



Newsletter No. 97

September 2022



Photo Stuart Langley

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Please send submissions for the next Newsletter to John at johnrsheppard@tiscali.co.uk or by post to Field View House, New Hey Road, Rastrick, Brighouse, West Yorkshire HD6 3PZ.

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Killhope Events 2022

Saturday 8th & Sunday 9th October
Blacksmith Workshops and Demo Days
£85, details from Killhope

/w/under by artist Stuart Langley - series of sculptures on site all season.
Come along to see the fascinating sculptures which were inspired by the
minerals found under our feet.



***Killhope closes to the public on Sunday 30 October 2022
and re-opens on Saturday 1 April 2023***

News Items

Archive Team

The Friends of Killhope Archive is currently boxed and housed at the Museum but, due to space constraints, is for the time being inaccessible to Friends or other researchers. Durham County Council has allocated us a secure room at its Sevenhills complex near Spennymoor. The intention is that our Archive will be moved there in due course, at which stage it will again become accessible to all. Meantime, Margaret Graham, who looks after the Archive on behalf of the Friends Committee, would welcome an Archive Team to help her check the contents of the boxes before they are moved. Volunteers should please contact Margaret.

Future Events at Killhope

Pre-Covid, the Friends organised or participated in events at Killhope, such as hosting the Annual Quoits Match, or providing a staging post for the Beamish Trophy Trial, or organising trips out to places such as the eighteenth century Bretton Hall Estate, an ancestral home of the Beaumont family. Now it is time for us to think about putting on such events, on or off site, once more. Before deciding a programme for 2023, the Committee would welcome suggestions from members. Please contact Jackie Hamer with your ideas.

New Display at the Museum

A display has been put together by Ian Forbes based on the work of children at Mr Beaumont's School in the second half of the nineteenth century, as recorded in a volume preserved at Northumberland Archives. The exhibition is now ready for display and will be on show during the 2023 season.

Further displays are envisaged for subsequent years and Members are invited to submit ideas, tentative or fully formed.

Back numbers of our Newsletter

Readers will know that it has been possible for some time now to see some of the back numbers of this Newsletter, accessed through the web-site. Soon it will be possible to see all issues, right from number 1. Thanks to Ian Forbes and Bill Heyes, who have copied back numbers and digitised them for us, with technical support and help from Roy Tranter at the Fitzhugh Library in Middleton-in-Teesdale.

Newsletter Editor

For some time John Sheppard has been assisting the chair in producing the Newsletter. It was agreed at the AGM in June that he will now assume responsibility

for producing the twice yearly Newsletter. It is pleasing to know that this publication is appreciated by members, and satisfying to note that it is cited in articles relating to mining in Northern England. John expects the format to remain much the same as before, but would welcome a greater range of authors. Please do send copy to him at any time.

Committee

At the AGM Ian Forbes, Pam Forbes, Margaret Graham, Jackie Hamer and Brian Young agreed to remain on the committee. Joining them are Bill Hayes, Maria McArdle and John Sheppard. Margaret continues as Membership Secretary and Archivist, and Jackie as Secretary. There being no candidates to replace Linda Brown as Treasurer, the Committee will be appointing a suitable person, to be ratified at the next agm.

New Committee Members 2022

Bill Heyes

I have had a fascination with minerals and mineralogy since my early teenage years but my interest in lead mining stems from when I became a member of the Durham Dales Mining Society (DDMS) in Barnard Castle in 1982. I had gained a position at the Glaxo factory (now GSK) in Barnard Castle after completing my PhD. It was there that I was introduced to DDMS by another member of the society. At first, my interest was in joining with other members of the society exploring the old mines in Teesdale and Weardale (both underground and surface remains) but very soon became intrigued by the history of mining in the north Pennine region. After retirement in 2004 I was able to devote time and effort to researching that historical period of mining in Teesdale before the London Lead Company began its Teesdale operations in the 2nd half of the 18th century. Some of this research has been published in the Friend's of Killhope Newsletter. Although much previously unknown material has been discovered many questions still remain unanswered and work continues.

Maria McArdle

I began working at Killhope as a Project Officer at the beginning of 2015 then took the role as manager in 2017 after having worked many years in leisure and parks and open spaces. I am passionate about Killhope and endeavour to continue develop the offer to our visitors in order that the site remains a valuable asset to the heart and the communities of the North Pennines.

John Sheppard

A retired educational psychologist, I was born in Sheffield and brought up in Meltham, near Huddersfield. My first degree was at Durham and it was while I was there that I spotted a request for volunteers to join a young people's working party over Easter 1966, the aim being to arrest the deterioration of a lead mining site in the west of the county. Free board and lodging were offered so, of course, a penurious student, I immediately signed up. Ever since that excursion I have harboured a great affection for Killhope. My work for local authorities and a spell as a tribunal member now being over, I felt able to take a more active part in the Friends of Killhope and have in recent years effectively been assistant Editor of the Newsletter. Living in West Yorkshire posed problems of communication until the pandemic persuaded us all to take advantage of Zoom. Now that I have accepted sole responsibility for our organ it seemed only logical to join the committee.

Northern Lithium Rig near Ludwell



Northern Lithium have been drilling on Slitt vein near Ludwell in Weardale to discover whether there are viable quantities of lithium which could be extracted from the fluid in the vein. A press release is expected. We hope to have a fuller report on this initiative in the next newsletter.

Mineshops in Teesdale and Weardale in 1894

Ian Forbes

We know quite a lot about the dreadful conditions in mineshops in the middle of the nineteenth century thanks to the findings of Royal Commissions. What is perhaps less well known is that even as late as the end of the century conditions were not much better. By this time there were fully functioning local authorities and I recently came across a report by Dr. Hill, Durham County Council's Medical Officer which he delivered to the Council in 1894. Dr. Hill had visited all the mineshops in Teesdale and Weardale and his report to the authority was reproduced in the Daily Gazette for Middlesbrough on 26th July that year. The newspaper article is reproduced in full below. Today it seems rather strange that Dr. Hill rather skipped over the complete absence of toilets in mine shops but dwelt on the deficiency of the spouting or guttering on the buildings. However he made clear that where there had been improvements in living conditions it was because there were fewer miners and consequently less overcrowding. The buildings generally had not been improved. Place name spelling is as it was in the newspaper, which was found in the British Newspaper Archive on the internet.

THE LEADMINERS OF DURHAM. REPORT ON THE LODGING SHOPS.

At the meeting of the Durham County Council yesterday an important report from Dr. Hill, the Medical Officer for the Durham County Council was read. It stated :— As requested by your committee, I have visited all the lead-miners' lodging shops in the county that are at present occupied. These lodging shops are situated in the rural districts of Teesdale and Weardale. In the Teesdale rural district the following lead-mine shops are at present occupied:— High Manors Gill, Low Manors Gill, Wyregill, Little Egglesthorpe, Lady Rake, and Green Hurth and at the date of my visit they were inhabited during four days a week by about 250 men and boys. They are all situated close to the lead mines, and in an exposed and isolated position, and are close to water courses from which pure drinking water is obtainable. With the exception of the High Shop at Green Hurth, which is mostly of wood, they are all built of stone and are fairly dry, but at Manors Gill, Lady Rake, and Green Hurth the spouting is defective and the foundations therefore damp. The shops generally contain a sitting-room, where the meals are taken, a drying room, where the wet clothes of the miners are dried, a washing-room, a wallet-room, where the food for the week is kept, and sleeping-rooms. At Low Manors Gill, however, the food has to be kept in the washing-room, and at Green Hurth the provision for storing food, for washing and for drying clothes, is unsatisfactory. As a rule, the living rooms are fairly large and satisfactory, but at the Low Shop, Green Hurth, it is small, badly lighted, and ventilated, and directly connected with the sleeping -room, while the living room at the Boys' Shop, Little Egglesthorpe is somewhat damp. With regard to the bedrooms, a great improvement has been made in many of the shops of late years, for not only have the number of beds been reduced, but apart from this, owing to the decline in the lead-mining industry, the number of men engaged in the mines has greatly decreased. In most of the shops also except at Green Hurth, artificial ventilation through the roof or else cross ventilation has been provided.

The bed-room on the first floor of the Wyregill Shop is however insufficiently ventilated, while at the Low Shop, Green Hurth, the room is very small, badly lighted and ventilated, and unfit for a sleeping apartment. In none of the mine shops are the bed-rooms provided with a fireplace. The beds are usually arranged in two tiers, by which arrangement more beds can be got into a room and less floor space is occupied. The chief defect, however, in the mine shops is the overcrowding of the bed-rooms. For reasons which I have already given this is not so serious as was the case a few years ago, but even at the present time the number of persons sleeping in the bed-rooms is far too large except in the large shop at Green Hurth, where most of the beds are unoccupied, and perhaps at the Boys' Shop at Little Egglehope. The model regulations of the Local Government Board require that at least 400 cubic feet should be allowed to each person in a sleeping-room, but at Manors Gill High Shop so far as I could ascertain it is only about 140 cubic feet per head, and at Little Egglehope (men's shop) it does not exceed 160 feet per head, while in none of the other shops does the cubic space exceed 250 feet per head, and if all the beds in the rooms were fully occupied it would be even less. This overcrowding is aggravated both by the miners themselves, who, in winter especially, stop up as far as possible all means of ventilation, and by the little attention that is paid to the free ventilation of the rooms when not occupied. As phthisis is extremely prevalent in the leadmining districts, and as the miners during their work in the badly ventilated mines are for several hours usually compelled to breathe grossly impure air, it is of the greatest importance that the air space and the ventilation of the bed-rooms should be sufficient. None of these shops are provided with any proper means of drainage, the slops for the most part finding their way into the nearest water courses. At Lady Rake and Green Hurth shops there is no privy accommodation, while at the other shops the conveniences are constructed over a stream, so that the excreta drop into the water and are carried away. It must be remembered that the provision of privy accommodation and drainage for these isolated mine shops, occupied entirely by men, is by no means so important as if they were situated in more populous or more frequented districts.

WEARDALE RURAL DISTRICT. The only mine shops at present occupied in this district are Grove Rake (3 shops), Wolfcleugh, Rispey, Boltsburn, and Bollihope. As in the Teesdale district, the number of miners occupying these shops is very much less than in former years, when the leadmining industry was more prosperous, and consequently they are less overcrowded and more healthy; but in several of them, and especially in the Grove Rake and Wolfcleugh shops, sanitary improvement is much needed. At the large Grove Rake shop the sitting-room floor is very badly paved, and one of the wallet rooms, and the washing rooms were in a very dirty and damp condition. There is no spouting to the house, and water was lying all around, and rendering the foundations damp. The ventilation of the three bed-rooms has, during the last few years, been improved, but all of them were overcrowded, the air space per head only averaging about

200 cubic feet. The drawers' shop at Grove Rake has accommodation for eight miners, but it is isolated over a stable, which is very offensive, and consists of only one room, which is used for sleeping, dining, washing, and drying purposes. The house is unspouted, and is quite unfit for human habitation. The washers shop is of better construction and more sanitary, but the large bed-room contains far too many beds, and when all are occupied, as they appear to be, the cubic space per head is only about 150 feet. The washing-room is damp. The Wolfcleugh Mine shop is a very poor building, and is erected over a space formerly occupied by a water wheel, and which is now full of ashes and dust. The drying, sitting, and bed rooms are all on one floor, and not properly disconnected from one another, and none of them are provided with any special means of ventilation. The bed-room has accommodation for 24 men, and if all the beds were occupied there would be the grossest overcrowding. At the present time only half the beds are used, and the room is still overcrowded (270 cubic feet per head). The house is unspouted. The Rispey shop is fairly satisfactory, and is kept in fair condition. There are three bedrooms two of which have cross ventilation. One of the bedrooms is somewhat overcrowded (260 cubic feet per head), and if all the beds in it were occupied, it would be very seriously so. There is no water laid on to the shop, which is not spouted. The sanitary condition of the Boltsburn Mine shop is fairly good. There is one large bed-room, and only 13 of the 23 beds are at present occupied, the cubic space per head being about 340 feet. If all the beds were occupied, the room would be seriously overcrowded. There are good washing, drying, and wallet rooms. The Bollihope shop is also fairly sanitary. Of the three bed rooms, only one is occupied, and only five of the twelve beds in it are used. The room is well ventilated, and the cubic air space per head about 350 feet, but if all the twelve beds were used it would be greatly overcrowded. With the exception of the Bollihope shop, which has a privy erected over a stream, none of the shops have any privy accommodation or proper drainage. For the better protection of the health of the leadminers in this county who make use of the mine shops it is desirable: — (1) That the small low shop at Green Hurth should no longer be used as a sleeping apartment, and that the drawer's shop at Grove Rake should be closed as unfit for habitation. Better ventilation should be provided for the Wyregill (men's) sleeping rooms, and an improvement in the general sanitary condition of the Grove Rake and Wolfcleugh Mine shops is greatly needed. (2) That all the shops should be properly spouted, and means provided for carrying the roof water away from the houses, so as to prevent dampness of the foundations and walls (3) That at least 400 cubic feet of air per head should be allowed in every sleeping - room, that the tier system of beds should be discontinued, and that all beds and bedding not in use should be removed from the rooms. (4) That in every mine shop some responsible person should be deputed to see that the rooms are freely ventilated when not occupied, and that during occupation the means of ventilation are not stopped up. (5) In several of the shops a better separation of the drying and wallet rooms from the living rooms would be advantageous.

NORTHERN PENNINE NATIVE SILVER – THE REAL THING DISCOVERED!

Brian Young

The presence of silver in most Northern Pennine lead ores is well known and figures in most historical accounts of the area's lead mining (Dunham 1990). However, as avid readers of this Newsletter may recall, it's a topic I've touched upon previously (e.g. Newsletter No. 63, 2005 and No. 78, 2011) and am about to do so again here.

Silver occurs within our lead ores both in solid solution in galena (PbS), and perhaps also in cerussite (PbCO_3) and anglesite (PbSO_4) derived from galena by near-surface weathering, as well as in microscopic inclusions of argentopentlandite ($\text{Ag}(\text{Fe},\text{Ni})_8\text{S}_8$) and locally silver-bearing tetrahedrite ($\text{Cu}_6\text{Cu}_4(\text{Fe},\text{Zn})_2(\text{Sb},\text{As})_4\text{S}_{13}$) in several veins across the orefield and has also been found as tiny inclusions in chalcopyrite (CuFeS_2) at Groverake Mine, Rookhope (Ixer et al 1996). Reports of a variety of silver minerals from Tynebottom Mine, Garrigill have been discredited and appear to have been based on specimens originating from unknown foreign locations which were wrongly, or falsely, labelled as from Tynebottom Mine in the Kingsbury Collection, now held by the Natural History Museum, (Dunham et al 2001).

Countless reliable recovery and assay records of most Northern Pennine lead ore samples reveal ranges of silver content between around 111 – 251 parts per million (ppm) (3.5 – 9 ounces per tonne), though with values of up to 502 ppm (17.5 ounces per tonne) in the Derwent Valley (Dunham 1990). The myth of the area being a major source of silver-rich ores in the 11th and 12th centuries still persists in the minds of some historians reluctant to recognise that the majority of the local lead ores are distinguished not by being remarkably silver-rich but by being unusually silver-poor. Whereas silver values of between 1119- 2511 ppm (39.2 – 87.9 ounces per tonne) are known from a very limited area at the head of the rivers Tyne and Tees, the deposits known here are tiny, quite atypical of the orefield, and could not possibly have contributed sufficient ores at this grade to justify the claims of around 350 tonnes of silver raised from the area between 1125-1215. Similarly, suggestions that large amounts of sufficiently silver-rich ores and the smelting technology and capacity to process them were available in those years in support of these claims is simply untenable.

However, a recent detailed study of ore samples from the Clargillhead Vein at Tynehead, one of the locations of the very few Northern Pennine occurrences of silver-rich lead ores with values of up to about 1200 ppm (42 ounces per tonne), has yielded the orefield's first specimen of native silver (Ag) (Fairbairn et al 2020). It occurs as tiny grains in much weathered brown limonitic veinstone. Significant though this is, beware! This is not the cue for a Pennine silver rush. Native silver is actually a very difficult mineral to spot and is easily overlooked as it is often very finely disseminated through its matrix, is typically much tarnished with a dull grey

appearance, and does not look anything like your finest fine silver teapot! This discovery is of a very small number of grains mainly up to a maximum of 2 μm (0.002 mm or 0.000078 inches) across but in a few instances up to 8 μm (0.008 or 0.000312 inches) across observed under a powerful microscope in brown limonitic veinstone. They cannot be seen by either the naked eye or a strong hand lens and are small enough to take home in your eye without feeling them! Nonetheless, this is native silver which here seems to have been derived from silver-rich impurities in chalcopyrite rather than galena.

Other minerals hitherto unreported from the area identified in this study include bournonite (PbCuSbS_3) as small (10-100 μm) grains, yarrowite (Cu_9S_8) as crystals <1 μm in diameter, spionkopite ($\text{Cu}_{39}\text{S}_{28}$) as grains up to 30 μm across, and probable enargite (Cu_3AsS_4) as tiny masses up to 2 μm across.

Interestingly, in their study of Northern Pennine silver, Dunham et al (2001) noted the then recent finding of native silver in the near surface (supergene) alteration profiles of some Lake District galena-bearing veins with silver contents of up to 976 ppm (34.2 ounces per tonne) (Wirth 1989, Green 1997), adding that "*Perhaps it is only a matter of time before similar occurrences are found in the Northern Pennines*". Nineteen years later they have been proved correct. Unspectacular though this find is – such finds often are – this demonstrates the value and importance of keeping one's eyes open when visiting old mine sites and of seeking expert help with anything that appears unusual. You never know!

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Land of Lead and Silver

Ian Forbes

Last year the North Pennines AONB Partnership submitted an application to the National Lottery Heritage Fund for an ambitious four year long project called "Land of Lead and Silver". In the AONB's own words:

"Land of Lead and Silver focuses on the lead mining heritage of the North Pennines, and on the skills required to record, conserve, maintain and interpret this heritage for future generations. It starts with the stories associated with this heritage and aims to tell these stories in ways which connect with new audiences, building support for this heritage and recruiting volunteers for the future.

The project includes a capital programme of works for heritage at risk, work to engage new audiences, training for volunteers & capacity building for the voluntary sector, all of which will build a developing sense of place in the central North Pennines as the Land of Lead & Silver, & help support a vital visitor economy."

Friends of Killhope will be delighted to learn that funding for the development phase of this project was approved by the National Lottery earlier this year. This means that the AONB now has to pin down all the details and costs of what they will do prior to submitting a full funding application for the four years of the delivery stage of the project to the Lottery fund. Staff are currently being recruited and appointed to do this work. Historic England are also supporting the project with finance.

Land of Lead and Silver will be a very big deal for our subject in our area and I'm sure that Friends will want to help to make the project a great success when it's given the final go ahead. If and when the full funding application is successful both Killhope and Nenthead will have key roles to play in the project. More information about what will be tackled and which sites will be conserved and interpreted will appear in our next newsletter.



Shipwreck NW 96

Ian Forbes

The wreck of a wooden ship off the Isle of Wight is a comparatively recent discovery and has been named the Shingles Bank Wreck NW 96.

In June NW 96 was designated by Historic England as a Protected Wreck Site. So clearly it is a site of some importance. But what on earth has it got to do with our area of interest and why should we get excited by it? Read on...

The following details are all taken from the Historic England website.:

The wreck was first identified by divers working with a local dive-charter skipper investigating a range of sites on the western side of the Isle of Wight. During these dives a number of large lead ingots, with unidentified markings, together with stone cannon balls and other archaeological material were discovered and identified.

The potential national importance of the wreck was subsequently recognised by the Maritime Archaeology Trust and the discovery was taken further.

Initial assessment of the wreck indicated that the lead ingots were cast from a simple furnace known as a bole or bale. Boles fell out of use about 1580 and so bole-cast lead and the presence of stone cannon balls suggest that the site is 16th century or very late 15th century in date, as stone cannon balls were gradually replaced with iron shot and fell out of use during the late 16th century.

A single coherent group of lead ingots strongly suggests that they represent part of the cargo from a former merchant ship. The shot is probably too far from the Tudor fortifications in the area to be the result of practice firing and may be associated with sea service artillery or carried as additional cargo.

Although reference has been found to the partial salvage of lead from a wreck near the Needles in 1547/8, the wreck remains unidentified. It is located some 3.1 km south-west of Hurst Castle in the Needles Channel.

So now you can see why this is such an interesting and important find. A cargo of large pieces of bole-smelted lead is an astonishing rarity and surely has the potential to tell us much about the actual operation of bole hills and perhaps too about 16th century trade in lead. It seems likely that the ship had sailed out of Southampton.

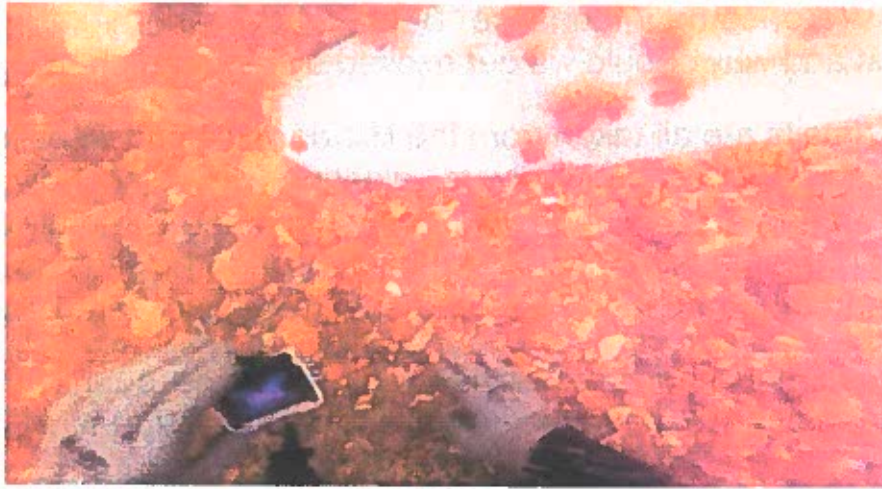
In designating the wreck for protection, English Heritage gave a number of reasons why they thought the wreck was nationally significant. These included:

Period. The wreck predates 1580, and hence is a key survival of an early merchant ship.

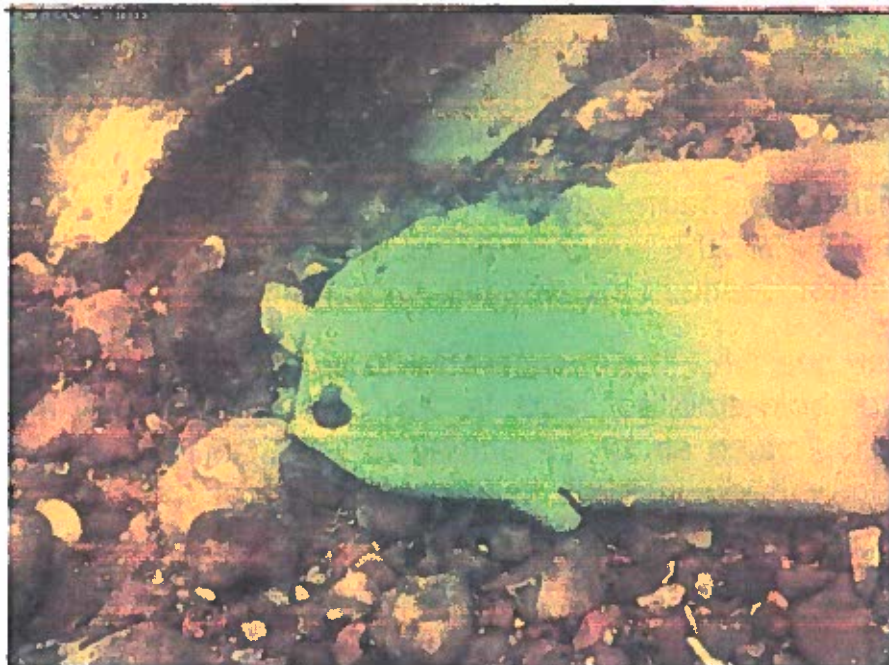
Rarity. Ships predating 1700 are extremely rare.

Potential. The wreck has potential for surviving structure under the cargo mound, for the survival of small finds and organic remains, to inform on 16th century lead

Two images from the Wessex Archaeology report



**Ingot, showing hole and cut, probably for lifting
Ungloved hand on right to give the scale**



Close up of the ingot

manufacture and trade and the nature and construction of 16th century merchant ships.

Documentation. The importance of this wreck is enhanced by the information obtained by geophysical data and sonar survey.

We can only hope that more research is carried out on the vessel and its cargo including some scientific examination and analysis of the lead ingots and that we can thereby learn more about bole-smelted lead.

Additional Information

Since writing the above piece I have received the interim report on the site compiled by Wessex Archaeology in May 2020. This gives us much more detail about the lead ingots found on the sea bed. There are at least 50, and potentially there are more. Two of the ingots were measured by the divers and they are huge. One is 1.475 metres by 0.36 metres (about 4 feet 10 inches by 1 foot 2 inches) and the other is 1.37 metres by 0.42 metres (about 4 feet 6 inches by 1 foot 4 ½ inches). Although it is not specified, the measurements given presumably refer to the length and breadth of the top surface of the ingots. The report says that they appear to be of open cast type, possibly cast using the bole process as piglets in a "sow and piglets" mould, with one shallow boat-shaped side and one flat side. The surface appears to be smooth and the edges of the top surface are irregular, either because of erosion or through the casting process. Interestingly some of the ingots have holes or cuts. Wessex Archaeology interpret these as probable aids for lifting them. Some of the ingots also have impressed marks. There are a number of small cross-like markings within an impressed square on one of the ingots, another has a distinctive impressed "IIII" and oval impressions, and another has a distinctive "+III" impressed markings. These ingot markings also have a distinctive impressed pattern that may, says the report, have been created by a specialist tool or stamp. The markings have not been identified.

Reference: <https://historicensland.org.uk/listing/the-list/list-entry/1469107?section=official-list-entry>



Notebook of Mr J G Beeston

A notebook was handed to the Friends with the following note. "This belongs to John Emerson of Belmont. It was passed to him by his late aunt, Mrs Lonsdale. She may have originally got it from her uncle J. G. Beeston, quarry owner, amateur geologist, and the source of the fossilised tree in Stanhope."

There are very few dates in the book but it is evident that it was written at the time of the first world war. It is now being transcribed by our Archivist, Margaret Graham. Here is the first part of what Mr Beeston wrote.

Section of Strata from Collier Law, Stanhope to Hartside Cross, Cumberland with Remarks on the Lead Measures

The lead mines are situated in the western part of the County and begin a little westward of where the coal district terminates. If a line be drawn from Allensford to Barnard Castle no lead mines worth working have been found to the east of it except Healyfield, and no coal to the west. Lead ore is mostly found in what the miners call veins which have been fractures or openings in the regular strata (the same as dykes in collieries) and filled up again with extraneous matter as lead ore, zinc ore, calcaseras spar, fluor quartz. Terra ponderosa soft mineral soils etc and the mine is rich or poor in proportion to the greater or less quantity of lead ore to those substances. Where the adjoining strata are limestone the vein produces the greatest proportion of ore, and the least where the adjoining strata are freestones or indurated argillaceous earth called plate beds.

(In Shropshire the plate beds produce ore) hence the miners say "The limestones are the best bearing sills or strata and the freestone or plate beds the worst and of the different strata of limestone that which is called the Great Limestone being 70ft thick has probably produced more ore than all the other strata together. I have obtained an account (with the assistance of a few friends) of the Lead Mines which were working in 1809 in Derwent, Weardale and Teesdale as in the following Tables.

Lead Mines in the County of Durham Working 1809

No	Names	Owners	Occupiers
1	Healy Field	Dean & Chapter	Elliot & Co.
2	White Heaps	W Ord Esq	Monkhouse & Co.
3	Ramshaw	"	"
4	Jeffreys Rake	Mr Scott	Easterby Hall & Co.

In Weardale North Side of the River

No	Names	Owners	Occupiers
5	Frosterley	Robert Wright	Mr Bell & Co.
6	Crow Lane Side	Bishop of Durham	Colonel Beaumont
7	Stanhope Burn	Cuthbert Ripon	Quaker's Co.
8	Brandon Walls	Dean & Chapter	Jopling & Co.
9	Stotsfield Burn	"	"
10	Lintz Garth	Bishop of Durham	Colonel Beaumont
11	Ripsey	"	"
12	Wolf Cleugh	"	"
13	Grove Rake	"	"
14	Whites Level	"	"
15	Slitt	"	"
16	Middlehope	"	"
17	Level Gate	"	"
18	Westfall Level	"	"
19	Black Dean	"	"
20	Breckon Syke	"	"
21	Pasture Grove	"	"
22	Sedling	"	"
23	Pudding Thorn	"	"
24	Kilhope	"	"

South Side of the Wear

25	Scraith Head	Bishop of Durham	Colonel Beaumont
26	Cowhirst	"	"
27	Langley Head	"	"
28	Burnhope	"	"
29	Barbary	Quakers Co.	Quakers Co.
30	Coldberry	Bishop of Durham	Colonel Beaumont
31	Hawkwell Head	"	"
32	Chapel Pasture	"	"
33	Newland Side	John Walton	Jonathan Vickers
34	Softly Side	Messrs Tweddle & Co.	Henry Walton & Co.
35	Quarry Fell	"	"
36	Bollihope	Rector of Wolsingham	"
37	Cones	Mrs Leaton	C Emmerson & Co.
38	Dryburn Side	John Harrison	"

Lead Mines in Teesdale

No	Names	Owners	Occupiers
1	Fleak Bridge	W Hutchinson Esq	London Co.
2	Wire Gill	Earl of Darlington	"
3	East Rake	"	"
4	West Rake	"	"
5	Manor Gill	"	"
6	Marlebeck Head	"	"
7	Old Marlebeck	"	Robinson & Co
8	High Dyke	"	Earl of Darlington
9	Shears	"	Walton & Co
10	Elf[?]	"	Hopper & Co
11	Rackal Gill	"	Little & Co
12	Parkin Gill	"	Chapter & Co
13	Hudship Head	"	"
14	Coldberry	"	Sherlock & Co
15	Red Groves	"	"
16	Hesley Band	"	Coatsworth & Co
17	Hungary	"	March & Co
18	Hope Slitt	"	John Hunt & Co
19	Stable Edge	"	"
20	Blackelly Green	"	Beadle & Co
21	Bayles Hush	"	Armstrong & Co
22	Flushmere	"	Sherlock & Co
23	Old Pike Law	"	Marsh & Co
24	Bradley Hill	"	Sherlock & Co
25	Tar[?] Streak	"	Walton & Co
26	New Streak	"	Hopper & Co
27	Flush	"	Sherlock & Co
28	Westerhead	"	"
29	High Hurth	"	Hutchinson & Co
30	High Langdon	"	Scott & Co

31	Low Langdon	"	Redford & Co
32	Botany Bay	"	March & Co
33	Langdon Head	"	"
34	Grass Coldberry	"	Hall & Co
35	Bands	"	Barker & Co
36	Trough Head	"	Byes & Co
37	Rough Rigg	"	Featherstone & Co
38	Fair Play	"	Hindmarsh & Co
39	Scarr Head	"	Robinson & Co
40	Hawkside	"	Hackward & CO
41	Grass Hill	"	Nixon & Co
42	South Langty	"	Bland & Co
43	North Langty	"	"
44	Ashgill Head	"	"
45	Hunter Moss	"	"
46	Willy Hole	"	Winter & Co
47	East Crow Green	"	Watson & Co
48	West Crow Green	"	Featherstone & Co

The list of the mines in Weardale begins at the eastmost mine on the north side of the river and proceeds westward to Killhope No 24 and then comes down the south side in the regular order they are placed. Of the mines working to profit the following may be considered of that description: Jeffries Rake, Brandon Walls, Wolf Cleugh, Brecon Side, Wire Gill, Marlebeck Head, Old Pike Vein, High Langdon, Grass Hill and Ashgill Head, many of the others raise little ore and some are working at a loss.

The rent paid to the proprietors of the mines by those who rent them is generally one fifth of the ore.

The number of persons employed at these mines I have been unable to ascertain. Their earnings on an average are about £40 a year each man. Lead ore is wrought by the bing of 8 cwt, 4 of which or 32 cwts of clean ore generally produce one ton of lead. The produce of silver from lead varies much, if a ton will not yield 8 ounces it is not worth refining.

Smelting

Improvements in smelting have been made in later year, by roasting refractory

ores. The manager of a Smelt Mill furnished me with the following experiment on the same head of ore.

To make a ton of lead it took of unroasted ore 46 cwt, 3 qrs

To make a ton of lead it took of roasted 41 cwt 2 qrs

A portion of lead is always retained in the slag to which resource was had to powdering the slag by hammers and was not only expensive but very detrimental to the health of the persons employed. This is now performed by running the hot slag as it comes from the hearth, into a cistern of cold water by which it is pulverized more effectually than by hammers without any injury to the workmen.

From the recommendation of the Bishop of Landaff in his chemical essays horizontal chimneys are generally adopted instead of perpendicular ones, by which the particles of lead that used to escape in a state of vapour are condensed and the chimneys being swept at regular intervals a considerable portion of lead is obtained that used formerly to be lost. This is not cleaned or washed ore but ore mixed with other substances that could not be separated in washing.

Smelt Mills

Names

Occupiers

In Derwent

Jeffreys

Feldon

Old Mill

Healey Field

Easterby Hall & Co

Errington Esq

Monkhouse & Co

Elliot & Co

In Weardale

Bollihope

Stanhope Burn

Rookhope

Anthony Hopper & Co

Quakers Company

Colonel Beaumont

In Teesdale

Egglestone 3 Mills

Gaunless

Langdon

W Hutchinson & D Crawford

Earl of Darlington

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More to come in the next edition of the Newsletter!

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BOOK REVIEW

MAKING IT MINE

Sir Arthur Russell and his Mineral Collection

Reviewed by Brian Young

To anyone familiar with the minerals of the Northern Pennines, or indeed those of any other part of Great Britain, the name of Sir Arthur Russell (1878 – 1964) will be extremely familiar, either through his many published papers on British mineralogy or from his magnificent collection of minerals held by The Natural History Museum, London. Fewer, however, may be familiar with this remarkable man - Arthur Edward Ian Montague Russell, 6th Baronet of Swallowfield Park, near Reading - or the background to his long life devoted to accumulating what is widely acknowledged internationally to be the finest collection of British minerals ever assembled by a single collector.

The book introduces the man, his life, his ancestors and in particular some of the truly remarkable examples of minerals, many from the Northern Pennines, acquired both by his own collecting and through his many contacts and purchases of fine specimens from old collections. Inspired by his mother's mineral collection, the pursuit of fine specimens became his lifelong passion. Unlike many collectors, it was not merely the beauty of minerals or their acquisition that drove him, but a profound understanding of the science of mineralogy. Despite having no formal scientific training, he rapidly earned widespread respect across Great Britain and beyond, and was regularly consulted by mining companies and government agencies. He was elected president of the Mineralogical Society of Great Britain and Ireland, one of the world's most prestigious scientific societies in 1939 and in 1956 was awarded an Honorary Doctorate of Science by Oxford University. Whilst some mineralogists are privileged to see their name lent to a newly discovered mineral, Russell enjoyed this honour twice – firstly in 1937 for russellite and again in 1967 for arthurite (jointly named for him and his mineralogical friend Arthur Kingsbury).

Whereas much of this is well known, hitherto unpublished insights into his personal and family background, including personal information from surviving family members, are the real strengths of this book. These tell of a kind, genial and courteous gentleman, a lover of all aspects of natural history and the owner of a grand country house and estate that, by the time of his inheritance, was in an advanced state of terminal decline where money, or lack of it, was always a concern. Following the early death of his first wife he had two further not very happy marriages and, certainly in his later years, is shown to have been a rather sad figure: his son records that "*we were a dysfunctional family*". His salvation was his love of minerals and his collection.

This book handles his personal background with sensitivity, but one might question whether so much detail of his ancestry extending back to the mid-18th century is necessary. The text exposes several other curious features and some disappointments. Mindful that the book is about Britain's most significant mineral collector, the chapter on his collecting activities is astonishingly brief, confined rather arbitrarily and inexplicably to a few notes on Millclose Mine, Derbyshire and Greenside Mine in the Lake District, together with 'The Pink Stuff', a curiously titled reproduction of a couple of personal letters on manganese mineralisation in SW England, and a few lines on Ireland. A previous outline of Russell's parallel interest in steam locomotives and cars occupies almost as much space. It is also odd to find that whereas arthurite, jointly named in 1964 for Russell and his friend Arthur Kingsbury, warrants a separate heading, the naming of russellite, for Russell alone in 1938, surely a significant 'milestone' in his mineralogical life, is strangely concealed in the text.

Many pages are devoted to rather detailed descriptions of collectors from whom he acquired many fine specimens. Fascinating though some of these are, one wonders whether the space they occupy, or the lengthy quotations from previous publications liberally scattered through the text here and throughout the book, is justified, though the value of some excellent photographs of spectacular specimens here cannot be denied. More striking mineral pictures follow in a lengthy 'Specimen Gallery' arbitrarily chosen on the admitted 'personal choice of the author' and a further section on 'Featured Localities'. The latter section is where Northern Pennines minerals figure prominently. Here are some fine colour photographs of fluorite and perhaps rather too many of calcite from Boltsburn Mine, fluorite from St. Peter's Mine, Spartylea, together with a selection of fine witherite, barytocalcite and baryte specimens from various other locations.

Amongst several curious features of the book, two call for particular notice. As anyone who has studied for a degree in geology will attest, crystallography and its relationship to optics is one of the most challenging parts of their training. However, the author's rather clumsily written attempt to introduce essential aspects of crystal morphology and nomenclature of the cubic system of symmetry are out of place here and do not serve as a useful or relevant introduction to the reproduction of some of Russell's drawings of triclinic and orthorhombic crystals which demonstrate his skill as an accomplished crystallographer. Readers with any geological training will understand all they need to know about crystallography and those without such training do not need to become involved in this complex subject to follow this book and would learn little of the topic here.

More curious still – no very curious – is a detailed description of the computer employed in the 1980s to begin cataloguing the collection on its arrival at the Natural History Museum. Here we are entertained to details of the computer itself together with a colour photograph of it, its microprocessor, operating system and

various aspects of its software. What possible relevance or interest has this long-obsolete item of office equipment, employed years after Russell's death, except perhaps to aficionados of early computer technology? There probably are a few such folk but they are unlikely to seek out this book! How many of us even remember the makes or models of office machinery we have employed over more than 40 years of work and why would we single out one, or any of them, for illustration and description in the results of our research? More unnecessary details abound in the lengthy appendices where, amongst other details we may feel better for now knowing that Russell bought a new car on 15th June 1935, that he sold a car in 1957 and the sad news that his dog died in 1942! For completeness, we also learn that 1953 saw the end of Post-WWII rationing and the coronation of Queen Elizabeth II, events in which Russell took no obvious part!

○ A final chapter by Mike Rumsey, Principal Curator of Earth Sciences at the Natural History Museum, adds a welcome and timely conclusion on the enduring importance of Russell's collection, and of comprehensive regional collections of its sort.

Whereas this book reflects a huge research effort by its author, it also illustrates a common pitfall of self-publishing (R.E. Starkey is British Mineralogy Publications), by the inclusion of countless wholly irrelevant details acquired along the way, presumably in the mistaken belief that these demonstrate a thoroughness of approach. More careful editing would have produced a much more focussed, somewhat shorter, very much better and, if presented in soft covers, perhaps less costly book. Whereas, in the opinion of this reviewer the book is very much a 'curate's egg', it can be recommended as a detailed insight into one of this country's finest mineralogists, assuming one can cope both with its plethora of irrelevant detail and price.

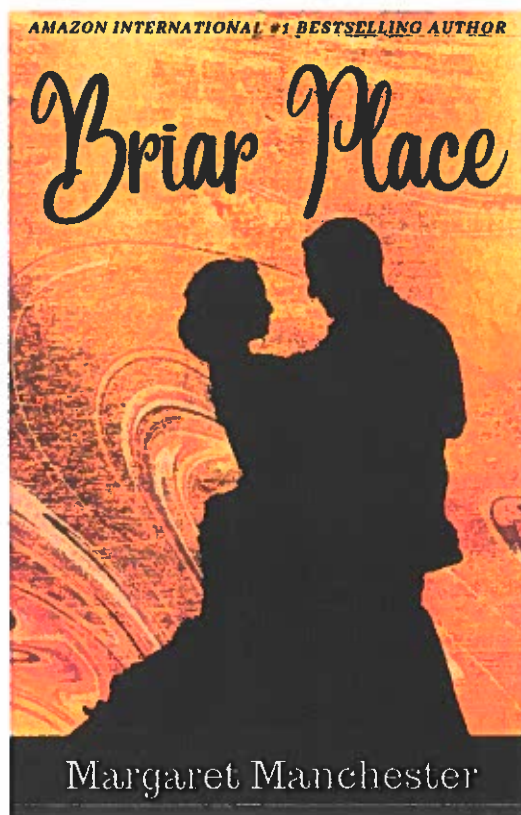
○ *Roy E. Starkey, British Mineralogy Publications, 2022*
ISBN 978-0-9930182-4-4 Hardback

£50 inclusive of UK postage available from the author at 15 Warwick Avenue, Bromsgrove, Worcestershire B60 2AH. Email: roy@britishmineralogy.com



Briar Place – fourth book in “The Lead Miner’s Daughter” series,
published August 2022.

Former Chair of Friends of Killhope, Margaret Manchester, is the author of this, the fourth in her series , “The Lead Miner’s Daughter”, all set in Victorian Weardale”.



Northern England 1849. A dispute between the lead miners and Mr Sopwith brings about a strike with disastrous consequences. Loyalties are tested, blacklegs punished and families divided.

At Briar Place, the Dixon and Lowery families were friends and neighbours, but not anymore. Jack and Bella are caught in their feud. Will their relationship end in heartbreak or can love conquer all?

When the repercussions of the strike finally come to an end, seventeen-year-old Lizzie Lowery is left to pick up the pieces.

Paperbacks can be ordered from the author: margaretmanchester.com and ebooks can be downloaded from Amazon.co.uk.

**Friends of Killhope AGM
Tuesday 21st June 2022, 7 pm, via Zoom**

***Please note these are draft minutes until approved by the agm
in 2023***

Present

Ian Forbes, Brian Young, Linda Brown, Jackie Hamer, Margaret Graham, Don Borthwick, Sheila Barker, John Sheppard, Jane Sheppard, Bill Heyes.

Apologies

Maria McCardle, Pam Forbes
Brian Young chaired meeting.

Previous Minutes

Agreed as correct.

Trustees Report

As Margaret Manchester resigned as Chair, a Trustees Report was tendered. See attached.

BY reiterated that the Friends are very grateful to Margaret and Alec Manchester for their work and support of the Friends over many years. The committee hopes that Margaret receives the help and support needed to ensure a swift and effective recovery.

John Sheppard added his disappointment that Linda Brown is leaving the committee too. LB stated that she has enjoyed working with the Friends but she now wants to move on to other things.

Treasurer's Report

See attached

It has been an unremarkable year. Income was as predicted.

The implications of COVID has meant that some expenditure requirements rolled over from the previous year. Additionally the accountant did not receive and bank the initial payment cheque for his services, as a result, a replacement was posted but it now appears in the 2021-22 accounts rather than previous year.

The Friends are now required to pay bank charges.

John Sheppard suggested another bank that does not charge charities, LB explained that she had approached a 'no charge to charities' bank but they are not accepting new accounts as they have been inundated with requests. She believes all banks will begin to charge in the near future.

Election of Committee

Secretary Jackie Hamer Proposed, John Sheppard
Seconded, Margaret Graham

Membership Secretary Margaret Graham Proposed, Jackie Hamer
Seconded, Ian Forbes

Newsletter Editor John Sheppard Proposed, Ian Forbes
Seconded, Margaret Graham

Committee Brian Young Proposed, Jackie Hamer
Seconded, Ian Forbes

Pam Forbes Proposed, Margaret Graham
Seconded, Brian Young

Ian Forbes Proposed, Brian Young
Seconded, Margaret Graham

Maria McCardle Proposed, Jackie Hamer
Seconded, Brian Young

Bill Heyes Proposed, Ian Forbes
Seconded, Brian Young

Auditor Mr G Storey Proposed, Jackie Hamer
The Books Accountants Ltd Seconded, Brian Young

Exhibition

The exhibition is part of our move to re-establish the supporting relationship between FoK and Killhope Museum. The work on the exhibition is now almost complete.

Thank you to Matthew Hamer for his excellent graphics input that he has given free of charge.

The committee agreed to suggest to Killhope that they keep the exhibition in place for a further year due to the installation being delayed. It will also provide more time to consider and prepare a future exhibition.

The committee thanked Ian Forbes for his major role in producing the exhibition, and to Jackie Hamer and Matthew Hamer for supporting it.

Condition Reports

BY has been working with Rachel Wilkinson to accurately align the mineral descriptions with the mineral specimens, and to ensure there is a reliable accurate condition report for each item. The work is almost complete.

BY stated that The Friends have some important specimens at Killhope Museum, and some are of national and even international significance.

The photography of other items as required can be conducted during the winter period when the museum is closed to the public.

AOB

John Sheppard queried access to archives at Sevenhills.

MG explained both The Friends and DCC have a key for the secure area which we can access at any time. There is space to work on archives as well as a kitchen area for use by archivists.

IF said that in the long term he would like to see the archives stored at the Local History Centre when the refurbishment and extension is complete. This was agreed as a good idea.

MG appealed for more volunteers to take on the role of archivists. It was agreed that an appeal would be published in the next newsletter.

BY suggested re-establishing FoK events. This was agreed as a positive step and will be discussed further at future meetings. We also need ideas for new displays at Killhope. This will be discussed at later meetings.

Meeting closed at 19:50

Trustee Report, 2021 - 2022.

On the whole, The Friends of Killhope have made a great deal of progress this year and are continuing to move forward with positivity. However, unfortunately Margaret and Alec Manchester have resigned from the committee due to Margaret's ill health, we wish them both well and thank them for their hard work and commitment over the years, in particular Margaret who has been a committee member for many years, as treasurer and then as chair.

On a positive note, we are moving towards transferring our archives from Killhope Museum to Sevenhills, we have almost completed the condition reports on our minerals and other acquisitions. This will free up much needed space at the museum and will allow the archives to be stored safely and securely. We had hoped this would be completed last year but Storm Arwen caused damage at Killhope and prevented access to the museum. In addition The Friends of Killhope have put together a temporary exhibition based on the Beaumont Schools and a selection of children's work from that period. We are grateful to Matthew Hamer for his input in designing the graphics for the information boards. These will be on display at Killhope this season and then loaned out to other venues. Brian Young and Ian Forbes have worked extremely hard to make these things happen. Thank you to them. We are also looking forward to possibly working with Allenheads Trust on a mutually beneficial project. Watch this space.

Newsletters have gone out promptly and have contained many interesting articles. We are always looking for more contributions. Thanks must go to John Sheppard for his sterling work on these.

Unfortunately Linda Brown, our treasurer is also resigning today, we thank her for everything she has done too, especially the extra work she did during the successful campaign to save Groverake head frame.

As we move on, we look forward to transferring archives to Sevenhill and installing the Beaumont School display, supporting Killhope Museum in any way we can and further developing our relationship to enable Killhope to continue to grow.

**Friends of Killhope
Income and Expenditure Report for the Year Ending**

	2022	2021
Income		
Bank Interest	1	7
Grants and Donations	96	176
Other Income		
Sale of Books	133	31
Subs received	<u>1289</u>	<u>1169</u>
	1519	1383
Expenditure		
Insurance	96	89
Website	187	570
Bank Charges	40	4
Postage and Delivery	144	215
Printing and Reproduction	176	
Professional Fees	644	210
Projects and Events	20	
Subscriptions	<u>20</u>	<u>20</u>
	1327	1108
Surplus of income over expenditure	192	275

Reconciliation/ Statement of Assets as at 31st March 2022

	£
Opening Balance	
Current Account	4191.00
Deposit Account	12814.00
Bond	9.00
Cash	107.00
Assets	<u>69836.00</u>
	86957.00
VATduetoHMRC	
	86957.00
Income less Expenditure	192.00
Purchase of Assets	<u>0.00</u>
Closing Balance	<u>87149.00</u>
Represented by	
Current Account	4497.00
Deposit Account	12816.00
Cash	0.00
Assets	<u>69836.00</u>
	87149.00
Cheques not cashed	0.00
VAT due to HMRC	<u>0.00</u> 87149.00

Spar Boxes	11,700.00
Book Stock	1,400.00
Laptop	1,758.79
Mineral Display	27,000.00
Stairlift	12,000.00
Miscellaneous	327.59
Deposit on Mineral Collection	5,000.00
Cabinets	2,600.00
Hudgill Silver Cake Basket	6,050.00
Silver Snuffer Tray	<u>2,000.00</u>
	<u>69,836.38</u>

Note: All figures are net of VAT

I have examined these accounts and believe them to be a true and fair record, based on the information provided

Mr G Storey
The Books Accountants Ltd

Accounts as above approved at AGM 2022

Friends on the Internet and Social Media

Website: www.friendsofkillhope.org

- * See our Calendar of Events
- * View our Newsletters in colour
- * Search the Friends' archive index online



The membership pass word is: **parklevel**

Find us on Facebook: www.facebook.com/groups/FriendsofKillhope

Tweet us on Twitter: [@FriendsKillhope](https://twitter.com/FriendsKillhope)

See us on Pinterest: www.pinterest.com/manchester1140/friends-of-killhope/

And on Instagram: [Instagram.com/friendsofkillhope](https://www.instagram.com/friendsofkillhope)

Committee Contacts

Members are advised that their main contacts are:

Jackie Hamer—Secretary

High Green Dike, Allendale, Hexham, Northumberland NE47 9AW

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**Please note change of 'phone number*

Margaret Graham—Membership Secretary

Wingrove House, Wingrove, Rowlands Gill, NE39 1DT

Tel: 01207 542422 Email: mrg@wingrovehouse.plus.com

John Sheppard—Newsletter Editor

Field View House, New Hey Road, Rastrick, Brighouse, West Yorkshire HD6 3PZ

Tel: 01484 716056 Email: johnrsheppard@tiscali.co.uk



Application for Membership of Friends of Killhope

Name:

Address:

Post Code: Email:

Enclosed cheque or standing order for £ Family @ £18 Senior (over 60) @ £9

Individual @ £12 Student @ £9

Please delete inapplicable rates.

Cheques to be made payable to Friends of Killhope and sent with this form to the Membership Secretary:

Margaret Graham, Wingrove House, Wingrove, Rowlands Gill, NE39 1DT (dmg@wingrovehouse.plus.com)

Membership fees are renewable on the 1st January each year

Payment can also be made quickly and easily via Paypal on the Friends of Killhope website (www.friendsofkillhope.org)

GIFT AID The Gift Aid scheme is very flexible and covers any donation or subscription at any time. It will not cost you any extra and it does not commit you to making any future payments. All it takes for the Inland Revenue to return to us 28p for every pound you give us is your signature on a form such as that below. The 28p comes from tax which you have already paid and can continue to be claimed only as long as you continue to pay income tax. Accordingly you will see that the form also asks that you let us know if you stop paying tax.

GIFT AID DECLARATION Please reclaim my tax. I want the Friends of Killhope to treat all donations I have made since 6 April 2000 and all donations I make from the date of this Declaration as Gift Aid Donations. I will inform you if I cease to pay tax.

Signature: Date:

Full Name:

Address:

Post Code:

STANDING ORDER MANDATE

To: Bank PLC

Address:

Post Code:

Please pay HSBC Bank plc, Bishop Auckland, DL14 7HQ Code 40-43-06

For credit of Friends of Killhope Account No 11031015

The sum of £ (amount in words)

Now and on 1st January thereafter and debit my account accordingly.

Signature: Account No:

Date:

