

**WILLIAM  
PENGELLY  
CAVE  
STUDIES  
TRUST**



**Newsletter**



**Number 143  
March 2026**

# WILLIAM PENGELLY CAVE STUDIES TRUST



<https://pengellytrust.org>

## **William Pengelly Cave Studies Trust Newsletter**

**Issue 143  
March 2026**

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The William Pengelly Cave Studies Trust is registered as a Charitable Incorporated Organisation (CIO) number 259303. The registered address for the Trust is

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All articles, notes, comments, reviews and news items are most welcome and should be sent to the Newsletter Editor.

Authors are responsible for the contents of their articles which do not necessarily reflect the policies of the William Pengelly Cave Studies Trust.

This Newsletter is published online in pdf format on <https://pengellytrust.org/> where copies can be downloaded

Front cover: Symbolic of the hippopotamus assemblage-zone of Joint Mitnor cave (see p 12). Back cover: Quarrying, caves and Buckfast Abbey (see pp 16-21)

I usually leave the writing of this page to the end of my Newsletter editing and, more often than not, I am daunted by the open space that I have to fill. I'm also aware that I sometimes repeat myself. Of course, I only have myself to blame - I could simply abandon or shorten the page.

But, in this issue of the Newsletter, I do have something new to bang on about. By chance a whole lot of new activity in the Trust has come together and is reflected in articles enclosed here. There is first the excellent news of the PhD project about which Andrew Chamberlain writes on pages 12-13. There is then the news of the opening of the geothermal station in West Cornwall, developed from the work done by our late member Tony Batchelor (page 11); it is alongside a chance re-encounter with earlier work on caves on the Gower peninsula (pages 8-9) following the contributions to our Newsletters of the 1980s by Mel Davies.

Two other chance encounters have led to the acquisition of a copy of Guy Ridon's dissertation, reporting research that he did in 1999 in Pridhamsleigh Cave (see the library report on page 4) and the follow-up of a chance conversation at our stall in Buckfastleigh in December that has led to the enquiry about local quarrying reported on pages 16-21.

The PhD study, work on quarrying, the study of Pridhamsleigh and work on the Gower excavations are all the sorts of things that we would, in earlier times, have led to articles in *Studies in Speleology*. Regrettably we no longer have that outlet and this creates a significant difficulty for the Trust. If we are to fulfil our educational function (part of which was originally described by Antony Sutcliffe as publishing material written by experts for a non-expert readership) we either need to upgrade this Newsletter very substantially, or start another publication (which may not be a traditional paper journal), or publish in some other journals.

Educational activity in the Trust has at least two aspects: one which we're good at (like visits to the Centre or talks about the Centre held elsewhere), and another which we have neglected. For two or maybe three of the pieces of work reported in this Newsletter, we could certainly expect to publish interesting and worthwhile articles. But where would they go?

I'd be all for a serious discussion about reintroducing some form of *Studies in Speleology* and would like to hear what others think.

# The Annual Meeting, 6th June 2026



The constitution of the Trust as a CIO does not provide for a conventional annual general meeting of members. We have, however, retained an annual meeting as an opportunity for Friends of the Trust to meet and for reports of Trust activities and accounts to be available for comment. The 2026 annual meeting will be held at the Centre on **6th June 2026**.

## 2026 bat count

Dave Willis has reported the results from the annual bat count in the quarry caves which took place on 25th January. Numbers are smaller than at the last couple of counts but within the ranges that we have experienced over many years.

| Cave           | Greater Horseshoe | Lesser Horseshoe | Natterers |
|----------------|-------------------|------------------|-----------|
| Joint Mitnor   | 1                 | 3                | 1         |
| Rift           | 1                 | 4                | -         |
| Disappointment | 1                 | 2                | -         |
| Reeds          | 8                 | 1                | -         |
| Partition      | -                 | 4                | -         |

Commenting on the bat entrances in Reeds Cave, Dave says there is sufficient room for Greater Horseshoe bats so he recommends that they be left as they are. There are similar bat entrances to Joint Mitnor and Rift caves which prevent unauthorised human access.

Visitors to the 2025 bat walks saw large numbers of Greater Horseshoe bats and a good show of Pipistrelles, but few Lesser Horseshoe bats.

### INTERESTED IN JOINING THE COUNCIL?

The Council is looking to expand its membership and to develop its range of experience and expertise. If you'd be interested or would like more information, contact the secretary, Alan Finch at [alan@alanfinch.net](mailto:alan@alanfinch.net)

### Managing the Centre

In the last Newsletter we reported that much of the Council meeting at the end of August was devoted to discussions about the Centre, its facilities and its management. This debate was prompted by concern that the CEC (Centre Executive Committee) had not been meeting and that there was therefore a backlog of maintenance work and a lack of supervision of work that had been done. The discussion also included a review of the suitability of the Trust library accommodation, a discussion of the cleaning arrangements and concern over the storage at the end of the building.

As a result, Dave Warne, Alan Finch and John Wilmut made an inventory of immediately obvious and known defects and brought this, together with draft terms of reference for a reconstituted Centre Management Committee, to the December Council meeting. It was agreed that this Committee should be set up and it has met twice since the new year and initiated a series of improvements, described in outline on pages 6-7. This process is ongoing - some improvements will require a good deal more time and money and budgets and final terms of reference will need to be approved by the Council.

### Friends of the Pengelly Trust

The discussion last August also included a disappointment that the Friends scheme had not taken off as had been hoped. There was a concern that we needed to expand our external contacts so that we attracted more people who would be prepared to support the Trust through the Friends scheme.

Following this Council members identified some possible activities and reviewed this list at the March meeting where it was agreed that we would try to create and operate a travelling exhibit that could be sent round libraries, community centres and museums, initially in the south-west. We would also look into the possibility of exhibiting at the Hidden Earth meeting - perhaps in September 2026 at Llangollen or (more likely) in 2027. Other ideas, such as holding talks and lecture programmes in centres such as Exeter or Plymouth, remain on the table for further discussion.

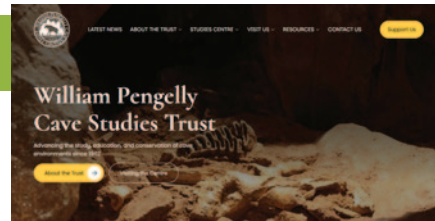
## The Trust library

In addition to the usual additions to the library through publication exchanges we have had an offer of a copy of a dissertation *The Morphological and Sedimentological Evolution of Pridhamsleigh Cave, Buckfastleigh* submitted in 1999 at the University of Plymouth by Guy Risdon. We're very grateful for this donation and expect that this will be added to the library catalogue.

Richard Vooght has catalogued the collection of material (mainly books) bequeathed to the library following the death of Patrick Boylan. This material reflected Patrick's wide interests in the identification and maintenance of sites of geological and cultural importance and in the work of museums, some of which is not relevant to our specialist Trust library. Following consultations within the Trust we will be retaining those books that have some relationship with cave sciences and education and disposing the rest; where possible this will be through its donation to other libraries.

## The Trust website

The new website is now functional (though some pages still need completion) and appears to be widely accessed, especially for booking events like the guided walks. By agreement with Dave Hallett, who designed the site, it has now been wholly handed over to the Trust. Most importantly, the news page and the calendar of events at the Centre and elsewhere where the Trust is represented, are operational and kept up to date. This is together with current contact details and full information about access to Trust facilities.



**We need a new website manager. Can you help?**

I am grateful to Dave Hallett for the work that he did on the site and for continuing to provide support as we get used to managing it. For the moment I am acting as site manager but this is not a commitment that I wish to continue indefinitely. The job requires diligence and care but is not unduly technical and certainly not onerous.

*John Wilmut*

# Visiting the Centre in 2026

## Guided walks

The next guided walks programme will follow the same pattern as in 2025. Day walks, that include a visit to Joint Mitnor bone cave, and evening bat walks will be held on

**July 29th and 30th**

**August 5th, 6th, 12th, 13th, 19th, 20th, 26th and 27th**

Day walks will start at 11 am and 2 pm. Bat walk start times will vary because of a changing sunset time.

Full details, with links to the booking system, will be posted on the website (<https://pengellytrust.org/>) after Easter with posters and leaflets being available in the local area.

This year the walks programme will be managed by John Brodribb.

## Individual and group visits and external talks

Sheila Phillips continues to manages individual and special interest group visits to the Centre and can arrange talks at other locations. Those requesting these are very varied and she arranges programmes to suit their needs or specialisms. The current commitments are included on the calendar on the Trust website (<https://pengellytrust.org/>).

WI group outside the museum. Photo by John Brodribb



## Residential use

The Centre can accommodate groups of up to 20 people using bunk rooms with access to full kitchen, washroom and common room facilities. Such groups will normally be organising their own programmes and will only have access to the museum, quarry and caves by special arrangement. For booking arrangements and contacts go to <https://pengellytrust.org/>

After a period when bookings were in some decline it is good to report that these have recently increased and are shown on the website calendar.

# Cave Studies Centre developments

## Quarry fencing and top field

Although we are not responsible for the use of the field above the quarry, this is part of the SSSI and we do not want to risk any pollutants leaching into the caves below. For a short period during 2025 there were some campers in the field, made accessible because the gate was not locked. The Devon Wildlife Trust is responsible for the field and has now prevented easy access by locking the gate.

The fencing of the main quarry has deteriorated so that some sections need repair. This matter has been raised with Devon Wildlife Trust; in the meantime the Finch and Wilmot contractual team has done some selected repairs.

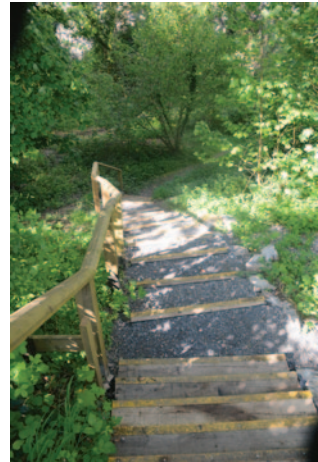
However, during the winter the gate at the north end of the Centre fell apart and will also need replacing. This is part of the public footpath from Russetts Lane to the old parish church and has quite a lot of use, so its replacement has also been discussed with Devon Wildlife Trust.

## Boardwalk and steps repairs

The replacement of the wooden platform at Reeds Cave with a gravel surface and new railings has been a success. But the platform in front of Rift Cave is also in need of repair. For the time being it will be possible to use some of the good timber rescued from the Reeds platform.

Less successful was the replacement of the steps down from the car park to the path leading to Reeds Cave. They were well built but uneven in height and depth, making them dangerous, particularly for visitors with poor mobility.

Volunteers have now restructured the uneven sections so that the flight of steps is now easier and safer to use.



## DCUC

The Devon and Cornwall Underground Council which meets at the Pengelly Centre has recently taken on representatives from Plymouth University. It has also provided better access to local mines and caves including Great Rock, Penrecca, Radford Cave and Afton Red Rift.

## New Centre Management Committee

On page 3 we report the re-establishment of a Centre committee, now called the Centre Management Committee. Following its meetings earlier this year a series of repairs has been done, covering the most urgent items identified in the survey done during the autumn.

These repairs have included

- repairs to damaged lighting and electrical power outlets
- repairs to some bunks
- drain and gutter cleaning
- repair to the boiler room door (which will eventually be replaced)
- the creation of a locker for the lecture room screen.

Arrangements are being made for

- the installation of curtains in the bunk rooms
- repairs to some shower cubicles
- repairs to the flat roof.

## Centre cleaning

In the last Newsletter we reported the need for improving the cleaning at the Centre. We do ask residential visiting groups to clean the bunkrooms and public spaces before they leave, and most do that very carefully and well. But there is an ongoing need for periodic in-depth cleaning and Richard Vooght has now made an agreement with a local cleaning company that will do this. The cleaners will take account of Centre usage, dealing with selected areas at each visit so that, over a year the whole Centre is adequately covered. Visiting groups will still be asked to clean as before.

## Reeds

With help from DSS and PCG Richard Vooght is arranging for route taping in Reeds Cave to be done during the summer.

## Bats

And Richard and John Bolton will shortly be visiting the bat barn on the Hill behind the Centre

## We still need helpers

The new Centre Management Committee cannot function fully without more help with repairs and routine maintenance. You do not need special skills, just a willingness to get stuck in.

The Council also needs help to expand the range of events that we run outside the Centre, with guiding at the Centre during the summer, and with the website.

## Gower, Mel Davies and this Newsletter

There was a time when, under the editorship of Bill Maxwell, this Newsletter contained substantial reports of pieces of work of interest to Trust members but not necessarily done at the Centre or in Devon. One of the major contributors was the late Mel Davies who lived in South Wales and was a staunch supporter of the Trust. Indeed, Mel often said that he hoped that a similar cave studies centre could be set up in Wales, a hope that reflected one of Antony Sutcliffe's dreams of a network of centres across the UK<sup>1</sup>



Minchin Hole, Gower

Mel's interest in the Pengelly Trust stemmed in part from his friendship with Bill Maxwell and their common interest in caves and caving in South Wales; in Mel's case the interest was largely archaeological and covered the whole of Wales. At the same time much of what he wrote for the Pengelly Newsletter in the early - mid 1980s was about his work on the Gower peninsula where Antony Sutcliffe also led excavations in 1973<sup>2</sup>, joined by Avril Longman and others who were, at that time, heavily involved in the development of the present Centre.

This linkage has recently resurfaced because of requests to our library for copies of articles about work on Gower written by Mel Davies and Antony Sutcliffe for our Newsletter. As

librarian, Richard Vooght has been happy to supply scans of the requested articles, most recently to Steve Dagnall of Gower Bone Caves<sup>3</sup>.

The subsequent correspondence with Steve revives this link with the work that was done in investigating the many small caves of the Gower

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1 Sutcliffe, Antony J (1965) Planning England's First Cave Studies Centre. *Studies in Speleology*, 1.2-3, 106-124

2 Sutcliffe, A.J. and Bowen, D.Q. (1973) Preliminary report on excavations in Minchin Hole, April-May 1973, *WPCST Newsletter* 20, pp. 12-25.

3 <https://www.gowerbonecaves.org.uk/>

peninsula and, in particular, the interest in Mel Davies' work. Steve (image 5 below) writes:

We never had the opportunity to meet Mel Davies, but did, however, briefly participate at an excavation of Bacon Hole with Antony Sutcliffe's team back in 1973 ... This followed a find in the Spring of 1972, made by my school friend (Paul Griffiths, seen in image 4), of a piece of fossil ivory bearing numerous parallel scratch marks and who had sought Dr Sutcliffe's opinion about it. I believe this is what prompted renewed interest in caves of that area. I attach a few pictures taken back then, though you will have to take my word for now that the first shows Antony Sutcliffe and the second the hands and legs of his new research student, Chris Stringer.

We then discussed the possibility of a more extended paper that discusses the work done on the Gower peninsula since the 1970s. In times past that would have been an article for *Studies in Speleology*. With this and other recent Newsletters including descriptions of original work on cave spiders, a re-analysis of Joint Mitnor deposits, the history of local quarrying and cave exploration and now the work on Gower, perhaps we need to review the Trust's published output.



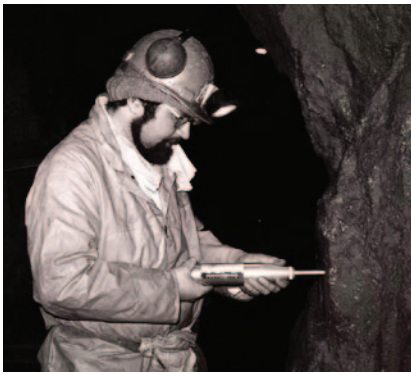
## The Trust presence in Buckfastleigh

It has always been important for the Trust and the Centre to be known and supported by the local community. Over more than 60 years many local people (some with no background in caving or cave sciences) have made major contributions to its work, recognising that it is a special place.

For that reason we have maintained a display at The Valiant Soldier, which is in the centre of the town and acts as a tourist information office. We have also supplied the local library with copies of Trust publications and, for the last few years we have had stalls at two pre-Christmas fairs: one run in the Town Hall on a Saturday morning by the local WI and the other in the evening in Fore Street. John Brodribb organised both in December 2025 and both were well attended with people coming from across South Devon for what were very festive occasions. Their main purpose was to publicise the work of the Trust but was particularly rewarding to also sell over £140 worth of publications and gifts and to make contact with a wide variety of people, many of whom were glad to stop and handle the bones from Joint Mitnor Cave, take away leaflet and copies of this newsletter, and promise to visit us in the summer of 2026.

And it didn't rain on us this year!





## The Trust and hot rocks

As I write (it's late February) the UK's first geothermal power plant is about to go live in West Cornwall. It provides a completely new type of renewable electricity using water from 3-mile deep wells drilled into very hot underground rock. It's been nearly two decades in development and is the result of

well over 40 years of work pioneered by Tony Batchelor.

Whilst still at school in south London Tony became a member of Chelsea Speleological Society and subsequently of the Pengelly Trust. I was a student in London at that time and also a CSS member where, for no very obvious reason, Tony and I became interested in trying to build a wireless device which would enable communication between cavers underground and people on the surface. We tested it out in a mine at Godstone but, after several attempts, we had to accept that it had failed completely.

Then, in the summer of 1965, Tony and I were part of a working group at the Centre creating a path through the quarry and steps up to Joint Mitnor Cave (but not the ones that we use now) when Antony Sutcliffe got the call to investigate the bones uncovered during work on the new by-pass at Honiton. Tony, Avril Longman and I were recruited as labour for an excavation done in a great hurry over 4-5 days and in the wettest of weather.

Tony then went off to university and he and I didn't make contact again for many years but I heard that he had moved to Cornwall, was teaching at Camborne School of Mines, and about the physical and economic difficulties with his hot rocks project. Tony died suddenly four years ago and it leaves us to celebrate the opening of the new geothermal station and to hope that his involvement with caving, Pengelly and the Honiton dig made at least a very small contribution to this development 60 years later.

As you drive along the A30 you will not easily be able to locate the site of the Honiton excavation. As with Joint Mitnor, we left a large section of the deposit intact but, some years ago, Harry Pearman and I were pleased to go to Honiton and Exeter museums to photograph and catalogue some of those bones that we did find at the site.

*John Wilmut*

## Exciting new research project at the Centre

Last year the Trust president, Professor Andrew Chamberlain, asked the Council whether the Trust would be willing to collaborate with the University of Aberdeen to host a proposed research project at the Centre. This would involve periodic access to Joint Mitnor Cave and the provision of facilities for a PhD student to work there. The Council readily agreed to this idea, funding was secured, and applications were invited. At the time of writing Andrew reports that “We are currently short-listing for interviews which will take place later this month [February 2026]. There were eight applicants for the studentship, all are well-qualified so we hope to ... start the project this autumn.”

We are excited by the prospect of this project and we asked Andrew to provide an overview for this Newsletter.

As announced on our website in December 2025 the William Pengelly Cave Studies Trust, in collaboration with the University of Aberdeen, has secured funding for a new PhD project: *Hippo and Hyena Haven: Exploring the Isotope Palaeoecology of a Non-analogue Ecosystem in MIS 5e Britain*.

The Last Interglacial, specifically sub-stage MIS5e, saw a global climatic amelioration that brought a curious suite of mammalian species to Britain, some of which are restricted to sub-Saharan Africa today. Characterised from the type-site of Joint Mitnor Cave in Devon, but also found at other sites in England and Wales, this famous “hippopotamus assemblage-zone” is well-known and well-dated, featuring species such as spotted hyaena, lion, straight-tusked elephant, narrow-nosed rhinoceros and



hippopotamus, alongside taxa such as wild boar, mountain hare, wolf, red fox, brown bear, bison, red deer, fallow deer and giant deer. The MIS5e assemblage-zone therefore includes both tropical and temperate mammalian species and is a classic example of a non-analogue faunal community: a community that includes combinations of taxa unlike any that are found in the present day,

functioning as part of a non-analogous ecosystem.

It is likely that such ecosystems included ecological 'surprises' not observable today and may help inform on the boundary conditions of future habitats in a world impacted by climate change.

Understanding these ecosystems can also help establish better conservation baselines by providing new insights into the palaeoecology and ranges of once widespread species, such as spotted hyaena, that have been restricted by human impacts in recent centuries.



The project will explore the niche feeding behaviours, trophic relationships and spatial ecology of the diverse taxa of the MIS5e assemblages.

Diet and movement habits will be inferred from the results of isotope analysis of bone collagen (carbon, nitrogen, sulphur) and tooth enamel (zinc), supplemented by the strontium isotope analysis of teeth of likely migratory species. Taxonomic identifications will be made on both a morphological basis but also using proteomic approaches (i.e. peptide fingerprinting), allowing for small and non-diagnostic fragments to be used and to limit destructive sampling. Carbon and nitrogen data will be statistically analysed to explore niche space and trophic relationships, depending on results, may extend to compound specific isotope analysis (single amino acid), to provide higher-resolution dietary insights where required. All data will be compared with previously published MIS5e data from Britain and continental Europe, as well as to MIS 6-2 data from Britain to examine differences through time and with changing climatic parameters. The isotopic data will be interpreted within an integrated framework comprising palaeoclimatic and palaeoenvironmental data from other proxies, such as pollen and ice-core records.

The student, who will be funded for four years, will be supervised by Professor Kate Britton at the University of Aberdeen and advised by Andrew Chamberlain, and they will work with a network of collaborators including Prof. Danielle Schreve (University of Bristol) and collections holders and museums including the Torquay Museum.

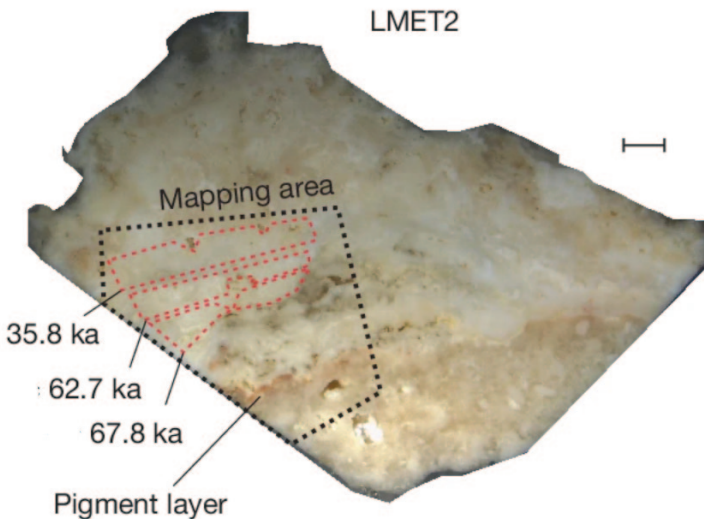
*Andrew Chamberlain*

## World's oldest cave art found in Sulawesi

A noteworthy finding of the past decade has been the discovery and dating of Pleistocene-aged rock art in Sulawesi, the largest island the zone separating the continental regions of Southeast Asia and Australia–New Guinea<sup>1</sup>. In Sulawesi, the dating of rock art motifs that include hand stencils and figurative paintings of animals and other non-human entities, has yielded minimum ages ranging from 51,200 years to 17,000 years and these are located in the karst region of Maros-Pangkep in the southwestern peninsula of Sulawesi.

On the opposing southern peninsula, known as Southeast Sulawesi, an area that includes several satellite islands, the presence of rock art inside limestone karst caves was first reported in 1977. The art in this region, however, has remained under-investigated. Beginning in 2019, archaeologists led by Professors Maxime Aubert and Adam Brumm from

Griffith University in Queensland have undertaken a programme of recording and dating of parietal imagery in Southeast Sulawesi, resulting in the documentation of 44 sites and the dating of 11 individual rock art motifs at 8 sites. The dated motifs comprised seven hand

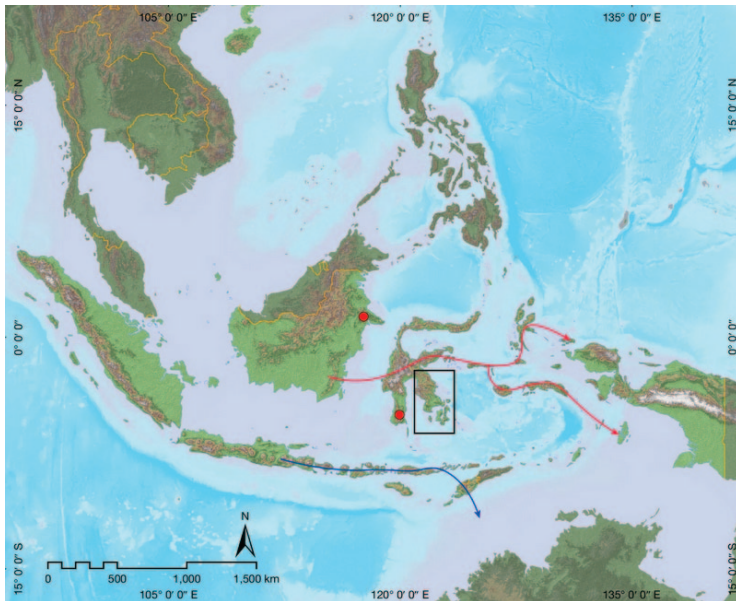


View of the hand stencil in Liang Metanduno, highlighting the paint layer and the three integration zones with associated date calculations.

<sup>1</sup> This is a short summary taken from Oktaviana, A.A., Joannes-Boyau, R., Hakim, B. et al. Rock art from at least 67,800 years ago in Sulawesi. *Nature* (2026). <https://doi.org/10.1038/s41586-025-09968-y>

stencils, and four other paintings (two of human figures and two non-figurative, geometric motifs). They used a new method of U-series dating to obtain age estimates from calcium carbonate deposits that had formed in association with these rock art motifs. In all cases, they obtained minimum ages for the parietal images by dating calcite materials that had formed directly on top of the rock art through natural calcium carbonate precipitation. In some instances, they also obtained maximum ages by dating calcium carbonate layers immediately below the pigment layers.

As a result they report that one stencil (from Liang Metanduno cave in Muna Island) was created at least 67.800 years ago, making it the world's oldest known cave art. This hand stencil that is a 14 × 10 cm patch of faded pigment bearing a portion of the fingers and the adjoining palm area. It is in a poor state of preservation and the tip of one finger appears to have been artificially narrowed, either through the additional application of pigment or by moving the hand during pigment application.



Human migration routes to Australia: the northern route is shown by the red arrows, and the southern route by the blue arrow. The red dots are the areas with Pleistocene rock art in eastern Borneo and southwestern Sulawesi and the research area is shown by a rectangle.

Apart from the intrinsic interest in revealing cave art of this considerable age, the finding provides significant evidence of the migration of people from mainland Asia towards Australia; the stencils may well have been created by the ancestors of Indigenous Australians.

## What do we know about Higher Kiln Quarry and who knew about the local caves and when?

Visitors to the Centre are told about the geological history of the local limestone and how the caves at Buckfastleigh were formed within it. And we do have records, based largely on research done by Wilfred Joint, about the 19th century development of lime-making at Higher Kiln Quarry. But what about the period before 1800? How did the local quarries develop and what, if anything, was known about the caves revealed by quarrying?

A conversation between us (local resident Harry Kemp-Gee and Council member John Wilmut) during the Buckfastleigh Christmas street fair (where the Trust had a stall) has started an enquiry that is trying the answer these questions. It's still only in its early stages where we are looking for evidence and trying to develop a clearer history, initially covering the last 1000 or so years, but perhaps going back further than that at some future point. In doing this we have help from Sheila Phillips and may well involve others in due course.

So, what do we already think we know and what sources are we working from? One issue is already clear: if we are to understand quarrying and knowledge of caves in this area, understanding the development of Buckfast Abbey is going to be a key factor.

### **Domesday Book**

This was published in 1086 and the local entry is for Buckfast rather than for Buckfastleigh<sup>1</sup>. It was the capital manor of the abbey and had never paid geld<sup>2</sup>. It records that, in that year, the posts of Tenant-in-chief (responsible to the King) and Lord of the Manor (responsible to the Tenant-in-chief) are both filled by the Abbey of Buckfast and the Abbey had been Lord at the time of the Conquest in 1066 (and presumably before that). It gives some information about the households, livestock and land holdings and it is clear that, as a landowner, the Abbey, as Lord, had already got

1 From <https://opendomesday.org/place/SX7467/buckfast/> and from The National Archives ref E31/2/2/3936

2 Geld was a land tax that was levied before the conquest in 1066 as well as under William I

interests spread very widely across Devon. However, it has been suggested that, between 1066 and 1086 and on the orders of the king, the Abbey lost four of its manors, leading to a much reduced entry in the Domesday Book<sup>3</sup>.

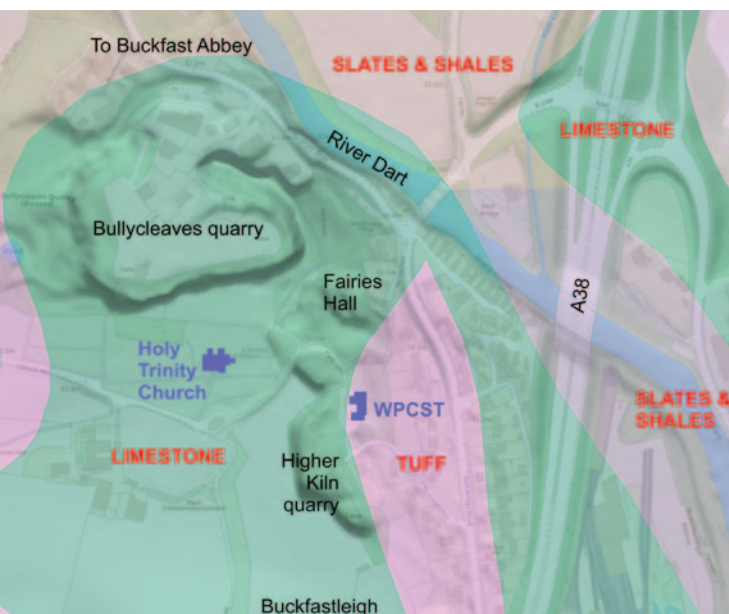
Writing in 1906, Dom Adam Hamilton suggested that the Abbey lands later included nearby fields as well as cultivated land and woods close to the Abbey<sup>4</sup>. What is not so clear is when and how far these land holdings later extended, particularly north and westwards. There are references to North Brook and to fords across the River Dart but not explicitly to the high ground that we now call Buckfastleigh Hill.

## Where and when was the Abbey first built?

Kemble is a Cambridge University website devoted to the interpretation of charters in Anglo-Saxon England<sup>5</sup>. It says that the foundation of

Buckfast Abbey was confirmed in 1018, by charter of King Cnut. This suggests that the monastery had been founded before this date but, although modern maps showing religious houses that existed by 975 do not include Buckfast, several writers have suggested an original foundation at a much earlier date.

It's easy to assume that the Abbey has always stood on or



Bedrock geology around the Cave Studies Centre

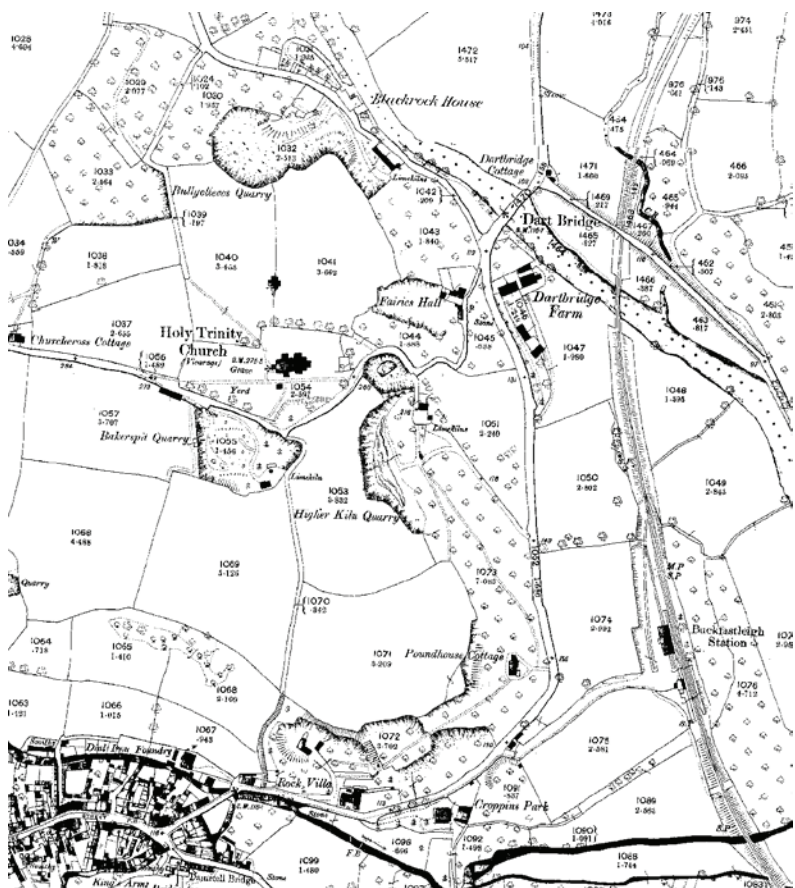
<sup>3</sup> See *Buckfast Abbey and Domesday* by Paul Luscombe in *Devon and Cornwall Notes and Queries*. Vol 39.9, Spring 2006

<sup>4</sup> See *History of St Mary's Abbey of Buckfast* by Dom Adam Hamilton (1906) <https://archive.org/details/historyofstmarys00hami/page/30/mode/2u>

<sup>5</sup> See <https://dk.robinson.cam.ac.uk/>

near its present site. But the specialists conducting an excavation in 2002 at the ruined Holy Trinity parish church suggested that the limestone walls that they uncovered could have been the foundations of a monastic settlement which might have been the first Buckfast Abbey<sup>6</sup>. It is not clear whether there has been any further work on this but we are following it up.

Whether or not the first monastic settlement was built near the Dart or on top of Buckfastleigh Hill, limestone appears to have been used then, in the rebuilding that later took place at the river site, and in the construction of the present Abbey. This would need to have been quarried somewhere and logically this would have been as close to the building site as possible. So we now need to look at the quarries that developed in or near the Hill.



## Limestone distribution and local quarries

The limestone at Buckfastleigh is a quite small outcrop underlain by tuff

<sup>6</sup> *Discovery of a late Anglo-Saxon monastic site in Devon: Holy Trinity church, Buckfastleigh* by Andrew Reynolds and Sam Turner. Archaeology International, 2002; also reported in the newsletter of Devon Archaeological Society, No 85, Summer 2003

and shales and bisected by the River Dart (see the map opposite). It's clear from the records from local boreholes that there are further limestone deposits below these impervious rocks and it's also likely that the caves in the Hill, as we now know them, are part of a single system, some of which has been destroyed by quarrying.

The current quarries, now all closed, are outlined on this 1880 first edition OS map which shows Bullycleaves quarry (much smaller than it is now), Bakerspit quarry (which only started in 1847 and so is not shown on an early 19th century map that we have), Fairies Hall, Higher Kiln quarry (more or less in its present form) and quarries on the southern flank of the Hill, close to Buckfastleigh. The quarry closest to Buckfast Abbey, which is off the top-left corner of the map, is Bullycleaves where limekilns are shown.

We believe (but need to check) that the limestone used in the building of the present Abbey came from Bullycleaves quarry<sup>7</sup>. It is possible that stone used in the earlier Abbey building also came from that quarry or from one of the other quarries on the Hill. Lime mortar for the building may have been made in kilns at Bullycleaves or elsewhere. It is also possible that early quarrying uncovered caves but, so far, we have not found mention of any before the end of the 18th century.

The other quarries that may have been the source of building stone are Fairies Hall and Higher Kiln quarry. Both are slightly further from the Abbey riverside site but both could have been the source of limestone discovered in the excavation at Holy Trinity church.

## **Dissolution**

The medieval Abbey was a victim of the dissolution of the monasteries during the reign of Henry VIII. The building was destroyed and the remnants passed into the possession of local nobility, notably Sir Thomas Dennis of Holcombe near Exeter<sup>8</sup>. The building stone seems then to have been marketed quite widely and by several merchants, and probably ended up in various local buildings, some of which may still exist. By that time Buckfastleigh was a significant settlement around the River Mardle.

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<sup>7</sup> This comes from <https://historicengland.org.uk/listing/the-list/list-entry/1292865?section=official-list-entry>

<sup>8</sup> See <https://babel.hathitrust.org/cgi/pt?id=yale.39002002213917&view=1up&seq=293>

## 16th and 17th century maps and surveys

In the report of the excavation at Holy Trinity church there is a mention of a 1540s map which is said to identify and name fields that may have formerly belonged to the Abbey but then passed to the parish church, and it refers to the use of lime for local agricultural use. Unfortunately this map seems to have (we hope, temporarily) gone missing from the Devon Heritage Centre at Exeter.

There were then two manorial surveys. First, there was one in 1574 which we are currently examining to see whether it adds to what we have already found. Then another, completed about 80 years after the Dissolution and known as the Norden survey, includes several relevant bits of information<sup>9</sup>.

First, it mentions a Church Quarry which had customary rights attached to it for residents; these rights may have been very old, perhaps going back to the building of the church in the 13th century. It then includes a note which says

... That there is a newe erected Howse builded by one Francis Doderidge upon the Waste of the Churche Quarrie neare the Kings Highway ...”.

We don't know what, at that time, was meant by 'waste' but it could have been spoil from either Fairies Hall or Higher Kiln quarries. The Highway would have been the Exeter-Plymouth road which passed over Dart Bridge, skirted the Hill below High Kiln quarry, and then passed through Buckfastleigh.

There are records for the baptisms of three children of Francis Dodderidge in the parish church between 1602 and 1608 and there is also a Francis Dodridge of Buckfastleigh who made a Protestation Return (of commitment to Protestantism) in 1641, though we can't be absolutely certain that this is the same person.

Thirdly, there is a paragraph that says that there is

“... one quarry called Churche Quarrie lying and adjoining Unto the Church Yarde out of which Quarrie the Kings Tennants have ever had Marle Stones for manuring of their Landes and for building and for all other uses whatsoever, and have had alwaies the Topping

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<sup>9</sup> A transcript of the Norden survey from 1612 comes from <https://devon-cat.swheritage.org.uk/records/NS/7>

and Lopping of any Trees or other fuell growing in or upon the said Quarry without leave or paying any thing for the same, Which said Quarrie is Claymed by the heires of Sir Thomas dennys knight ....”

A quarry adjoining the churchyard (as it probably was in the early 17th century) could be Fairies Hall or the smaller northern part of Higher Kiln Quarry; Bakers Pit wasn't there at that time and Bullycleaves didn't then adjoin the churchyard.

## **Identifying caves and cave visitors**

We have so far not discovered any more records of quarry development or of caves before the end of the 18th century although it is hard to believe that local people were not aware of cave passages and chambers opening into the quarries. Then, in tracing the history of the excavation of Joint Mitnor Cave, Antony Sutcliffe described a series of visits to local caves in the search for mammalian fossil remains<sup>10</sup>. The earliest of these was by R. Polwhele who wrote in 1797 about splendid local caverns, probably describing (amongst other sites) a section of Reeds Cave that was subsequently destroyed by quarrying. Rev. John MacEney visited the area several times from the 1820s onwards and probably searched (unsuccessfully) for fossil remain in caves at Rock House quarry and in the now destroyed part of Reeds Cave in Higher Kiln quarry. William Pengelly came to the area in 1859, to visit the newly discovered Bakers Pit Cave but seems not to have gone to see the Higher Kiln quarry caves. In 1871 J. S. Amery conducted an excavation in Pridhamsleigh Cave but it was then not until the 20th century that Joint Mitnor Cave was entered and the extensions to Bakers Pit and Reeds Cave were found with, later, an opening into Bullycleaves quarry.

We have a lot of work still to do. There are big gaps in our 1000-year history of the exploitation of limestone and exploration of caves in Buckfastleigh Hill. We hope to be able to fill in some of those gaps and to be able to report on what we find in a future publication.

*Harry Kemp-Gee*

*John Wilmut*

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<sup>10</sup> *Joint Mitnor Cave, Buckfastleigh* by Antony Sutcliffe. Proceedings of the Torquay Natural History Society. Vol XIII, Pt 1 (1960)

The geological map on page 17 contains British Geological Survey materials © UKRI 2026  
The Ordnance Survey First Edition map from 1880 on page 18 was taken from KnowYourPlace Devon on <https://maps.bristol.gov.uk/kyp/?edition=devon> online map

# Trust publications

Publications of the Trust may be obtained either from Alan Finch at 'Zennor', Throwleigh Road, South Zeal, Okehampton, Devon EX20 2QA. Telephone 01837 840259. Some will shortly be available to order online at <https://pengellytrust.org/> or can be purchased from the Centre bookstall.

Here is a list of the books, booklets and leaflets available.

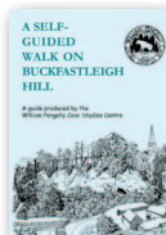
The first 4 publications can only be purchased at the Centre bookstall since the cost of postage now greatly exceeds their cover price.

Prices of the four books are available to order by post or online and the prices include postage and packing.

## **A Self-Guided Walk on Buckfastleigh Hill**

*John Wilmut, David Jean and Sheila Phillips (2004)*

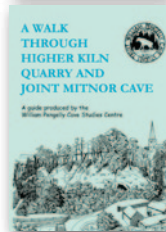
This is one of two guides for use at the Centre and it describes a self-guided route that starts at the Centre and introduces the walker to the principal features, structure and geology of the hill and its caves. It is well illustrated, has a map and is a good summary of the more detailed information in other Trust publications and in the Centre museum. £0-50



## **A Walk through Higher Kiln Quarry and Joint Mitnor Cave**

*John Wilmut, David Jean and Sheila Phillips (2004)*

This is the second of two guides for use at the Centre. Over 12 pages it provides a summary of the principal features that visitors see in the guided walk through the quarry, in the bone cave and in the museum. It forms a companion guide to the self-guided walk, limekilns and geological garden publications. £0-50



## **The Limekilns**

*Wilfred Joint and John Wilmut (2005)*

This is a 4-page supplement to the information boards at the Centre. There are four main quarries in Buckfastleigh Hill and all are in the coral limestone. Much of the stone taken from these quarries was burned for making lime in the kilns at Higher Kiln Quarry. This factsheet describes the kilns and the traditional lime-making process that was used at Buckfastleigh. £0-50

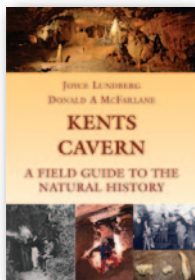


## **The Geological Garden**

*Bob Symes, Sheila Phillips and John Wilmut (2007)*

This is another supplementary 4-page leaflet. In the courtyard of the Centre there is a group of rocks from the local area, set out as a geological garden. They give some idea of the range of rocks that visitors see on and close to Dartmoor. The leaflet gives detailed information about the rocks and where they came from. £0-50



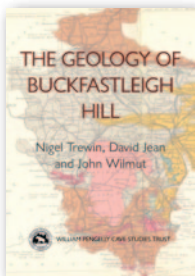


### **Kents Cavern: A Field Guide to the Natural History**

*Joyce Lundberg and Donald A McFarlane (2008)*

Over more than 150 years researchers at Kents Cavern have discovered a sequence of deposits that cover a half-million year history, making this cave one of the most important cave sites in the world. Here the authors show how the cave first formed and developed and they describe the excavations by William Pengelly. The Guide then takes the visitor on a tour of the show cave. At each stop the authors describe the evidence on which our understanding of its development is built.

£4-50

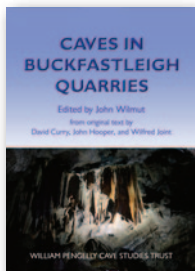


### **The Geology of Buckfastleigh Hill**

*Nigel Trewin, David Jean and John Wilmut (2007)*

The origins of Buckfastleigh Hill go back 350 million years and its story embraces tropical seas, volcanoes, coral reefs and the building of a massive mountain chain. Caves in the hill's limestone provide evidence of ice age erosion and of warm periods when lion, elephant, hippopotamus and other animals roamed the Dart valley. This illustrated booklet provides a detailed description of the geological history of the hill.

£3-50

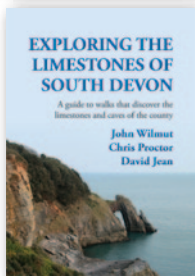


### **Caves in Buckfastleigh Quarries**

*Edited by John Wilmut (2012)*

This booklet has been produced by the Trust as an updated and extended replacement for two of its earlier publications. It includes descriptions of the history, geology and exploration of the caves that will be of interest to anyone who has visited the area and particularly for those who have seen some of the caves at the Centre.

£5-00



### **Exploring the Limestones of South Devon**

*John Wilmut, Chris Proctor and David Jean (2014)*

Created when Britain lay south of the equator, Devon's limestones are as exciting and interesting as any rocks in Britain, as are the caves which have been formed by the action of water over thousands of years. Research in the last two centuries has yielded much information about our past climates and about the people, animals and plants that once inhabited this area. The walks are described in great detail and the book can be used to combine the walks in ways to suit the walker.

£7-00

Digital articles from back numbers of STUDIES IN SPELEOLOGY or from this NEWSLETTER are available. Please contact the librarian to enquire about copies.

# The William Pengelly Cave Studies Trust and Centre:



The William Pengelly Cave Studies Trust is a charity, originating in 1962, when Higher Kiln Quarry at Buckfastleigh became the site of a cave studies centre. The quarry contains several caves including Joint Mitnor Cave where there are the remains of animals dating from the warm period between the last two ice ages. The organisation is named after William Pengelly, a local man who, in the mid-19th century, excavated local cave sites including Brixham Cave and Kents Cavern at Torquay. He was responsible for establishing excavation methods and records that became a model for all modern archaeology.

Joint Mitnor Cave was first entered just before WW2 when bones were found and identified as the fossil remains of animals that had once been present in this location. The cave was excavated in the 1940s and 50s but a large part of the deposit was left in place and this can be viewed by visitors. The picture shows a tooth from a juvenile straight tusked elephant and bones from bison and red deer. Other species include hippopotamus, lion, hyena, wolf, and bear.



Other caves at the Cave Studies Centre are closed to visitors either because of their fragility or because they are used by hibernating bats.

There are other local caves that are used for recreational purposes.

## What we do

### Research

The Trust supports a range of research in areas such as cave water percolation, cave spiders, palaeontology and bat studies.

### Education

The Trust provides information about cave studies through visits, lecture programmes, publications and displays in the Centre museum.

### Conservation

The management of the quarry and caves is consistent with good cave conservation practice.

# what we do and how you can visit us

## Group visits

We welcome visits from student groups, children and special interest organisations. These can be at any time of year although visits to the caves are not possible from mid-autumn until mid-spring. Your visit can be tailored to your specific needs. To arrange, please contact Sheila Phillips on 01752 775195 or email [danehurst@tiscali.co.uk](mailto:danehurst@tiscali.co.uk)

## Specialist visits

These are visits from those individuals expressing interest in the Trust's work. Please contact Sheila Phillips, details above.

## By joining public day walks

Held during July-August, widely advertised and lasting for a couple of hours including a cave visit; see the website <https://pengellytrust.org> for dates and times of the walks and to book.

## By joining a public bat walk

Held on July-August evenings, these are an opportunity to see bats and hear the ways in which they use echolocation to navigate and catch insects. Booking is required: see the website <https://pengellytrust.org>

## Residential visits

We can accommodate just over 20 people. These visits are especially suitable for groups interested in environmental activities. Book or enquire on <https://pengellytrust.org> or to David Jean on 01752 700259.

## Trust officers and Council members

|  |  |  |
|--|--|--|
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| <b>Guided Walks</b>                          | John Brodribb                          | <a href="mailto:johnbrodribb@yahoo.com">johnbrodribb@yahoo.com</a>               |
| <b>Council Members</b>                       | Beth Cramman, Skip Greenwood, Ben Hall |  |



The discovery of caves in Buckfastleigh Hill is clearly a direct result of quarrying the limestone. This served agriculture (through the production of lime) and building, and its exploitation was almost certainly linked to the development of Buckfast Abbey.

See pages 16-21



Clockwise from the top: Quarries shown on the 1880 first edition OS map; Buckfast Abbey as it is now; Limekilns at Higher Kiln Quarry; Reeds Cave quarried entrance.