Cwmorthin Slate Quarry

Technical Exploration Guide

Important Notes

This guide is intended to provide useful information for experienced cavers or mine explorers wishing to make use of the in-situ technical infrastructure to explore Cwmorthin Slate Quarry. It is not intended as a guide to exploring the mine as a whole, or as a guide to mine exploration or caving.

By entering Cwmorthin Slate Quarry you must accept the inherent risks of injury or death associated with the underground exploration of potentially hazardous abandoned mine workings, and the use of any in-situ rigging is entirely at your own risk. The landowners, lessees or installers cannot be held liable for the failure or misuse of any underground PPE infrastructure.

Proper and correct equipment is essential, as is full training in its use before committing to the underground environment. If in doubt, always seek advice from a competent source.

Background

Cwmorthin Slate Quarry is a large and spectacular disused slate mine of Victorian age that provides potentially years of exciting exploration opportunity at all levels from simple walk-around trips to complex and committing SRT routes.

It is enjoyed by a large contingent of recreational explorers but also sees use as a training and assessment venue for aspiring instructors, a practice venue for rescue teams and even as a recording location for television and film companies.

It is also used for underground exploration trips by local adventure company Go Below who lease the mine for the purpose. As part of this role, the mine has been well equipped with abseils, traverses, zip lines, ladders, tyroleanas and so forth to provide access to otherwise hard or impossible to reach areas. Most of this infrastructure is freely available for others to use to explore and enjoy the mine, provided that it is done safely, competently and in accordance with the guidelines presented in this document.

Cwmorthin worked two main veins of slate - The Back Vein and below that the Old Vein. Between them lie the Stripy Vein and the Narrow Vein but these were worked to a much lesser degree.

Both the Back Vein and the Old Vein workings are extensive, and both contain technical infrastructure. Each vein has a separate map showing the infrastructure within them, and a third "Link" map details the connection tunnel joining the two as it exists on Lake Level (Floor 1). Where purple symbols exist, they are intended to provide an easy way of lining up connections between the three separate maps.
Cwmorthin Slate Quarry - Back Vein Map
Exploration Guide 2017 edition

Route Key
- Solid Black (Route in Use)
- Route with Hinge Protrusions
- Synthetic Column (Quarry)

Survey derived from composite plan by Graham Isherwood
Amended by Miles Moulding 2017
Simplified to show workings around approved routes.
Guide to Map Features

All of the roped traverses provide a means of progressing along high exposed chamber walls and must always be used with a set of cowtails through their entire length. Never be tempted to cross a traverse by holding the rope in the hand only - even the seemingly simple ones. It is easy to slip off or the step or foot-hold could break away. The fall will be fatal.

Back Vein Features, Traverses and Pitches

H.T. - Hero Traverse

This short but very difficult traverse connects the working platform of B5E to the hanging level in the western wall where the two tyrolean zip lines meet. The traverse was bolted as a means of gaining initial access to the hanging level to install the tyrolean zip lines, but it has been left in place as a means of providing daring explorers a means of gaining the B5E platform from the tyroleans (so in reverse to the direction of installation).

The traverse rope picks a route through the wreckage of an interesting cantilevered bridge, seemingly a replica of the type used commonly in Croesor Slate Quarry. There are very few foot holds and much arm strength is needed. The crossing can be made vastly easier with the assistance of a separate foot-loop, though some might consider that cheating.

There isn't a huge amount to see on the B5E platform but there is an in-situ line down to C5E (abseil not shown on map). If you descend this then take great care in C5E as the western wall is in a very bad state, keep well away. There are some fine 1930's signatures near the level at the bottom written on a slab on the floor. Take care not to step on them.

H.R. - Heroes Revenge Traverse

This traverse was originally bolted to gain access to the short hanging level on D floor between chambers 1 and 2 west. It runs horizontally across the featureless eastern wall of D2W, about 18 meters above the base of the chamber on E floor below. It remains rigged simply as a sporting challenge for passing explorers.

Starting from the footwall and tip in D2W, the rope runs along the vertical wall and initially offers some minimal foot placements. Shortly a small ledge is gained that provides a welcome rest before the main section leads out over the sobering drop below. This main section is almost completely devoid of anything to get a foot on, and is punishing on the arms and very slow going. It is a committing and brutal traverse, but can be made much easier with the help of a foot-loop set to the correct length. Purists should test their metal without it - but ideally have one to hand in case exhaustion sets in.
**H.S. - Heroes Slab Traverse**

This traverse provides an alternate means of climbing between D and E floor in 2 West. It is easy except for some awkward steps at the bottom. The height of the climb is 18m.

**V.B. - Victory Biscuits Traverse**

This traverse runs on the opposite chamber wall to Heroes Revenge but is a far less stressful affair, due principally to the presence of an ample rock-shelf left behind by the quarrymen to aid the crossing. There is only one slightly award step where there is a short gap in the ledge.

**C.T. - Corkscrew Traverse**

Provides a means of ascending from E floor to D floor via a lengthy and sporting traverse using all four walls of chamber E11E. The route up starts on the rising foot-wall to the right hand (western) side, climbing as a series of rock steps to near the top, before turning 90 degrees to cross the face to the east wall. Here it turns 90 degrees again onto the east wall, progressing through several awkward steps to finally reach the hanging level that leads to the small and isolated chamber of D12E.

The continuation leads back into 11E and over a precipitous Bôn crossing to a level cut into the western wall, leading to the airy bridge crossing of D10E and beyond.

**C.W. Catwalk Traverse**

This traverse leads around chamber 2W at the B floor horizon. Starting from B1W the route follows a fantastic original quarryman catwalk to the working floor of B2W. The timber and some of the pegging has been renewed, but the original hand-chain remains. On the isolated B2W floor can be seen remains of tallow candles and some hand tools.

**P.T. - Pins Traverse**

This traverse leads off from the B2W working floor to regain the hanging level of B3W and the western most extremity of B floor, however the only progression is to continue the traverse out to a pitch-head, providing a pull-through abseil (circa 11m) down to C floor below.

**G.T. - Goliath Access Traverse**

This line runs from the short level between chambers C2W and C3W, over a small wall and onto the huge 120 foot high slab face of C3W. Using rock-steps for footing, the route is easy and gains the small remaining part of working floor C3W. It is here that the top of the lengthy Goliath tyrolean drops down to E floor (please don't attempt to use it!).

A short continuation traverse goes up the face from here to gain the roofing shaft right at the top of C3W, although it is blind and does not hole through into chamber B3W above.

Another easy route leads off into the level to C4W which is the obvious continuation.
G.B.T. Goliath Bypass Traverse

This line provides a means of climbing down from C floor to E floor in four west using only cowstails. It is long and steep, and quite awkward in places but gravity does most of the work on the descent.

Half way down it meets the D floor horizon and the traverse can be disconnected from here to look at the D4W working floor, of which there is little left to see. However, there is a level leading into the foot-wall here cut in the 1930's by the Oakeley men (The chamber itself being of 1890's vintage) presumably to ascertain the thickness and quality of the vein at this point. Some artefacts can be seen in this level, such as det boxes.

Continue down the slab to reach E floor, which can be explored easily now on the western side of the incline without getting wet feet. The only dry exit from this area is the via-feratta ladder leading up the wall of E3W, back to D floor.

F.T. - Forgotten Traverse

This interesting and out-of-the-way traverse is accessed by finding a hidden and partially-blocked level leading out of chamber D6E close to the tall dry-stone pack wall. It gains the very unusual remains of chamber D5E, once a normal working chamber, but back-filled from C5E above, then ultimately walled off at the top where once existed a bridge. It must have looked very different in here in the mid 1890's.

The traverse crosses the scree-slope to regain the short remaining section of D floor that opens into the void of 4 West. It is possible to do a pull-through abseil here (circa 8m) into 4 west, to then scramble back down to E floor below.

B.O.D. - Bridge of Death Traverse

This bridge connects chamber E11E (that the Corkscrew Traverse climbs), with the rest of the upper back vein workings. The bridge is missing its deck, but the two main baulks of north American pitch pine remain in-situ and solid - despite their age and spending the first 30 years of the 20th century submerged under deep water.

There is a traverse rope crossing the bridge to enable it to be crossed safely. This traverse rope is suspended from a steel cable due to the roof being unreachable for intermediate anchors. When crossing (on either baulk) it is better to clip into the rope rather than the cable.

V.F.L. - Pillarmans Ladder (Via Feratta)

This ladder, about 18m in height, provides a practical means of getting down to E floor for an explore without having to wade through the water at the base of the incline. Or descend the B4W traverse and come up the ladder for a round trip.

The ladder consists of a series of meaty 1" re-bar steps driven into the slate wall. Due to the variable quality of the rock, the steps placements are somewhat erratic. There is a cows-tail line that must be clipped to - never be tempted to climb or descend it unprotected.
The steps run next to an original wire-rope ladder belonging to the Oakeley men. Clearly one of their team was tasked with thinning this chamber wall, his ramshackle caban can be seen at the top along with a novel. The original ladder is still satisfyingly solid, but is best left unmolested.

**E.L. - Z38 Ladder**

This pitch is a vertical electron ladder (about 8m) up to a small platform made from old railway sleepers. From here follows a lose and exposed scramble up into the roofing shaft, then up on to DE floor French Level. The cowstail lines must be clipped to and the ladder ascent/descent must be belayed.

There is now a flop-jack installed at the top of this pitch that collects dripping water into a water drum. When this drum is full it automatically topples over, flushing the water down the roofing shaft before self-resetting. It usually flushes about twice a day, the purpose being to gradually wash away all the loose grit on the climb.

**W.C. - Waterfall Climb (Z44)**

This rising traverse provides an alternate (if rather wet) means of climbing between Cwmorthin E floor and Oakeley G floor. Steep and slippery but not difficult.

**Narrow Vein Features, Traverses and Pitches**

**N.V.I - Narrow Vein Incline**

This sloping tunnel connects Lake Level to Floor A in the Narrow Vein. It is not and never has been an actual incline, only the Old Vein and Back Vein have true inclines. It was originally a very constricted roofing-shaft, but in recent times has been dug out to make passage much easier. It is a more pleasant way to descend the mine than using the nearby Old Vein Incline. It was named out of pity for the Narrow Vein, for the rock men never saw fit to give it an incline of its own.

**Old Vein Features, Traverses and Pitches**

**The Dip**

This chamber connects the bottom of Cwmorthins Old Vein to the extreme western end of Oakeley's DE transit floor. It used to be a very wet connection, requiring a wade in chest-depth water but in recent times a small bridge has been constructed allowing passage across the deep water.

**E.J. - EJ's Island**

An Island between two zip lines, so called because on the wall is written the letters E.J. - presumably the initials of one of the last rock men to be there before the floors were worked away in the 1890's.
The Bridge of Peril

B2W is spanned by a Burma Bridge constructed from heavy steel chain and old railway sleepers. It is modern (built in 2017) but constructed in such a way as to blend in so far as reasonably practical with its surroundings.

Despite looking very substantially constructed (which it is), the tyrolean forces on this type of bridge dictate a very low maximum-load limit. 1kg of weight on the bridge places 10kg of force on the bridges anchors, and given the already substantial weight of the deck it is important that no more than one or two people should be on it at a time. Tempting as it might be to jump up and down to make it wobble - it is very stressful to the bridge to do so.

There is a safety clip line for cowstails and it must be used, don't be tempted to cross without it. A fall from this bridge would involve an initial 60 foot airy freefall onto the steeply sloping broken rocks below, then a bounce down these to D floor about 60 foot further again. Not a journey to be recommended.

M.L. - Miles's Ladder

This 18m climb from B to A floor uses thick steel rungs fixed into the chamber wall like a Via Ferratta. It is very similar to the one in the Back Vein.

N.C. - Nemesis Climb

A series of steps connects A to B floor in 4 West. The name suggests that it is hard to navigate - but actually it is very straight forward. It earned its name when it was installed, proving extremely difficult to clear of dangerous loose rock.

E.P.B. - Extreme Picnic Bench

A short bench exists here between two ropes sections as a means of providing somewhere for a small group to rest. The only place for the bench to go is out on the main working face, which although not vertical, gives an exposed view into the huge Chamber 4W below.

C.L. - Cheese Ladder

A roped climb up from D floor, in two parts, to B floor. Orignally bolted to provide a means of climbing up to an isolated section of B floor (before the zipline was installed), it was bolted into rock that decreased in quality the higher it went. Near the top, the rock was so bad that almost every anchor placed just fell out, and gaining B floor required some very desperate moves. The route remains rigged for explorers to use.

T.T. - Tagnuts Terror

The top of this innocent looking flight of stairs was the scene of an unfortunate accident involving an explorer getting a small but sharp flake of slate in his eye. Instinctively rubbing it, the slate fragment sliced open his corona and put him in A&E. and off work for some time.
**A Trespass Warning**

Permission to explore Cwmorthin and the westernmost extremities of Oakeley extends only to the ridgeline of Allt Fawr, beyond which the land ownership and mineral-rights belong to Welsh Slate PLC. This company does not want explorers in Cwmorthin passing underground into their property, and as tempting as it might be to "pop in for a sneaky look", it is of the utmost importance that no such indulgence be taken. There are signs at the boundary, please don't cross.

It might seem harmless, but if you hurt yourself in there and require a rescue, or simply just get caught, you will open a huge can of worms that will jeopardise all access to Cwmorthin for everybody, threatening jobs, damaging local land owner relationships and undoing years of hard won negotiations and trust.

There isn't much of interest beyond the boundary anyway other than some empty chambers, most of Oakeley on that side of the hill is either flooded, collapsed, un-topped or cut off from access by heavy fall. Maybe one day that small part of the workings will be open to explorers, but until then, please leave well alone.

**A Final Note**

Many miners and quarriers tragically met a violent end within the three dimensional labyrinth of tunnels and chasms deep under the Allt Fawr. The majority of these were victims of gravity, either by falling to their death from a great height, or by the roof falling down onto them. Remember that you are no less delicate or breakable than they were, the vertical drops are no shorter, and the roof weighs no less. Treat the mine and her many dangers with caution and respect, and hopefully her fatal accident statistics won't get an extra entry with your name on it. Have fun, but be safe.