

Bryneglwys Slate Quarry – Abergynolwyn, Gwynedd
Caver Access Risk Assessment
Based on fieldwork done in August and December 2015

1. Introduction

Bryneglwys Slate Mine is located in the Nant Gwernol valley to the south-east of the village. It is accessible by car with care up the steep tarmac public road, marked unsuitable for cars, which starts behind the community centre building (Y Ganolfan). The road has two gates which should be left shut if found so. The tarmac is broken up and has potholes after the second gate but is still usable with care. After passing the ruin of Hendrewallog on the left, continue on the flat valley bottom until a gated forestry road departs on the right. Two cars can be parked on the verge just here.

There is a most informative book called *Bryneglwys Slate Quarry* by Alan Holmes and Sarah Eade, published in 2013, ISBN 978-0-9565652-4-2. The authors' attention to detail is complemented by imaginative page design, imaginative photographs and high quality colour print throughout. It contains useful surface and underground plans, photographs and historical accounts. We highly recommend buying a copy.

The book is available directly from Sara:

Send a cheque to Sara Eade, 1 Dysynni Walk, TYWYN LL36 0BS. for £20 plus £3 P&P to secure a copy.

The extensive waste tips dominate the initial scene. The site is extensive but almost all the buildings have been levelled since the mine closed and its inclines and other surface features are being lost under the forestry plantations. Nature is reclaiming this land so the published mine surface plans are now largely only a historical record. NRW has waymarked a surface trail for hill walkers on which there are wind-up audio commentary devices presenting a history of the area.

It will take more than a one-day visit here to explore all of the mine and see the surface features some of which, like the water wheel pits and staging platforms nearby are listed archaeological features. The main slate quarry, however, is underground and so it is a mine and that is what this note mainly addresses.

There were two veins of slate worked here, known as the Broad and Narrow Veins, which continue across the mountains to Corris and finally to Dinas Mawddwy area, and many other quarries/mines besides Bryneglws have exploited them. Both veins, though made of sedimentary rock, dip steeply into the ground, which suited mining.

The mine is little known about but nevertheless very interesting from an exploration or historical perspective and is well worth one or more visits. The potential through-trips, only for those equipped and experienced for underground, are certainly on a par with the challenge of the more famous Croesor-Rhosydd mines through-trip.

2. Familiarisation with the surface features

An initial tour of the surface features will enable a better understanding of what is to be seen later underground and why the miners proceeded in the way that they did. From the recommended parking place at SH 6898 0588, walk 200m down the new forestry road to a bridge over the confluence of two streams. This road is not shown on the author's 1:25,000 OS map. The right-hand of the two streams (when facing uphill) leads within 200m to the Long Tunnel portal at SH 6905 0569.

Also from this parking place, you can take the dead level green lane directly ahead. This passes over a stream with waterfalls, the Beudynewydd incline, and a large open pit quarry on the left of the track which is on the Broad Vein. Continue along the path until it takes a sharp right hand turn. The area fenced off on the right is where the quarry manager's house used to be. A large clearing with an NRW interpretation panel and audio commentary point comes into view. This is at the foot of the former Boundary Incline and the waymarked walking route takes one up this.

Instead of continuing on the uphill waymarked path here, look carefully into the wet grove of small trees on the left of the incline path and head towards the foot of the large spoil heaps. The Daylight Adit portal is there by a holly tree. This is Floor 20 on the mine plans. It is a haulage adit which is welly deep in water and connects with more open pit quarry workings beyond and also, after a right angle turn, to the Main Shaft which is met within another 100m into the underground workings.

Returning to the outdoors NRW audio point, continue along the same forest road to a right angle bend where a tall Monkey Puzzle tree comes into view. The large fenced off flat area on the right of the road here is the site of the former Old/New Mills. From the corner of the road just before the Monkey Puzzle tree, climb over the fence on the right and head directly into a patch of relatively young fir trees. The fenced-off New Mill Shaft is in amongst them no more than 50m from the road.

The shaft is well lined with stone blocks, see photo, at least in the top part, but some of the stone has collapsed and now lies in the Long Tunnel directly below here, and is responsible for all the deep water there. Abseiling the shaft is neither practical nor advisable. There are no surface rope belay points, other than trees, there would be a serious rubbing point on the lip and no obvious way to avoid this. The lining of the shaft must be untrustworthy since some of the lower part has fallen out already.

Take the uphill path from the NRW audio point until the walls of the winding house of the former Boundary Incline come into view. Cross the fence on the left and locate the massive former water-wheel pits. These were fed by leats higher up the hill and the water flowed through nicely constructed narrow underground passages which are still accessible to people equipped with caving gear. Behind the water-wheel pits are staging platforms for hoisting the stone from the open quarries adjacent.

Presumably the wheel pits stopped work when the Daylight Adit was created. The top of the Main Shaft is amongst trees near here. Its rudimentary fence belies the dangers, and the ground here may be unstable and should be given a wide berth.

Cross the fence back to the NRW waymarked path and follow it along the level to more ruined walls where the path makes a sharp right turn along a level grassy track. The track leads to the top of the Cwmcwm Incline, thus back to the New Mill area. From the corner, strike out boldly uphill into the forest and locate a narrow feint path winding steeply uphill through the trees. Follow this for 200m or so to a clearing with a large spoil tip. Just above here is Floor 10c adit at SH 6915 0495.

The opening is about 5m wide, with a rudimentary wooden barrier across, and leads straight into a series of big chambers two of which have been rigged with rope by previous visitors. One route involves steep scrambling whilst the other looks like a 30m near vertical drop. The ropes seen by the author here are either very old or an unsuitable type and therefore none of them should not be used. There is no way to descend here without new rope, but this is the normal start for the mine through-trip.

Scrambling even higher up the forest outside from the 10c adit is another smaller tip and the 5c adit behind it. This one is ungated but is welly deep in water. Beyond its wet section is another potential abseiling point to reach a platform on Floor 10.

Continuing once again from the first NRW audio point and walking back towards the parking area, a grassy footpath branches off this former road to the right. This leads to the surface workings on the north east part of the Narrow Vein which belonged to Hendrewallog and Floor 15 is accessed from an adit (15b) at SH 6970 0555. The author has not yet explored underground here but understands that it may still be possible to connect underground with Floor 25 which is the one with all the water which is heard and seen looking down the Main Shaft on Floor 20 (the Haulage Adit level) inside the main mine. The author has thus not yet seen any of Floor 25 either.

On a fair weather day one can wander around the slate spoil tips and see the footings of various buildings and imagine what it must have been like in its heyday with up to 300 workers, this mine being the mainstay of employment in the locality.

3. Underground features

The Long Tunnel, which is Floor 50, is about 600m long and welly depth or so for much of the first half. The ochre coated blocks in the water are quite slippery. There are a couple of other muddy tunnels, associated with Broad Vein workings, entering on the left before a pile of collapsed shaft lining masonry from the New Mill Shaft is encountered with daylight streaming in from above. Beyond this partial collapse the

tunnel is flooded to neck deep in places, then shallows off, and it continues to a thundering waterfall which is the Floor 25 water coming down the Main Shaft.

Skirting around this downpour, as best one can, the Long Tunnel soon reaches a T-junction. The branch passages left and right follow the Narrow Vein. There are many worked out chambers leading off them, but all seem to be blocked in the left passage and its railway lines eventually lead into a massive collapse at the end. The geology is impressive since the roof shows the angle of dip of the Narrow Vein slate beds (see photo). The right-hand branch does give access into some worked out chambers, but one must then return to the T-junction where the only option is to retrace one's steps and exit via the Long Tunnel through all that deep water again.

Following the Daylight Adit inwards on Floor 20 one soon reaches the Main Shaft. There are some minor roof falls and other areas of questionable roof can be avoided by keeping to the side. There are some modern-era drilled and resin anchors at Main Shaft but these are of unknown origin and workmanship, thus to be avoided. A further defect of these bolts is their axial loading as the rope goes over the edge of the shaft. This would also create a rub point and no rebelay bolts were seen below.

The author did not descend Main Shaft on any of the occasions he has entered the mine. In any case the volume and force of water cascading at the bottom then would have been impassable, necessitating an immediate return to Level 20 by prussiking. But if the bolting had been better conceived and was trustworthy and the water flow modest then an exit by abseiling into the Long Tunnel might be possible from here. If this was coupled to entry into the mine at adit 10c or 5c then it would make a through-trip with a vertical drop of ~125m over a horizontal distance of ~1km.

Beyond Main Shaft on Floor 20 the tunnel continues to a partial collapse where progress is made on hands and knees. Beyond this is a section of thigh-deep water. Numerous chamber entrances are passed on the left, and all of them except the last one are run-in. This last one gives access into a series of massive chambers on various levels going upwards tens of metres. Turning left once inside the first large chamber, one soon find the bottom of an old rope, but it is possible to ascend by winding one's way among the huge fallen blocks. Interestingly and unusually, some of the slate waste found on the floor near here has embedded cubes of pyrites.

One passes through an upper large chamber where there is a substantial chain, maybe 10m long, that is now just hanging high in space at its bottom end. Picking one's way carefully further upwards, a window into Floor 15 is found and a winding machine right next to it, the gears of which still work and whose handles turn easily.

Floor 15 continues in both directions with rails still in place most of the way. One direction leads past a waste truck, still on the rails, and more winding machines, one of them engulfed by a run-in from the side, ultimately to a blockage in this floor as it

heads to the surface. Back at the Floor 15 portal, one could scramble – with careful choice of route – even higher amongst the piles of rubble, large blocks and scree, to reach the bottom end of the poor quality ropes dangling from Floor 10, as already referred to. These ropes and their belays cannot be trusted and must be left alone.

4. Equipment and Techniques

The Long Tunnel merits wearing a wetsuit, because of the deep cold water, while the upper parts of the mine in the chambers and on horizontal floors can be explored in normal caving oversuits/undersuits, helmets with mounted main light, spare lights, non-slip protective footwear such as industrial grade wellington boots. Very bright LED lamps are recommended as the dark grey slate absorbs much of the light.

All vertical descents would require SRT equipment and skills, but it is suggested that none of the existing ropes or anchors (modern era or working era) are good enough to contemplate using now, and so visitors should keep to the level walking routes.

The large chambers are full of loose rock, from rubble size up to enormous blocks, some of which may be unstable, especially if their slope is steep. Great care is needed not to dislodge anything on to oneself or on to anyone else below. Give thought to the return journey when crossing a slope, so as not to leave it in an unstable state for oneself or others, and also to commit the best line to memory.

5. Local & Visitor use

The inside of the mine appears to be little visited though there are footprints of unknown age everywhere. There is not much litter or graffiti in or near the mine. A few walkers will venture up into the forest via an incline near the train station at the end of the narrow gauge railway above Abergynolwyn village. The author met one such group at the suggested mine parking place who had got lost.

6. General opinion on risk





Most of the surface walking is typical of days out on the mountains of Snowdonia with rocks which may be slippery and paths that may be wet and muddy. The mine is from 200-350m ASL and on an open hill-side which can be rainy, windy and cold. Surface visitors need to go equipped for mountain walking days. Fog and mist could also arrive, making navigation difficult without compass, map and possibly GPS unit.

All of the level sections underground, provided one is equipped for normal caving, present no more difficulty than the above ground areas – except for the deep cold

water where, as has been noted, a wetsuit would be safer and more comfortable. The Long Tunnel, because of its 1.5m neck deep water, is not considered suitable for novices.

The underground mine sections which are uneven or sloping present much more potential risk because the material underfoot could move, slide and then hit others below or cause a landslide of de-stabilised material further up the slope down onto oneself. Wearing a good quality helmet and keeping the group members well apart or moving one at a time across such places is advisable.

7. Photographs

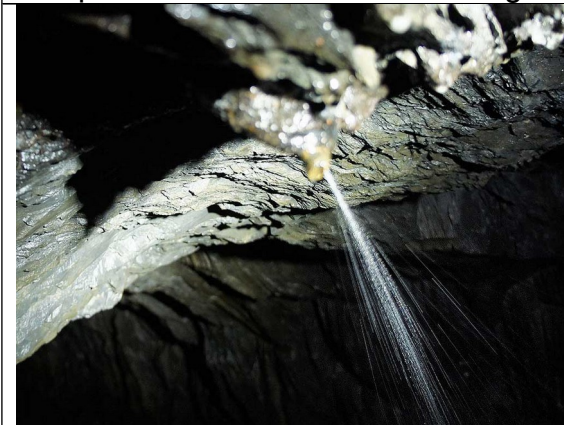
		
Tip slotted for Beudynewydd incline		Deep open quarry on the Broad Vein
		
New Mill Shaft (partially lined)		Top of New Mill Shaft



Top of Main Shaft with old fencing



Waterfall on a stream above mine



Spouting stalactite



The Long Tunnel



Waterfall - bottom of Main Shaft



Narrow Vein in roof on Floor 50

Haulage platform	Wheel pit	Wheel pits area
Narrow Vein at Main Shaft on Floor 20		Daylight Adit (inner end)
Cuboid pyrites embedded in slate		Floor 20 near the Main Shaft with fallen roof area and a run-in from the surface on left

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