



NEWSLETTER

NUMBER 8
SEPTEMBER 1998
Cumann Oireacht na Mianadóireachta

CONTENTS

Page

2. **Reports of activities** - Visit to Cornwall.
- 3 **News from the Regions** - Glengowla, Shallee, Avoca, Bunmahon, Liscannor, etc.
7. **Correspondence:** Ballynoe dump proposals; Mineralogists and the NMA
9. **Cornish Engine Houses in Ireland III:** West Carbery, Co. Cork - by Kenneth Brown.

EDITORIAL

Preparations are well underway for a number of publications. The publication of the *Mineral Statistics of Ireland* (due out in 1999) is well underway and hopefully will be ready for printing over the winter. This gives a county by county alphabetical listing of production figures for all the mines in Ireland (about 70 mines in Antrim; about 55 in Cork), plus surviving details of management and ownership. It will be possible to identify precisely almost every phase of mining in Ireland during the 19th and 20th centuries. The *Mineral Statistics* is a new compilation to be published jointly with the Northern Mines Research Society.

At the same time and complementing this, thanks to a Heritage Council grant, the Society will republish Cole's *Memoir of Localities of Minerals of Economic Importance and Metalliferous Mines in Ireland*. With the reprint will be a new introduction to the life of Granville Cole. This not only provides some descriptive detail of each mine but adds bibliographic information up to the time of its original publication in 1922. The 1956 reprint has long been unavailable.

These two publications will add considerably to the resources available to anybody interested in Ireland's mining history and heritage.

PROGRAMME

10-11th October: Field meet visiting Killaloe, Liscannor and the mines of south east Clare (Ballyvirgin, Ballyhickey, Miltown and Kilbreckan).

31st October. ISCAN - Stories in Stone. Geology Department, NUI, Galway.

13th Feb 1999: AGM of MHSI. Separate notice will be sent to members.

Spring 1999: Day Seminar "The tourism potential of mining heritage" (Avoca, Allihies, Arigna, Bunmahon, Coal Island, Glengowla, Silvermines with further examples from Ballarat and western Canada.)

2nd-3rd May 1999: Field Meet in the Isle of Man - Laxey, etc. (details in next Newsletter).

MINING HERITAGE SOCIETY OF IRELAND

MHSI

-EDITORIAL (continued)

Two other publications are also envisaged before the new millennium. The proceedings of the ecology workshop held last October are to be published by the Royal Irish Academy. Also the first steps are being taken to record the oral traditions of those who worked in Irish mines since 1945. Such memories are the most fragile form of historical resource and in publishing such reminiscences both honours the past and services the future.

Finally, a government *National Heritage Plan* (subtitled *Managing the National Heritage into the New Millennium*) which has implications for mine heritage sites. This gives urgency to the inventory of mining sites being compiled by MHSI as the closing date for submissions is 16th November 1998.

MHSI VISIT TO CORNWALL

Six intrepid members of the society travelled to Cornwall and were hosted there by fellow members Ken Brown and Phil Saundry (thanks also to their ladies, the two Rozes) along with Kingsley Rickard. On Saturday 28th we got our introduction to Cornish technology at Parkandillick where Ken started the air compressor now driving the show engine there. He explained the intricate series of valve controls in the cataract chamber beneath the cylinder and we looked at the now dormant boiler in its house at a lower level outside. Passing the cylinder itself on the ground floor we watched the piston working the bob above as well as the mechanisms that connected to the cataracts below. On the upper level we marvelled at the smooth working of the beam and the series of links to the piston which kept its motion vertical. Standing on the bob wall and out along the cat-walk to watch the pump-rods' motion, all our shells of engine houses in Ireland assumed a meaning which no amount of reading about them could impart.

This was in China clay country and from there we proceeded to the museum at Wheal Martyn. A video and display explained the enormous waste tips and open casts we had seen on our way there. Outside, two water wheels with their balance bobs driving flat rods, one on to a working pump,

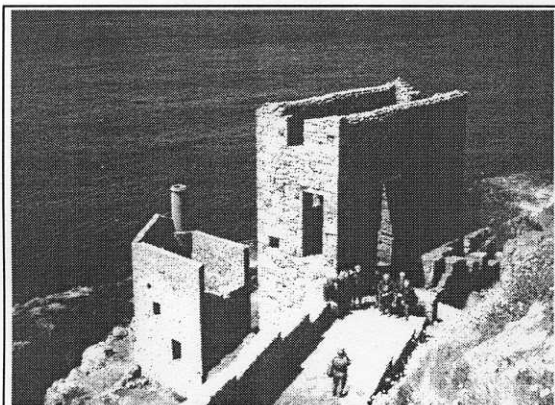


Figure 2. On the cliffs at Botallack.

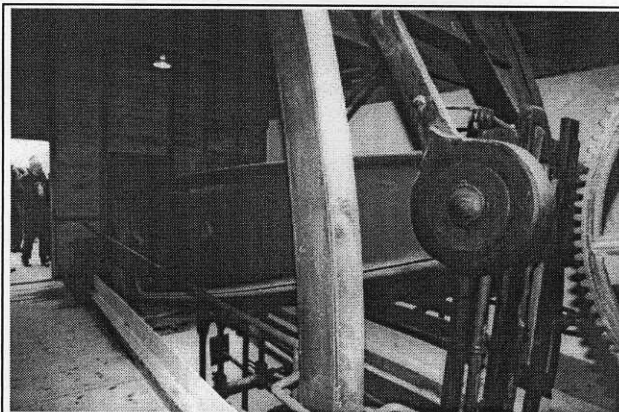


Figure 1. Indoors at Parandillick: bob and mechanisms. The top of the bob wall is on the left. (Photo: P. Saundry)

demonstrated exactly how that technology worked, and how very effective it was. The Friday ended with a party thrown by Roz and Ken where we all got to know each other better.

Sunday morning saw us on the cliffs at Botallack looking down on the two restored engine houses perched on rock ledges below. The mine here stretched an incredible 1½ miles under the sea so that the movement of ore from the remote workings was a huge problem. Then getting the ore to the surface was a major undertaking eventually solved by a skip on rails hauled by the winding engine up an incline surfacing as a hole in the cliff. A complex timber trestle brought the ore to a hopper whence it was conveyed by another skip up the cliff-face to the top. The flue for the chimney also ran up the cliff. Botallack mine working was really a marvel of how 19th century engineers could solve the most intractable problems.

Further east along the north Cornish coast lies Levant mine, another wonder of 19th century technology. This was deeper than Botallack. It ran more than a mile under the seabed and had a winding engine a quarter of a mile out for part of its life (1876-'92). A "man engine" installed in 1857 continued to raise and lower miners until a fatal day in 1919 when the rods broke off from the surface connectors plunging 31 men to their deaths. There is a restored steam engine on the mine - the only working one left in Cornwall. Extensive remains of

various processing arrangements lie along the cliff top between Levant and Geever mine - buddles, calciners, arsenic extractors and assorted buildings of varying dates provide an industrial archaeologist's dream landscape.

Also that Sunday we visited Hayle and saw the remains of Harveys' famous foundry which provided most of the engines and equipment used in Irish mines and whose products were shipped all over the world from their own quay here. Plans are afoot to preserve the remains of the central block of buildings; other aspects of the foundry's heritage are the scoria blocks made from the waste material out of which many buildings in Hayle are constructed.

On Monday morning we visited the engines that worked the tin veins associated with the granite outcrop called Carn Bray. We started on the western edge, visiting the restored Grenville United mines engine houses, one with the sole plate and stools put back in place, giving meaning and dimension to the bob-wall. At Dolcoath we saw a complex and multi-used engine house being sensitively restored. From there we could see the last mine working in Cornwall, South Crofty, which closed only months before.

At East Poole we visited two "show engines" and were able to study the motion and mechanism of a winding engine in operation. The other was the giant ninety-inch engine nearby and attached to a mining museum. Tearing ourselves away from there we ascended Carn Bray to survey the entire mine landscape dramatically laid out before us. Our final visit was to the West Basset mines where Ken and Kingsley interpreted for us the huge tin dressing

complex there with its buddles, fru vanners and calciners which would have made little sense otherwise. At that point we said farewell to our

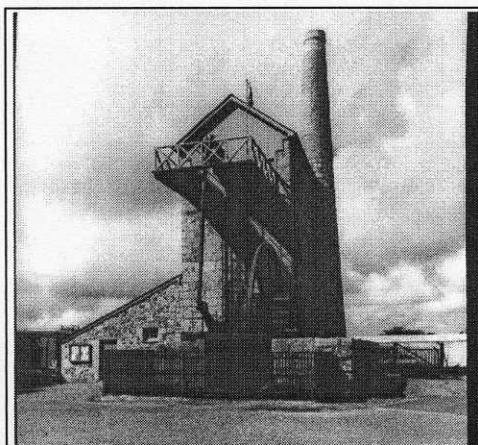


Figure 3. Mitchell's restored whim engine at East Poole. (Photo: P. Saundry)

Cornish friends and headed back to our own relatively impoverished island, mineralogically speaking.

We learned a great deal and can now look at what we have surviving on our mine sites with new eyes. However, our most abiding memory must be the kindness we received from those good Cornish folk. Ken, Kingsley and Phil took two full days to show us around and showed great patience with our ignorance about a lot of basic things. We owe a additional debt to the hospitality we received from their good ladies, the two Rozes. To Roger Gosling and Sally a further thanks for freely offered hospitality in Bristol and for simplifying for three of us the logistics of our visit.

NEWS FROM THE REGIONS

Without any shadow of doubt, the two most significant developments in recent months have been the opening of the historic Glengowla Silver-Lead Mine, Oughterard, Co. Galway as the first tourist mine heritage centre in Ireland, North or South; and the announcement by Minister for Defence Michael Smith, TD, of a grant of c.£1M to Shannon Development Ltd to conserve and develop the Shallee Copper Mine as a National Mine Heritage Centre. However, there are a number of other significant moves relating to Irish mining heritage as reported below.

GLENGOWLA

(P. Geoghegan)

This is the first show mine open in Ireland (for some background details see MHSI visit reported in *Newsletter* 6, December 1997). It is set in the spectacularly scenic heart of Connemara, two miles west of Oughterard on the Clifden road. There are guided tours through the old works whose marble walls with their calcite and quartz formations are studded with minerals. Also to be seen are various aspects of 19th century workings including drill holes and timbering. On the surface are a range of 19th century features including the captain's cottage and the powder house. An interpretative display includes mining artefacts and presentations on the geology and history of the mine. It has to be seen to be appreciated!

THE NATIONAL MINE HERITAGE CENTRE, SHALLEE, Co. TIPPERARY

(John Morris)

Minister for Defence Michael Smith, TD, has announced that c. £1m was being provided by the Government to Shannon Development Ltd to create a National Mine Heritage Centre at Shallee, Co. Tipperary. This proposal is based upon a fully costed feasibility study commissioned by Shannon Development in 1995 and builds upon earlier efforts to develop a similar concept, most notably by John Feehan and Martin Critchley in the 1980s. This award is not only the most substantial investment yet made in Irish mine heritage, but it will also provide a huge boost to the whole concept of Mine Heritage and the efforts so many are making to develop awareness and appreciation of its place in the national industrial heritage framework. We warmly welcome the Minister Smith's announcement and commend his vision and commitment to the concept, particularly as outlined in his speech during the official handing over of the site

IN BRIEF

- *Glengowla Show Mine now open.*
- *£1 million for National Mine Heritage Centre at Shallee.*
- *Significant developments towards Mine Heritage Park at Avoca.*
- *"Copper Coast" concept being developed at Bunmahon.*

from Ennec to Shannon Heritage on 10th September 1998.

Eamonn de Stafort will provide further details on this in next the Newsletter. For less welcome news from Silvermines, see his letter in this issue.

AVOCA

(John Morris)

For many years, Nick Coy has championed the conservation and development of the historic mine sites at Avoca as a heritage and tourism resource. Now, he has been joined in that battle by the Vale of Avoca Development Association History Sub-Committee chaired by Marie Merrigan. Nick's efforts have focussed principally upon the development of an interpretive centre in the Tigroney area around Whitebridge, which includes the *piece de resistance* William's Engine house. VADA's efforts have, instead, been focussed upon a complementary programme of consolidation and development of trails in the broader site to create a "Mine Heritage Park". Both efforts have encountered many difficulties, but now there are a number of significant developments to report.

Building Conservation. VADA have very recently succeeded in funding a

programme to embark upon a process of consolidating a range of buildings extending from Connary in the east to Ballymoneen in the west. This will include such "landmark" buildings as the Baronets, Williams and Ballygahan engine houses, as well as the Tramway Arch. The work programme, to be conducted principally by a FAS work group under the supervision of the Wicklow County Engineer, Sean McCormack., is due to start in the very near future and will follow the professional advice offered by Cornish Engine house expert Ken Brown and conservation architect Alistair Lindsay (David Slattery and Associates). The project has been funded by the Wicklow LEADER programme (Wicklow Rural Partnership Ltd) principally, as well as by the Geological Survey of Ireland (GSI) and ESAT Digifone.

"Avoca: our mine heritage" by **Alan Thomas** and **Peadar McArdle**. The long love affair of the authors with the mines of Avoca shines through the pages of this relatively short, full colour booklet recently launched in Avoca by Minister of State Brian Jacob, TD. The booklet is aimed unashamedly at the general public who are uncommitted to mine heritage, and gives an overview on the history of development, including the 20th Century, as well as the local geology and style of mineralisation. Both authors are to be congratulated on this superb booklet which will do much to enhance the profile of the mines with visitors who flock to Avoca *aka* Ballykissangel. The booklet is published by the Geological Survey of Ireland and retails, from GSI and various outlets in Avoca, for £2.50.

The "Celtic Copper" Trail. At a meeting held in Anglesey in February this year, representatives from various Local Authorities, heritage, tourism and LEADER groups from Cornwall, Anglesey and Avoca met under the auspices of a

trans-National LEADER initiative to examine the idea of developing a cultural, social and technological "circle" based upon the shared and contrasting mine heritage in the three areas. The meeting was very successful, as it identified a number of strands of shared and complementary interest, including, for example, mine heritage conservation practices. The "strands" are currently being developed by various lead partners drawn from the various groups. These build upon outline ideas and it is intended that these will be carried through to initial actions, products and undertakings. Watch this space - I can't say too much more at the moment!

Listing of Mine Heritage features in the Wicklow County Development Plan.

Wicklow County Council posted notice in mid-July that the draft "County Development Plan" was available for public consultation and submissions up to mid-October. The plan includes a number of specific heritage buildings at Avoca. The MHSI committee is currently reviewing the plan in so far as it relates to mine heritage, with a view to offering appropriate comments in due course. This notwithstanding, we commend the County Council for their vision in including historic mine buildings in their plan in the first instance. This exemplifies a very enlightened attitude and underpins one of the fundamental objectives of the Society - namely to encourage conservation by Local Authorities. Sadly, though, we have to note that it has come too late for some buildings at Avoca: the remains of the Tramway Engine House were demolished a few years ago, as were the remains of the "Count House" at Connary about 18 months ago and within the last 2 months, those of the c. 1960s miners dry at West Avoca. The later demolition is currently under investigation by the Local Authority.

BUNMAHON

(Des Cowman)

The formation this Summer of *Bunmahon Heritage Society* is part of a tourism promotion centred on the concept of *The Copper Coast* aimed at encouraging discerning visitors, such as geotourists, to the unspoiled stretch of coastline between Fenor and Stradbally, County Waterford. This is currently being promoted as part of a countywide tourism strategy. Already in place at the entrance to the village is a dramatic representation of 19th century mining in the form of a recreated (courtesy of Ike Wilson) mine wagon on rails. The frontages of the miners' cottages have been conserved and a plaque erected to the miners (see Newsletter 3, December 1997). A premise has been acquired for *Bunmahon Heritage Museum and Resource Centre*. A significant number of artefacts and documents have already been collected, the majority connected directly with mining.

The immediate next step is the putting in place of a *Mining Trail* with explanatory plaques explaining the mine remains. They will be in place by Spring 1999 when the Museum and Resource Centre will be formally open. This is to be followed shortly afterwards with the publication by the GSI of brochures/booklet explaining in simplified graphic terms what the tourist is looking at as s/he walks the "copper cliffs" or inspects the mine remains.

Membership of *Bunmahon Heritage society* is open to all and provides updates on these developments as well other documentation. The subscription is £10 p/a payable to Ms. Karen Tobbe, Knockmahon Lodge, Bunmahon, Co. Waterford (ph/fax +51 294429).

LISCANNOR STONE CENTRE, Co. CLARE

(John Morris)

The Cliffs of Moher, Co. Clare, are one of the top tourist attractions in Ireland. But just along the cliffs, and out of sight of the hoards, is the site of the world famous Liscannor Quarry, the source of flagstones exported far and wide and still in very heavy demand to this day for use as a top quality flooring material. The story of that stone, and the quarries from which it has, and is still being quarried, is presented in a first rate video and interpretative presentation at Liscannor, right beside the main road, about midway between the Cliffs of Moher and the village of Lisacannor.

The display features the different types of flagstones, along with tools and historic photos and beside it, the shop sells a vast array of fossils, minerals, rock ornaments and jewellery. The centre was established by the Johnson family, the owners and operators of the Ailwee cave in the Burren, Co. Clare, but its day to day management and development is in the very capable hands of Paddy Maher. It will be opened formally by the Minister for Arts, Culture, Gaeltacht and the Islands, Sile de Valera, TD, on September 4th. Less formally, however, Paddy will be hosting one afternoon of the forthcoming MHSI fieldmeet to Co. Clare on the weekend of 10/11th October - don't miss it!

SCIENCE WEEK, GALWAY

(John Morris)

A national "Science Week" has become quite a regular feature in recent years and this year it is to be held in Galway, in early November. One of the participating bodies is ISCAN, the *Irish Science Centres Network*, who regularly contribute by organising workshops. This year, they intend to focus on geology, with a morning session devoted to mine and cave centres, the afternoon to communicating geology

and finishing with a panel discussion. The precise programme is still being formulated, but it will include both a general introduction to mine heritage, as well as specific mine heritage centre case histories. A trip to Glengowla is also envisaged. Details will be sent to members as soon as the final programme is known.

MINET

(John Morris)

I bet that "erewhonesque" title has got you wondering what land, let alone region, we are in! It is, in fact, the title of a multi-National project that has recently been awarded EU funding to develop a pilot network of cooperation on the mining heritage of Europe. The project, under the lead partner of the Trevithick Trust, Cornwall, involves 6 partners from 5

countries, the UK, Spain, France, Italy and Ireland. The project will run for 1 year culminating with the drafting of a development plan for permanent association of mining heritage centres. This is, in effect, the blue print for a potentially much broader and larger scale grouping which could provide a major opportunity for promoting and developing mine heritage throughout the EU. The signatory Irish partner to this project was Wicklow Rural Partnership, but, in light of the national and international dimensions, they and the lead partner have agreed in principle to the suggestion that the mantle should be taken up by the Geological Survey of Ireland. That agreement is, however, still subject to formal approval, but in any event Ireland will be represented. Again, another space to watch!

CORRESPONDENCE

The following two items have been received as "Letters to the Editor". Such contributions are always welcome and need not necessarily reflect the views of the Committee.

1 From Eamonn de Stafort, resident of Silvermines and founder member MHSI dated 24th July 1998.

Re: Proposed Landfill Development at Silvermines

No doubt readers will be interested to learn of an application to North Tipperary County Council by Waste Management Ireland for the discharge of 1.6 mcubic metres of water, currently contaminated with zinc. This relates to the former Barytes Open Pit that was mined for over thirty years less than one mile west of Silvermines village in the townland of Garryard. This had undergone some underground work before between the mid-1960s and closure in 1995. Since then water has been allowed to enter the quarry resulting in today's level.

This site had been worked as an open cast mine. Travellers on the N7 from Nenagh to Limerick will be all too familiar with the culpable desecration of the environment at Silvermines' hills. For thirty years this waste residue was conveniently dumped on the hillside at minimum inconvenience to the developers. Today's vista represents a sad reflection on the mining industry in Ireland and on the various agencies charged with responsibility for protecting the environment. The application before the local authority seeking permission to discharge toxic water after treatment into an adjoining stream has nothing to do with making the site more presentable, but is rather a ruthless effort to develop a landfill at the quarry.

This application will be vehemently resisted by the locals (who have yet to be consulted about any aspect of the proposed development) and I am sure, by others. This is a further attempt to exploit an environment that has suffered more than its share of destruction without any apparent consideration or respect for heritage or community. I hope that members of the M.H.S.I. will take a stand on this further attempt to damage the image of mining in Ireland which, if allowed to proceed will, undo all the good work of recent years aimed at redressing the bad image created for mining throughout the 1960s and up to the 1980s.

For those unfamiliar with the site, it is situated less than a mile away from an award winning village in the tidy Town Competition, is over 400 metres above sea-level, is immediately beside a busy public road and contained the last Kennedy stronghold in Upper Ormond where stood the remains of John Rua O'Kennedy's tower house until complete demolition by the mining developers.

2 From Stephen Moreton, member of MHSI and widely published mineralogist*, dated 9th Aug. 1998.

Mineralogists and the National Monuments Acts (1930-'94)

Dr. William O'Brien's articles on the laws relating to national monuments (*Newsletters* 6&7) left me with mixed

feelings. On the one hand there is clearly a need for some form of protection so that engine houses are not demolished, tips cleared, etc.. On the other hand, there is a danger that well-intentioned attempts to protect a site may inadvertently restrict activities such as mineral collecting than pose no threat, and even complement mining heritage.

It would be a shame if declaring a site a National Monument, because it had a good engine house, meant that one could not collect from the tips. The result would be minerals left to weather with consequent loss of knowledge. That there is much to lose is shown by the fact that in the 1990s alone amateur collectors have found at least fourteen minerals new to Ireland from old mine sites (not to mention Tynagh which would probably double or treble the figure) leading to several papers and articles with others in preparation.

Accordingly, if mining remains are to be declared monuments, it should be stated at the time what exactly is being protected and what harmless activities, such as collecting, should not be prohibited. Only in rare, exceptional cases (e.g. Bronze Age mines) is there likely to be a case to include restrictions on collecting.

[*Dr. Moreton's forthcoming mineralogical articles include one on Silvermines to be published in *The Mineralogical Record* with a further joint article being compiled on Tynagh. He would be interested in the views of other members on whether mineral collecting should be prohibited in Ireland.]

THE CORNISH ENGINE HOUSES OF IRELAND

By Kenneth Brown

III WEST CARBERY

An account of the development of up to up to forty-eight mineral sites in this part of west Cork has been available for the last ten years.¹ Most produced no ore or very small quantities. As far as is known only six sites acquired engine houses. Of that installed at Ballydehob in 1857, no details have survived except that the engine was probably in operation for less than a year². What is known of the five other engine houses is conveyed below with O.S. grid references for ease of location.

BALLYCUMMISK (V 977 232)

This mine on the Audley estate was part of the scandal involving the infamous West Cork Mining Company in the 1830s. As a legal consequence of the financial misappropriations the mine could not be worked again until the 1850s when it was taken over by another mine adventurer, one Thomas Saunders Cave who in turn sold it to a London businessman, Samuel Hyde in 1857. He

immediately ordered a 50" Cornish pumping engine (origin not known) and three years later (1860) the Perran Foundry supplied him with a whim/crushing engine "of rare construction" designed by Hocking and Loam (fig. 5)³. To this was added in 1867 a twelve inch horizontal engine to work the dressing floors supplied by Harvey & Co. of Hayle.⁴

The twenty years of Hyde's operation here is one of the few success stories of West Carbery. However little remains in evidence of it. Near Rossbrin harbour are the mine burrows along with the remains of a modern crushing plant. There is the remains of an old dressing floor and the footing of the three engine houses but without sufficient diagnostic detail for interpretation.

CAPPAGH⁵ (V 990 324)

This too was part of the Audley estate and the site of the main working before and during the Audley scandal. The Mining Company of Ireland held it from 1826 and placed a pumping

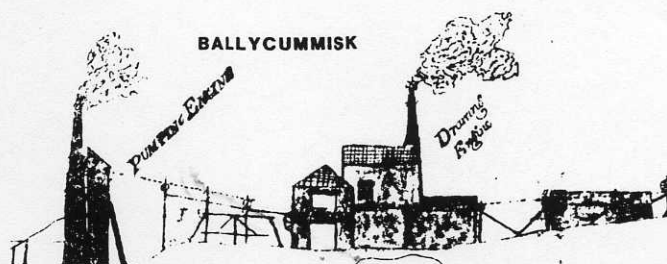


Figure 4. The pumping engine (left) of 1857 and whim engine from Perran Foundry 1860



Figure 5. The prominent symbol of Cappagh mine - the chimney built 1862 for the pump engine and the Resident Agent's house.

¹ D. Cowman and T. Reilly, *The Abandoned Mines of West Carbery* (GSI, Dublin 1988). All the illustrations except fig. 6 (courtesy Tom Reilly) come from this and are provenanced there

² 1st and 2nd report of the Mining Company of Ireland to its shareholders 1857. The engine was used only to test the mine and was probably smaller than a Cornish beam engine.

³ *Mining Journal* 3rd Oct. 1857 and 18th Aug. 1860. That this latter was a 20-inch engine is suggested by the fact that Harveys sent a piston and rings of that size to Ballycummisk in 1868-'69

⁴ Harvey ledger No 27 says that the engine had an 18-inch stroke and was mounted on a cast bedplate.

⁵ A detailed analysis of this site is given by Dr. Tom Reilly in *Mizen Journal* (No. 6, 1998) "Cappagh Mine, An Endangered Heritage Site" (Pp, 163-175)

engine there. They abandoned the mine in 1832 and for the next 20 years nothing was done. A description and plan of 1852 shows the buildings still intact: "An engine house and stack, substantial dwelling house for the resident agent, captains house with storehouses, smith, offices, etc., the whole enclosed by a wall."⁶

The mining adventurer Thomas Saunders Cave purchased all of this in 1852. For legal and financial reasons he was not in a position to start operations here for another ten years but seemingly was able to use the 30 year buildings left from the Mining Company of Ireland's time. Work commenced in May 1862 and by November it was reported that a "splendid" 50-inch engine had forked the water to the 54-fathom level, that a 24-inch drawing and crushing engine with crusher were nearly complete.⁷ A quay had been built, three quarters of a mile of tramway laid down and dressing floors laid out. This investment bankrupted Cave and all was for sale again in 1864 except the pumping engine that was kept at work.⁸

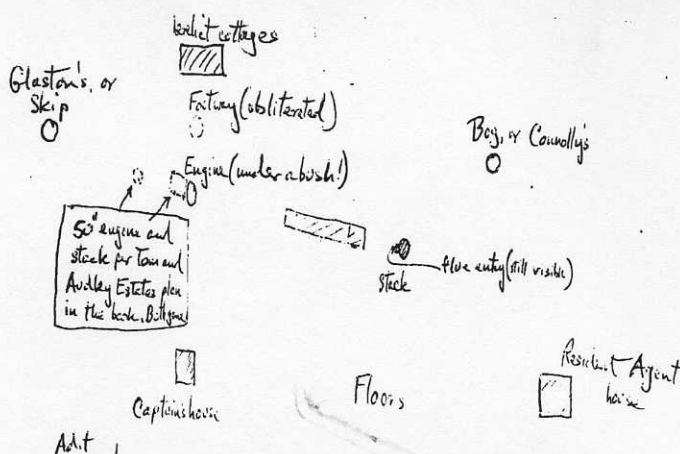


Figure 6. Sketch-interpretation of the remains at Cappagh

Seven years passed before operations resumed under Captain Henry Thomas.⁹ Having produced 132 tons of ore in 1872-3 the mine finally closed and presumably the machinery sold off. What survives today is the wall within which were the copper yards and washing floors along with a triangular pond. The low wall around Glaston engine shaft and faint remains of where the engine shaft stood allow a further interpretation of the site as it might have been in the 1860's. There is no trace of the rotative engine.. Most striking survival is the engine stack (probably dating from 1862) which is a landmark for miles around. (fig.5). It could have served the boiler houses of both engines though the plan shows another stack near the pumping engine under the bush!.

COOSHEEN (V 990 324)

Coosheen began in the 1840s and was resumed in the 1850s. A water wheel and crusher were sent over by Harvey's in 1853-'54.¹⁰ A new company took it over in 1858 when it was said to have been completely re-equipped. A 56-inch Cornish pumping engine by Nicholas Williams of Tavistock was set to work in July-August 1860.¹¹ The winding or hauling engine probably dates from this phase. This operation lasted only six years but pumping continued afterwards. In 1869 it was taken over by Hyde of Ballycummisk but five years later was for sale.¹² From the sales notice we learn that there was a Cornish pumping engine, a table engine working a whim, and close to the adit portal an engine driving a Blake stone crusher.

⁶ *Mining Journal*, 15th May 1852.

⁷ *Mining Journal* 11th Nov. 1862 and 7th Nov. 1863. Pitwork attached to the 50-inch engine was given as 8-9 inches diameter down to the 84 fathom level. The 24-inch drawing/crushing engine (erroneously given in one report as 34 inches) was clearly secondhand because Harvey supplied new nozzles for it in July 1863 (Ledger No 26). Drawing engines, or whims, were frequently arranged with clutches so that they could drive the copper crusher when not being used for hoisting.

⁸ *Mining Journal* 16th April 1864. At the first bankruptcy hearing in February 1864 Cave was alleged to owed £36,000 on Cappagh mine alone!

⁹ *Mining Journal*, 14th Oct. 1871

¹⁰ *Mining Journal*, 21st Jan. 1854.

¹¹ *Mining Journal*, 4th Aug. 1860 & 5th Jan. 1861.

¹² *Mining Journal*, 11th Sept. 1869 & 27th June 1874.

It was worked by a long adit containing a tramway and extending 700 yards inland from a portal on the east shore of Schull bay. As well as the crusher near the portal there were stores, powder house, coal yard, etc. Ore and mine supplies were landed at a small jetty nearby.. Little is left of these and the position of the portal may only be conjectured from the burrows of a line of shafts and from the surviving round powder house and the ruins of what was probably the crusher house.

The hill above is now part of a golf course and has been "tidied up". The engine house stood on farmland further east at what would have been the end of the adit. Nothing remains of the winding engine but the stack of the pumping engine with bob wall stood until the late 1980s.¹³ Its shaft is still open but surrounded by a wall composed on three sides of concrete blocks but the fourth is what remains of the bob wall.

CROOKHAVEN. (V 812 225)

This is spectacularly situated on a narrow spit of land. It is said to be traversed by ten lodes in a width of 120 yards. Its first known working was short lived in the mid 1840s. It was revived again in 1851 by dubious promoter St. Pierre Foley who claimed to have discovered ore near the surface containing 59% copper and 44 oz silver per ton. On this basis a "bubble" company was set up comprising parties from London and Brighton. They bought a second-hand pumping and crushing engine, most probably the 26 inch from Barristown lead/silver mine in county Wexford¹⁴, where the engine house still stands. Having sunk 42 fathoms on the engine shaft the company folded having produced only 43 tons of low grade ore worth only £194.

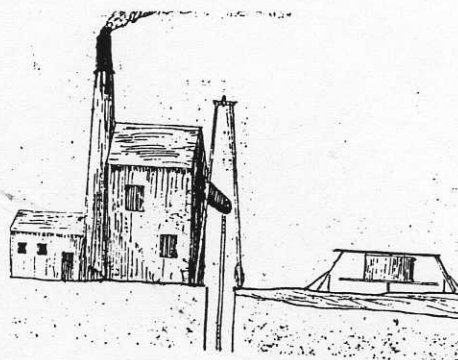


Figure 7. Crookhaven. There may have been a back bob which is not shown here.

A new company based in London and Dublin purchased the mine and equipment for £4850 in 1859.¹⁵ Captain Henry Thomas, the previous manager, was reappointed and submitted a series of reports on progress to the *Mining Journal*. From them it seems he concentrated on sinking the engine shaft hoping to reach a point where the main lodes converged.. Pumping would appear to have been costly as work done on the engine in 1863 had the effect of cutting coal consumption down to 7cwts in 24 hours. The following year with the shaft sunk to 72 fathoms and no sign of an intersection with "The great Purple lode", the enterprise was abandoned and the mine was again for sale with its 26" engine and 8 ton boiler.¹⁶ The only recorded production over this five-year operation is 134 tons in 1861¹⁷.

It doesn't appear to have been worked again (apart from testing between 1902 and '05) and presumably the engine with boiler were sold for scrap. What now remains is the base of the engine house, the stack and boiler house beside the fenced engine shaft as well as some waste heaps and, perched on a rocky eminence above the sea, a splendid architecturally-featured round powder house, possibly retained as a day-mark for mariners (fig 8).



Figure 8. The powder house on the cliffs, Crookhaven

¹³ The chimney and part of the bob wall as they were are used as cover illustration and motif throughout the *Abandoned Mines of West Carbery*, op. cit..

¹⁴ *Mining Journal*, 22nd May 1852

¹⁵ *Mining Journal*, 24th Sept. and 15th Oct. 1859. The latter contains a detailed prospectus with a somewhat inaccurate cross-section including a sketch of the engine..

¹⁶ *Mining Journal*, 23 May 1863 and 16th April 1864.

¹⁷ *Mining Journal*, 28th Dec. 1861. This is not in the *Mineral Statistics*.

A slight mystery surrounds the drive from the engine to the crusher which inspection at Crookhaven and Barristown have failed to resolve. It is clear that the engine stood at the edge of the shaft and measurement at both sites indicated an "indoor" stroke of 5ft. 6 inches. It seems possible that the engine had a back bob or auxiliary beam with a connected rod and crankshaft at the rear to produce the necessary rotary motion for crushing. However, this is not shown on site plans or on the elevation (fig. 7)

GLANDORE (W 222 362)

There had been some sporadic work at Glandore in the 1860s and early 70s when some iron and manganese was raised. A more systematic approach was adopted when the mine was taken over by the London based partnership of Foster and Willis in 1876. It is not certain that the engine they built here is of Cornish origin but it would have had a short life as the enterprise lasted only five years producing 580 tons of manganese worth £1,300.

That the engine house lacks grease or cinders raises questions as to whether the engine was ever actually installed. It looks as if it were intended for a double-acting rotative beam engine, 28-30" in diameter, with unequal strokes in the range of 7/8 feet inside and 6/7 feet outside. The house has only two floor levels with the lower half of the cylinder being set below the driver's floor. The condenser could have been internal or external. It was apparently cheaply built with wooden lintels to door and window openings, all of which have rotted away (Fig. 9). The chimney at the corner has a short brick top, which probably represents its original height. Inside the bob wall are marks in the plaster where long bolts from the trunnions (necessary for a double-acting engine) came down.



Figure 9. Engine house built about 1876, Glandore.

There is evidence that the engine was (or was to be) connected to a crusher but there is no evidence that it drove anything else. Half the flywheel pit is all that remains of the necessary crankshaft loading. It reveals that the flywheel was about 20 foot diameter and that tucked in close was a spur gear of about half that diameter for which a shallow recess exists in the surviving side of the pit.. One bolt for the bearing pedestal, which supported the crank and flywheel shaft, survives (Fig. 10).

There is no trace of the crusher house but from the ground contours it could have stood at a higher level. Neither is there sign of a boilerhouse that must have stood downhill. A couple of beam sockets and a rather meaningless outline of flashing on the engine house may well have been from a farm building erected later. There is a large open pit, one end of which comes in front of the engine, but if there were any hoisting ropes or flat-rods from it to a possible shaft in the pit, then the waste heaps would be in the way. In the absence of further documentation about this mine it is difficult to make much further sense of this nicely located engine house.

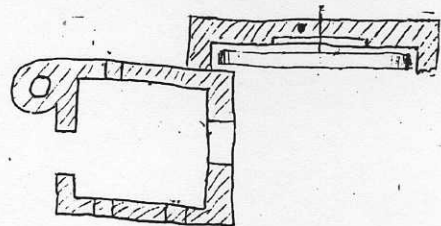


Figure 10. Sketch plan of engine house and fly-wheel arrangement.