

# Small Heritage Adoption Case Study:

## Gradbach Limekiln



Adoption ceremony and unveiling of plaque at Gradbach Limekiln. From left to right – Morgause Lomas, creator of the Derbyshire Archaeology Badge; SWPLP Volunteers Merrick Iszatt, Angela and Richard Knisely-Marpole, and Hilary Freeman; Cultural Heritage Officer Catherine Parker Heath; Scout Leader, Paul Taylor; High Peak Scout Chair, Paul Read; SWPLP volunteer, Tim Taylor.

Catherine Parker Heath, Cultural Heritage Officer

May 2022



## Background

Between 19<sup>th</sup> July and 18<sup>th</sup> August 2021, the South West Peak Landscape Partnership Scheme (SWPLPS) as part of its Small Heritage Adoption (SHA) project surveyed and then consolidated a historic limekiln at Gradbach in the Parish of Quarnford in the Peak District National Park (PDNP). Sixteen SWPLP volunteers carried out the work under the supervision of Catherine Parker Heath, SWPLP Cultural Heritage Officer, and Mark Womersley of Womersley's Ltd. The project was made possible by a generous grant from the Association for Industrial Archaeology (AIA), alongside grants from the National Lottery Heritage Fund through the SHA project, and the Peak District National Park Authority (PDNPA).

Fig. 1 Gradbach limekiln at the start of the project with banners of funders visible



Fig. 2 Email notifying of success of application for funding to the Association of Industrial Archaeology

**From:** Keith Falconer  
**Sent:** 14 June 2021 11:17  
**To:**  
**Cc:**

**Subject:** AIA restoration Grant Gradbach Limekiln

Dear Karen

I am delighted to inform you that the AIA Council at the 5<sup>th</sup> June meeting approved a Restoration Grant of £6,500 towards the consolidation of Gradbach Limekiln.

I attach the Award letter with contact details etc and a note for Publicity.

....

Best wishes

Keith

To ensure that the limekiln is looked after into the future, High Peak Scouts, who own the nearby Gradbach Scout camp, have since adopted the structure (see cover photo). They too participated in the project and their future monitoring and maintenance of the site will enable a number of Scouting Sections to achieve the newly created Derbyshire Archaeology Badge, which won an award at the 2021 [CBA Archaeological Achievement Awards](#) for Archaeological Innovation.

### **Limekilns in the Peak District**

Limekilns are significant heritage assets and can be found across much of the Peak District National Park. Although they are particularly common on the limestone plateau of the White Peak, they are also a feature of the South West Peak landscape, an area mainly made up of sandstones and shales. Here, the kilns were built close to sources of coal, to be used for fuel, rather than near limestone deposits. Whilst lime burning in the South West Peak and White Peak probably had 17<sup>th</sup> century origins, most of the kilns that survive today were built in the 18<sup>th</sup> and 19<sup>th</sup> centuries to produce lime, which was used largely for agricultural purposes.

### **The Gradbach Limekiln**

The Gradbach limekiln is a field kiln. As well as lime from this kiln being used for agricultural purposes, it is likely that it would also have been used in mortars, plasters and limewash in local buildings, sometimes being mixed with ochre from nearby ochre beds, leading to the characteristic colour of some of the farm buildings in the area.

It is likely too that the kiln was built by the Harpur-Crewe Family, who had their seat at Calke Abbey in Derbyshire. The land on which the kiln sits belongs to Manor Farm. This farm, along with others on the Harpur-Crewe Estate, was sold in the 1951 sale of part of the Staffordshire Estate, long after the limekiln had gone out of use. It is the only example of a limekiln in the Gradbach valley and, as such, is likely to have served other Harpur Crewe estate farms in the area and not just Manor Farm. The Harpur Crewe's assets in the area also included the coalmines on Goldsitch Moss, just a mile to the south of the limekiln. This proximity to the coalmines as well as the turnpike road running from Buxton, from where the limestone to be burnt would have been brought, explains the location of the kiln, which also allowed easy access for local Harpur Crewe Estate farmers to obtain lime needed for their use.

Whilst it is still a matter for debate, it seems that this kiln would have been a continuous running draw kiln with layers of coal and limestone loaded into the top of the kiln as it burnt, and lime drawn from the bottom, as it was needed. This would have burned perhaps for a few months or a 'season' and then been left to cool so repairs could be made to the kiln pot, perhaps over the winter months. This is in contrast to many field kilns seen particularly across the White Peak, which were likely to have been intermittent clamp kilns, although it is not always possible to tell from the existing remains. Intermittent kilns were filled with layers of limestone and coal, burnt and then left until the lime had cooled before being emptied between each firing.



## Fieldwork

The team started by clearing away invasive vegetation that was obscuring the limekiln and causing it to collapse. As well as making way for the consolidation, this enabled the kiln to be surveyed in its wider setting and recorded in its current state before any consolidation took place. Volunteers carried out a tape and offset survey, which proved particularly tricky on such a sloping site, but this was supplemented with a total station survey, enabling the team to see clearly how the limekiln was related to an access track, the original line of the packhorse route-turned-turnpike road and nearby tollhouse.

Fig. 3 Volunteers carrying out topographic survey, illustrating slope of site



Fig. 4 Using the total station



Fig. 5 Topographic plan

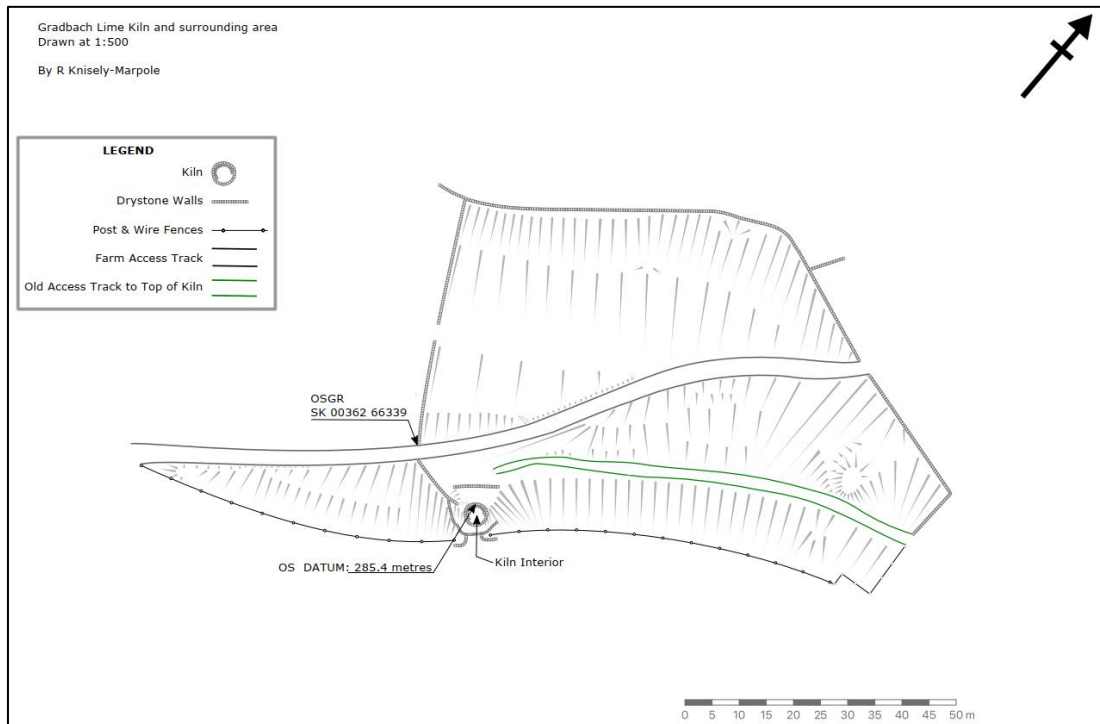
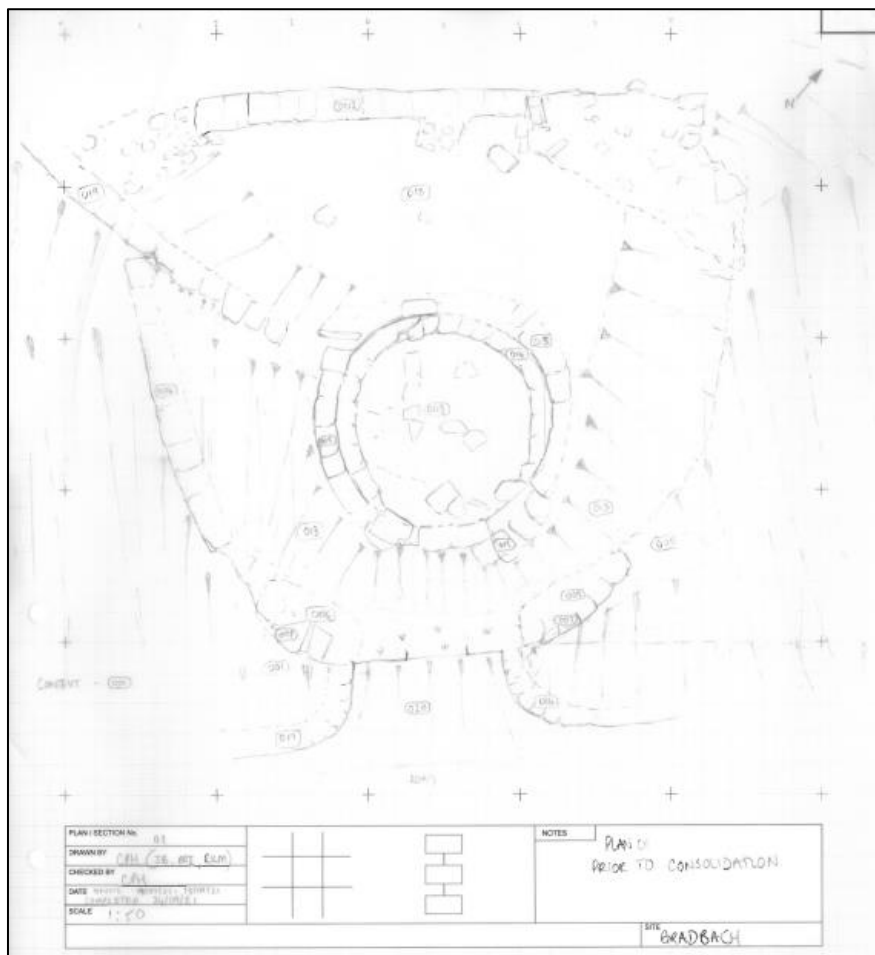


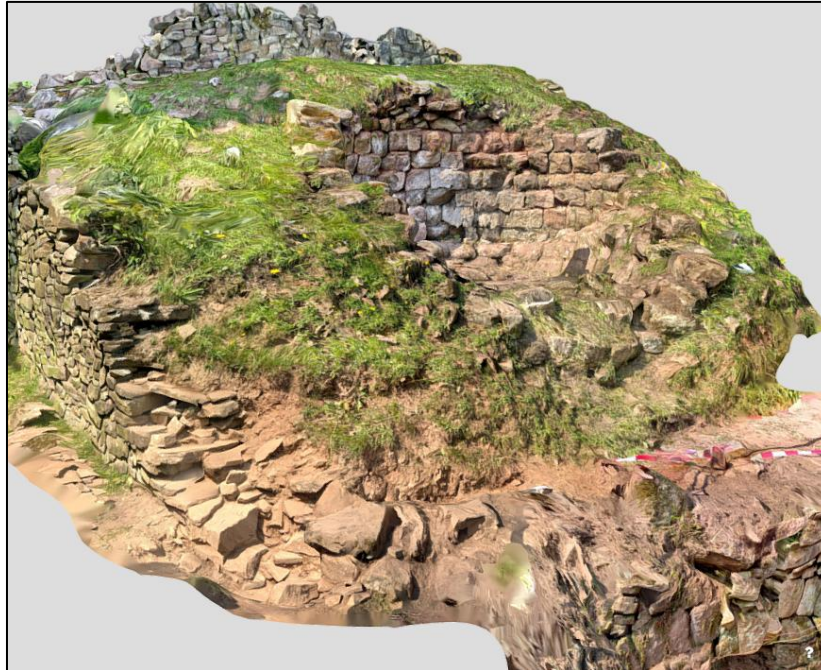
Fig. 6 Plan of limekiln





The existing form of the limekiln was also recorded in plan, sections and elevation. Photographs were taken of the site and the limekiln using a drone, a pole cam and from the ground to give volunteers a taste of photogrammetry as well as trying out LIDAR scanning software using an iPad.

Fig. 7 3D image of limekiln created using an iPad



Following this, the team essentially carried out a watching brief as collapsed stones and earth were removed using hand tools to enable a greater understanding of the underlying structure. Any revealed contexts were recorded before deciding how best to put the stones back to reflect how the structure once looked.

Fig. 9 Volunteers with Mark Womersley clearing away the build-up of soil in front of the kiln from the collapse



This was not, nor was ever planned to be, a rebuilding or reconstruction of the limekiln in its entirety. Only minimum intervention to consolidate the structure was ever intended. The collapsed arch over the draw hole was taken down and built up by blocking up the draw hole passage thus providing a support for the repositioned arch. The curtain walls leading to the draw hole, were rebuilt by volunteers and members of the Derbyshire Drystone Walling Association, working alongside master craftsman Trevor Wragg. Once these had been tackled they moved on to an original drystone field boundary wall that had later been used as terracing, and one that stretched across the back of the kiln. The interior of the kiln pot was also consolidated by removing a few courses and then building them back up and securing in place with a lime mortar, reflecting the original construction.

## Results and conclusions

It became clear from the start that the structure was largely drystone built with mortar only used in the kiln pot itself, which consisted of gritstone blocks that were evidently sacrificial and would have needed replacing periodically. As the work described above progressed, it became possible to understand the phasing of the site. The kiln was built into the natural slope of a hill that was already enclosed with drystone walls. Whilst on the northeast side of the kiln the ground level was adequate to reach the top of the kiln pot, on the other, an existing field wall was used as a terrace to enable the loading platform to be built up at the western edge of the kiln. It was clear that this had once been a freestanding wall and not purpose built for the platform as there is what appears to be a rabbit smoot in the middle of it.

The end of this wall was encompassed in the rubble and earth fill around the kiln pot on its southwest side, which was then encased by an outer wall. This external wall originally curved but at some point collapsed and was rebuilt with less care and on a straighter alignment using a variety of stone, including heat damaged gritstone blocks that had originally lined the kiln pot.

On the north-eastern side of the kiln, where the top of the kiln met the natural slope of the hill, the situation is somewhat different. It is unclear whether there was ever an external wall that extended around this entire side as on the other. A later wall along this side, for which there is no evidence today, probably served to prevent cattle or sheep from falling in the, by this time, disused and collapsing kiln pot. Likewise, at the top of the kiln across the loading platform, another drystone wall was built, presumably also to keep stock out. These walls were already in place by 1879 depicted on the 1<sup>st</sup> edition 25-inch OS map on which the limekiln is labelled as 'old limekiln'. Cattle still using the field up until recent years, eventually caused the arch of the draw hole passage to collapse.

Not many artefacts were found during fieldwork, with only a couple of earlier 20<sup>th</sup> century glass bottles, a corroded iron handle and a couple of sherds of 19<sup>th</sup> century pottery. One of the most interesting finds, however, was a stone found in what was believed to be the collapse from the original free-standing wall. This was incised with interesting marks, which are reminiscent of mineshaft headgear or a rather elaborate letter. It transpired, however, that some of the stone may not have originated from the wall but was brought in from elsewhere. So, without a secure

context, it proves difficult to make any conclusions. It may be that someone recognises the types of markings (Fig. 10).

Fig. 10 Stone with strange markings



Information and photos documenting the project were shared on the South West Peak Twitter pages and Facebook page and can still be seen there now – (@twitter/SouthWestPeak and www.facebook.com/swpeak). Open days held over the last weekend in August saw the local community find out more about a feature they often travelled past but knew little about. Over these two days, volunteers also helped Mark Womersley build a miniature limekiln, burn limestone (kindly donated by Tarmac from their Tunstead quarry), and subsequently demonstrate the process of slaking.

Fig. 11 Example of Tweet





An ArcGIS story map trail around the heritage features in the area, taking in the limekiln, has been created. Local stonemason, Paul Butterworth carved the name 'Gradbach Limekiln' on a recycled gate post, which was positioned in front of the draw hole passage, in part to prevent the many visitors to the area from parking in this spot. A panel was fixed to the blocked draw hole passage in February 2022 and unveiled during an adoption ceremony with High Peak Scouts who are now on hand to keep a watchful eye over the structure and ensure that it remains for visitors in the future to appreciate (see cover photo).

Fig. 12 Fitting the panel






## Challenges

The weather during part of the project was inhibitive, as it was extremely hot, but this was managed through taking regular breaks, sheltering under a gazebo and having plenty of drinking water to hand.

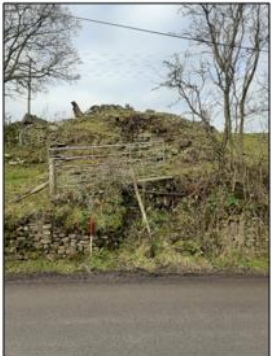
The area around Gradbach Limekiln becomes very busy with visitors during the summer months. One challenge was how to organise the Open Day. We decided that instead of advertising it to the wider public through social media, we would post invitations through doors of the local community. This worked very well and people commented that they had not seen some of their neighbours for over 10 years!

Fig. 13 Invitation to open day for local residents



### Gradbach Limekiln

Saturday morning 14<sup>th</sup> August, 2021



You may have noticed that something has been going on at the historic limekiln in Gradbach.

If you would like to find out more then come along this Saturday morning, 14<sup>th</sup> August.

See a demonstration of lime burning in a replica kiln, hear Mark Womersley talk about lime and lime burning, speak to some of those who have been involved in the project, and join SWP Cultural Heritage Officer, Catherine Parker Heath on a walk around some of the remains of industries in the area.

Master craftsman, Trevor Wragg will also be on site with members of the Derbyshire Dry Stone Walling Association.

There is no car parking on the site itself and, as you probably know, parking in the area can be difficult so please bear this in mind if you intend to come along.

The site is not suitable for younger children. There are many hazards including farm machinery, the active replica limekiln and the historic limekiln itself.

**10am: Lime Burning Demonstration** – talk about lime and its uses while we burn lime in our very own replica kiln – Mark Womersley  
Approx. 1 hour

**11:30am: Guided walk around the 'Lost industries of Quornford'** – led by SWP Cultural Heritage Officer Dr Catherine Parker Heath  
Approx. 1 ½ hours

Please do give Catherine a call or email if you want to come along so that we can keep track of numbers on site.

**Catherine Parker Heath**  
South West Peak Cultural Heritage Officer  
01629 816 279 07970 237129  
[Catherine.ParkerHeath@peakdistrict.gov.uk](mailto:Catherine.ParkerHeath@peakdistrict.gov.uk)




Fig. 14 Visitors to the Open Day watching lime burning demonstration





Part of the consolidation involved rebuilding drystone walls leading to the entrance of the limekiln. We invited SWPLP volunteers who were also volunteer rangers and members of a mid-week drystone walling group to help with this, to ensure the standard of work was acceptable to the landowner we brought in master craftsman Trevor Wragg and a training workshop was arranged to re-build some of the wall, which worked extremely well.

Fig. 15 Trevor Wragg delivering the drystone walling workshop



## Outcome

The outcome is an historic limekiln that has been consolidated preventing further collapse and ensuring it remains for the public to enjoy and learn from. The fieldwork not only gave us a greater understanding of this historic structure but was also a meaningful way to bring volunteers together for a common purpose and feel a great sense of achievement at the end. High Peak Scouts have embraced the adoption with enthusiasm and its coincidence with the new Derbyshire Archaeology Badge is most fortuitous. They have a 'ready-made' archaeological site on their doorstep that, with the landowner's permission, can be visited whenever they need to. Since the adoption on February, the CHO has delivered an archaeology workshop to Harpur Hill scouts in their hut, took part in the Scout Wallaboree in May 2022 and led a tour to the limekiln for Chinley Scouts in June 2022.

## Feedback

Dear Catherine,

Thanks for organising the Gradbach Limekiln Project. I learned a lot particularly dry stone walling.  
Best wishes, Fay

Catherine,

Thanks for an educational day on Friday, I hadn't expected a master class, what a bonus, and to be asked back to join Trevor and chums next weekend put the icing on the cake! I'll book in for Saturday for definite and see if I can get out on Sunday too.

Hi Catherine,

Just wanted to say it was great to see the Facebook photos of the explorers at the limekiln from the other week, I hope you've had a lot of success!

Regards, Morgause



**Morgause Lomas** Team Lead | Derbyshire Scout Archaeology

Hi Catherine

Thanks for your email and your comments. Just enjoying a glass of wine relaxing. Thanks for a great experience. I am on MYIMPACT so get notifications of new projects available for volunteers through the site but if you know of other projects bear me in mind. Thanks and regards Merrick

Morning Catherine,

On behalf of the scouts and leaders of the 3rd Buxton (Harpur Hill) scouts I would like to thank you for a most interesting tour of Gradbach and visit to the Lime kiln.

I certainly got a lot from the history of Gradbach and have sourced a copy of Eric Woods book the South West peak. I believe the scouts also enjoyed their walk, talk and questionnaire. Hopefully a seed has been planted!

Regards

Paul Taylor

3rd Buxton (Harpur Hill) Scout Leader

You're very welcome, it's a special project to be involved in, and congratulations on running it to schedule! Look forward to the write up. Might be that some of my forebears used the kiln as they were around Quarnford and Flash in the early 19C. And if you need any more walling, let me know. All the Best. Tim

Catherine

The limekiln looks amazing!!!! Sorry I was away when it was completed. Good job team! I'm sure the AIA will be delighted with their grant spend...

Anna