



NEWSLETTER

NUMBER 59

FEBRUARY 2013

Iontaobhas Oidhreacht Mianadóireachta na hEireann

Mining Heritage Trust of Ireland

MHTI PROGRAMME OF EVENTS 2013

(**Bold print** indicates finalised programmes; further details will be sent to members of events in ordinary print; *italics* indicates non-MHTI activities)

2013

8 March

MHTI Board meeting

9-10 March

Slieve Ardagh Fieldtrip led by Phelim Lally (see inside)

16 March

NAMHO AGM, Council meeting and informal fieldtrips

3 Apr,

talk by Peadar McArdle on Wicklow's Gold Rush

http://www.rds.ie/cat_event_detail.jsp?itemID=1100095

7-12 April 2013

Rathcroghan International Remote Sensing Field School

See inside for details

20-21 April 2013.

BCRA Cave Technology Symposium, South Wales.

22-25 April 2013

Mining for Copper: Environment, Culture and Copper in Antiquity.

Conference on 22-25 April 2013 at Timna, Israel.

http://www.ucl.ac.uk/iams/iams-events-publication/timna_conference_2013

18 May, Sat

NAMHO meeting: Archaeology of Mining and Quarrying in England, Yorkshire

24-26 May, Fri-Sun

European Minerals Day, <http://www.mineralsday.eu/>

25-26 May Sat-Sun

MHTI AGM, Silvermines **NOTE CHANGED DATE**

See inside for full programme

8-9 June, Sat-Sun

Avoca fieldtrip, led by Nick Coy

14-16 June 2013

Historical Metallurgy Society 50th Anniversary Conference.

See inside for details

28 June-1 July 2013

NAMHO Conference 2013. Aberystwyth University.

8 August, Thurs

MHTI Board meeting

10-11 August, Sat-Sun

Wexford and Waterford fieldtrip, led by Des Cowman

17-25 August

*Heritage week. **Note change of date.** <http://www.heritageweek.ie/>*

20-24 August 2013

"Stories written in stone": international symposium on chert and other knappable materials. (Romania) <http://arheoinvestsymposium.uaic.ro/stone>

14-15 September,

European Heritage Open Days (NI)

28 Sept-5 Oct 2013

19th Australian Mining History Association Annual Conference

<http://www.mininghistory.asn.au/conference/>

September date TBC

Parys Mountain & Great Orme Head, Martin Critchley

17-19 October 2013

"The forgotten state of industry: Irish industrial landscapes and heritage in a global context". See inside for details

8 November

MHTI Board meeting

Check with organisers of meetings before making any travel bookings in case of change of dates or arrangements. MHTI lists events in good faith but is not responsible for errors or changes made. For MHTI fieldtrips please register your interest, without commitment, so the organiser can keep you informed.

WWW.MHTI.COM

MHTI MEMBERS' BUSINESS

If you have any contributions for Newsletter 60 to issue in April, please contact the Editor. Thank you.

Contact **Matthew Parkes** for newsletter contributions 087-122 1967 or mparkes@museum.ie

APOLOGY TO LISHEEN MINE

MHTI would like to apologise to Brian Keady and Lisheen Mine for their omission from the list of corporate members and supporters inside the front of Journal 12. Lisheen Mine have been stalwart supporters of MHTI for many years and this omission was an unfortunate oversight during the production of the journal for which I take full responsibility.
Matthew Parkes

MHTI SUPPORTERS

It is a pleasure to remind members and readers of the various organisation which have supported the activities of MHTI, both in financial and in many other ways, such as by facilitating meetings, permitting access to abandoned mines, archive storage, research support and so on. Most of these organisations continue to do so, or we hope are likely to do so in the future as opportunities and funding allow.

Thank you very much (in no particular order) to

Lisheen Mine
Exploration and Mining Division, DCENR
Geological Survey of Ireland
National Museum of Ireland
ERA Maptec
Conroy Diamonds and Gold
Tara Mines
The Heritage Council
Geological Survey of Northern Ireland
Wicklow County Council
Allihies Copper Mine Museum

MHTI would like to hear from any other industrial, government, commercial or voluntary organisation that would be interested in supporting MHTI through corporate supporters. Our financial situation is currently cushioned by small reserves, but a few extra supporters would make all the difference to annual balances, and to the long term viability of our operation. Can you help?

MHTI Subscriptions 2013

All MHTI members should have received a subscription renewal reminder/invoice recently. Please send us your payment along with the form. If you haven't received this, or have misplaced it – contact Nigel Monaghan at nmonaghan@museum.ie

CORRECTIONS OF ERROR REGARDING AVOCA MINES

This letter from Alan Thomas making some corrections of fact regarding contributions to Journal 11 and Newsletter 56 of June 2012 was regrettably omitted by accident from both Newsletter 57 and 58. I hereby apologise to Alan Thomas.

Matthew Parkes

Vale Cottage
 Woodenbridge
 Arklow
 Co. Wicklow

Dear Matthew,

Following our conversation yesterday, I enclose my corrections of the easily made errors made by Des Cowman in his 'Ballymurtagh Mine, Avoca: a history' and Colin Wilson's comments on the paper in Newsletter No. 56 of June 2012.

Jim Platt was in fact the Chief Geologist at Avoca Mines, but was given the additional responsibility of the East Avoca open pit operation. Mr R.J. Kilgour, formally General Manager of Discovery Mines, Canada and when that company assumed the management of Avoca Mines in 1969, Mr Kilgour became General Manager at Avoca and a Director. He brought most of his staff from Discovery with him, including my old friend Jim Platt.

Jim left Avoca in 1979 having been offered the position of Senior Mining Geologist with Billiton Mineral and Exploration Division based in La Hague. He held this position until he retired in 2001.

Mr Kilgour continued as General Manager at Avoca until his retirement to Canada in early 1981. I succeeded him as General Manager until, due to falling copper grades and prices, led to the Government withdrawing the subsidy and appointing a receiver in August 1982. Thus ending the final 13 years of mining at Avoca.

Alan Thomas

BECOME A DIRECTOR OF MHTI

The Board of MHTI invite members to become Members of the Board, by election at the AGM on the 25 May 2013 in Silvermines/Nenagh. If you are interested please contact Nigel Monaghan as soon as possible. The MHTI needs new blood to share work and renew our activities.

EVENTS: NOTICES AND REPORTS

Slieve Ardagh Fieldtrip Saturday 9 – Sunday 10 March 2013

Visit to mine workings and collieries of interest. There will be a variety of features to see, including engine houses, historic buildings, shafts, and gantries and other 20thC installations. Underground access is expected to be possible at some locations, via mine inclines. Those expecting to go underground should bring appropriate clothing.

Programme will take in Commons, Gorteen, Earlshill, Mardyke and Lisnamrock Collieries, as well the isolated features Copper Steeple and Ballynunty Drainage Level. Handouts and maps covering geology and mining history will be distributed on the day.

Meet at The Old Schoolhouse (Heritage Centre), Commons Village at 10:30 a.m. on Saturday 9th March. The Heritage Centre will be open at 10:00 for those who would like to see artefacts etc. For late arrivals, the first mine visit will be to Commons Colliery itself, which is across the road from the Heritage Centre. You can join the group there if after 10:30.

There will be two underground forays subject to permission from EMD. Locals will lead us.

Accommodation in the area:

Horse and Jockey Hotel (4 star), just off the M8 (Urlingford-Cashel) at junction with N62; (0504) 44192 and web page; hotel rates; 12km from coalfield

Hawthorn View B&B, (Noreen O'Mahony), Thurles Road/N62, Horse and Jockey; (0504) 21710; comfortable; 13.5km from coalfield

Ardagh House Hotel, Killenaule (1 star ?); (052) 56224; B&B rates; dated furnishings; no restaurant (2007); on SW tip of coalfield

Sacre Coeur B&B (Mrs. Colette Gleeson), Ballingarry; (052) 54510; only open in the summer months (2007); in centre of coalfield

Urlingford Arms, Main Street, Urlingford, Co. Kilkenny. Reasonable B&B rates; 12.5km from Commons itself. Phone: (056) 8831626. Restaurant also available for evening meal.

Further information and expressions of interest in attending: contact Phelim Lally (01) 6782763 and phelim.lally@gsi.ie

Mining Heritage Trust of Ireland AGM

This year's AGM (to be held 25th and 26th May 2013), centred around the Silvermines District in Co. Tipperary, promises to be a memorable weekend. In addition to the business aspects of the meeting we have planned an exciting series of events around the theme of Medieval Silver mining. Silver and lead mining during this period is well documented in many parts of Europe (including Norway, Saxony, the Tirol, the Czech and Slovak Republics, the Balkans, and in the UK). In Ireland documentary evidence points to the antiquity of silver mining during the medieval period at Silvermines and at Barrystown (in Wexford), and recent scientific analysis of a peat core sample at Glendalough in Co. Wicklow has determined the presence of lead, indicating the intriguing possibility of silver-lead mining from the C11th onwards. In light of the growing awareness of Medieval mining in Ireland we are delighted to announce that leading expert, Dr. Peter Claughton of Exeter University, will give a keynote talk at the AGM (Saturday 26th) on Medieval silver mining and smelting in Europe. Peter will set in context the known Medieval silver workings in Ireland and give us some clues of the types of features we should be looking for in the field that give indications of additional lead mining and smelting sites from this period. In addition, there will be supporting talks by Dr John Morris who oversaw the recent conservation works to the nineteenth century engine houses at Silvermines, and by the local historical group which has just published a history of Silvermines. On the Sunday there will be a surface walk around Silvermines guided by Peter with the aim of seeking any visual remains which might be related to Medieval mining. We will also have the opportunity to examine the restoration work to the nineteenth century mining remains and John will be on hand to answer any questions in the field. Subject to State permission, we will be organising an underground tour of the Shallee mine workings led by Dr Martin Critchley.

Saturday 25th May - Venue Abbey Court Hotel Nenagh (<http://www.abbeycourthotelenagh.com>)

14:30 to 15:30 AGM Business meeting

15:30 to 16:00 Coffee

16:00 to 17:00 Dr. Peter Claughton "Medieval Silver Mining and Smelting in Europe"

17:00 to 17:30 Dr. John Morris "Conservation works at Silvermines"

17:00 to 18:00 Silvermines Historical Society "A Millennium of Mining"

Dinner at 19:00

Sunday 26th May - Meeting in Silvermines Village outside the Church at 10:30 AM

10:30 to 12:30 Visit to Silvermines to view conservation works and the Sulphur Ramp workings

12:30 to 13:30 Lunch in Silvermines

13:30 to 15:30 Visit to Shallee to view conservation works and open cut workings

Late afternoon: Underground visit to be confirmed

The Abbey Court Hotel has a conference B&B rate of €69 pp per night. Three course evening meal (with 3 options) costs €25. There are other accommodation options in Nenagh. Please make your own bookings, but if you are planning to be at the meeting could you let Martin know at your earliest convenience so that we know numbers for catering etc. (email mcritchley@era.ie Tel. 086-8146956)

Gold Frenzy: a story suitable for modern Ireland?

Peadar McArdle, author of Gold Frenzy, talks about Wicklow's gold rush.

April 3rd, 6pm at the Minerva Suite, RDS, Dublin. Open to the public and free, but please book through: librarydesk@rds.ie http://www.rds.ie/cat_event_detail.jsp?itemID=1100095

**14-16 June 2013
Historical Metallurgy Society 50th
Anniversary Conference.**

This international conference in London has four themes: origins of metallurgy; innovation and change; society and metalworkers; and the future of historical and archaeological metallurgy. More details are available at <http://hist-met.org/index.html> or from Eleanor.Blakelock(at)archaeomaterials.co.uk

**7-12 April 2013
Rathcroghan International Remote
Sensing Field School**

This ArchaeoLandscapes Europe Field School, suitable for graduates in Archaeology or Earth Science, includes modules on terrestrial laser scanning and geophysical surveying. The final module is a two-day workshop on processing and interpretation of Airborne LiDAR data using an open source software toolbox.

There may be some interest amongst MHTI members and further information and a flyer/poster can be found at

<http://www.archaeolandscapes.eu/index.php/en/outreach/workshops/336.html>

17-19 October 2013

**"The forgotten state of industry:
Irish industrial landscapes and
heritage in a global context".**

Glens of Lead: Discover and Explore Wicklow's Hidden Heritage

Under the aegis of the 'Metal Links: Forging Communities Together' Project and 'The Gathering 2013', Glens of Lead will be hosting an international conference at the Glendalough Hotel, set in a magnificent location near an early Christian monastery deep in the Wicklow Mountains, from the 17th-19th October 2013.

Entitled *The Forgotten State of Industry? Irish Industrial Landscapes and Heritage in a Global Context*, we aim to attract speakers from Ireland, Britain and beyond, to provide a forum for the sharing of information and experience on the recognition, management and curation of industrial heritage, and hope to use this as an opportunity to advance the cause for better protection and increased visibility of this aspect of our heritage in Ireland.

We will be posting details of the conference itinerary and how YOU can register to attend this important conference on our recently launched Facebook page 'Glens of Lead' in the near future. See <http://www.facebook.com/GlensOfLead?ref=hl> If you haven't already hit the 'liked' button on our page, please do so!

Glens of Lead in conjunction with Neat Design of Dublin, is currently working on the production of a state of the art website that promises to be full of exciting new information about lead mining in County Wicklow. We plan to make a visit to our website a true journey of discovery, and visitors will be able to 'mine' the site by digging into a variety of downloadable trails and other fun stuff, as well as oral history testimonies from our Mining Memories Project, a database of mineworkers (which you will be able to query) and some short films linked to YouTube. It will be live soon at: www.glensoflead.com

NEWS: IRISH NEWS/ISSUES/BOOKS

Peat Core Sample - do we have evidence for early mining at Glendalough?

Under the auspices of the Metal Links project the Royal Commission for Ancient and Historical Monuments in Wales commissioned Dr. Tim Mighall (Aberdeen University) and Dr. Scott Timpany (Headland Archaeology) to collect a core sample of blanket bog peat near to the lead mines of Glendalough. The aims of the work were: 1. Reconstruct the vegetation, fire history and pollution record from a peat core taken from an ombrotrophic (rain-fed only) blanket peat in the vicinity of Glendalough /Glendasan mines, through the use of microfossil (pollen, non-pollen palynomorphs [fungal spores (NPPs)]) and microscopic charcoal analysis. 2. Construct a chronology for the sequences using radiocarbon dating. 3. Reconstruct atmospheric dust and metal pollution histories using peat geochemistry.

The peat core sample was collected from a site on Camaderry Mountain in September 2012. The main results are:

1. Two radio carbon dates at depths of 47-48cm (AD 547-644) and 170-171cm (BC 2576-2433). This would make the base of the peat (at 2.05m) circa 3,300BC which is consistent with the dating of the development of blanket bog in other parts of Ireland.
2. Only top 50cm of core analysed (from AD 682 to present day)
3. Palaeobotanical analysis shows
 - From 682 AD to 1023 AD there was mainly tree and shrub cover in the area (dominated by oak, birch and alder). Some indication of lowland cultivation and land disturbance towards the end of the period.
 - Decrease in tree cover throughout the period 1023 AD to 1340 AD indicating tree clearance. Tree cover minima at the end of the period (1340 AD). Indication of arable crops (barley, oats, wheat and rye). Higher heather pollen indicates drier conditions. These are both in agreement with the Medieval warm period of 1000 AD to 1200 AD suggesting that climate was good enough for growth of cereal crops.
 - Increase in tree cover from 1340 AD to 1480 AD suggesting re-forestation. This was followed by continued decline in trees to the present day (loss of most tree species but some increase in ash and holly due to increased light from the removal of tree canopy). Oats and wheat present but increase in grassland species indicating more importance of pasture towards the end of the period.
4. Geochemistry shows
 - Continued decrease in tree cover from 1545 AD to present day. First appearance of beech is 1910 AD. Decrease in hazel. Decrease in arable crops but barley becomes the main arable species. Decrease in species associated with grasslands. Increase in heather during last 350 years indicating drier conditions.
 - Rise in Lead and Zinc values from 1078 AD and rapidly from 1480 AD
 - Pb values peak in 1878 AD and fall off thereafter (this is about co-incident with peak lead production under the Mining Company of Ireland).
 - Other elements (Al, Si, Cu, Cr, Ni) show cyclic increases and decreases. Increases appear to correspond with tree clearances suggesting that clearances resulted in erosion of rock/soil and higher metal values. Lead and zinc from 1078 AD do not show this link with tree cover but show a steady increase (until 1878 AD) suggesting an important contribution from another source other than erosion. Mining would be the most plausible source.

In conclusion, the results of the core sampling is exciting as it indicates possible mining in the Glendalough area from the C11th onwards and in particular a rapid growth from the C15th. In light of this perhaps we need to reconsider if the reason for the location of the monastic settlement at Glendalough was related to the nearby presence of lead (and silver)?. Monasteries were not just a centre of spiritualism but an important part of the economy in the middle ages. The work also highlights the need for more research, such as sampling adjacent bogs to investigate the spatial distribution of Pb anomalies, analysis of the lower sections of the peat to see if there are roman or other metal anomalies, analysis of Pb isotopes to trace sources, and more detailed radiocarbon dating.

Martin Critchley

Snippet from History: Curious Coincidences, in connection with two motor accidents.

On the evening of August 5th a party of Scottish motorists got a nasty “spill” on the road between Ballygawley and Omagh. All the party were badly shaken, and two – a Mr. Greig of Glasgow, and the chauffeur – were rather seriously injured. The party were travelling from the South, and were on their way to visit the quarries at Mountcharles owned by Messrs. George Watson and Sons, Glasgow. Previously they had inspected the quarries worked by the same firm at Liscannor, Co. Clare.

Last Saturday evening, a party of Scotch visitors who had been visiting the Watson quarries in Clare were motoring towards Liscannor, down an uneven road, when the strong wind from the sea caught the canopy of one of the cars and the car skidded to a ditch at the side of the road. After going a short way it turned a complete somersault into a bog at the roadside, all the occupants being pinned beneath. The chauffeur, a Dublin man, named Michael O’Donohoe, was caught by a steering apparatus, and for a time his position was most serious, as the petrol escaping poured over him, and there was danger of a fire as the engine was going all the time. He showed great presence of mind, and with assistance extricated himself and shut off the engine. With the help of the country people the others were taken from under the car, when it was found that no very serious injury had been sustained by any of the party, but all were badly contused and cut. The car which came to grief was remarkable as being that in which, in the terrible accident last year, Miss Byrne a well known Dublin lady, was killed.

That particular “car” will not be in great demand for the future: and one need not be very superstitious to sympathise with the desire to avoid it. The coincidence between the facts connected with the accidents in Tyrone and Clare are really very curious. In both cases the passengers were Scots, the chauffeurs were Irish and the Watson quarries were the objects of both journeys. If we ever decide upon a visit to Messrs. Watson’s property, we shall take a safe outside car.

From The Derry People and Donegal News, 01 September 1906 (no.202) p1.

United Stone Firms brochure

The last newsletter (November 2012) included a request for information on a brochure that was published in 1911. By coincidence, in the same month Forest of Dean Stone Firms Ltd republished the brochure. A Foreword (insert) by Marcus Scott Russell in the new issue outlines the history of United Stone Firms, including the following: "In February 1939 my grandfather Francis, and father Peter, were visiting

South Wales looking for quarries to supply Silica. Their business was General Refractories Ltd. and with the war looming, mineral bricks to line blast furnaces would be in huge demand. Snow was falling too thickly to get home to Cheltenham so they decided to stay at The Speech House Hotel in The Forest of Dean. The only other guest was an accountant acting for the Official Receiver, disposing of the assets of United Stone Firms. By breakfast my family had bought the assets for £13,000. Within a week the scrap iron littering the various redundant premises had been sold and paid for the deal!"

NEW BOOKS

Anon, 2012. United Stone Firms Ltd. Forest of Dean Stone Firms, Gloucestershire. 30 x 24cm, 146pp.

In 1911, United Stone Firms produced a brochure for the International Building Trades Exhibition in London. The brochure covered their operations mainly in south-west England but also in Ireland and Wales. The brochure mainly comprised photographs of their quarries, mines, workshops and ships as well as buildings, bridges and barracks built using their stone. In 2012 the brochure was republished by Forest of Dean Stone Firms Ltd. It is available as a limited edition (numbered) hardback (£55 including P&P) or softcover (£35), from the company: 01594 562304, info(at)fodstone.co.uk. A beautiful book.

<http://www.naturalstonespecialist.com/currentissue/unlockednewsarticle.php?id=5826>

Tara Mine, Co. Meath (05/01/2013)

670 staff at the mine have been put on protective notice by the owners Boliden Tara. The company are trying to cut pay and conditions of service. A press release from the company (16/01/2013) announced the appointment of Ralph Rossouw as General Manager. Describing the mine, the company said “being a high-cost operation, Boliden Tara is focusing on improving its productivity and competitive position”.

<http://www.rte.ie/news/2013/0105/361436-workers-at-tara-mines-put-on-protective-notice/>

http://vp134.alertir.com/en/press-releases?p=press&afw_id=1265746&afw_lang=en

AVOCA AND SILVERMINES

News about environmental monitoring at Avoca and Silvermines at the link below. The original Request For Tender documents are still at the second link below.

<http://www.dcenr.gov.ie/Natural/Exploration+and+Mining+Division/>
https://irl.eu-supply.com/app/rfq/publicpurchase_frameset.asp?PID=507&B=&PS=1&PP=ctm/Supplier/PublicTenders

eTenders:

Business opportunities 2013-02-11

[72104 - - Predevelopment work for public access to a disused Copper Mine](#)

Publication date: 09-02-2013

Response deadline: 11-03-2013 16:00 GMT

Procedure: Open Procedure (NON OJEU)

Description: The adit level of a disused copper mine is going to be turned into a visitor experience. The mine itself dates from the 19th century and is of importance for local history and national industrial archaeology. This RFT deals with the predevelopment work to make the mine safe for future developments. The overall size of the underground site is 750 square meters approx. This includes 180 meters of tunnels. The heights vary from 1.8m to 2.5m in the tunnels to maximum stope height of 35 meters.

Buyer: Allihies Parish Co-Operative Society Limited

Valentia slate for British Parliament

The British Houses of Parliament in Westminster are to be laid with slate from the quarry on Valentia Island off the coast of Co Kerry. The buildings are undergoing a major restoration at the moment. The unique blue-purple slate only found on Valentia was used in several Victorian buildings, including at Westminster, by the architect Augustus Pugin in the 1840s. The current restorers were reminded of this by local men who finally managed to reopen the quarry in the late 1990s, after it had been closed for 90 years.

A delegation including the restoration architect Adam Wabtrosky, along with representatives of the main restoration contractors DBR London, visited the quarry this weekend to see for themselves how the slate is hewn from the cliff top on the edge of the Atlantic Ocean.

<http://www.irishtimes.com/newspaper/ireland/2013/02/18/1224330165240.html>

Irish Blue Limestone

On the 30th November the Stone Federation Great Britain awarded the MoreLondon construction project its Landscape Award. The project involved the use of 30,000 m² of Irish Blue Limestone from Stone developments in Co. Carlow.

<http://www.stoneddevelopments.ie/>

Additions to Bibliography:

Hodnett, D., 2011. Irish mineworkers in 19th -century Cornwall. *Journal of the Cork Historical and Archaeological Society*, Vol 116.

Colfer, N., 2010. Between the land and the sea: coastal limestone quarries on the Hook Peninsula, Co. Wexford. *Journal of Irish Archaeology*, Vol 19, p113-130.

Also an article in the latest *Archaeology Ireland* on Slieve Donard / Millstones? Wilson, P., 2012. *Archaeology Ireland*, Vol 25, No 4 (Issue 102)

If you come across any articles on Irish mining and quarrying heritage that are not listed in the Bibliography in Journal 9, please let the Editor and Bibliographer know.

New Journal

The latest Journal of the Mining Heritage Trust of Ireland (No.12) was distributed to members in December. The latest issue of 106 pages includes a wide range of articles, and some beautiful colour illustrations. It contains the following articles:

The Duhalla Coalfield, Co. Cork: a preliminary history;
The lead ore dressing floors at Glendalough and Glendasan, County Wicklow 1825-1923: a history, survey and interpretation of extant remains;
The slate quarrying industry on Sherkin Island, Co. Cork;
Creggan and the history of the silver-lead mines of The Marches of Armagh and Monaghan;
Mining heritage and tourism in South Australia and Victoria: observations and impressions.

The Journal is available for €15 (+P&P) from Matthew Parkes, mparkes@museum.ie or +353 87 122 1967.

Or in Great Britain from Alastair Lings (alastairlings@yahoo.co.uk) for £13 (+P&P).



Glens of Lead was also the recent recipient of a generous grant from The Gathering Local Community Fund towards the cost of hosting the forthcoming international industrial heritage conference. Here Martin Critchley (in a miner's helmet) is given the award by the Cathaoirleach, Pat Casey

FEATURE: Banská Štiavnica: World Heritage in a Collapsed Caldera

Whilst on a recent mountaineering trip in Central Europe, we took the opportunity of visiting the beautiful medieval town of Banská Štiavnica, the oldest mining town in the Republic of Slovakia; its town seal of 1275 is the earliest known bearing a mining emblem. It lies on the steep slopes of the Glanzenberg and Paradajz mountains and is situated in the centre of an immense caldera created by the collapse of an ancient volcano. The area was first settled in the Neolithic and the Celtic Cotini tribe were certainly mining here in the 3rd century AD. The area was known as *terra banensium* (the land of miners) as early as in 1156, and the name given to it by Slav settlers, *Štiavnica* meaning 'acidic stream' attests to the presence of minerals. Skilled miners from Saxony and Tyrol began settling in the area in the C13th bringing with them new and improved methods of ore extraction, timbering, ventilation and haulage, ushering in a new wave of deep lode mining; they called the town Schemnitz. Banská Štiavnica became a royal town in 1238, one of the first towns with this status in the Kingdom of Hungary.

In the medieval period, the town was the main producer of silver and gold in the Kingdom of Hungary. The region's immense wealth soon attracted the attention of the marauding Ottoman Turks, who made concerted efforts to conquer the rich mining towns of Upper Hungary (Banská Štiavnica, Banská Bystrica and Kremnica) during the C16th Ottoman Wars. In response to this threat, Banská Štiavnica was fortified, which included the construction of two castles which still dominate the town's skyline today. As one of the most important centres of Protestant Reformation in Slovakia, Banská Štiavnica belonged to the Protestant League of Seven Mining Towns which also included Banská Belá, Banská Bystrica, Kremnica, Ľubietová, Nová Baňa and Pukanec. By 1782, Banská Štiavnica and its environs was the third biggest town in the Kingdom of Hungary (boasting a population of around 40,000) after Pozsony (now Bratislava) and Debrecen, and the wealth generated by mining had resulted in the embellishment of the medieval town with numerous civic and ecclesiastical buildings and fine burgher houses.

Banská Štiavnica was a crucible of invention and innovation, attracting some of the finest contemporary scientists, engineers and metallurgists. For example, in 1627 gunpowder was used here for the first time in the world in a mine. This was undoubtedly in response to the hardness of the native rock, andesite, which meant that miners were only able to excavate about 10 metres of ground using pick and gad in one year. Ironically, the introduction of gunpowder resulted in a mining decline, as near surface ore deposits were quickly worked out and flooding prevented the exploitation of

deeper lodes. This in turn led to great innovations in mine drainage, including the construction of a sophisticated system of reservoirs and leats known as *tajchy*, designed and built by engineers, Jozef Karol Hell, Maximilian Hell and Samuel Mikovíny in the 18th century. This not only provided the energy that powered a new phase of industrialisation which included the installation of large waterwheels and water pressure engines, but heralded the dawn of the dam-and-weir system for ore dressing that quickly became used throughout the world. Mining engineers like Peter Rittinger, inventor of the shaking table for ore dressing, were drawn to Banská Štiavnica as a direct result of the development of mining education, for the town was also a leader in this respect.



The main street of Banská Štiavnica

In 1735, the first mining school in the Kingdom of Hungary was founded in Banská Štiavnica by Samuel Mikovíny. From 1762-64, the Hofkammer in Vienna, with support from Queen Maria Theresa, transformed this school into the Academy of Mining- the first technical university in the world. In 1807, a Forestry Institute was established by Emperor Franz Joseph I and in 1848 this merged with the mining school to become the Academy of Mining and Forestry. In 1919, following the creation of Czechoslovakia, the Academy was moved to Sopron in Hungary. But the town's reputation as a pioneer in mining education is commemorated in the annual Salamander Days. This 3-day festival, held on the weekend of the second week of September, reaches a climax with a parade held after dark, lit by miners' lamps and candles that attracts gypsy bands and participants in uniformed regalia from mining areas across Slovakia, Hungary, the Czech Republic and Austria; it recalls former processions made on important occasions by students of the old Academy.

Mining began its slow decline from the late C19th, with silver and gold mining ceasing in 1947. The mines still working then focused on the exploitation of lead, zinc and copper, with precious metals being a mere by-

product. Following the collapse of the Eastern Bloc in 1989, existing mines were deemed unprofitable with the last mine, Rozália, closing at nearby Banská Hodruša. This seemed to have been the death knell for over 1000 years of mining history, but we understand that rising gold prices have since resulted in the reopening of Rozália on a small scale. Unsurprisingly, because of its rich contribution to mining technology and education, to mining tradition and because so much of the medieval town with its variety of monuments associated with mining remains intact, Banská Štiavnica and its surroundings were inscribed onto the UNESCO World Heritage List in 1993 as the Banská Štiavnica Historic Town and Surrounding Technical Monuments World Heritage Site (WHS). In 2000 the Geopark of Banská Štiavnica, the first of its kind in Slovakia, was set up to further develop the tourist potential of the area, although it is not an official member of the UNESCO Geoparks Network.

Top 10 Mining Heritage Things to See and Do in Banská Štiavnica and District

1] The Open Air Mining Museum is undoubtedly the most popular attraction, getting around 40,000 visitors a year. At the surface are a variety of mining buildings, equipment, machines and explanations of the geological history. Equipped with helmet, mining coat and lamp, visitors descend 60 metres underground and are guided on a 1.5 km walk.



Working model of an atmospheric steam engine built from the plans of Joseph Emanuel Fischer von Erlach at the Slovenské Banské Múzeum, Kammerhof

2] Kammerhof is the largest complex of buildings in the historical centre of Banská Štiavnica. This museum presents the history of Slovak mining, and includes archaeological artefacts associated with the winning, dressing and smelting of ores, incredible working models of various pieces of mining equipment, a collection of miners' uniforms and the history of mining education and some of the personalities associated with its development.

3] Berggericht – the building of the former Mining Court – is now seat of the Mineralogical Exposition and also hosts the Tourist Information Centre on the ground floor. The mineral collection is one of the finest you can see anywhere, containing over 400 stunning specimens, many of them from the immediate vicinity. In the courtyard of the building is the Michael Adit (mining tunnel) that was used as a cellar and store following the cessation of mining, but 50 m of it has been rehabilitated and is open for visitors.

4] Štôľňa Glanzenburg, opened in 2003 to tourists, is an original drainage adit dating from the C14th, driven initially by hand in andesite. It passes underneath the town centre of Banská Štiavnica and played an important role in the early exploitation of the Špitáľer Vein. Following the development of deeper adits, Glanzenburg became an access way and is famous for its many imperial visits in the C18th and C19th centuries, including that of Emperor Franz Joseph I in 1852. To facilitate their visits, a flight of 'imperial stairs' was constructed 40 m below the surface to an area in the Svätotrojčnej tunnel where visitors can see the commemorative plaques that were erected.



Entrance to Štôľňa Glanzenburg drainage adit



Imperial stairway

5] Starý Zámok (Old Castle) with its dramatic, onion domed tower and thick stone walls is located above Holy Trinity Square (site of a striking monumental Plague Tower) and dates to the early C13th. It was originally the Romanesque Chapel of St. Michal built by the mining community, but during the C16th Ottoman Wars, it was fortified with walls, bastions and towers. In 1900 it became a museum which has several mining related themes and exhibitions. The Baroque tower offers particularly fine views over the medieval townscape.

6] The Mining and Forestry Academy comprises a complex of 11 buildings some of which are original townsmen's houses adapted for use by the Mining Academy founded by Maria Theresa in 1762. In the C19th, in the centre of an older botanical garden, the large neo-Renaissance Mining and Forestry Academy was built, which is surrounded by beautiful landscaped gardens. There is exterior access at all times, interior access by arrangement.

7] The Paradajs Geological Footpath is a 3 km fully signed looped walk on the Paradajs Hill comprising 19 stops with information boards that acquaints visitors with the geological structure and development of the Štiavnica Mountains, the history of mining and the effects on mining activity on the environment. The area was once a huge stratovolcano, 4,000 m in height, the largest in the Carpathian Mountains, which resulted in the rich polymetallic ore deposits later mined here.

8] The Piargsky Footpath, is a 5 km walking route with 9 stops and information boards. It begins in the neighbouring mining village of Štiavnické Bane. Along the route visitors can see surface workings, shafts and adits, as well as areas where the ore was treated and some of the extensive *tajchy* (reservoirs and leats). The C14th Bieber Adit, the oldest known, intersected and exploited some of the richest silver veins in contemporary Europe and also chalked up a number of notable firsts: use of piston pumps (1604); horse driven pumps (1619); pumping equipment with lever transmission and 12 m drive wheel (1625) and Caspar Weindl's use of dynamite in the Daniel Crosscut (1627).

9] The Piargsky Water System Footpath south of the village of Štiavnické Bane is for the more energetic, covering over 15 km with 16 stops. It acquaints visitors with the Piarg section of the extensive *tajchy* system begun in the seventeenth century, which stored and delivered about half of all the water in the Banská Štiavnica mining region.

10] Hodruša-Hámre, a nearby mining village, has a wide variety of mining heritage features, many listed in the Banská Štiavnica WHS, including the mines of Rozália, Schopfer, Hornohodrušský, and Dolnohodrušský, the shafts and head frames of Mayer 1 and 2, the Birnbaum Shaft and the Voznická Adit, driven over a period of 98 years for more than 16.5 km, to drain the mines and shafts of Hodruša, Štiavnické Bane, Vyhne and Banská Štiavnica.

A Future MHTI Field Trip?

The Banská Štiavnica mining region is easily accessible by road, with good connections to Bratislava, Kraków or Budapest which are served by most low fare carriers from major Irish and UK airports. Accommodation is very reasonably priced and with a 3 course meal costing around 10 euro, bottles of beer retailing in the shops for around 45-55 cents and wine for 3-5 euro a bottle, a visit to the Banská Štiavnica Historic Town and Surrounding Technical Monuments WHS could make an excellent field trip for MHTI members, perhaps in the late summer/early autumn of 2014. Martin and I would be keen to know of anyone who would be interested in attending this field trip, so we can begin to look into the feasibility of arranging this.

We would like to thank Peter Jancsy of the Banská Štiavnica Geopark for giving us a special guided tour of the Štôľňa Glanzenburg which was closed for the winter.

Sharron Schwartz and Martin Critchley

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OTHER NEWS

Mining History News

Cerro Rico, Bolivia (02/10/2012)

A three year study of the Cerro Rico (Rich Mountain) near Potosi has found that the 15 800 foot mountain is in danger of collapsing after 467 years of mining. It is estimated that there are 600 mines on the mountain with 65 miles of tunnels, and it is proposed to fill the abandoned shafts with concrete in a project costing in excess of \$300M. Around 16 000 miners work in 35 cooperatives on the mountain.

<http://www.mining.com/bolivias-silver-mountain-on-the-verge-of-collapse-92495/>

Maltby Colliery, South Yorkshire (08/10/2012)

Due to ongoing geological problems Hargreaves Services PLC issued redundancy notices to staff at Maltby Colliery in early October. Since then further geological reports have been considered and the company propose not to mine the problematic T125 panel, and to mothball the mine. The company will consider alternative proposals submitted before the end of November. The Colliery opened in 1908, and in 2007 was sold by UK Coal to Hargreaves Services for £21.5M.

<http://www.bbc.co.uk/news/uk-england-19342519>
<http://www.hargreavesservices.co.uk/default.aspx>

King Edward Mine, Cornwall (12/10/2012)

The Heritage Lottery Fund has awarded the King Edward Mine Museum £37 500. With match funding of £10 000 from Cornwall Council and £2477 from the Rural Development Programme, this will be used to improve hands-on activities for young people, and for surveys of the local flora, fauna and archaeological remains.

http://www.thisisthewestcountry.co.uk/news/cornwall_news/

Proposed surface mine, Northumberland (12/10/2012)

The Banks Group have submitted a planning application for a surface mine at Ferneybeds about eight miles north-west of Ashington. They hope to extract about 752 000 tonnes of coal from the site over a period of three years.

<http://www.banksgroup.co.uk/category/mining/>

South Crofty Mine, Cornwall (24/10/2012)

Celeste Copper Corporation plans to spend £7.8M over the next year at South Crofty Mine. The expenditure will include £1.1M on drilling and £2.6M on pumping.
<http://www.bbc.co.uk/news/uk-england-cornwall-20054062>

Former Mines Rescue Station, Wrexham, North Wales (24/10/2012)

Plans have been submitted by JJ Developments Ltd to Wrexham County Borough Council to convert this Grade 2 listed building in to student accommodation. The North Wales Miners Association Trust are concerned that there are no plans to restore the drill hall and training gallery of this unique building. You can view applications P/2012/0740 and 0741 in the weekly list 22-28/10/2012 on the Councils website:

<http://planning.wrexham.gov.uk/Planning/ig/GFPlanningWelcome.page>
http://northwalesminers.com/archive_files/MineNews%2012.pdf

Mine shaft collapse, Egremont, Cumbria (14/11/2012)

An old mineshaft collapsed during site investigation work near Howbank Road, dragging the drill-rig in to an 80 foot deep hole. There were no reported injuries. Nearby subsidence in 2005 led to the demolition of nine bungalows. You can see a video of the event here:

<http://www.dailymail.co.uk/news/article-2233447/Cumbria-shaft-collapse-leaves-75ft-wide-crater-gardens-forcing-families-flee-homes.html>

Borth, Ceredigion, Wales (17/11/2012)

Archaeologists have been examining the remains of three boats which have been exposed by erosion of a bank of the Afon Leri. The 20 metre long vessels were part of a fleet that carried slate from the Corris and Aberllefenni Quarries. When the railway came to the area, the boats became redundant and were sunk as channel markers in about 1868.

<http://www.bbc.co.uk/news/uk-wales-mid-wales-20364674>

South Crofty Mine, Pool, Cornwall (26/11/2012)

Cornwall Council will be refurbishing the headframe of the New Cooks Kitchen Shaft and two engine houses at

Chappels Shaft, as part of an agreement with Western United Mines. The first part of the regeneration project is the demolition of a redundant and dangerous conveyor. This will allow scaffolding to be erected around the headframe and grit blasting and painting to proceed.

<http://www.cornwall.gov.uk/default.aspx?page=32990>

Chestatee River Diving Bell, Dahlonega, Georgia, USA (29/11/2012)

Dahlonega was the site of the first major gold rush in the USA in 1829. In 1875 Philologus Loud brought a diving bell to the Chestatee River to extract gold from the river bed. Unfortunately its mother-ship sank in 1876 and the bell was abandoned. In 1981 the bell was recovered from the river, and it has now been restored and put on display in the towns Hancock Park. The bell, made of iron sheet, measures 14' x 6' x 8' and weighs 6 tons. It is believed that this is the last remaining bell of its type.

<http://dahlonega.org/index.php/dahlonega-blog/item/dahlonega-unveils-historic-diving-bell.html>

Parys Mine, Anglesey (30/11/2012)

Anglesey Mining PLC have announced an estimate of the mineral resource at Parys: 2.1 MT indicated at 0.58% copper, 2.18% lead and 4.11% zinc; and 4.1 MT inferred at 1.46% copper, 1.20% lead and 2.40% zinc. Bill Hooley, Chief Executive, said "we now have a clear target for a more substantive operation at Parys Mountain than previously contemplated." A scoping study is expected shortly.

<http://angleseymining.co.uk/news/?p=342>

Penrhyn Quarry, Gwynedd (03/12/2012)

Welsh Slate Ltd has received planning consent for an eight hectare extension to Penrhyn Quarry near Bethesda, extending its operations for about 15 years. The quarry has produced slate since the 13th century.

<http://www.bbc.co.uk/news/uk-wales-north-west-wales-20585299>

<http://www.welshslate.com/> (Planning/consent documents)

Glyn Rhonwy Quarry, Gwynedd (08/12/2012)

Quarry Battery Company hopes to develop a £100M pumped storage hydro-electric scheme west of Llanberis. They plan to use the former Chwarel Fawr Quarry as the upper reservoir and the former Glyn Rhonwyn Quarry as the lower reservoir. The scheme could create 130 new jobs.

<http://www.quarrybatterycompany.com/>

<http://www.bbc.co.uk/news/uk-wales-north-west-wales-20597415>

Maltby Colliery, South Yorkshire (17/12/2012)

After consultation with employees and trades unions, Hargreaves Services PLC has decided to mothball the colliery. Coaling will finish and equipment will be recovered from the mine before the end of March. Existing reserves of coal fines will be processed. The management team are considering using methane from the mine to generate electricity.

<http://www.hargreavesservices.co.uk/rns%20feeds.aspx>

NEW BOOKS

A shaft full of shadows (12/10/2012)

Dave Brennan and Eric Beckett, former miners at Maltby Main Colliery have produced this book listing 163 of the men and boys who died in the Colliery.

<http://www.dinningontoday.co.uk/news/former-maltby-miners-dig-up-pit-s-history-1-5018129>

Carlton, C.J., and Dibben, N.J., 2013. The Alderley Edge Mines.

This is an updated edition of the book written by Chris Carlton in 1979. It includes colour photographs, new plans of the mines, and information on the bronze-age and roman workings. Available for £12 (+£2.50 P&P) from [nigel\(at\)dibben.org.uk](mailto:nigel(at)dibben.org.uk) or via

<http://www.dibben.org.uk/main/index.php>

Leitch, Mary, 2012. Paraffin Young and Friends. Alan Fyfe, Edinburgh.

A biography of James Young (1811-1883) written by his great great granddaughter based on family papers, diaries and contemporary publications. Young developed Scotland's first oil industry starting by extracting oils from cannel (=candle) coal in West Lothian and then developing the oil shales of the area. At its peak 3.3 MT of oil shale were mined annually, and 40000 people were employed in 120 refineries.

It contains 11 chapters in 111 pages with 16 black and white illustrations. There are references, a bibliography, a list of places to visit and an index. It costs £7.50 and P&P £1.50.

Euromines Newsletter 2 -Regional Development, Mining and Tourism (December 2012)

This newsletter includes short articles on mining heritage sites in Cyprus, Greece, Portugal, Romania, Sweden and the Czech Republic. According to the Editorial "there are more examples of mines (both closed and operational) which are open to tourism than examples where eco-tourism co-exists alongside large scale industrial or agricultural development".

<http://www.euromines.org/newsletter-2-regional-development-mining-tourism>

NEW FILMS

Collieries of Northumberland and Durham 2 (29/10/2012)

Sixtownships Community History Group has released a second DVD on the Collieries of Northumberland and Durham, covering mines from County Durham northwards, nearly to Berwick upon Tweed. Duration 45 minutes. Price £5.99 excluding VAT and P&P. The Group has a range of coal mining films available at: <http://www.sixtownships.org.uk/>

Goodluck Mine: a living legacy (DVD)

This DVD examines the heritage of Goodluck Mine near Matlock Bath in Derbyshire, with surface and underground footage. The 55 minute DVD is available for £14.95 (+£1.50 P&P) from David Webb davidwebb12(at)ntlworld.com, or via <http://www.goodluckmine.org.uk/index.html>. The mine is open to the public on the first Sunday each month.

Gold Fever 'Down Under'

Australia is the world's second largest producer of gold and for some Aussies, the gold fever that gripped this continent in the early 1850s has never subsided. Anyone can search for gold in Australia, but you need a licence for private gold prospecting. Every state has its own type of permit: Victoria issues a licence valid for two years but other states issue one year or lifetime licences. The cost of a licence starts at about A\$30 (€23/£20) and gold prospecting rules vary from state to state. In Victoria you can fossick or prospect on private land with the landowner's consent, but are forbidden from doing so at Aboriginal sites and within some National and State Parks and Reserves. Only hand tools are allowed, but unlike in Ireland where the use of metal detectors is strongly discouraged and if caught using one, operators can find themselves on the wrong side of the law, they are permitted everywhere in Australia. The rules state that you must restore the ground to the condition in which you found it and all the gold you find, either by metal detecting or by panning (in creeks), you can keep. This can be sold to private buyers and amazingly, it seems the taxman is not too interested in the discoveries of part time prospectors!

In 2006, I had the chance to have a go at prospecting with Ash, an Aboriginal friend from Kalgoorlie, a mining town (and home of the Super Pit open cut) 595 km ENE of Perth in the Goldfields-Esperance region of Western Australia. We set off into the sun baked outback that stretches for miles in every direction from the town, his Ute kicking up clouds of rust red dust as we meandered our way through the sparse brush and

peeling eucalyptus trees, seeking out ancient streambeds. Armed with a metal detector, a shovel, a mattock and an Esky well-stocked with 'Bush Chook stubbies'! (small bottles of Emu Bitter) we spent the whole day scanning the parched red soil, waiting for the tell-tale rise in the whine in the earphones which was the signal for us to start digging. I gave it a burl, but beginner's luck deserted me and the relentless sun and heat, as well as continually holding the detector about 5 cm above the ground, made for a tough day. Ash showed me a vial containing many grain-sized nuggets and tiny flakes of gold that he had found within the last 12 months or so, but he told me that he only gets about a one in twenty hit and most of the time the high pitched whine of the detector is a false alarm and his dig ends with the discovery of something worthless, like a fragment of iron. But the thought that next time he might just hit pay dirt, provides sufficient incentive to keep going. I greatly enjoyed my day prospecting and if I ever live Down Under, I will certainly be enticed, not just by the desire to search for gold, but by the solitude of the outback and the bush,



Ash with his metal detector searching for gold in the outback of Western Australia



Men panning for gold in a creek near Ballarat, Victoria

cooking my tucker in a billycan over a camp fire under a canopy of dazzling stars, waking up to the laughter of kookaburras and the raucous cackle of cockatoos, in some of the most remote parts of this entrancing country.

Indeed, some people are known to have made thousands of dollars each year in this way and prospecting is currently on the increase, attracting not just 'grey nomads' (retirees from urban areas looking to supplement their pension), but young battlers from the 'Big Smokes' (cities) keen to try their luck, given the current high price of gold. Remarkably, great finds are still being made. In January of this year, an amateur prospector using a hand-held metal detector unearthed a gold nugget that lay 60 cm underground near the gold rush city of Ballarat in Victoria, in an area that many believed to have been picked clean by generations of prospectors. The 'Y'-shaped nugget weighed 5.5 kg (177 ounces) and its value has been estimated at more than A\$300,000 (€229,600/£197,000). Its discovery really fired the public's imagination. 'I have been a prospector and dealer for two decades, and cannot remember the last time a nugget over 100 ounces (2.8 kg) has been found locally,' said Cordell Kent, owner of the Ballarat Mining Exchange Gold Shop. 'It's extremely significant as a mineral specimen. We are 162 years into a gold rush and Ballarat is still producing nuggets – it's unheard of.' You can see footage of this incredible find on You Tube:

http://www.youtube.com/watch?feature=player_embedded&v=wiAnhfZ9HKI

Just a few weeks before this famous discovery, Martin and I were wild camping deep in the Victorian bush not that far from Ballarat. Whilst searching for firewood early one morning we came upon a group of three men panning for gold in a creek. They reckoned it was a good spot and were confident of finding some flecks. Martin wished he had brought his gold pan with him! Given his renowned love of gadgets, I wouldn't be the least bit surprised to see him eyeing up metal detectors on ebay, and to be honest, this purchase would be one 'bargain' that wouldn't exasperate me in the least!!

Sharron Schwartz

You could get the chance to go prospecting for gold in Oz next year, if you join us for the 10th International Mining History Congress, tentatively scheduled for 8-14 July 2014 at Charters Towers in northern Queensland. The suggested conference theme is 'Past Heritages: Future Prospects'. More details will be forthcoming shortly, so watch this space!

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