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newsletter of the Cornwall & West Devon Mining World Heritage Site

Summer 2014

**£2million King Edward Mine
workspace development**

**Helping Hands in
the Tamar Valley**

**Response to the UNESCO World
Heritage Committee decision**

**Natural England
'Busy' at Chacewater**

New life at Poldark

**Storm damage repairs
at Portreath**

**'Extraordinary' results for
World Heritage Site project**



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Mountain Mine engine house,
Allihies, Ireland,
please see page 22



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WELCOME

In this edition of Cornish Mining we cover the latest conservation work at King Edward Mine, Truro, which includes the creation of workspace units as part of an extensive refurbishment of the Grade II* Listed mine complex on the Great Flat Lode. Funded by the EU Convergence programme with Cornwall Council, this investment promises to bring a new lease of life to the mine.

Following the very successful completion of the World Heritage Site's 'Discover the Extraordinary' project in April an evaluation report gauges the significant impact of the four-year programme on visiting to mining heritage attractions within the Site.

Developments at the historic port of Hayle were discussed at this year's UNESCO World Heritage Committee Session in Doha, Qatar, and to read the full response of our World Heritage Site Partnership Board to the Committee's decision, please see page 13.

Maintaining access to former mine sites within the World Heritage Site can be something of a challenge due to vegetation which in many instances can quickly encroach upon mine buildings and other features. Samantha Barnes of the Tamar Valley AONB team explains how the Helping Hands for Heritage project is delivering much-needed work at trails and mine sites within the valley and World Heritage Site through the generous help of local volunteers.

Features this time also include the commencement of the Natural England funded consolidation work at Wheal Busy near Chacewater and the repair of the extensive winter storm damage at Portreath - so all together, a varied bag!

Ainsley Cocks, *Editor*

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United Nations
Educational, Scientific and
Cultural Organization



Cornwall and West Devon
Mining Landscape
inscribed on the World Heritage List in 2006



King Edward Mine – the complete Edwardian training mine

£2MILLION KING EDWARD MINE WORKSPACE DEVELOPMENT

King Edward Mine (KEM) has featured many times within these pages as a site with a special place in the history of Cornish Mining. Formerly the only purpose-built training facility for metalliferous mining in the UK, KEM has gone from strength to strength since it was first opened to public as a mining museum in the early 2000s.

The history of KEM dates from the beginning of the twentieth century when it was first conceived as a school for mining engineers, under the auspices of the Camborne School of Mines, in 1901. Located to the south of Camborne, between the villages of Beacon and Troon, and towards the western end of the Great Flat Lode, KEM was created from part of South Condurrow Mine (1864 - 1896) which was leased from the Pendarves Estate. Within a few years KEM was equipped with new surface machinery, buildings and a new mill and was successfully

operating as a training facility (above and below ground) for students of the School.

The complex of structures making up the core area of the King Edward Mine site are unique in that they were almost all constructed during a single development phase (1897 – 1907), each for a specific function. It is extremely rare that a site such as this has survived without significant modification. For this reason, many have been accorded statutory protective designation as Grade II* Listed buildings; only 5.5 per cent of all Listed buildings nationally are designated at this grade. The site is also a key element of the Outstanding Universal Value, or international significance, of the Cornish Mining World Heritage Site (WHS), in recognition of the important role it played in the development of the Cornish mining industry.

In 1974 Camborne School of Mines relocated from its premises near Fore Street to Trevenson Road, Pool, but KEM continued to be partly used for mining tuition until 2005. During this period, part of the site which included the important mill complex containing rare surviving collections of original mine machinery and rare milling equipment, became redundant. A volunteer group was set up in 1987, however, eager to preserve these now redundant structures and to restore the mill and in time to open it as a museum; this was successfully achieved in 2001.

In 2005 the team of volunteers became incorporated as King Edward Mine Ltd., a not for profit company limited by guarantee, and later were also registered as a charity. In 2009, to safeguard the site's future, Cornwall Council purchased KEM from the Pendarves Estate and with the support of the WHS begun a process



Winder and Compressor houses build in 2010 as part of the World Heritage Site 'Discover the Extraordinary' project

of master planning, involving the local community and stakeholders.

In 2010 KEM was to benefit from the WHS 'Discover the Extraordinary' project which enabled the construction of wholly new winder and compressor houses to replace the original buildings destroyed by fire in 1957. Expertly constructed by Gloweth of Truro in the original Edwardian weatherboard style referencing the archive plans, the buildings now house a Holman Brothers' horizontal steam winder, working at KEM by 1908, and the site's Harvey's Foundry air compressor. The £97,000 rebuild was funded using European Union and DEFRA grant aid made available by the Discover the Extraordinary project through the Rural Development Programme for England (RDPE), and was part of a package of improvements to facilities and interpretation at the mine.

The current King Edward Mine Workspace Project is the first of two significant capital schemes on site part financed by the European Regional Development Fund Programme (ERDF) 2007 to 2013 that will secure

the long-term future of KEM, now the oldest complete mine site in Cornwall. ERDF Convergence is delivering a total of £1,126,248 to the project, with Cornwall Council contributing £800,000 in match funding.

The construction company Midas Group Ltd. are undertaking the work which will give a new lease of life to the former Count House and Carpenters' Shop complexes, creating nine affordable workspaces for local businesses, ready for occupation from March next year.

Phil Kitchener, Midas Site Manager commented: "The Midas Group Ltd is very pleased to be awarded the King Edward Mine heritage project to add to the list of mine attractions like Geevor Tin Mine and Heartlands that we've been involved in. The site team leading this project bring good background knowledge of the skills required with this type of refurbishment on Grade II* Listed buildings."

Environmental sustainability is a key aspect of the refurbishment work and in order to achieve a BREEAM (Building Research Establishment Environmental Assessment Method) 'Very Good' rating, Midas have brought in specialist skills to work on the project. On this, Phil Kitchener adds that: "We will be using specialist heritage contractors to apply traditional skills and materials to conserve the two buildings. The work will include lime pointing, lime washing to the external walls, traditional carpentry, stonework, and scantle slate roofing skills."

A specialist project like that at KEM is a rare construction opportunity and Midas intend to go the extra mile to pass this building knowledge on to the next generation by bringing apprentices onto the site, as Phil explained:

"By supporting apprentices and working with local colleges we feel that local young people will not only learn new skills,

but gain an interest in historic building conservation which is so important for working in Cornwall. Many historic buildings are looked after by voluntary organisations and so we are also planning to hold a community training day where anyone interested in trying their hand at heritage conservation can come and have a go!"

Councillor Julian German, Cornwall Council Cabinet Member for Economy & Culture and World Heritage Site Partnership Chair, said:

"Bringing historic buildings such as these back into economic use not only ensures that they are saved as part of Cornwall's Mining World Heritage Site, but also creates much-needed 'grow on' spaces for local businesses. In addition, conservation projects such as this offer an excellent opportunity to train the next generation in traditional building skills, such as working with Cornish slate. The KEM Workspace Project will create high quality, distinctive work spaces just outside Camborne, which we will be marketing



In need of attention, the timber-clad Assay House is part of the Grade II* Listed mine complex

primarily to the creative industry and knowledge economy sectors and ready for occupation early in 2015."

Trevor Humphreys, Project Management Consultant for Cornwall Council, said that he was excited to have the opportunity to bring these buildings back to life, but that: "There are many challenges still to overcome, not least the mine shaft that has been found underneath the Count House building!" Trevor Humphreys Associates specialise in bespoke heritage and arts based projects including the award winning Porthmeor Studios and Porthcurno Telegraph Museum

that has just opened its doors with a new exhibition. "By working in partnership with Cornwall Council our enthusiastic project team are committed to providing an exemplary project which will be an asset to the local community and the wider ERDF Convergence Programme's legacy."

King Edward Mine was bought by Cornwall Council in 2009 and is substantially leased to a local charity to run as a mining heritage attraction. In addition to being part of the WHS, the complex includes sixteen buildings Listed Grade II* and also the South Condurow Stamps Engine House Listed at Grade II.

The workspace project is the result of several years of planning and consultation and is the first of two major capital developments for the site that Cornwall Council is currently engaged in. The second is focused on conserving the museum buildings, creating more exhibition space, enhancing the visitor experience and turning what used to be the Assay Office complex into a cafe that is due to open in spring 2016.

St Ives based architects Poynton Bradbury Wynter Cole is providing conservation architectural services for the project. Paul Perry, lead architect said: "PBWC Architects are delighted to be involved



From left to right, the Mess Room, Count House and Smithy buildings, to be renovated as part of the current £2million workspace development project

with such a unique heritage project as we are based here in Cornwall. We take pride in being part of the team which will conserve and convert these buildings within the World Heritage Site. We are one of the few architectural practices to specialise in historic building conservation in Cornwall and we bring experience of delivering other successful ERDF projects here and on the Isles of Scilly.'

"We're very excited about what is happening at KEM," said Tamsin Daniel, Cornwall Council's Commissioning and Project Development Officer who has played a major role in preparing the project. "The mine has a very special place in many people's hearts, attracts lots of visitors and won the Institution of Mechanical Engineers' Engineering Heritage Award last year (Ed. Please see the spring 2013 edition of Cornish Mining for more on this).

"Its location in pretty countryside not far from the A30 - with access to beautiful walks and cycle rides - makes it an inspiring place to run a business. We're anticipating lots of interest in the nine units being built at the moment."

As part of the Cornish Mining World Heritage Site, the WHS team are very pleased that the conservation work is taking place at KEM, with Deborah Boden, World Heritage Site Co-ordinator, commenting: "the World Heritage Site team helped to instigate the process of business planning for the site in 2010 which led ultimately to the construction of the new winder and compressor houses through our Discover the Extraordinary project. The World Heritage Site Partnership is delighted that the Convergence funded

project is now taking place and looks forward to a very successful future for the mine and its many dedicated volunteers." ■

To find out more about King Edward Mine, please see: <http://www.kingedwardmine.co.uk/>

Details of the Convergence funded project can be found here: <http://www.erdffconvergence.org.uk/investments/king-edward-mine/>



Above: Granite block – probably used to train students in the skill of compressed air machine drilling
Top: The weather-boarded Carpenters' Shop and Machine Room, adjoining
(Images: Steve Hartgroves, Ainsley Cocks, Convergence Cornwall)



'EXTRAORDINARY' RESULTS FOR WORLD HERITAGE SITE PROJECT



East Pool Mine (main and top image) and Morwellham (above) benefitting from the Discover the Extraordinary project

The benefits of the World Heritage Site's 'Discover the Extraordinary' (DtE) project have been covered often within previous editions of Cornish Mining but a recent report highlights the impacts of the £2.4 million, four-year investment project on local tourism activity specifically.

The DtE Project Evaluation Summary brings together all the principal achievements of the World Heritage Site (WHS) initiative which commenced in 2010, which has seen significant improvements delivered to mining heritage attractions across the Site, and a programme of engagement with local businesses to introduce what the WHS has to offer.

The WHS DtE investment project, funded by a European Union and DEFRA grant through the Rural Development Programme for England (RDPE), has increased visitor numbers to the Site's key attractions, improved trade for over 400 businesses within the WHS areas, supported the creation of 24 new jobs and confirmed its value in terms of economic growth within the tourism offer of Cornwall and west Devon.

Commencing in 2010, the project addressed the need for an integrated approach to WHS tourism product development, business engagement and promotion. Over £1million from the DtE project was invested in improving the facilities at 11 partner mining visitor attractions, whilst the promotional activity supported the wider Cornish Mining Attractions Marketing Association (CMAMA) membership; all of which has improved the destination asset value of the World Heritage Site to an 'unprecedented' degree. Heartlands, the free visitor attraction and WHS interpretation centre that opened in April 2012, significantly overachieved on its visitor targets in its first year of operation. Nine out of the 11 partner heritage attractions also showed a reduction in the impact of seasonality on visitor numbers and eight out of nine attractions have shown or are expecting an overall increase in visitor numbers over the lifetime of the project.

The project also invested in building new relationships across the tourism sector, promoting the Cornish Mining WHS landscape as a distinct tourism destination. The project delivered a triple benefit with



Above: Visitor gifting with former DtE Project Manager Silvia Lowe and Skinner's Brewery 'Cornish Knocker' ale

local businesses benefiting from

- enhanced attractions in their area created by £1million investment into the physical fabric of these;
- the wider links created between heritage, arts, tourism, landscape, food and drink and community partnerships;
- the business engagement programme, introducing over 400 local businesses to the WHS and helping them to increased trade from the WHS status and DtE promotion;

The evaluation shows that amongst a sample of 20 inland WHS participating businesses, there was an average increase in visitor expenditure of some 20 per cent.

Accommodation-based businesses within the WHS also benefited from the project. Over the period of 2010 - 2012, Cornwall saw a rise of 328,000 overnight stays during the lifetime of the project and the number of overnight stays in west Devon increased by 5,800 between 2009 and 2011.

For the WHS, before the start of the DtE project in 2010, Visit Cornwall's annual visitor survey indicated that of those asked, 9 per cent stated that the main reason for staying in Cornwall or west Devon was the World Heritage mining landscape. By 2013, research

data confirmed that this figure had increased to between 14.5 – 19 per cent. The results also highlight an upward trend in those who plan, or would consider, a visit to an industrial heritage attraction.

Deborah Boden, World Heritage Site Co-ordinator, said:

"The DtE project evaluation highlights that the integrated programme is a model for success, not only benefiting



mining heritage but the whole of Cornwall and west Devon.

"We started this work in the midst of an extremely challenging economic climate yet even with these factors, the project has achieved its objectives, showing the WHS' future potential to generate resilient growth and strength within the tourism offer of Cornwall and west Devon, and confirming its economic value.

"Marketing the mining culture and landscape of Cornwall may not seem the most obvious economic growth opportunity, and many of our visitors will continue to be drawn by the already well-known and appreciated beaches, coastlines and water sports. However the results of this evaluation show clearly that bringing Cornwall and Devon's histories, landscape and culture alive, and co-ordinating communications across the wider tourism sector, will attract new visitors, with a higher spend per head than the average. Given the

St Agnes Museum (left and below)



feedback from the businesses involved, we are delighted to have developed a successful model for on-going sustained heritage and culture tourism marketing. We have also identified priorities for future tourism development and look forward to working with our partners and destination management organisations to build on the legacy of this work."

Julian German, the Chairman of the World Heritage Site Partnership Board, commented on the difficulties faced by tourism businesses and added that: "The valuable tourism economies of Cornwall and west Devon have been hugely challenged in recent years, and many have been seeking ways to drive new and alternative tourism markets to the area. The conclusions of the WHS-led Discover the Extraordinary project evaluation reveal important lessons here for our business partners, and other similar areas and projects across the country.

"The Cornish Mining World Heritage Site is a huge asset to Cornwall and west Devon and these findings illustrate its great economic potential. It is also extremely rewarding to see the fruits of our hard work, and how this has benefitted local businesses. I hope that economic, tourism and heritage bodies in Cornwall and Devon, and indeed across the country, can take on board a number of these extremely useful lessons and build on these findings to consolidate continued growth in these additional target visitor markets."

Steve Crummay, who runs Explore in Cornwall and is a Heritage Champion within the Cornish Mining WHS, said: "We were obviously aware of the Cornish Mining World

Heritage Site and just how amazing and varied it is but until the programme, we weren't aware of the number of ways that we could utilise this in our own marketing and for our own business. We've been delighted to be part of Discover the Extraordinary, and as a result the 15 per cent of new business that we have added via Cornish Mining WHS visitors has allowed us to carefully grow our business, and we will continue to do this over the coming months and years. We have been able to take people on a journey of discovery exploring the fabric

of the buildings, the culture of the people and the wildlife that now makes its home within the former industrial landscape that makes up one of the world's great heritage sites. I would urge all other tourism providers who are based within one of the WHS areas to think about how they might be able to make the WHS part of the experiences they offer, and then enjoy the kind of returns we have had as a result of our involvement with DtE."

While the four year project has now officially come to an end, plans are being prepared to enable the consolidation of the project's many benefits and to build on the significant achievements made. ■

Below: Minions Heritage Centre
Bottom: Tavistock Museum



Full and summary versions of the Discover the Extraordinary project evaluation are now available online and please visit the following web page to view: <http://www.cornish-mining.org.uk/world-heritage-site-status> #World Heritage Site Management Plan and other documentation





HELPING HANDS FOR HERITAGE IN THE TAMAR VALLEY

As a designated landscape within Cornwall and west Devon, the World Heritage Site (WHS) has management objectives in common with our sister landscapes, the Cornwall Area of Outstanding Natural Beauty (AONB), and the Tamar Valley Area of Outstanding Natural Beauty. One of these objectives concerns the thorny issue of vegetation management (sorry) and the care of specific sites which are used by the public for recreation and education. Maintaining access to sites often requires regular vegetation control and in the wake of austerity-driven local government spending reductions, this work is becoming increasingly difficult to fund.

In recent months the team from the Tamar Valley AONB have been trying a different approach however, and recruiting volunteers to assist in this under the auspices of its 'Helping Hands for Heritage' project. Samantha Barnes, Projects Officer (Historic Environment) with the Tamar Valley AONB team, takes up the story, and looks at the various ways in which the project can benefit both the Tamar Valley AONB and the WHS alike.

May Day 2014 was a very exciting and special day for the Tamar Valley AONB team. A range of people from partner organisations and from the local community were invited to the launch of a successful Heritage Lottery Fund 'Our Heritage' grant bid to help deliver a new project - 'Helping Hands for Heritage'.

The project, which will run for two years, aims to expand the potential for volunteering in the Tamar Valley, building on the AONB's Valley Volunteers scheme and building partnerships with other organisations such as the Cornish Mining WHS.

A range of heritage topics, sites and species of flora and fauna have been identified, many of which are considered to be at risk, under threat or inappropriately managed. Expert training is to be provided for volunteers to work towards helping to protect and care for our remarkable natural and cultural heritage. We then hope that these volunteers will be inspired to volunteer for other organisations, sharing their skills and therefore building the capacity of volunteering across a wider area.

The volunteer opportunities available will range from continuous survey and research projects, to a series of special days at heritage sites to clear vegetation and work towards enhancing access and interpretation. We hope to inspire through one-off events such as a fieldwalking, mining structures ID (identification), and a community star count. Wherever possible we will be linking up with other groups and organisations to maximise the engagement possibilities.

Main: Helping Hands Volunteers at work on the Tamar Trails near Gulworthy, creating a new path

Below: Brentor and Mary Tavy Scouts get stuck in tackling brambles near Devon Great Consols Mine



Here are some of the volunteer opportunities on offer this year:

VILLAGE HISTORIES - 'TAKE A CLOSER LOOK AT YOUR VILLAGE...'

Buckland Monachorum Parish Council and Calstock Parish Council are in the process of writing their Neighbourhood Plan, and we will be supporting them by running workshops to engage communities in the history of where they live.

MONITORING THE VALLEY

Following on from our monitoring programme that has looked at the condition of the Valley landscape every five years, now, with the power of volunteers, we are now able to expand the number of 'indicators' and specific locations we assess. Training will be provided by Plymouth University and there will be something for everyone through this project, which will help us effectively manage the landscape into the coming years.

MONUMENT WATCH

In the autumn there will be a series of training events on the Cornwall side of the Valley to encourage local people to keep an eye on archaeological sites close to their homes. Building on an existing initiative run by Cornwall Archaeological Society, and with their support, training will be provided in identifying and understanding archaeological sites, from prehistory to post-war; condition assessment and reporting. Starting with Scheduled Monuments, we then hope to be able to address some of the issues with our regionally important sites that are recorded on the local authority's Historic Environment Record. We will then run training in Devon in 2015.

As a build up to this have two events to whet your appetite: a fieldwalking event in September; and a mining heritage identification day in partnership with the Cornwall Mining World Heritage Site where you can learn what all the different

parts of a mine site are for and the impact of mining on settlement change and transport.

ARCHAEOLOGY AND ACCESS MANAGEMENT

The 'Trailmakers' scheme, run by the Tamar Community Trust, has enabled the sustained management of the Tamar Trails over the past few years and, building on this, we are now able to look at more sites over a wider area, give more varied opportunities, and work towards raising the profile and accessibility of some lesser-known aspects of our heritage. Work will continue at the mine sites on the Tamar Trails, but we will also be working at Wacker Quay near Antony, Cleave Woods near Weir Quay; and, to support the work of Cormac Solutions, around Kit Hill and Drakewalls Mine. Other sites within the Cornish Mining WHS will be identified as the project progresses. Full details and a programme can be found on the Tamar Valley AONB website (see below).

A few of the volunteers who took part in the Calstock Roman Fort community dig in 2011, showing the passion for heritage which is alive in the Tamar Valley



The project is not just about built and archaeological heritage however. In collaboration with various wildlife organisations and charities there will be the opportunity to take part in recording surveys across a wide variety of biodiversity and habitats - from woodlands to birds, bees to river habitats. We hope to inspire with one-off events this summer; a BioBlitz is planned, and in partnership with the Pentillie Estate there are bat, bird and stargazing events throughout the summer months.

All AONB-led training sessions and events will be free; lunches will often be included; and we can offer to cover travel expenses in many circumstances. We will endeavour to run training sessions in every corner of the AONB and then – depending on the activity – you can deliver the task in your own time.

Further information on the project can be found on our website www.tamarvalley.org.uk, please go to the 'Projects' page where you will find a link.

The project also has its own Facebook and Twitter pages (for Twitter search @HH4Heritage) – so 'like' and 'follow' to keep up to date with all the news. Our purple flags and banners will be flying at all our events, so watch out for them and come and say hello.

BUT MOST IMPORTANTLY WE NEED VOLUNTEERS! There will be chance for everyone to get involved in this unique project either in a formal way or by having fun at an event. Make a difference to the Tamar Valley and the WHS, and create a better future for yourself.

Helping Hands for Heritage is funded through an 'Our Heritage' grant from the Heritage Lottery Fund. Match funding has been given by Tamar Valley AONB, the Cornwall & West Devon Mining Landscape World Heritage Site, Devon County Council, Tamar Community Trust, Calstock Parish Council, and Buckland Monachorum Parish Council. These

organisations, plus many more, have also pledged their support. ■

Samantha Barnes, Projects Officer (Historic Environment), Tamar Valley AONB

HELPING HANDS CLEARLY HAS GREAT PROMISE AND COULD PROVE TO BE A VERY USEFUL MEANS OF DELIVERING IMPROVED MANAGEMENT OF OTHER AREAS ACROSS THE WORLD HERITAGE SITE BEYOND THE TAMAR VALLEY. PLEASE SEE FORTHCOMING EDITIONS OF CORNISH MINING FOR UPDATES ON THIS EXCITING PROJECT AS IT PROGRESSES.



Above: Prince of Wales Mine, Harrowbarrow – a target for future work

Below: Clearing vegetation and litter from Drakewalls Mine

(Images: copyright Tamar Valley AONB)



Right: South Quay showing an extensive collapsed section of walling which is to be rebuilt as part of the current quay development

(Image: Adam Sharpe)



CORNWALL AND WEST DEVON MINING LANDSCAPE (CORNISH MINING) WORLD HERITAGE SITE PARTNERSHIP BOARD

RESPONSE TO THE UNESCO WORLD HERITAGE COMMITTEE DECISION 2014



Our mining culture
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Following an ongoing process and a recent mission of selected UNESCO advisors to address concerns regarding large scale developments within the Cornish Mining World Heritage Site, UNESCO has now made public its decision, made at its latest World Heritage Committee meeting on 17th June.

The Cornish Mining World Heritage Site (CMWHS) Partnership Board notes that the UNESCO World Heritage Committee decision not to add the Cornish Mining WHS to the list of 'World Heritage in Danger' at this time, due to the supermarket development under construction on South Quay, Hayle, is the right one.

UNESCO's advisers accepted the principle of development at Hayle Harbour, but criticised the supermarket design, claiming it will impede the understanding of the Outstanding Universal Value (OUV) [or international significance] of the Quay, and its original functions. However, they did not

identify any tangible negative impacts on the actual fabric of the quays and related harbour infrastructure.

The Department for Culture, Media and Sport (DCMS), as the UK Government department with responsibility for World Heritage Sites, argued that the limited impacts from the supermarket scheme should not warrant an 'in Danger' listing.

Cornwall Council had previously stated that its reasons for giving consent to the scheme included the substantial conservation gains for the historic quay walls and sluicing system, its contribution to flood risk mitigation for Hayle, and the fact that there was no other economically viable use that would provide these benefits.

Julian German, chairman of the CMWHS Partnership, commented:

"The development delivers substantial conservation gains to the



The estuary at Hayle with South Quay, centre, subject of much deliberation at this year's UNESCO World Heritage Committee Session in Doha, Qatar
(Image: Steve Hartgroves)

harbour, which has lain derelict for decades, whilst causing no physical damage to historic features that demonstrate OUV. However, the objections raised by the heritage agencies about the visual impacts required this case to be carefully considered by the planning authorities. In view of this, the Partnership sought advice from the Department of Communities and Local Government, particularly regarding safeguarding our World Heritage status. Their view was that the development proposals did not cause sufficient conflict to warrant scrutiny by the Secretary of State, allowing Cornwall Council to give consent to the scheme.

"The development affects some of the views across a limited part of the harbour. The supermarket will not be visible from all parts of Hayle, and whilst extremely important, Hayle itself is

only one component of a World Heritage Site totalling 20,000 hectares across ten landscape areas. Nine of the component areas are not affected in any way by the development at Hayle Harbour. We are therefore in agreement with the World Heritage Committee's conclusion not to place the whole World Heritage Site on the list of 'World Heritage in Danger'.

"The Committee also agreed to ICOMOS' request to send a further mission to evaluate the impacts and decide how to address or mitigate them, but given that a number of Committee members commented that they did not support an 'in Danger' listing based on the evidence already supplied by DCMS, we question why this is needed and what it can realistically expect to achieve. But we will welcome them warmly and ensure they are fully briefed on the challenges that

were faced and the heritage benefits secured through the supermarket development.

"The UNESCO report acknowledged that the CMWHS is a very well managed Site. We will continue to work with DCMS and the UK Ambassador to UNESCO to ensure that the World Heritage Committee's recommendations are responded to appropriately." ■

Cornwall and West Devon Mining Landscape (Cornish Mining) World Heritage Site Partnership Board, July 2014

To see the finalised UNESCO decision notice, please use the following link and scroll to page 87 of the report: <http://whc.unesco.org/archive/2014/whc14-38com-16en.pdf>

Right: The imposing pumping engine house at Wheal Busy near Chacewater (1856), currently being conserved using Natural England Higher Level Stewardship funding



NATURAL ENGLAND 'BUSY' AT CHACEWATER



Above: Consultants inspect the top brick course of the engine boiler chimney, which is surprisingly intact given its 158 years

In previous newsletters we have covered a variety of conservation works undertaken at mine sites across the World Heritage Site (WHS) and in this edition we look at Wheal Busy near Chacewater, one of the most famous names in Cornish mining history. The works at Wheal Busy are being funded through the agri-environment agency Natural England's Higher Level Stewardship (HLS) scheme, a DEFRA / European Union grant funding option.

Located on the outskirts of the village of Chacewater near Truro, Wheal Busy forms part of the A6 area of the World Heritage Site - the Gwennap Mining District with Devoran, Perran and Kennall Vale - through its links to tin, copper, and later arsenic production during the eighteenth to the early twentieth centuries. The mining of metalliferous minerals in the area around Chacewater dates from the later seventeenth century however, with the first mention of Wheal Busy as a mining concern dating from 1666.

In addition to Wheal Busy being a major producer of tin and copper, the site

also saw the successive installation of early innovations in steam technology. A Newcomen Atmospheric Engine was at work dewatering the mine by around 1726, with this role fulfilled by a Smeaton improved atmospheric engine by 1775-1776, and eventually by a Boulton & Watt separate condenser engine, the first to work in Cornwall. This 30 inch cylinder engine was erected in September 1777, with its installation being personally supervised by its designer James Watt. The engine cost a reputed £800 and was intended to be a temporary installation to facilitate the driving of a level to the County, or Gwennap, Adit - an extensive network of drainage tunnels commenced in 1748 by John Williams of nearby Scorrier House.

Wheal Busy was identified as being in need of conservation as a result of an extensive photomonitoring condition survey, undertaken across the WHS in Cornwall and west Devon during the autumn of 2010. This survey appraised just under 1,000 mining related features and clusters of features within the Site, which together represent its



Above: The imposing pumping engine house and chimney (1856) at Wheal Busy, about to be conserved using Natural England Higher Level Stewardship funding

Outstanding Universal Value (OUV), or international significance. Data from this survey was also used to inform the UNESCO Periodic Reporting requirement, a mandatory six-yearly assessment of a Site's OUV and condition.

As common to most metalliferous mine sites, Wheal Busy was worked and reworked under different managements, with new machinery being adopted by successive companies working the sett. The buildings which are to be targeted within the current HLS project date from the mid nineteenth through to the early twentieth centuries, these being the pumping engine house complex at Engine Shaft (1856, Scheduled Monument, at NGR: SW 73927 44827), comprising its later attached boiler house (1909) and the adjacent boiler chimney (1856).

The much-needed conservation work at Wheal Busy is being progressed by a partnership comprising Natural England with the site's owners, the Tregothnan Estate. The consolidation works are to be entirely funded through the Natural England Higher Level Stewardship (HLS) scheme, and specifically the Historical and Archaeological Feature Protection facility of this (HAP). The HLS scheme targets European Union environmental funds via DEFRA (the Department for Environment, Food and Rural Affairs), to improve land management under the aegis of the Environmental Stewardship Scheme (ESS). It is anticipated that £230,000 will be made available to undertake the works programme.

The house at the Engine Shaft site has contained three different engines during its life; the first of these was

an 85 inch cylinder Harvey-built engine, the installation of which prompted much celebration when the foundation stone was set in May 1856. Over 10,000 people are understood to have attended the event with many of these arriving by train courtesy of the West Cornwall Railway. The inauguration included a formal procession to the mine, a special service at Chacewater Church, a roast ox, and a celebration dinner for the adventurers followed by fireworks. Following the cessation of this working in 1868 the engine was sold, but in January 1872 a 90 inch engine was ordered from the Williams' Perran Foundry at Perranarworthal which was installed and working on site by December that year. Known as Jose's Engine, after one of the partners in the new venture, its life at the mine was to be only brief as it was submitted for auction in September 1873 following the mine's closure. The engine house was to be reused for the third time in 1909 when a second-hand 85 inch engine was installed, also of Perran Foundry construction, and at this time the original attached boiler house was demolished and a new construction erected on the western side, to accommodate three Lancashire boilers.



Left: a conservation management plan has been produced for the unique Smithy building at Wheal Busy, to inform future conservation initiatives

Managing the day to day delivery of the project are the conservation consultants PWH of Barnstaple which have also undertaken an extensive total station measured survey of the whole Wheal Busy site prior to the commencement of works. Beyond the features receiving attention here is a largely heather and gorse covered landscape of some 24 hectares (60 acres) in extent, containing over 70 shafts, numerous spoil tips, the remains of a processing works and arsenic calciner, dating from c.1908, and boiler and process water reservoirs.

The preparation phase of the project has included the commissioning of a detailed archaeological study of the whole site in addition to ecological surveys to assess the nature of the flora and fauna, with particular regard for rare bryophyte and bat species. These reports will be used to inform the building conservation and to ensure this is undertaken with due regard for the site's ecology. Archaeological and World Heritage Site advice is being provided by Cornwall Council

Senior Archaeologists Ann Reynolds, Colin Buck, and the author, and at the time of writing (early August) the vegetation clearance had just commenced and the chimney scaffolding erected.

This project follows the successful conservation of three engine houses and a chimney at the Wheal Virgin site within the Wheal Maid Valley near St Day, last year. Here Natural England HLS funding to a total of £270,000 was used to conserve some of the oldest Cornish engine houses within the WHS, this figure also covering the full cost of the works. Darrock and Brown Ltd., now known as Heritage Cornwall Ltd., undertook the conservation and to a high standard.

For Wheal Busy, the specialist conservation builders Kingston Construction Ltd. have secured the tender to undertake the sensitive repairs. Within Natural England, the case officers Beth Tonkin and Hugh Tyler are delivering the HLS agreement, and with Simon Leather, Tregothnan Estate Senior Agent, are to be thanked for their considerable input and support in bringing this project into being.

While much will be achieved through the HLS funded project at Wheal Busy, there remain other features in need of attention which are unfortunately beyond the scope of the current scheme, including the early twentieth century arsenic calcining plant. The



One of the two impressive cast iron lintels above entrances to the Smithy, anticipating good fortune for the mine in 1872 which unfortunately did not materialise; the mine was to close again by the end of July the following year

foremost of these additional features, however, is the mine Smithy; this extensive workshop building (Listed Grade II), the main range of which measures some 30m by 13m, is the largest of its type in Cornwall and Devon, and formerly contained the forges which fulfilled the mine's metal working and tool sharpening needs. Dating from the reworking of 1872, the Smithy is thought to be an adaptive reuse of the earlier Miners' Dry and Pitmans' House, and retains two distinctive cast iron door lintels. Manufactured by the Williams' Perran Foundry - the Williams family were major shareholders in the mine at this time - these impressive features proclaim 'Great Wheal Busy Mines', with the date '1872' at the centre. These convey well the confidence

and pride of the management in their new undertaking. The Williams family held extensive mining interests across Cornwall and beyond, and as Williams and Co. were instrumental in pursuing copper and pyrite mining at the Tigroney - Cronebane mines in Avoca, Ireland, from 1832. The Williams family through Williams Foster and Co. were also a driving force behind the mighty Morfa copper smelting works at Swansea (1835-1880), described as being the largest non-ferrous metal smelter in the world by the mid-nineteenth century.

The Wheal Busy Smithy has suffered from underuse for many years and in recent times has deteriorated badly with its scantle slate roof failing

in large sections. Though the HLS funding cannot unfortunately be extended to address the costly conservation challenge posed by the Smithy, estimated to be in excess of £500,000, the project has included the preparation of a conservation management plan which is available to inform future initiatives.

The Wheal Busy project is an excellent example of a partnership delivering much needed conservation within the WHS. The Cornish Mining World Heritage team is hoping that the incoming Natural England 'NELMS' programme (the New Environmental Land Management Scheme and the eventual successor to the current ESS) will facilitate further consolidation work in the future.

This article was prepared with reference to the Wheal Busy archaeological assessment prepared by Cornwall Council Senior Archaeologist Colin Buck on behalf of PWH Surveyors Ltd:

Buck, C. (2013) Wheal Busy Mine, Chacewater, Cornwall: Sections of a Conservation Management Statement



STORM DAMAGE REPAIR AT PORTREATH

During late December and early January, a combination of high tides, strong winds and the localised effects of sustained heavy rainfall caused significant concern across Cornwall and west Devon. Coastal areas were subject to the most significant ensuing damage and within the World Heritage Site Portreath Harbour on the north Cornish coast suffered the most. Portreath has been described as the most important mineral harbour



The northern extent of the Eastern Breakwater (above) which has been rebuilt using the original granite dimension-stone following extensive winter storm damage (main) (A. Brigden)

in Cornwall in the early nineteenth century and many thousands of tons of copper ore and coal have passed through the docks, facilitating the transshipment of ore to the smelters in south Wales and the return of coal to Cornwall for industrial and domestic use.

Unusually strong winds in combination with spring tides battered the historic structures of the harbour over the Christmas and New Year period and extensive damage was caused to the Eastern Breakwater of the harbour (c.1760) where extreme wave action resulted in the removal of eight courses of granite facing blocks and the associated rubble infill. Additional courses of granite facing and infill were also lost from the parapet walling set back from the end of the breakwater, and formerly adjoining the above section.

For the more extensive Western Breakwater (c.1824), or pier, damage was caused to the steel handrails at its northernmost extent but the most significant impact here was the loss of the Forward Observation Hut, a small

granite shelter (c.1890s) located at the end of the breakwater, on 3rd January. Also known locally as the 'Pepper Pot' or 'Monkey House', the hut is a particularly distinctive feature of the harbour infrastructure at Portreath.

Although somewhat stretched in dealing with other storm-related demands across Cornwall at the time, staff of Cornwall Council were nevertheless able to respond in good order and instigate a repair programme. Former Cornwall Council Senior Building Conservation Officer Karen Pritchard liaised with Cornwall Council Maritime Manager Captain Andy Brigden, who secured repair estimates to address the damage to the Eastern Breakwater. Given the importance of the harbour to the Outstanding Universal Value, or international significance, of the WHS, a 'like for like' reinstatement option was requested and this was supported by the WHS Partnership. The consultants Hyder Consulting (UK) Ltd. of Exeter were engaged to work with Cornwall Council to prepare tender documents for the required works. Through discussion it was expressed

that the Forward Observation Hut should also be reinstated as an important part of the harbour infrastructure within the period of interest of the World Heritage Site (1700-1914).

Works have progressed well at Portreath during the spring, overseen by Andy Brigden who has delivered the agreed repair schedule to the breakwaters and associated features. The greatest challenge to Andy and his team has been to recover the granite which comprised the forward observation hut. This had been scattered across the beach surrounding the end of the breakwater and in some instances was thrown a considerable distance from its origin. It was feared that this feature was permanently lost but fortunately all the granite has been recovered and this is now being used in the reconstruction. Karen Pritchard fortunately had access to detailed photos of the interior and exterior, and these are proving invaluable in informing an accurate rebuild. At the time of writing (July) the hut is around eighty per cent complete and the works have involved the re-fabrication of the replacement interior steelwork used to support and secure the granite roof sections.

Other works to the Portreath breakwaters include the repointing of masonry around the wave barrier protecting the inner harbour, using lime based mortar to replace



Above: the 'wave breaker' inside the Harbour following the reinstatement of the cast concrete coping sections, most of which had been displaced (A. Brigden). Note the date '1946' on the cement coping to the right



the existing cement-rich fill. The final stage of the works will be to reinstate public access to the Western Breakwater which will hopefully be achieved through the nomination of a designated key holder to control access out of hours and during rough weather. The breakwater has been closed to the public for many years and reinstated access will enable a better appreciation of the harbour

than has been possible in recent times.

While the storm damage to the harbour has unfortunately been extensive the response from the Cornwall Council team and their contractors has been commendable; the World Heritage Site Partnership extends its thanks to all those concerned in delivering this important work and to a high standard. ■



Above and left: the northern extent of the Western Breakwater featuring the Forward Observation Hut, which is being rebuilt using the original granite; inset image shows the extent of the damage caused in January (A. Brigden)



Right: Cast members of the new Poldark television series about to enter the mine for the recent filming (David Edwards)

NEW LIFE AT POLDARK

Poldark Mine near Wendron is set in three acres of gardens in a very rural area of Cornwall just 6 miles from the sea. The well-known mining attraction has recently reopened under new management and as part of the Cornish Mining World Heritage Site has a special place in the story of tin mining.

The Poldark Mortar Outcrop, a Scheduled Monument within the main car park, is believed to have been used during the latter half of the prehistoric period (approximately 2000 BC to 43 AD) to grind tin ore to fine sand before smelting. Hidden until 2001 by a layer of soil, the outcrop at Poldark further extends the historical importance of Cornwall as a centre of metalliferous mining and sheds valuable light on the roots of our industrial heritage. Trenear Stamps, a mechanised tin crushing site, is also recorded as being in operation by 1493, within what is now Poldark. This is understood to be the first such site recorded in Cornwall.

Poldark Mine is famed for its links with the popular Poldark television series of the 1970s, with scenes of this being filmed within the labyrinth of mine levels. Poldark has just renewed this televisual relationship and

David Edwards, the new Mine Manager, is delighted to have hosted the production company for the new series which is due to air on BBC1 next year. As before, all the underground sequences were filmed at Poldark and the unique Ting Tang Mine bell, cast at Perran Foundry in 1844, is also to be included.

The open-air museum at Poldark contains some very rare machinery collected by Peter Young the original founder of the site. The unique Holman's Traversing Winding Engine can be seen in operation which was exhibited in Paris in 1900 where it won a gold medal for engineering excellence. This engine weighs in at a few tons but is in fact a model of the 120 ton giant winder installed at nearby Dolcoath Mine to service its 3,300 feet deep Williams Shaft, completed in 1912.

Poldark, incorporating the former Wheal Roots tin mine, remains a Registered Mine and almost 10 million gallons of water are pumped out each year - around 25,000 to 35,000 gallons a day; it is the only Cornish tin mine being pumped. The site's steam beam engine, built possibly by Harveys of Hayle and originally installed around 1850 at the Bunny Mine near St Austell, was destined

to be the very last Cornish Engine in commercial service, and the last engineman's chair will be on display in the revamped museum.

The site is also something of a haven for wildlife and many virtually tame swallows nest and return year after year, and can regularly be spotted circling the site. A pair of rare black swans arrived on the millrace pond in June and two pairs of kingfishers have now made Poldark their home.

Handicrafts are well represented at the site and the Poldark Wood Turners

Club has its retail shop and clubhouse where it provides a wide range of beautifully handmade items of carved burr and other exotic woods. The family run Coastal Beads is also on site, producing exquisite glass jewellery, stained glass pieces, and providing demonstrations of their craft.

David says:

"we will be having a complete makeover before the end of the season and will be adding a good old fashioned tea room. In the meantime all our visitors

are very welcome to use the main lawn for their picnics and watch the beam engine in its ponderous motion. We can provide hot drinks or even hot water if required - just ask." ■

To find out more about Poldark Mine, please log on to: www.poldark-mine.co.uk



Above: Poldark Mine with preserved pumping engine of Greensplat clay works (left), the last to pump commercially in Cornwall

Below: The prehistoric Mortar Outcrop at Poldark, a Scheduled Monument (Adam Sharpe)



Above: The unique half-scale working model of the Holmans' Traversing Winder constructed for the Paris Exhibition of 1900; restored through the World Heritage Site's 'Discover the Extraordinary' project.



CORNISH MINING HERITAGE: MOUNTAIN MINE, ALLIHIES, IRELAND

The combined man-engine / winder engine house at Mountain Mine, Allihies, County Cork (1862) is the best preserved building of its type internationally.

Thought originally to have contained a 36 inch cylinder Cornish beam engine it is understood to have been conceived by the Cornish engineer Michael Loam (1797-1871). When in operation, the man-engine took mineworkers to and from the 128 fathom (234m) level of the mine. Loam had considerable experience in man-engine design, being responsible for

the first man-engine installation in Cornwall, at Tresavean Mine, Lanner, in 1842. While man-engines never came into widespread use, being affordable only to the larger and more profitable operations, a memorial plaque in Botus Fleming Church, in east Cornwall, recalls the machine's inventor and hints at its impact in easing the lives of many mineworkers.

In recognition of its historic importance, the Mountain Mine engine house was carefully consolidated in 2004 by the Mining Heritage Trust of Ireland (MHTI), working with Darrock & Brown Ltd., conservation builders from Cornwall (now Heritage Cornwall Ltd.). ■



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