THE · FRIENDS · OF
KILLHOPE
Charity No 517647

Newsletter No 66 **March 2006**

We need a new Commander in Chief:

- Rank: Editor
- All expenses paid
- No medical necessary
- Flexible hours
- High level of job satisfaction

- **Plus Other Ranks**: All levels; as Contributors

- Contact a Committee Member at once or risk being the recipient of a white feather

A Message from your Membership Secretary

Thanks again to all members who have paid for 2006, especially those who have corrected their standing orders, and a reminder to those who haven't.

This newsletter will be the last sent to anyone who did not pay their 2005 subscription or rejoined for 2006. There is still time to correct this. If you have not received your 2006 membership card it could be because you have not paid the correct subscription for your category. Details are as follows:

Individual	£10.00
Family	£15.00
Senior (over 60)	£7.50
Student	£7.50

Payable to the Membership Secretary, Russell Parkin, 50 Lydgate Lane, Wolsingham, Co Durham, DL13 3LF (01388 527311), email: russparkin@btopenworld.com

The donations given by some members to assist in postage etc is greatly appreciated. Thank you.

Geopark Festival Weekend
Saturday 20th and Sunday 21st May

The committee would appreciate help to set up the exhibitions in the hall at St John's Chapel from 9.00 am to opening time at 12 noon on Saturday and after 4.00 pm on Sunday to tidy up.

Help would also be appreciated at any time during the weekend.

If you can help or would like further details please contact Dick Graham on 01207 542422 or email: dickgra@aol.com

Contents

The Friends of Killhope archive has a large collection of material originally belonging to Mr Alvin Hill, a mining consultant who lived in Teesdale. The collection was given to the archive by Dr P R Ineson of the Department of Geology, Sheffield University. Material from this collection will be published in future newsletters and we are starting with the first part of a hand-written document entitled "A History of Lead Mining in the North Pennines". Although not signed the handwriting is undoubtedly Alvin Hill's.

HISTORY OF LEAD MINING IN THE NORTH PENNINES REVISED

Alvin Hill

Roman Period up to 420AD

When the Romans came to Britain and gradually extended northward they developed lead production as they required quantities for water supply and lining of baths at their various stations, they also required lead for export.

There are few, if any, traces of their actual mining operations, but this is understandable, as their shallow workings would soon be overworked by later mining operations. Evidence of their activities is chiefly dependent upon a number of pigs of Roman lead found chiefly in the Central Pennines, and it is suspected that some of the lead was exported as well as used locally.

The only pig of lead found near the Northern Pennines is that recovered form Hursh Mine in Swaledale along with wooden tools. It had a cast-on inscription including the name of the Roman Emperor Hadrian, and therefore belonging to the period of his reign 117-138AD, but no trace of this is now available.

Similar wooden tools were found in Crawley Mine, Stanhope in 1910. This, related to the Hursh Mine, indicates Roman operations here.

Some remains known as 'The Castles' in Bedburn, between Hamsterley and Wolsingham is supposed by some archaeologists as a Roman penal settlement used in connection with the Weardale Mines. A discovery in 1920 of a bronze ladle with pouring lip associated with fragments of lead and slags on the moor about 1.5 miles away supported the above suggestion.

Others consider that the workmanship of The Castles is more shoddy than Roman construction, and that they belong to a period prior to or after the Roman occupation.

Pieces of lead, lead ore and slag were found in a Roman camp known as Whiteley Castle two miles north of Alston in the South Tyne Valley, also at the Roman headquarters of Corstopitum near Corbridge.

About a quarter of mile below Allen Smelt Mill, on the same side of the river, are what are said to be remains of Roman smelting works. They consist of two hollow mounds of earth with a sort of ditch or trough about 10 yards long running between them. A quantity of cinders or seoria lie near.

The Roman origin of these remains is, however, doubtful. Several examples of 'Bayle' or 'Bole' hills exist in the district. Those near the headwater of Ellershope in East Allendale contain lead seoria, and a beautiful example of ancient iron-smelting can be seen on the Burntshield-haugh vein in Hexhamshire. This method of smelting was in use in the 16th century.

420AD to 1000AD

After the Romans quitted the country in 420AD there are no records of mining until the 11th century, and even up to the 17th century records are most meagre and vague. This is understandable in the North Pennines, as, after the Roman occupation up to the 17th century it was simply a battle ground in which the various tribes strove for possession and there was little settled population.

There are no records until the 7th century when the Northumbrian coast, with its monasteries at Lindisfarne, Jarrow and Monkwearmouth was the centre of Anglo-Saxon civilisation. Danish and Norse invasions began in the 8th century.

The scant inhabitants of the Northern Pennines were of mixed racial grouping as indicated by place names, ie burn, cleugh, haugh - Anglo Saxon; beck, gill, holme - Danish or Norse; thorpe - Danish; thwaite - Norse. Thus in Weardale there are mostly burns, while in Teesdale becks. In Alston there are becks and gills, and in Allendale burns and cleughs.

AD1000 to 1200AD

The earliest evidence of medieval mining in Alston Moor is an unsatisfactory record of a find of coins of William Rufus (1087-1100) in an old mine drift near Garrigill (William II).

The Pipe Roll of Henry I records for 1130 the Burgesses of Carlisle rented a Silver Mine in Alston Moor.

The Palatinate of Durham was established in 1072, and Prior Laurence of Durham tells us that his Bishop Geoffrey Rufus (1133-40) had 30 talents of silver a year from his mines, and describes the desilverization of lead.

Stephen (1135-54) granted to his nephew Bishop Hugh Pudsey (1153-95) the mineral rights in Weardale and allowed him to keep the silver which was extracted from the lead for the Mint which was then established in Durham.

Bishop Pudsey granted to Kepier Hospital, which Bishop Flambard founded in 1172, a lead mine for which to obtain material to cover St Mary's and All Saints churches, also an iron mine in Rokehope for material for their carriages.

In 1168 the Sheriff of Northumberland took 55 caratates (cart loads) of lead for despatch to Caen.

In 1176 lead was sent to Granthmont for the use of the Abbey (Henry II 1154-1189)

In 1179 100 caratates of lead went to Chairvaux Abbey.

A caratate is approximately a fother - slightly more than a ton. In most general terms the fother is approximately 21 cwts of lead but is not derived from the ton of 2240 lbs, but more likely from the weight of a 'piece' cast at the Smelt Mill. A pony load has varied a little around 2.5 cwts and a fother is 9 pony loads.

Related to the ton the fother varies, for example:

Newcastle	2352 lbs
London	2184 lbs
Stockton	2464 lbs
York	2505.5 lbs

A Pipe Roll of Richard I, 1196 includes the purchase of lead, the smelting of ore, and extracting silver for the Mint at Durham, a proof that the mines were then in active work in Weardale (Richard I 1189-99).

AD1200 to 1400AD

In 1204 Alston Moor was granted by King William of Scotland to William de Veteriponte. The King of England must have reserved or claimed all rights to the mines, and throughout the 13th century was active in bringing miners to the area and securing protection and liberties for them (King John 1199-1216).

With the accession of Henry III (1216-72) prosperity increased in Northern England.

In this 13th century Alston Moor had possessed a set of laws and customs, juries, and barmasters by which the operation of the mines and the privileges of the miners were regulated, and had been commonly referred to as 'The King's Field', being held by the Crown or held directly from the Crown. The claim of the Crown to possess the mines and work them is well documented in Alston Moor and parts of Northumberland. The miners of Alston Moor had royal protection granted in 1233, again in 1236 and 1237.

An entry in the Register of Walter de Grey, Archbishop of York 1215-56 records the lease of a mine within the Regality of Hexhamshire, payment being one seventh of produce.

In 1282 Edward I (1272-1307) granted to Nicholas de Veteriponte the Manor of Alderston (Alston) to hold in the fee of the King of Scotland, reserving to himself and the miners various privileges.

In the 13th century a document mentioned the Mines of Bowes, an area which must have covered Baldersdale and Lunedale, and may have included Teesdale. There was lead mining in Lunedale in the early 1300's, but nothing more was heard about mines in Teesdale until the 15th century, and then only in extremely general terms.

Almost all the northern churches were burnt to the ground in 1296 by the Scots of William Wallace; those that were left were finished off by Robert Bruce, and the great northern European famine of 1314-15 deprived the unfortunate inhabitants even of the goods for the Scots to plunder.

Castle building, not church building, occupied the country tradesmen in the reign of Edward II (1307-27).

In 1330 the miners of Alston Moor sent a petition to the King (Edward III) asking for his protection against being conscripted from their work and protection against interference from outside people. It drew the King's attention to the fact that his predecessors had granted protection and had given them the privileges of free miners. The petition mentioned that in that year the invading Scots had ravaged the district and had burnt all the records, and a search for any surviving documents had failed. The King renewed the privileges, and from time to time they were further renewed.

These privileges gave the free miners extraordinary concessions. It excluded them from common law, and any offence except a crime against the life of an individual, was heard before a jury of 24 old and wise miners drawn from the whole of the district. The Courts were held at Alston Moor and there was a good deal of evidence available to show how the mining laws were regulated.

In 1379 (Richard II 1377-1399) Bishop Hatfield granted a 50 years' lease of some Weardale mines to Alice, widow of Thomas Birtley, with the exception of Rookhope, Stanhope and Newlandside.

In 1391 Robert del Water took some lead mines in Weardale for 12 years. These were at Grenefield, Dawtry Shield, Foggthawaytes and Blackdean.

AD1400 to 1600AD

In 1407 (Henry IV 1399-1413) Roger Thornton held a lease of mines in Weardale. One mine of lead called Blakden (Blackdean) another called Aldwoodcleugh (Allercleugh) and another place called Harderake for 12 years.

In 1426 (Henry V 1413-1422) the accounts of the Ecclesiastical Commissioners have a great deal of detail and names of individual mines, ie West Sedling, East Sedling, Burnhope, Ireshope, Blackdean. Produce carried to a 'Bolehill' at Wolsingham (Henry VI 1422-1461).

Edward VI (1461-1483) made three grants of mines (Calendar of Talent Rolls) as follows:

1468 All mines of gold, silver, and all mines of lead holding these metals within England north of the Trent to the Earls of Warrick and Northumberland and others for 40 years with liberty to dig. The dues agreed upon being one twelfth of the precious metals to the King and one sixteenth to the Lord of the Manor.

1475 Shyldeyn (Shildon) Mine in Blanchland, and Flecheros (Fletcherous) Mine in Alston Moor to the Duke of Gloucester, Earl of Northumberland and others for 15 years. Payment being one eigth of pure silver to the King, one ninth to the Lords of the Soil, and one tenth to the curate of the place.

1478 All mines of gold, silver, copper and lead in Northumberland and Westmorland to William Goderewyk and other merchants for 10 years who should pay one fifteenth back to the King, and the Lords of the soil and the curate according to agreement (Edward V 1483, Richard III 1483-85, Henry VII 1485-1509).

Thomas Wolsey, Archbishop of York, in 1518 (Henry VIII 1509-1547) leased all the mines in Hexhamshire to Thomas Lord Dacre for 99 years, royalty being fixed at one ninth of the produce. The Manor of Hexhamshire, for long an appurtenance of the Archbishop of York, but on the downfall of Wolsey (1520-30) it was appropriated by Henry VIII, and the estate became through purchase in 1632 the property of the Fenwicks of Wallington by whom it was sold to Sir William Backett in 1694.

In 1528 Hochsetter came from Germany to be principal surveyor and master of the mines in England and submitted proposals to the King for the better working of the various mines.

The Royal Commissioners reporting in 1542 and 1550 (Edward VI 1547-1553) on the state of the Border estimated that there were 1500 armed men in this lawless district.

Mining in Teesdale was slow to develop except for the Flakebrig Mine, Egglestone, which was reported in 1550 to be much neglected but formerly productive.

(Mary 1553-1558) In the reign of Elizabeth I (1558-1603) political relations with Scotland were bettered. Border warfare between Scottish and English armies came to an end, and cattle raiding was at least diminished. Although moss-trooping continued, the feudal power of the Percys, Dacres and Nevilles was destroyed after their rebellion in 1570. An expansion of mining of all sorts marked the reign of Elizabeth.

During the revived interest in mining, the mines of Allendale that earlier figured in the Hexham liberty evidences were extended or reopened, for in 1565 Mathew Bee of Ninebanks opened three mines on his estate at Grewslacke, Sparty Well and Bates Hill. In 1570 he was prosecuted for trespass by the Crown, but Bee pleaded that the mines had not repaid the cost of working. However, it was brought in evidence that in the 5 years of their working they had produced at least 200 loads of lead.

The substitution of Furnace for Bolehill had progressed very quickly for in 1571 Humphrey claimed infringing his furnace patent.

In 1569 there was an unusual arrangement for dealing with the lead from Weardale and Allendale. An act concerning Sir George Bowes' lead. It was shared among the Fellowship of Merchants and shipments were made from time to time to continental ports, ie in 1599, 80 fothers and in 1600, 100 fothers are bought for Sir George Bowes. There was a steady trade and export in this period.

In 1595 there were sundry lead mines in Weardale worked by sundry persons. Sir William Bowes was Moor Master, he built at Burtreeford an iron or lead mill at which lead ore had been converted into lead, and iron ore got at a mine near Burtreeford had also been converted into iron.

Still there was little settled population in the northern dales. In 1597 it was recorded that one might travel between Carlisle and Durham and meet with no settled population for 20 miles. *(To be continued...)*

Killhope Staff News

We are delighted to be able to tell you that Helen Marritt, Killhope's admin officer, is now the very proud mother of a little girl called Willow. I'm sure Friends will join me in sending congratulations and best wishes to Helen and Andrew on the arrival of their first child. Willow was born last September, and although perhaps a little too young at the moment to volunteer for work at Killhope, is a real cutie. I'm sure we will all see quite a lot of her at Killhope, but maybe not just yet as Helen won't be returning to her desk until September.

In the mean time we are very pleased to welcome Jules (Julia) Agnew to the team as Helen's maternity cover. Jules joined us in January, and will be with us until Helen comes back to work.

Three existing members of the information assistant team, Hilly (Hilary) Andrews, Sarah Shaw and Bill Trenbirth were successful in their applications to join the core group of permanent staff in December, and we congratulate them on their new positions. We have also recruited Michaela Raynor as a casual information assistant for 2006.

Friends who live in the North-East may have read in the press of the difficult budget round facing Durham County Council (and many other local authorities) this coming year. Every service in the council has had to make cuts, and Culture and Leisure has suffered too, losing a number of jobs and curtailing several services. Killhope has not escaped the pain. For over two years we have shared a schools development officer, Sarah Gouldsbrough, with the DLI museum and Binchester Roman fort. Sarah will be made redundant when her current contract comes to an end later this year. This will be a blow to our developing education programme, and of course it goes without saying the news has been a huge personal blow for Sarah. We wish her every success in finding a new job.

Ian Forbes

Computer Processing

Sketches, maps, and other graphics are usually computer-processed to ensure that an author's work is shown to the best advantage when printed.

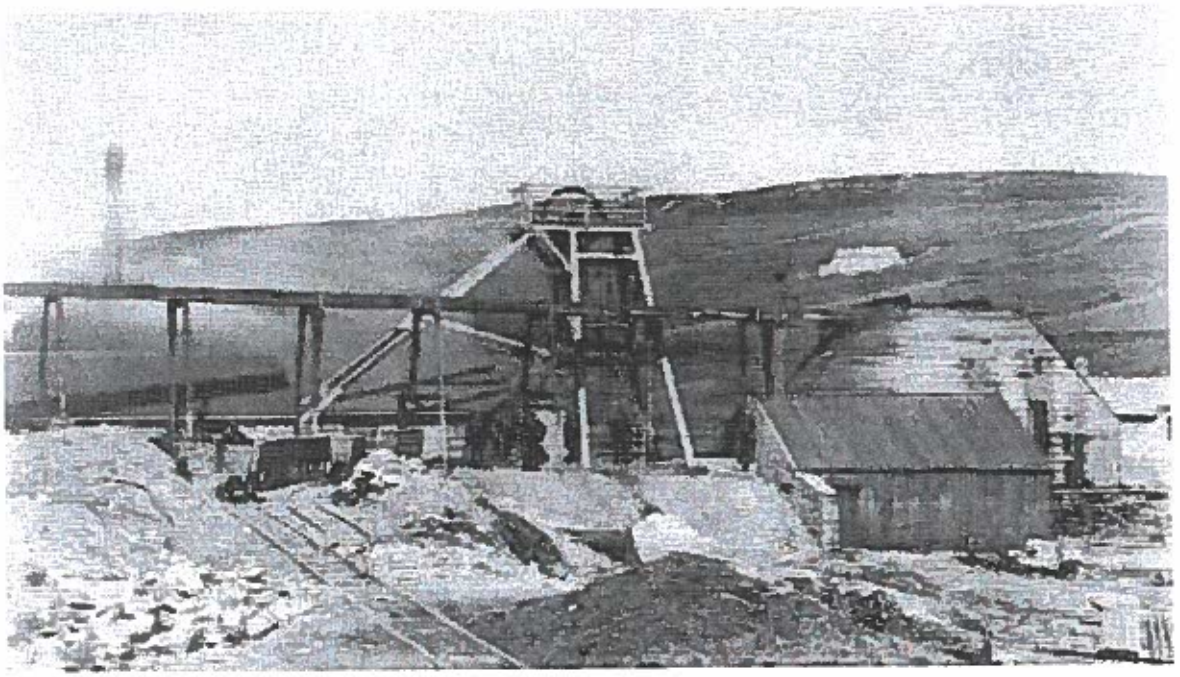
History of the Rogerley Mine, and Mining in Weardale

Jesse Fisher

Introduction

The first documented evidence of mining in the Northern Pennines dates from the 12th century, and records the presence of silver mines in the areas of what are now Alston Moor, just west of Weardale, and Northumberland. Weardale was, at this time a forested area, and belonged to the Bishops of Durham, who used it as a hunting preserve. The villages of Eastgate and Westgate mark the former entrances to this forest preserve (King 1982).

Lead mining in Weardale reached its greatest levels during the 18th and 19th centuries, when the London Lead and Beaumont Companies dominated mining throughout the region. During the 1880's the declining prices for lead forced both companies to give up their leases in the area, though the Weardale Lead Company continued lead mining and smelting until 1931. According to Dunham (1990), 28 separate lead smelting operations were active in the region during the height of mining in the 19th century, but by 1919 the last one had closed.



The Boltsburn Mine, circa 1915. Located in Rookhope, this mine produced some of the finest specimens of crystallized fluorite ever found in England. Though the mine closed in 1931, the crystallized flats found there are still legendary.

Oxidized, near surface deposits of siderite and ankerite provided economic deposits of iron ore in some mines, and were exploited by the Weardale Iron Company from 1842 until around 1920, though most activity occurred prior to 1880. The mining of non-metallic ores - fluorspar, witherite, and barytes (commercial barite ore) in the northern Pennines began about the time lead and iron mining were in decline. Fluorspar, previously a waste product from the mines had become a commercial commodity because of its use in modern steel-making processes,. Fluorspar mining in Weardale continued through most of the 20th century, but by the early 1990's was in serious decline, largely due to competition from overseas sources. During the summer of 1999 the last ore-producing mine in Weardale - Groverake - had closed.

The Groverake Mine, located between Rookhope and Allenheads, was the last operating commercial fluorspar mine in Weardale

Photograph: Jesse Fisher

Total production values for lead and fluorspar from the Weardale district over the years are impressive. According to Dunham (1990) almost one million tons of lead was produced during the period 1666 through 1985. Almost two million tons of fluorspar was produced between 1950 and 1984.

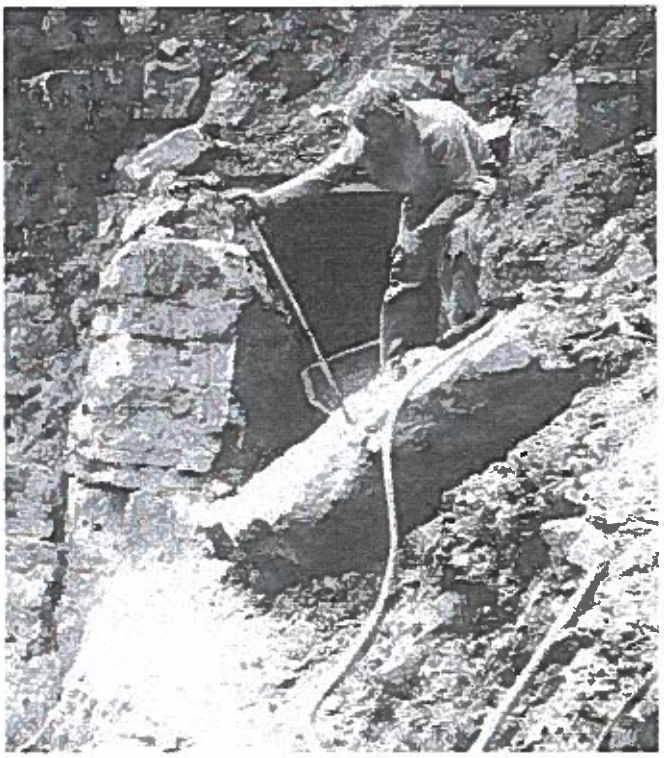
The Rogerley Mine

The Rogerley Mine is located within an abandoned quarry of the same name, just east of the town of Stanhope. The quarry was originally operated during the mid-19th century as a source of limestone as flux for nearby iron foundries. Though several mineralized veins are present in the quarry, they do not contain ore minerals in sufficient quantities to have justified commercial extraction. As these veins were considered contaminants in the limestone by quarry operators, they were left as promontories in the quarry, and are now fairly easy to locate.

Cumbria Mining and Mineral Company

The Cumbria Mining and Mineral Company was formed in 1972 by Lindsay and Patricia Greenbank, and Michael and Brenda Sutcliffe with the intention of mining mineral specimens on a commercial basis. The concept of operating a mine solely for specimens was quite novel in the UK at the time, and was not taken seriously by many mineral agents. After several unsuccessful attempts to obtain mining leases, the partnership obtained permission to explore a previously unworked fluorite-containing vein in the Rogerley Quarry.

The fluorite occurred at a spot high up on the north face of the quarry, and initially, specimens were collected by roping down from the top. A ledge was soon carved into the quarry wall, and the mine was operated on weekends for specimens over the course of the next 25 years. The source of the fluorite specimens were cavities in a N-S trending vein exposed on the quarry wall, named the Greenbank vein by Sir Kingsley Dunham. Work initially focussed on cavities which occur along a level, known as the "High Flats" near the top of the Great Limestone, a rock unit which supports the wall of the quarry. Mining during

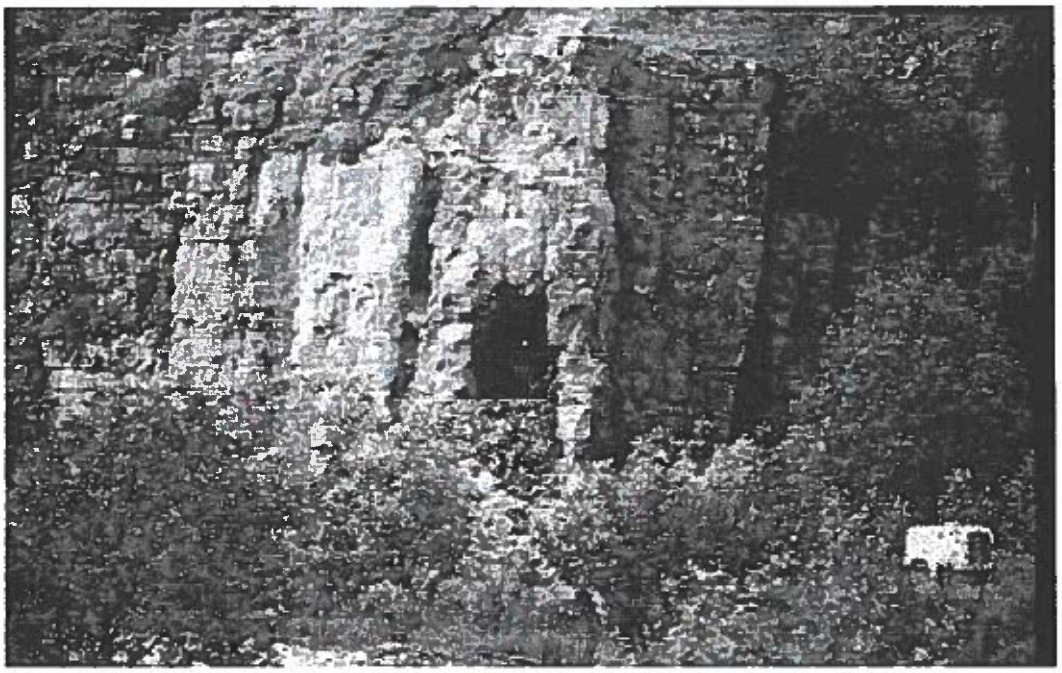


Mike Sutcliffe working at constructing a bench to access the upper fluorite-producing zone during the early 1970's.
Photograph: Lindsay Greenbank

the early to mid 1970's created a bench cut into the quarry face approximately 20 metres above the floor.

A second E-W trending series of veins, known as the Sutcliffe vein (Fisher and Greenbank, 2000) is exposed in a western extension of the quarry. A limited amount of surface work was done here during 1976 and some good quality specimens of green and purple fluorite were found. Access to this outcrop was difficult to control, and highgraders were a constant problem so work was soon shifted back to the original location.

During the late 1970's a tunnel was constructed directly below the previously cut bench level. One cavity of exceptional bright green fluorite was discovered near the tunnel entrance, but the tunnel proved barren for the rest of its length and no work has been done there since.



The Rogerley Mine during the late 1970's while work was centred on the lower - now abandoned - tunnel
Photograph: Lindsay Greenbank

During the 1980's a tunnel was driven northward into the quarry wall on the upper level. Though the operation was only part-time, a series of cavities were found which produced a high volume of material, resulting in a steady cash flow for the company. By the early 1990's the tunnel had been extended to near its current length of around 35 metres, but during the winter of 1992-93 the area around the portal collapsed, requiring the better part of the next year to reopen.

UK Mining Ventures

Not long after reopening the upper tunnel Lindsay contracted a serious illness. While he has since recovered, he was forced to conclude that the rigours of hard rock mining were a thing of the past. He was in the process of closing the mine when the situation came to the attention of the current operators. After successfully renegotiating several lease agreements and rehabilitating the mine, full time mining for specimens began in June of 1999.

The Rogerley Mine in June 1999, after rehabilitation by UK Mining Ventures

Photograph: Jesse Fisher

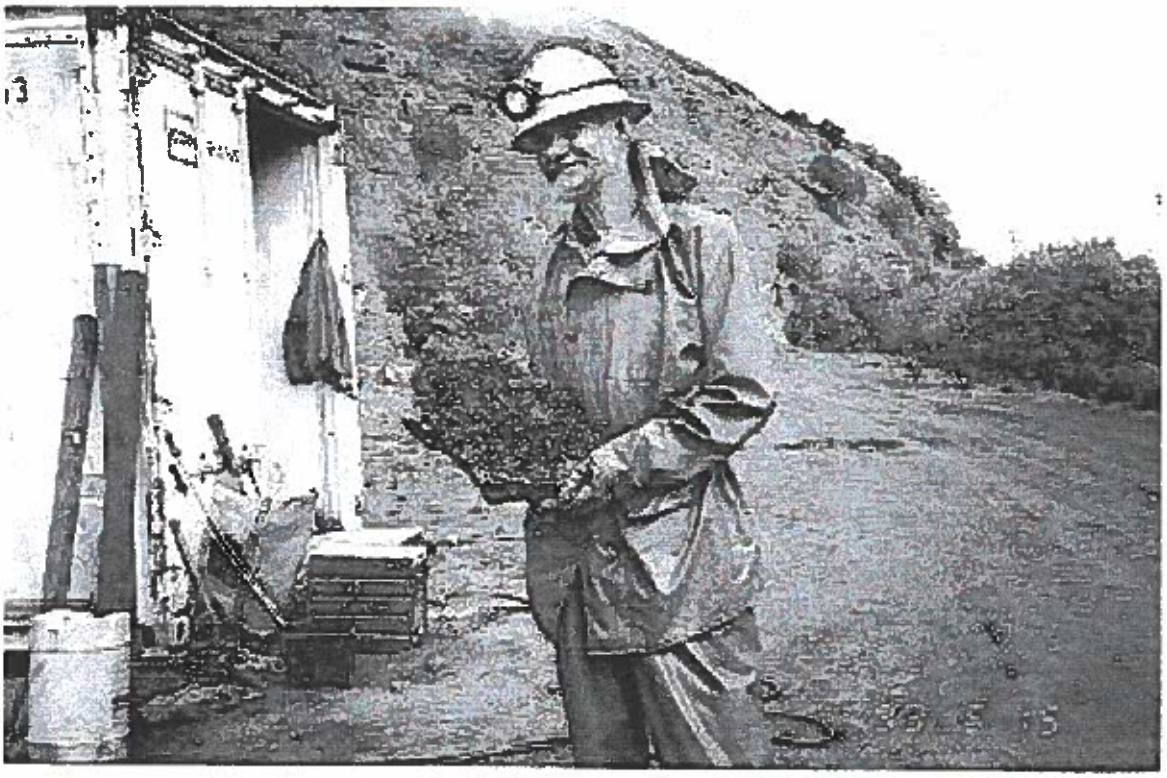
Using pressurized water to clean the tunnel walls revealed two areas of mineralization. In the vein at the north end of the tunnel several pockets had been previously opened, but not completely extracted. One, named the "Weasel Pocket" after a former inhabitant (actually a stoat) who was forced to vacate on very short notice, contained large cluster of partially opaque purple cubic fluorite crystals, coated with druzy quartz.

Half way between the mine entrance and the end of the tunnel, was an area previously worked by the Cumbria Mining and Mineral Company. On 12th June, as the crew washed away mud and removed a few slabs of rock from the face, a series of large fluorite-lined cavities were found, extending eastward from the vein into the flats.

Over the course of the next few days, the pocket, now named the "Black Sheep" pocket in honour of a very good local ale, was opened up to approximately 1 x 1.5 metres. Much of the pocket was intact, and large plates of crystals, many with fluorite-coated, stalactite-like fingers of matrix were recovered using a diamond chain saw. The pocket proved to be an

interconnected series of solution cavities, and extraction lasted through the summer. By the end of August the cavity had been opened up to approximately 1 metre high by 1.3 metres wide by 5 metres deep, and had yielded hundreds of specimens of green fluorite.

The first opening into the "Black Sheep Pocket" series of cavities in the flats, 12th June, 1999
Photograph: Jesse Fisher



Miner Byron Weege with a large plate of fluorite crystals collected from the "Black Sheep Pocket", June, 1999

Photo: Jesse Fisher

The crew returned for a second successful season of mining during the summer of 2000. While the previous year's find had been largely a matter of "dumb luck", this year's strategy was to drive a new tunnel, branching from the vein eastward in order to intersect the mineralized flats in back of the previous year's workings. After driving approximately 15 metres of new tunnel, the flats were encountered on 2nd July. The mineralized area opened up into a series of mud filled, interconnected cavities heading west, back toward the 1999 work area. Work continued through the summer, and at the end of August the far end of the previous year's cavity was encountered. Fluorite from the 2000 workings was similar to the previous year's, but in general, the size and quality of the crystals was much greater.

During the summer of 2001 mining proceeded on several fronts. The eastern tunnel was extended, encountering three productive areas, named the "Breccia", "Dragon's Tooth" and "Birthday" pockets. In the main (western) tunnel, a productive area known as the "Solstice" pocket was found. The original opening to the Black Sheep pocket was enlarged and collecting was resumed in that area. Late in the season an exploratory drift was driven to the west, opposite the original opening to the Black Sheep pocket. This area proved to be productive as well and is known as the "West Cross-Cut". During the summer of 2002 production centred on both the east tunnel and the area of the West Cross Cut. The east tunnel was driven forward and by the end of the season had intersected the rear of the Solstice Pocket, creating a loop back to the main tunnel. Some excellent quality specimens were produced from a side pocket along the east tunnel, known as "The Dipper". A second tunnel was driven westward, near the original West Cross Cut. During the course of the season this drift was joined up with the first cross cut, creating a loop from which some very good specimens emerged.

Readers Letters

Russell Society Journal

For those who aren't members of the Russell Society, just to point out that there is a good crop of articles covering our favourite area in the latest Journal, Vol 8, Part 2, 2005:

The occurrence and formation of galena in supergene environments - David I Green (DIG), Trevor F Bridges (TFB) et al. This includes some mention of mineralisation at Middlegrove Hush Killhope, which will apparently be covered in a future article.

Mud filled fluorite vugs in Greenlaws mine - Stephen Morton and DIG

An update of the supergene mineralogy of Hilton Mine, Scoredale - TFB and DIG

Epimorphs of quartz after fluorite from Rampgill, Caolcleugh and Barneycraig mine system - TFB and Helen Wilkinson.

Roger Bade

Wirksworth Mines Research Group Brewery Shaft Winch 04.12.05

I have just come across Mike Hybyk's report and photos of the Wirksworth Mines Research Group Winch trip to the bottom of Brewery Shaft at Nenthead in early December.

These are the best pictures I have seen of the surviving machinery at the foot of the shaft.

www.mineexplorer.org.uk

Roger Bade

Not So Boring

Brian Young and Stuart Clarke

To those of us in the business of geological research, boreholes and borehole cores are very much part of our stock-in-trade but, except where there are worries about mineral, oil or gas extraction, they generally do not attract much interest outside the worlds of geology or civil engineering. However, this seems not to be the case in Weardale. The Rookhope Borehole, drilled for the then Department of Geology at Durham University in 1960-61, still seems to be fresh in the memory of many, as was so apparent by the interest shown in the display of samples from it mounted at the North Pennine AONB 'Northern Rocks' exhibition at St John's Chapel last year.

Readers might therefore like to have an update of recent developments at Rookhope.

Although the borehole and the samples taken from it have long been the subject of research, the bulk of the core has remained at Rookhope. For forty-odd years its home has been the former Boltsburn miners' bothy at Burnside Cottages, which was given to the Department by the Weardale Lead Company for that purpose at the time of the drilling. The University's recent decision to advertise the building for sale meant that, if the core was not to be destroyed, a new home had to be found for it urgently.

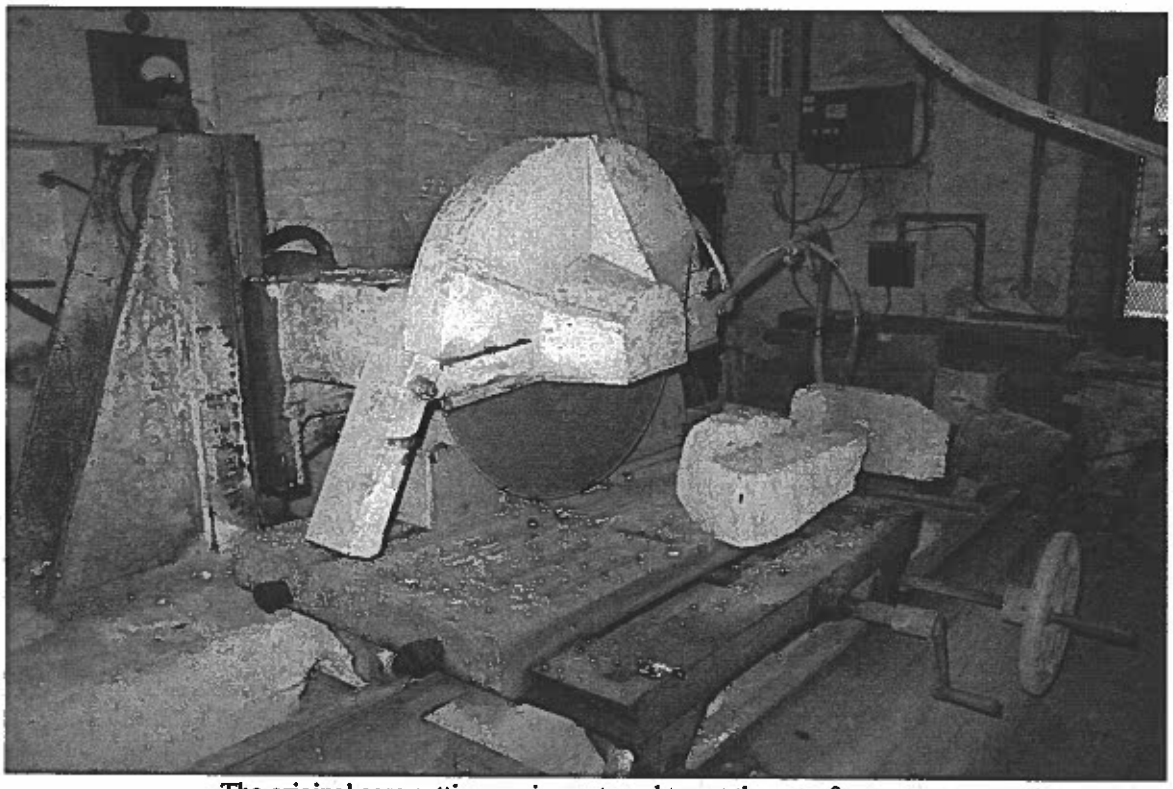
AONB Geodiveristy Officer Dr Elizabeth Picket Examines the Weardale Granite from the Rookhope Borehole in the former coreshed at Burnside Cottages.

Photo: S Clarke

The British Geological Survey have taken the core into safe keeping at the their headquarters, the Kingsley Dunham Centre, Keyworth, Nottingham. The core's removal was no mean feat. The hole was almost continuously cored, starting at a diameter of 8 inches (0.2 metres) in the higher parts of the hole, and reducing to 6 inches (0.15 metres) towards the bottom. With a total depth of 2649 feet 3 inches (807.5 metres) that means a lot of rock – almost 25 tonnes!

At the Boltsburn building the core was stored end-to-end on metal racks. To remove it for permanent storage special core boxes had to be made (hardly anybody drills 8 inch core anymore). Marking up, packing and labelling the core took a team of four people over a week to complete. A costly process, but vastly cheaper than drilling another Rookhope borehole. At today's drilling prices, the cost of such a hole would be well into seven figures!

At Keyworth, the Rookhope core it will join many tens of thousands specimens from other boreholes permanently stored under controlled conditions in the National Core Store. Here it will be freely available for examination or research by appointment. However, at least for parts of the core, its removal from Rookhope is not a permanent parting. Fortunately, the large diameter of the core allows it to be shared with other institutions. Substantial sections will be sliced and returned for display and further research at the Department of Earth Sciences at Durham, together with some selected sections being provided for future interpretative displays at Killhope and perhaps elsewhere.



The original core cutting equipment used to cut the core for storage and still in place in the coreshed.

Photo: S Clarke

At this point BGS would like to acknowledge the generosity and help of the Department of Earth Sciences, University of Durham, in allowing us to recover this important core in order to preserve it for future research and interpretation.

For those readers who may not be familiar with its purpose, or of the major impact it had on geological thinking worldwide, the following brief outline may be of interest.

Rookhope was no ordinary borehole. It was a bold attempt to explore, and if possible prove, a hypothesis that might explain the origins of the mineral deposits that, over centuries, shaped the economic and social life of the dales.

Generations of Northern Pennine lead miners recognised that some of the minerals found in the lead veins exhibit a pronounced zonal distribution. Veins in the centre of the orefield typically contain large amounts of fluorite (fluorspar), whereas veins on the outer margins of

the field are characterised by barium minerals such as baryte (barytes) or witherite. But only in the 1930s did the true significance of this zoning come to be appreciated, largely through the work of a young PhD student at Durham University. Kingsley Dunham, whose name was to become inextricably linked with studies of the North Pennines, pointed out that a similar zonal distribution of minerals in places such as Cornwall and Devon was related to their association with large intrusions granite injected into the surrounding rocks in a very hot and semi-molten state. As it is known that fluorite crystallises at much higher temperatures than baryte or witherite, Dunham reasoned that the North Pennine veins could be related to a granite emplaced in a similar manner and concealed beneath the North Pennines. The fluorite-bearing veins would have formed closest to the granite, with baryte and witherite deposited at lower temperatures further away from the intrusion.

The Skiddaw Slates, exposed near Cronkley Fell, Teesdale, and penetrated in the Roddymoor Borehole at Crook, gave evidence of having been altered at high temperatures (metamorphosed), also suggesting the possible nearness of a large body of granite.

By the early 1950s the rapidly developing science of geophysics added further weight to the granite hypothesis. Detailed gravity surveys undertaken by Cambridge University were developed further by Martin Bott and others at the Durham Department, where Dunham had now become Professor. These revealed variations in gravity values consistent with a granite at a depth of between 300 and 600 metres beneath Rookhope.

In 1960 the Department of Geology at Durham University obtained funding from the former Department of Scientific and Industrial Research to drill a borehole at Rookhope to test this hypothesis.

Granite was reached at a depth of 390.5 metres below the surface. However, the granite was found to have a weathered soil-like top immediately beneath the Carboniferous rocks. It was clearly a pre-Carboniferous granite and had not been intruded into these rocks in a hot and semi-molten state as had been supposed. A radical re-thinking of the origins of the North Pennine mineralization, and similar lead-zinc-fluorite-baryte vein systems worldwide was needed.

It has been shown that, despite its age, the Weardale Granite has been a significant heat source over geological time and is still significantly hotter than the rocks that surround it. Its possible harnessing as a source of geothermal energy lies at the heart of the recent investigations at Eastgate. Geologists now believe that over millions of years the Weardale Granite acted as a 'heat engine', warming deep saline ground-waters, making them effective scavengers of chemical elements. The hot waters flowed away from the heat source, drawing in more water, in a convection circuit similar to a domestic central heating system. The main pathways for these fluids were the faults and fissures in the Carboniferous rocks. As the fluids moved away from the granite and cooled they deposited their dissolved minerals forming the veins we see today. Where the fluids reacted with limestone wall-rocks they formed horizontal orebodies known as 'flats'. Significant zinc-rich 'flats' were encountered in the Jew and Lower Little limestones in the Rookhope Borehole.

Within the past few years gravity data from the North Pennines have been re-processed using new techniques to produce a more refined interpretation of the concealed granite. Geologists now believe that the granite is not one single intrusion, but a composite batholith – the *North Pennine Batholith* - composed of a number of separate bodies in a similar manner to the granite batholith beneath the Lake District. The Weardale Granite appears to be the largest of these bodies: separate granites may be present beneath Tynehead, Scordale and perhaps Burnhopefield. Good geological, mineralogical and geochemical evidence supports the presence of these bodies but, as yet, they remain untested by drilling.

Similar geological, mineralogical and geophysical evidence suggested the presence of another granite beneath the Yorkshire Pennines in Wensleydale. This was proved at a depth of 495.05 metres below the surface in the Raydale Borehole drilled in 1973 by the Institute of Geological Sciences (now the British Geological Survey).

The British Geological Survey team preparing core boxes to remove the Rookhope core and transport it to the National Core Store in Keyworth.

Photo: S Clarke

Committee Contacts

Members are advised that their main contacts with the Friends committee are:

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Vacancies exist for Chairman and Newsletter Editor.

Stanhope Deerpark Archaeological Survey Phase 3

Ros Nichol

Teams of Friends are currently braving the weather to find the archaeology in the medieval deerpark between Eastgate and Westgate. This is the last phase and if you didn't enlist after the last newsletter, sorry, it's too late now as the project has been planned; with over 20 volunteers it takes some juggling!

So far this season the industrial archaeology has a bias towards limekilns, all near or on the Great Limestone. One large limekiln in the 2005 area was re-examined (it was recorded during very bad weather last year). This kiln is shown on the 1898 OS map, and is next to a limestone quarry. However, examination of the 1858 map reveals no limekiln here but one at a different point nearby. Checking the ground revealed the crescent-shaped remains of the earlier kiln, dismissed by us in 2005 as a curved spoil heap from the limestone quarry. We returned to the larger kiln and found re-used heat-affected stones in its face, suggesting that some stone from the earlier kiln was incorporated in the structure. The later kiln was larger, reflecting the growth of the industry. Within this year's survey area, another small limekiln was found derelict in a field. Some members of the team are planning to research the lime industry.

As yet, only one piece of bloomery iron slag has been seen. Found on the wall of the derelict limekiln, it may have been placed there recently by a walker, or alternatively may have been used in the core when the structure was built. It is *not* limekiln waste but typical medieval bloomery iron slag. Could it be an incidental product during lime production, some of the limestone really being limonitic iron ore? The limekiln is not far from Slitt Vein which often has limonitic iron ore at its sides. However, lime burning in a kiln of this type is at about 1000 degrees whereas the temperature for smelting limonitic iron ore is 1300, so it is unlikely that temperatures attained here would produce a flow of iron slag. There must be a bloomery site somewhere. As we approach the junction of Slitt Vein and Allergill Vein we may find interesting features.

Other features we are recording relate to past land use in the Horsley Burn valley. We have found field boundaries of different styles, suggesting dates from prehistoric to medieval, but as yet no settlements to provide stronger dating evidence. We are examining the walls and following the probable course of the Park Wall through steep woods, frozen bog and icy burn. The weather so far has been kind.

We plan to have some "*indoor workdays*" at Westgate Village Hall. Because of numbers of people, these working days are restricted to members of the team, but there will be an Open Day showing our work, when all will be welcome. Thank you to the Friends, the AONB and Durham County Council for supporting our project, to the farmers for letting us on their land, and to volunteers for enduring the weather and the "*phantom land boundaries*". A report will be given to the Friends after March 31st, with a talk later. By then we may have some answers, or perhaps a lot of questions...

("*phantom land boundaries* " are visible in late afternoon but not at other times!)

Book and CD Reviews

The Mines of Upper Teesdale (British Mining No 77)
Northern Mine Research Society - Ray Fairbairn

This latest monograph from Ray Fairbairn is in his now familiar format. The introduction covers the geology, geography, the minerals and their uses as well as some historical background of the district. Then the area is divided into convenient sections based on pre-1974 boundaries in which the mines, veins and main hushes are described in detail including locations, ownerships, outputs and methods of working. An account of the smelting in the region is also included and the alphabetical index of sites is welcomed.

There are no less than 37 maps and diagrams as well as a number of recent photographs in the one hundred and sixty-seven A5 pages. This reviewer's preference is for the A4 format for this kind of publication but readily concedes that the figures are entirely clear and perfectly readable and of course the smaller book sits more comfortably on the shelf and in the rucksack.

Apart from the works of Sir Kingsley Dunham and Harold Beadle surprisingly little seems to have been published about upper Teesdale as an important mining area so this new book should be a 'must have' for anyone interested in the subject. It is a bargain at £10.50 plus £1 p&p from Mike Gill, Northern Mine Research Society, 38 Main Street, Sutton in Craven, Keighley, BD20 7HD. No doubt Killhope and other north Pennine outlets will stock it in the new season.

Bryan Chambers

A book bargain

Mike Gill's excellent Swaledale - it's mines and smelt mills with 175 pages, many photographs, maps and diagrams, originally priced at £14.95 can now be had for only £9.95 from Curlews book shop in Barnard Castle, Co Durham. The book is that useful size between A5 and A4, contains a comprehensive index and is packed with information. It must be an absolute bargain at this reduced price.

Bryan Chambers

A new CD - A history of lead mining in the Derwent Valley by Clive Gilfellon

The Friends of Beamish newsletter no 142, Winter 2005 advertises this research in CD form only. It is described as 'An in depth and comprehensive study of the lead mining industry in the Derwent Valley; comprising over 200 pages, 65 maps and diagrams and over 170 photographs. This detailed history of a bygone industry is the result of considerable research using both archive material and on-site investigations'.

Copies are available on CD compatible with Windows Word at £10 each plus £1 p&p. Clive Gilfellon is a Friend of Beamish and £2 will be donated to the Friends of Beamish Ltd. The CD can be bought from: The Friends' Office, Beamish Museum, Stanley, Co Durham, DH9 0RG.

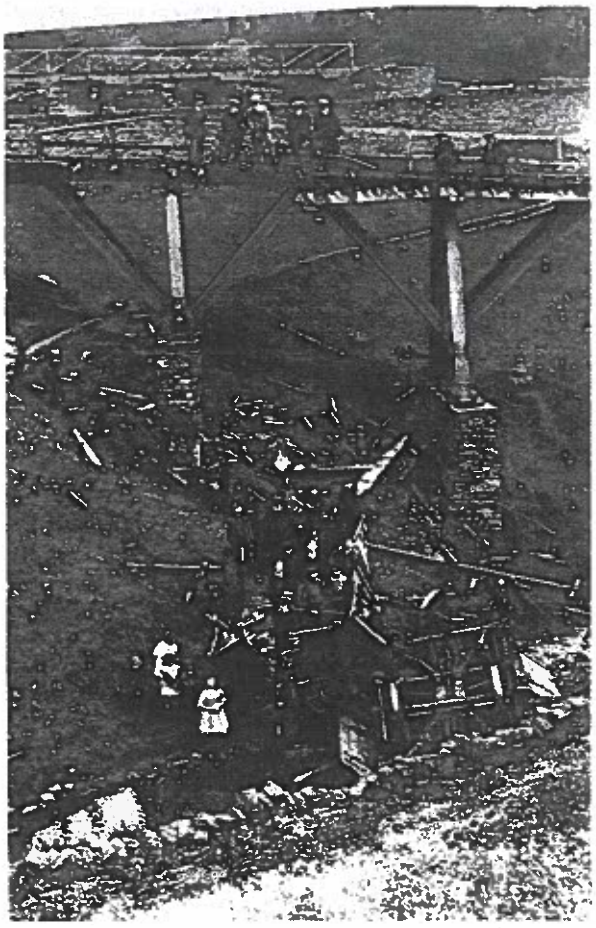
Bryan Chambers

We are grateful to Roger Morris for the following from the Alston Herald dated 1st May 1875.

The run away train came down the hill!

Serious accident to mineral train

Weardale. An alarming accident took place on Wednesday. in Rookhope about One O'clock some of the inhabitants observed that the engine "Charles Attwood", with a train of laden wagons, was coming with great rapidity down the line from Grove rake and other iron stone mines at Rookhope Head towards Boltsburn, a distance of about 4 miles, the engine jumped off the line, burying its head in the ground, while 6 of the wagons were thrown over the engine and smashed to pieces. As neither Thomas Forster, the driver, nor Mark Martindale, the firemen were visible up the line, a number of people went off to ascertain full particulars of the of the accident. They had proceeded a considerable distance before they met the fireman and some miners. Martindale explained that when they had got a short distance on the line to Wolf Cleugh Bridge a screw joint on the supply pipe connected with the boiler had burst and the volume of steam emitted rendered it impossible for them to get to any valve and thus they lost control over the engine. Notwithstanding this, they remained at their post some time and Mr. Foster at the expense of a scolded hand endeavoured to gain some control over the engine. But at last they were obliged to abandon her to save their lives. Several lead miners were on the train and aware that something was wrong jumped with little personal injury with the exception of Christopher Martindale getting his head cut and some of the others slight skin wounds. The line from Grove Rake to Boltsburn is a slight decline and though several of the brakes were strapped down, the train gathered speed. Some of the wagons were laden with ironstone and others "bouse" lead ore mixed with stone and as far as the engine and about 6 wagons were concerned the wreck and smash up was complete. The proprietor is the Weardale Iron and Coal Company.



This photograph from the FOK archive shows a derailment at Rookhope - could it be the same one?

Obituaries

Michael Alan Sutcliffe (1941-2005)

We are saddened to announce that on November 12, 2005 Mick Sutcliffe, co-discoverer and long-time operator of the Rogerley Mine passed away after a battle with cancer.

Mick was born in Blyth, Northumberland in 1941, the only son of Leslie and Rhoda Sutcliffe. As a young man, he moved to Kendal, Cumbria, taking up fell walking, rock climbing, skiing and collecting minerals underground on wet days. In 1972 together with his wife Brenda, and two friends, Lindsay and Patricia Greenbank, he formed Cumbria Mining and Mineral Company in order to exploit a previously undeveloped mineral deposit, near Stanhope, in Weardale. This deposit, now known as the Rogerley Mine, was the first long-term mining project in the UK aimed solely at the recovery of mineral specimens rather than ore, and in this sense, Mick and his partners were true pioneers. Cumbria Mining and Mineral Company successfully operated the Rogerley Mine for 25 years, and for much of that time, were often seen at gem and mineral shows about the UK, offering the fruits of their labour. During the latter 1990s, ill health of one of the partners resulted in closure of the mine, and transfer to the current operators.

During this period, Mick was also one of four directors in New Coledale Mining Limited, who operated the last working mine in the Lake District at Force Crag near Keswick for zinc. Mick also served as mine manager, where his skills as a design engineer and electrician were often called upon. He always said that if he could not find or buy a piece of equipment, he would make it. This was something that often proved necessary during his mining career. Although the mine was successful in producing ore, a downturn in world price for zinc forced eventual closure. In 1997 the mine was sold to the National Trust, who have since restored the mine buildings as a museum and opened them to the public.

Mick was also an avid collector of both Northern English minerals and antique scientific instruments. His mineral collection was acquired several years ago by Secured Minerals, of Kendal, who are handling its dispersal. In 2000, a previously unrecognized mineral vein in the Rogerley Quarry was named the "Sutcliffe Vein" in recognition of Mick's contributions to the mining and specimen mineralogy of the area.

Mick is survived by his wife, Brenda Sutcliffe, of 35 years.

Jesse Fisher

Duncan MacCallum

Duncan who died earlier this year was one of the first Friends of Killhope and an early contributor to the newsletter. His typically comprehensive and knowledgeable report of our first visit to Cookson's Lead Works at Elswick on Tyneside appearing in the October 1986 edition.

After university Duncan worked in research in the steel industry at Corby and eventually moved to Teesside with British Steel where he continued working in the same field. He had many interests, particularly industrial archaeology and was a member of the Cleveland Industrial Archaeology Society as well as the Friends.

Living in Nunthorpe, south of the Tees, didn't prevent him from attending many Friends events - for many years arriving in his trusty Lada car! I remember Duncan as a quiet gentle man who would always willing respond to a request for an article for the newsletter or one of our books. Furthermore I always knew the material would be professional and on time - what more could any editor want? Thanks Duncan!

Our sincere condolences to his wife Sylvia and the family.

Bryan Chambers

Why 'shop'

Bryan Chambers

North eastern members will probably have seen a recent edition of the excellent TV series, Grundy's Wonders which featured Killhope and other mining sites in the north Pennines. It was the writer and presenter of the programme John Grundy who came to Killhope to launch our Sir Kingsley Dunham collection of north Pennine minerals a year or so ago and as he always puts out a quality production anyway you'd expect a similar exposure of our site and industry. We weren't disappointed and in the programme John mused over the term mine shop saying he had no idea of its origins. It struck me that here was another of those names we all accept without a thought as to how it came about.

View of derelict mine shop and underground entrances at side of Teesdale main road (Ashgill Head)

As we all know Killhope's got one, nicely restored and there must have been dozens scattered around the north Pennines. We also know they were nothing to do with retail outlets but were lodging houses where miners stayed during the week bringing their own provisions in a wallet! So why mine shop? Has anyone any ideas?

Appeal for Information

The justifiably popular Ninebanks Youth Hostel in West Allendale is planning to expand by converting a derelict building, which is thought to have been a mine shop, into dormitories and before work starts it is intended to measure and record the building. Mike and Pauline, the resident wardens, are keen to find out more about the building and the lead mining activities in the area. There is nothing in the Killhope archive about Ninebanks and whilst several of the archive team were aware that there was mining in that area none of them could recall anything other than the name Mohope mine.

Do any of our members have any information, no matter how sketchy, to help with the dating or use of this building or on mining activity in the area? If so please ring Dick Graham on 01207542422 or e-mail: dickgra@aol.com.

Project Officer's Report

Your project officer is, at the time of writing, recovering from a short bout of flu, and therefore feeling very sorry for himself. This report will then, of necessity, be brief.

Winter has dashed by, and Killhope will shortly be re-opening for the 2006 season. Do come and see us, because we have some interesting new developments this year. For further details visit Killhope's website at www.durham.gov.uk/killhope.

Once again we have had a largely snow-free winter, and Friends have been able to continue their work on site without too much disruption. We are particularly grateful to two stalwarts – Ian Jowett and Russ Parkin – who have expended a great deal of time and thought on the trommel project, and whose work is now beginning to bear visible fruit. The trommels were the revolving sizing screens that fed the mined and crushed material on to the jigs for separation into ore and waste, and were a vital part of the milling process at Killhope. Without accurate sizing of the feed material the jigs could not effect the ore separation efficiently. It is therefore very pleasing to be able to report that one trommel (the last in a run of four) is now in place, and looking good.

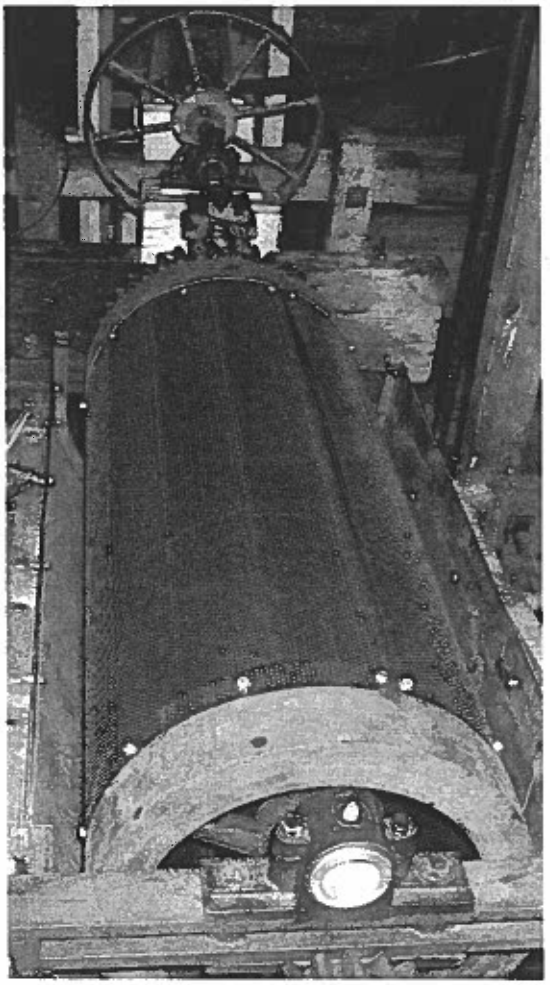
The positioning of this trommel has allowed the Killhope maintenance boys (Michael and Norman) to build and fit the three classifiers which fed the last three jigs in the series of seven at Killhope. Every addition to the jigger house equipment makes the building busier and more complete inside and, just as importantly, helps our visitors understand more of the process which went on in the building. It's great to see real progress on the reconstruction.

Thanks too to the archiving team who continue to add to their impeccable records of the Friends archives – and who continue to collect and catalogue fresh material. We are especially grateful to Paul Webster who has given us permission to copy the large number of mine plans which he holds.

I would also like to say a big "thank-you" to Frank Unsworth who, when trees have become unsafe in the winter winds, has on several occasions responded promptly and willingly to pleas for help and felled the offending spruces. This work has been invaluable to the museum.

Friends may like to know that Durham County Council is restructuring its services. "Culture and Leisure" which includes Killhope, will cease to exist as a separate service in April. At the time of writing it seems likely that the whole Culture and Leisure service will form part of a new "Adult and Community" service. We shall keep you informed.

Ian Forbes



A trommel in the Jigger House

Photo: Russ Parkin

Brian's retirement

Brian Young retired from the British Geological Survey on March 3rd. There is no doubt that Brian's profound knowledge of the geology of Northern England will be hugely missed by the Survey. Brian has a particular enthusiasm for the North Pennines, and we hope and expect that he will continue to be active in our area. Indeed anyone who knows Brian will find it impossible to conceive of him as being anything other than active. "Brian" and "retirement" are two words which don't sit easily in the same sentence, and I'm certain he will carry on researching our patch and sharing his knowledge with Friends and others with his normal enthusiasm and gusto. Brian has been a true and supportive friend to Killhope for many years, and we look forward to his continued involvement in many areas of our work and wish him all the very best in his new found "freedom". Enjoy it Brian!

Ian Forbes

Forthcoming Events 2006

Friends of Killhope Events 2006

20th/21st May	FOK geology weekend in St John's Chapel Town Hall as part of the North Pennines Geology Festival which runs from the 20th May to the 4th June
24th June	AGM at Killhope - make a note in your diary
30th September	Day School at St John's Chapel Town Hall -" Recent Industrial Archaeology in the North Pennines" - a joint venture between FOK and the NPHT.

Killhope's Events Programme 2006

April	
14th – 17th	Easter Weekend Easter Egg Fun Trail/Quiz Trails in the woodland all weekend 50p Easter Sunday and Bank Holiday Monday 11.00am – 4.30pm Craft Workshops £1.50
30th	Bank Holiday - Clarty Clay Workshop 11.00am – 4.30pm £1.50
May	
1st	Bank Holiday - Clarty Clay Workshop 11.00am – 4.30pm £1.50
14th	National Mills Day with BARC
20th/21st	Friends of Killhope Annual Mineral Exhibition at St John's Chapel
28th/29th	Spring Bank Holiday - Pond Ecology Sessions 11.00am – 1.00pm and 2.00pm – 4.00pm £2.00 per child. Adult supervision essential.
20th – June 4th	The North Pennines Geology Festival
June	
4th	Kids Sparbox Workshop - 11.00am – 4.30pm £5.00 per child.
18th	Annual Quoits Championship 2.00pm
July	
2nd	Water Power Workshop 11.00am 4.30pm Free of Charge
23rd	Let's go fly a Kite! Kids Workshop £2.00 per child
30th	Bugs Alive! 12.30-4.30pm Free of Charge
August	
6th	Clarty Clay Play Day 11.00 – 4.30 £1.50
13th	Come and see Killhopes Hidden Treasures. No Charge.
20th	Birds of Prey Information Day. 12,30pm – 4.30pm. No Charge
27th/28th	Bank Holiday - Woodland Sculpture Workshop - 10.30am – 4.30pm £1.50 per child.
October	
8th	Fungus Foray and BBQ. £2.00 per adult Autumn Half-term holidays Hallow'een Craft Workshops 12.30pm – 4.30pm daily £1.50 per child.
29th/30th	Scary Walks Around the Woods
December	
2nd/3rd and 9th/10th	Santa Down the Mine - No Age restrictions 10.30am – 4.30pm Adults £2.00 Children £7.00

Weardale Field Study Society - Programme 2006

All meetings held in Durham Dales Centre, Stanhope at 7 pm.

4th April	Margaret Manchester	"Gone but not forgotten - The Weardale Churchyard Project"
2nd May	Tom Mercer/Jill Essam	"Harehope Quarry Project
6th June	Harehope Quarry Visit	Meet at Harehope Quarry, Frosterley at 7.00 pm for a tour of the quarry and a discussion of the current project. Please wear suitable clothing and footwear for an outdoor visit.
5th September	David Hughes	"Special Children (Life Begins at 75!)"
3rd October	Paul Leadbitter	"The Peatland Heritage of the North Pennines"
7th November	Peter Nattrass	"Weardale in Old Postcards"
5th December	Mark Richardson	"Low Barns - The Wild Wetlands Project"

North Pennine Heritage Trust - Members Events Programme 2006

April	**Nenthead Mines Heritage Centre reopens for the season.**
8th April	Seminar 'Northern Pennines Silver Where and How?', Nenthead Visitor Centre
Sun 7th May	Weardale Quarries Walk (about 5 miles), Hillend, Dry Burn and Parson Byers, a continuation of last years walk. - Leader Peter Wilkinson, meet at 11am in Frosterley car park, bring lunch. Open to members and visitors. Free, no need to book

The following 4 events are NPHT sponsored events part of 'Northern Rocks', the North Pennines Festival of Geology & Landscape, to be held 20th May to 3rd June. Open to all. Please take some food and drink. To book your place, phone the AONB on 01388 528801.

Specialist Tours Underground & Surface

Sat 20th May	Smallcleugh Mine underground Trip - leader Peter Jackson. Meet at 10.30 in Nenthead Visitor Centre café, bring lunch, finish time 16.30. Cost £12 (inc 1 year NPHT membership).
Mon 22nd May	Geology of the Upper Nent valley-Surface Guided walk - leader Russell Bulman. Meet at 10.30 in the Nenthead visitor centre café, bring lunch, finish time 16.30. Cost - normal Visitor Centre charges, no booking required.
Mon 29th May	Carrs Mine, beyond the show mine, underground trip - leader Peter Wilkinson. Meet at 10.30 in Nenthead visitor centre café, bring lunch, finish time 15.30. Cost £12 (inc 1 year NPHT membership).
Sat 3rd June	'The search for the Rampgill Vein in the Great Limestone' Underground trip - leaders Peter Jackson & Rick Smith. Meet at 10.30 in Nenthead Visitor Centre café, bring lunch, finish time 16.30. Cost £12 (inc 1 year NPHT membership).

Members Events

Sun 2nd July	'Hartside Panorama' - Scenic walk (about 5 miles), off the beaten track over Haresceugh Fell. Visiting the Hartside Barytes mines and exploring other sites towards Raven Beck. Bring lunch. *Meet at 11.00 at Hartside top café car park at NY646 421. Open to members and visitors. Free.*
Sat 7th Oct	NPHT AGM 11am at Alston Town Hall.
Sat 30 Sep	Day School – 'Recent Industrial Archaeology in the North Pennines'. A joint venture between Friends of Killhope and NPHT.
Sat. 14 Oct	'Explore parts of Rampgill and Scaleburn mines, underground walk and scramble (no climbing) -NPHT Member's only event. Meet at 11am in Nenthead Visitor Centre, second courtyard, bring lunch. Leaders Peter Jackson & Rick Smith. Helmets and caplamps provided. Please book a place.

Always wear warm, waterproof clothing & strong footwear (wellingtons best for underground). Underground trips must be booked in advance, helmets & caplamps provided, ask when booking.

For further details contact: Nenthead Mines Heritage Centre 01434 382037/382726 or email info@npht.com

NAMHO - Forthcoming Events

Silver in the Northern Pennines - Northern Pennine Silver: Where and How?

A seminar to be held at the North Pennines Heritage Trust Centre, Nenthead, Saturday 8th April 2006 at 10.30 am.

The evidence for silver production from the northern Pennine orefield in the late medieval period has been addressed by both historians and geologists in recent years. Whilst there is strong documentary and statistical support for the position that the Northern Pennines were the major source of newly mined English silver in the late medieval period, that is not backed up by the geological evidence. The majority of the ores mined in the modern period were low in silver and there is, as yet, no evidence for significant quantities of silver-rich minerals at the shallow depths accessible to the medieval miner. Although the quantity of silver produced during the 12th century can be estimated with some confidence we do not know the precise location of the workings. Neither can we be certain as to the nature of the ores worked, where they were processed, nor the quantity of lead which might have been produced as a by-product. Information is available on the organisational structure under which mining was carried out but there is currently little to indicate how it fitted into the social framework and upland agricultural practice.

This seminar is being held to consider the evidence for silver production and discuss how our understanding of mining in the area during the late medieval period might be advanced. The intention is to hear presentations from all those with an interest in the area - geologists, historians, archaeologists and mine exploration.

Draft Programme

Peter Claughton	**Introduction**
Brian Young	**The geological and mineralogical basis for silver mineralisation in the North of England**
Martin Roe	**On the archaeology of medieval mining**
Ray Fairbairn	**The field evidence at Clargillhead**
Tom Gledhill	**Some thoughts on woodland management and industry in north-east England**
Richard Smith	**Mines and smelting in the north of England, based on evidence from the Caldbeck Fells**
Peter Claughton	**The statistical evidence for silver production**
Hugh Doherty	**Shrieval management of the mines in the 12th century**

If you are interested in contributing, please contact Dr Peter Claughton, Blaenpant Morfil, Glynderwen, Pembrokeshire, Wales, SA66 7RE; tel 01437 532578; e-mail P.F.Claughton@exeter.ac.uk.

Please book a place, there is no charge for the seminar itself. A pre-booked buffet lunch will be available at a cost of £7.50 per head (includes tea and coffee). If lunch is required please make your cheque payable to 'North Pennines Heritage Trust' and send to: Sheila Barker, The Rise, Alston, Cumbria, CA9 3DB; e-mail sheila.barker@cybermoor.org.uk.

NAMHO 2006 Conference

The 2006 conference is to be held 9th-11th June 2006 at the Royal Pavilion, Llangollen.

The event will be jointly organised by Shropshire Caving and Mining Club and Shropshire Mines Trust Ltd with assistance from Welsh Mines Society, North Wales Caving Club and Grosvenor Caving Club. The conference theme is **'Mining in the Landscape'**, with the programme arranged to reflect how mines and mining sit in their surroundings. In particular, the conference will look at how differences in the type of material mined, and changing technology, have influenced the mining landscape. Initial subjects include:

- The changing mining landscape; how mines have evolved through history.
- Slate mining landscapes, in particular the area around Llangollen.
- The diversity of mining landscapes:
- Surveying the mining landscape.

It is also hoped a number of mini seminars will run in parallel with the lecture programme, for example - Mining archaeology; Influences of natural history on access to mine sites; Developments in underground stills and video photography; Why should mining historians be interested in quarries?

The lecture programme organisers are already contacting speakers and invite offers of presentations and posters on these and related topics.

Ideally situated along the Welsh borders, Llangollen is within easy reach of coal, metal and stone mining regions. Running alongside the lecture programme are a series of surface and underground field trips to some of the many sites in the surrounding region of north-east Wales. In addition, it is hoped to provide a coach tour of surface sites on Monday 12th June, and a number of other underground trips during the following week. The full provisional leaflet is available on the NAMHO website - http://www.namho.org.

If you have an interest in particular sites in north-east Wales, and are willing to help lead a field trip (surface or underground), or are interested in contributing to the lecture programme, please contact Mike Moore, <mike@moorebooks.co.uk> or 53 Vineyard Drive, Newport, Shropshire, TF10 7DF; tel 01952 405105.

Keswick Mining Museum - Mine Heritage Walks 2006

All walks will be guided by local mine historian Ian Tyler, the author of ten books on Lake District Mining Heritage and curator and owner of Keswick Mining Museum. All the walks are on a Sunday.

19th March	Force Crag Mine (6 miles)	Meet Whinlatter Road, Braithwaite
23rd April	Coniston Slate Mines (6 miles)	Meet Walna Scar Road - Boo Tarn
14th May	Seathwaite - Honister (6 miles)	Meet Honister Hause Car Park
28th May	Stoneycroft - Uzzicar - Barrow (6 miles)	Meet Uzzicar, near Braithwaite
25th June	Roughton Gill Mines (7 miles)	Meet Fellside, near Caldbeck
16th July	Greenside Mine (7 miles)	Meet Glenridding Car Park
6th August	Silverband Mine (7 miles 'hard')	Meet Silverband Road End, near Dufton
20th August	Dufton Mine (7 miles 'hard')	Meet Dufton Village, Near Appleby
10th September	Elterwater Slate (7 miles 'hard')	Meet Elterwater Village Car Park
1st October	Goldscope Mine (6 miles)	Meet Littletown Bridge, Littletown

All walks start at 10.30 am, boots or strong shoes must be worn! Waterproofs and spare clothing should be carried, also a packed lunch. Most walks will take a minimum of five hours. Not suitable for unfit persons and children under 16 years (charge £5.00 per person). Telephone 017687 80055 or 01228 561883 (evenings). Email: coppermaid@aol.com. Website: keswickminingmuseum.co.uk.

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