and extra layers should be carried. Water should be carried to stay hydrated. An inclement weather forecast may preclude or postpone fieldwork. Symptoms must be reported to the field supervisor immediately: shivering, paleness, sweating, dizziness, confusion or numbness.
Slips, trips and falls	The Field School will take place on active farmland, woodland and open upland. Hazards include uneven ground, rough trackways or paths, climbing over gates, stiles or banks. Participants to wear appropriate footwear at all times. Please beware wet grass and other slippery surfaces – stick to paths where available. Do carry a walking stick as an aid where needed. Do not work alone.
Straying, getting lost	Individuals should not stray from the Field School group.
First Aid	AHT co-ordinator will carry a first aid kit in the field. AHT co-ordinator to also carry a charged mobile phone with emergency services phone numbers installed.
Photography	All photographs / video during survey remain the copyright of the project as outlined above. Images will be stored and form part of the project archive. You agree to be photographed and those images to be used as promotion or as a record of activities at the site. It is your responsibility to notify AHT co-ordinator if you do not wish to be recorded.
Safeguarding	Under 18s only accompanied and supervised by an adult. Anyone who considers themselves to be at risk should identify themselves to the field supervisor before the start of the survey.
Hygiene, illness	This survey is in remote outdoor locations with minimal hygiene provisions. Please be advised to bring extra water, tissue and/or hand gel for washing and cleaning. There is no toilet at Cwmffwrn Farm.

Volunteer Conduct

1. At all times behave responsibly, sensibly and courteously.
2. Anyone leaving site for any reason must inform AHT co-ordinator.
3. Follow the instructions of Expert trainer/ AHT co-ordinator and act on these immediately.
In general, keep together as a group, and be alert to the safety of other members of the group.
4. Avoid dangerous and potentially dangerous situations (e.g. standing under objects that may fall on your head; or entering buildings without permission).

5. Participants should behave in a responsible manner at all times and should not expose themselves, or third parties, to unnecessary risks.
6. Avoid damage or disturbance to the archaeological fabric of sites.
7. Behave in an appropriate way for prevailing conditions. If in doubt, take shelter. Do not climb onto high or exposed locations in strong winds. In thunderstorms, do not seek shelter beneath or near isolated features such as trees or rock outcrops.
8. You should not work alone and should not wander off from the area. Avoid damage and disturbance to livestock, wildlife and the environment; follow the Country Code; and observe laws of trespass.
9. Participants are asked to disclose to the organisers of any medical conditions affecting their health. It is vital that anyone who suffers from epilepsy, asthma or similar problems that may afflict them at any time without warning, explicitly notify the AHT co-ordinator.
10. Participants should make sure they have their own first-line medicines, which should be carried at all times, as well as any special personal medications. In addition, first-aid kits equipped to deal with minor accidents will be carried by AHT co-ordinator but may not contain medications.
11. Anyone giving first-aid should wear rubber gloves as a precaution against blood-borne infections.
12. Participants should at all times be conscious of the danger of over-exposure to the sun and take appropriate action. Participants should wear appropriate clothing. Even in the summer it can be quite cold and wet in Wales, especially at higher elevations. Be sure to have warm, waterproof clothing and stout waterproof boots. The weather can sometimes deteriorate quite quickly even in August. The importance of adequate clothing cannot be stressed too much. We suggest that sturdy footwear not trainers are worn; and that a waterproof jacket and trousers and a hat are taken. Also you should be careful about sun and heat – sun cream may be necessary even on cloudy days, and it is better not to work in shorts.
13. Take plenty of water if the day is hot, to avoid dehydration. Use insect repellent as appropriate and be vigilant for tick and insect bites.
14. In the event of an accident during project work, participants should make contact with the AHT co-ordinator.
15. Hygiene: please take care in the field when consuming food. Wash hands before eating if possible.



Certificate of Employers' Liability Insurance ^(a)

(Where required by regulation 5 of the Employers' Liability (Compulsory Insurance) Regulations 1998, one or more copies of this certificate must be displayed at each place of business at which the Policyholder employs persons covered by the Policy)

Policy Number: 24765101 CHC / SO/001003

Name of Policyholder: Abbey Cwmhir Heritage Trust

Date of Commencement of Insurance 1st May 2021

Date of Expiry of Insurance 30th April 2022

We hereby certify that subject to paragraph 2:

1. the policy to which this certificate relates satisfies the requirements of the relevant law applicable in Great Britain, Northern Ireland, the Isle of Man, the Island of Jersey, the Island of Guernsey and the Island of Alderney, or to offshore installations in territorial waters around Great Britain and its Continental Shelf (b)
2. the minimum amount of cover provided by this Policy is no less than £5 million (c)

Signed on behalf of
Aviva Insurance Limited
(Authorised Insurers)

A handwritten signature in black ink, appearing to read 'Colm Holmes', is written over a horizontal line.

Authorised Signatory
Colm Holmes
Chief Executive Officer, UK Insurance

Notes

- (a) Where the employer is a company to which regulation 3(2) of the Regulations applies, the certificate shall state in a prominent place, either that the policy covers the holding company and all its subsidiaries, or that the policy covers the holding company and all its subsidiaries except any specifically excluded by name, or that the policy covers the holding company and only the named subsidiaries.
- (b) Specify applicable law as provided for in regulation 4(6) of the Regulations.
- (c) See regulation 3(1) of the Regulations and delete whichever of paragraphs 2(a) or 2(b) does not apply. Where 2(b) is applicable, specify the amount of cover provided by the relevant policy.

It is recommended that you retain a copy of each Employers' Liability certificate issued to you

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Authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority
and the Prudential Regulation Authority.

YOUR COMBINED INSURANCE POLICY SCHEDULE

Policyholder: Abbey Cwmhir Heritage Trust

Interests Noted:

Correspondence Address: Tyr Ehedydd
Abbeycwmhir
Llandrindod Wells
Powys
LD1 6PL

The Business: Heritage trust involved in archaeological excavations, meetings, walks, talks and having a stand at a fair

Policy Number: 24765101CHC/SO/001003

Effective Date: 01/05/2021
Expiry Date: 30/04/2022
Renewal Date: 01/05/2022

Your Agent: Towergate Insurance
Premium: £129.16
Insurance Premium Tax: £ 15.50
Total Premium including Tax: £144.66

Identity of Insurers:

The insurers for this policy as referred to in the Policy We/Us/Our are as stated below:

1. In respect of all Sections:
Aviva Insurance Ltd

This Schedule forms part of your policy. The Schedule details are shown in the following pages

