

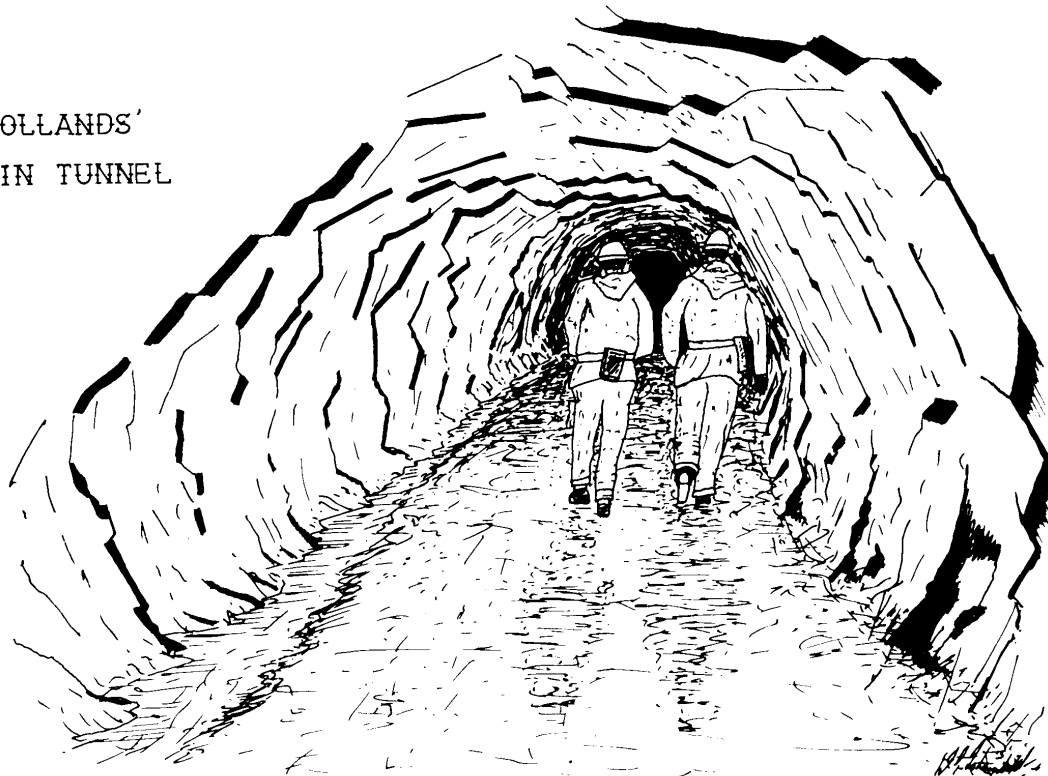
AN UNDERGROUND WALK

INTO THE
SLATE
MOUNTAIN

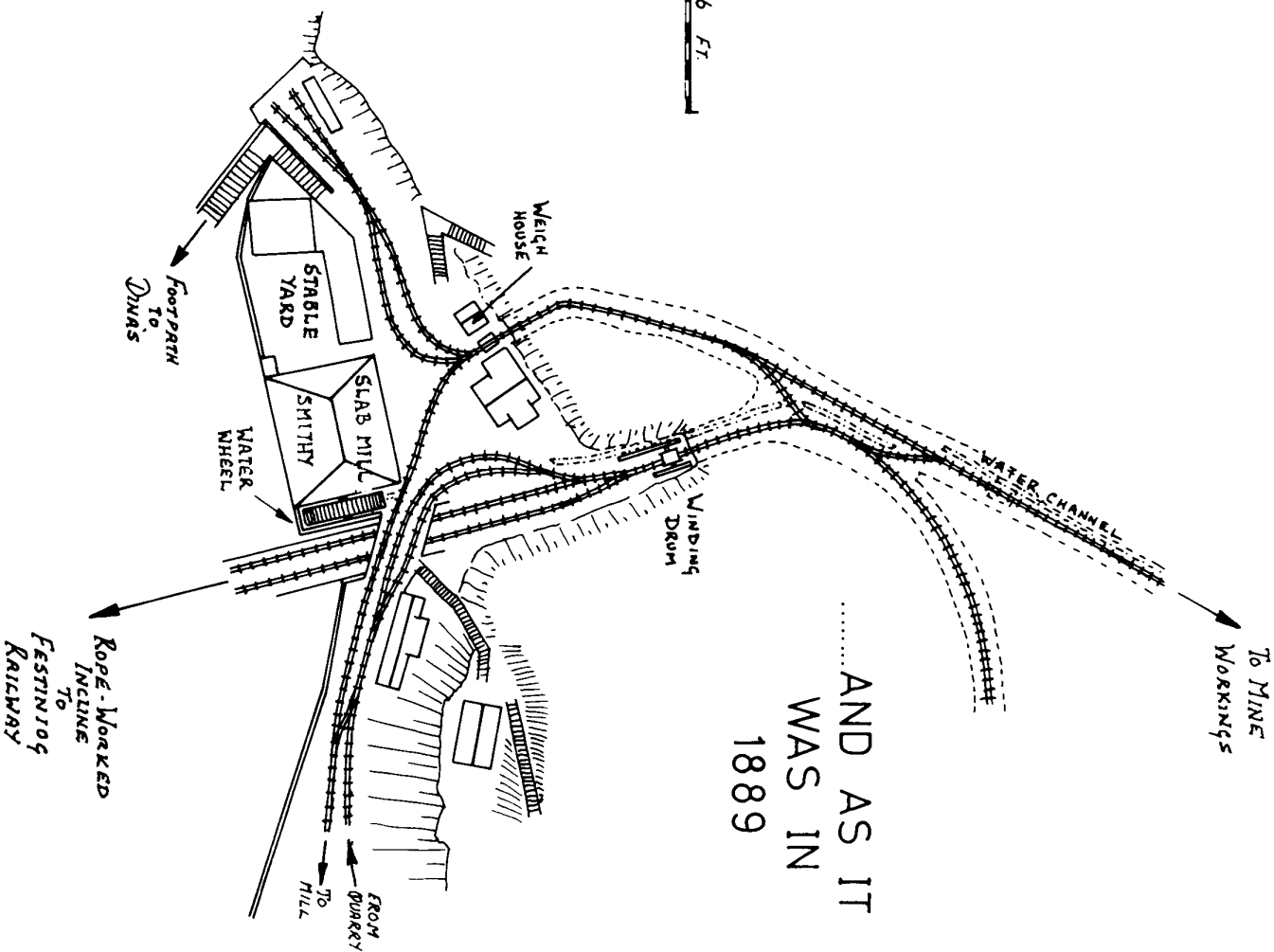
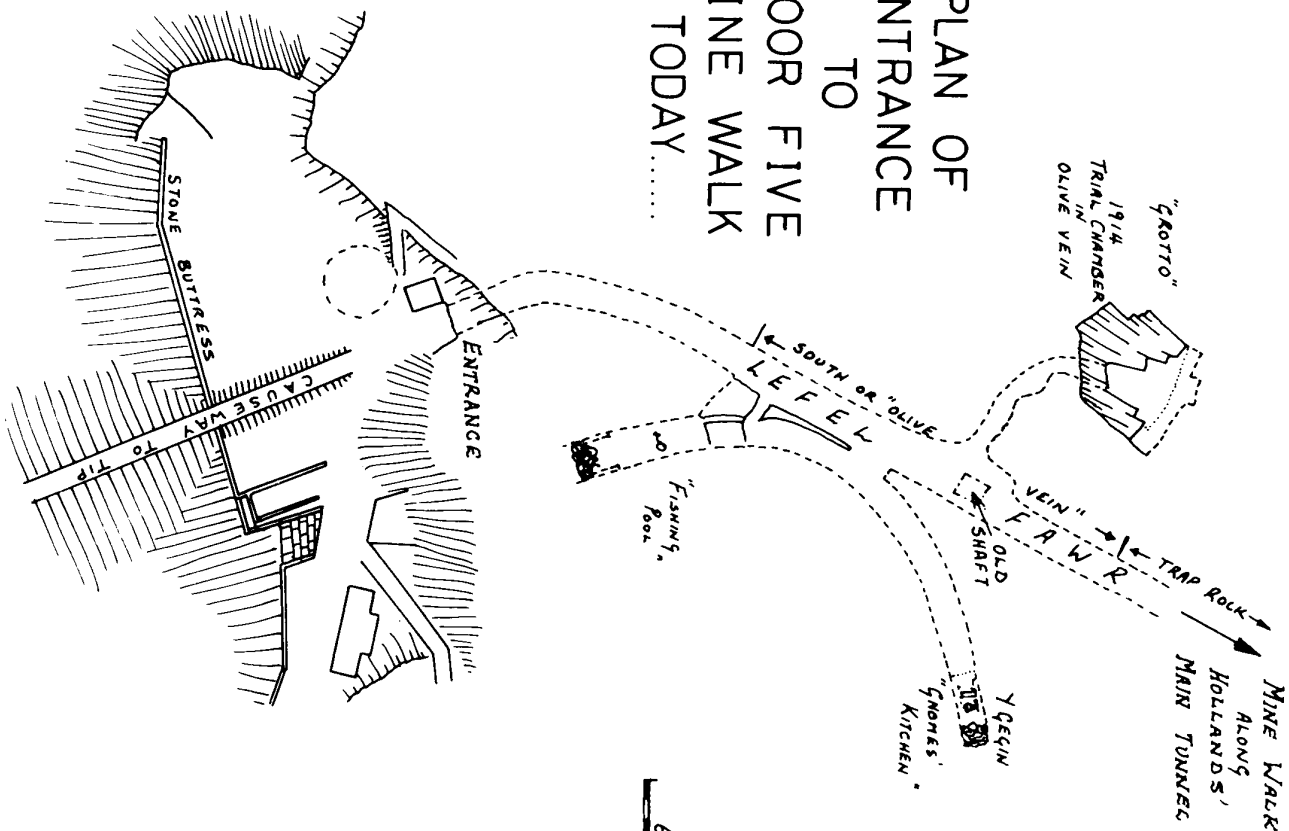
ON FLOOR FIVE AT

GLODDFA GANOL
SLATE MINE

HOLLANDS'
MAIN TUNNEL



PLAN OF
ENTRANCE
TO
FLOOR FIVE
MINE WALK
TODAY.....



AND AS IT
WAS IN
1889

FLOOR FIVE MINE WALK INTO THE MOUNTAIN

INTRODUCTION

This is an illustrated description of the workings, now open to the public for the first time, at "Gloddfa Ganol", the Middle Quarry of the old Oakeley Slate Quarries, the Largest Slate Mine in the World. It is intended to give both a little explanation and a little history to help the visitor understand and perhaps, remember what he or she has seen.

This particular "Walk" is on one of the thirty "floors" or levels by which the slate was worked. These floors ranged from the highest, No. 16 at about 1,600 feet above sea level to floor R, the lowest, some 500 feet or so below the level of the town of Blaenau Ffestiniog itself. Each floor was roughly 50 feet above the next, although this varied greatly throughout the quarry, owing to its complicated history, some five companies in 160 years having had a hand in its development.

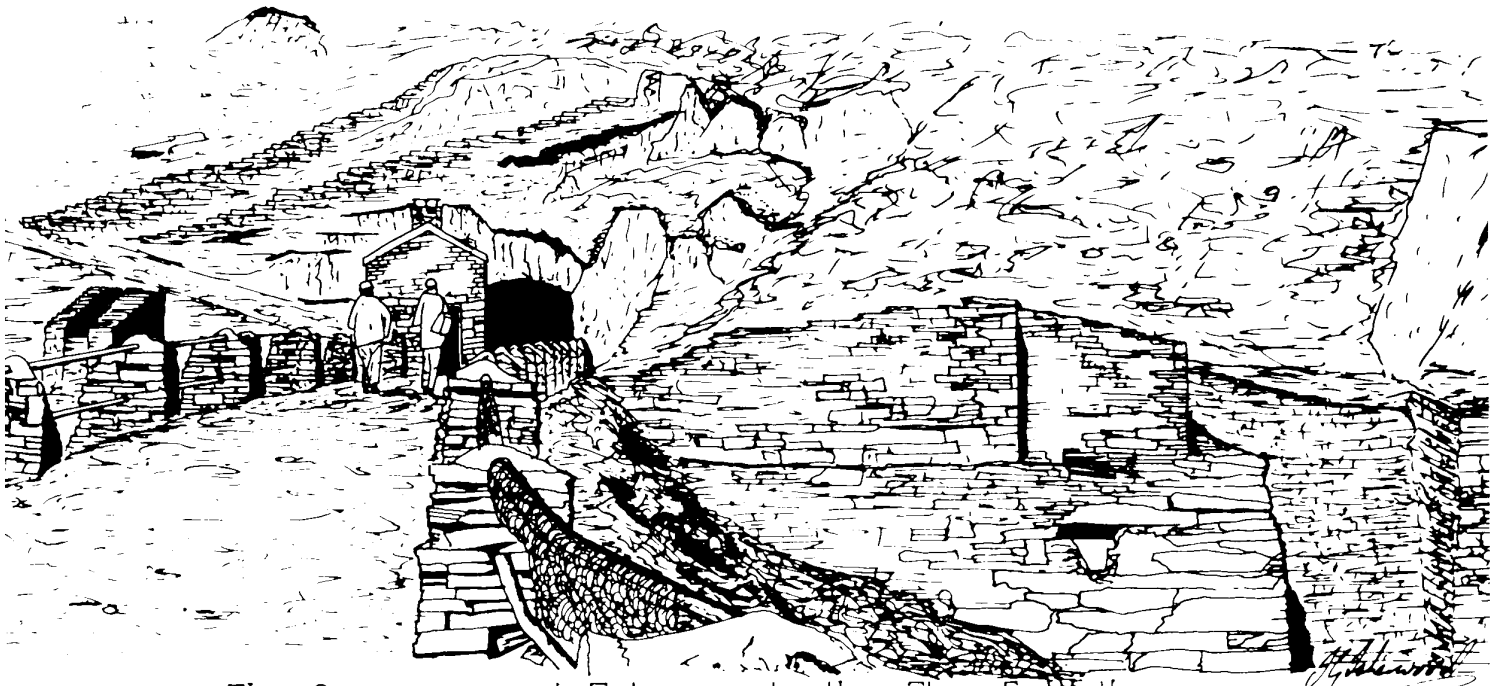
This walk is basically in two parts, the first, close to the surface, has been arranged simply to be of interest to the very small children who are not likely to be interested in the workings as such, or whose parents may not wish to take them further into the mountain, and it is made to represent a part of fairyland complete with gnomes, dragons, etc. The second part involves the visitor in about a half mile walk further through the long passage known as "Hollands' Main Tunnel" to the deep workings in the "New Vein" — a sight well worth the journey.

Visitors are reminded that the underground workings maintain a fairly constant temperature of about 50 degrees F., so warm clothing is strongly recommended, the ventilation is equally constant and so smoking is permitted, there are no dangerous or explosive gases in slate mines! However, water does find its way into the workings even on the driest day, but it drains away to the lower floors with no chance of flooding.

THE FLOOR FIVE WALK

The Walk begins near the extreme southern end of the Gloddfa Ganol site, on the top of the Great Tip, "Domen Fawr" in Welsh, which towers some 400 feet above the river Barlwyd and the British Rail line to Blaenau Ffestiniog. The tip is in some parts nearly a century old and is composed of the millions of tons of waste produced as an inevitable result of the quarrying and slate making.

The Floor Five Walk begins where the flow of slate from the mine ended, it is a causeway built up of the same waste as the tip which it joins to a broad stone-built buttress, jutting out from the mountainside. To the right is a recently rebuilt slate "Dressing Mill" where the raw slabs from underground are converted into stacks of thin grey-blue slates that made the name of Ffestiniog Slate and the Oakley Quarries



The Causeway and Entrance to the Floor 5 Walk

in particular, famous throughout the World. This mill originally belonged to Samuel Holland, one of the pioneers of the Ffestiniog Slate Industry. Built in about 1868 and in work until the first World War, it was originally driven by a steam engine and boiler, whose dry slab stack still stands sentinel over the silent ruins. The mill was converted to 500 V A.C. electric drive in 1906 along with the rest of the quarry, apart from the workings, which were lit only by the men's candles until as recently as the late 1940's when electric cap-lamps were introduced.

It is perhaps surprising today, after a lapse of seventy years, to see slate making in one half of the mill. The other half houses the Narrow Gauge Railway collection. On this ground, gained at great labour from the face of the mountain, was a stable for the horses working through the tunnel from the mine, a smithy and a small mill for producing slate slabs. These latter two were powered by an overshot water wheel, housed deep in the solid rock of the buttress to the right of the causeway. The deep slot, still visible on the right is not, however, the wheel's location but that of a rope worked inclined plane, since filled in, which carried Samuel Holland's slate down the mountainside to reach the Ffestiniog Railway 400 feet below. This was replaced in 1905 by the new incline whose ruined drumhouse stands at the entrance to Gloddfa Ganol.

INTO THE MOUNTAIN

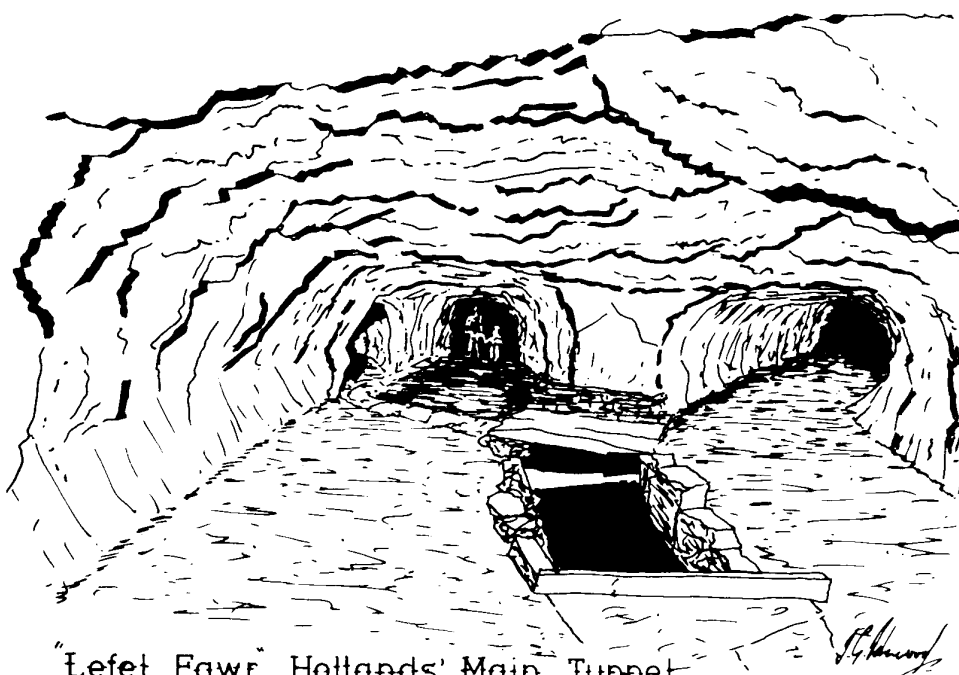
The mine entrance looms ahead now, and the sign above the entrance, "HELMETS MUST BE WORN", reminds you that the rock is hard — especially when you are not expecting it! The workings which you are about to visit are periodically examined for safety reasons, but the roof is, in places, low and rough and it would be foolish not to wear the protection provided.

Just inside the entrance, fixed to the left hand wall, is a slate plan showing the arrangements on the buttress in the 1890's. Helmets are to be found in a rack on the opposite wall, and once eyes are adjusted to the dim illumination and heads safely helmeted, you can advance into a widening of the tunnel. Here, in days gone by, traffic was sorted for the mill and to and from the main incline. This was reached by a narrow tunnel parallel with the entrance, now a pool of water where once wagons of blue-grey slate poured in a never ending stream to roof the houses of Britain and buildings overseas. The water comes from the workings, it now runs to waste, although it originally powered the water wheels outside.

It is perhaps surprising today, after a lapse of seventy years, to see slate making in one half of the mill. The other half houses the Narrow Gauge Railway collection.

Three other tunnels extend from this wide section, one to the right ending in a rock fall, this tunnel may have been the original entrance, for the sharp eyed visitor may spot that the long smooth drill marks on the walls point towards the widened area, not away from it!

Turning back to this wide section, and after negotiating the old water channel in the floor, a narrower passage leads off to the left. The tunnel is low roofed and ends in the "Grotto", this was actually a trial chamber,



"Lefet Fawr" Hollands' Main Tunnel

driven in 1914 to test the quality of the slate rock in this part of the mine. The slate belongs to what is known as the "OLIVE VEIN" on account of its colour. As can be imagined, very little rock was removed from the chamber, but it was sufficient to prove the value of the rock which was worked on a much larger scale higher up in the mountain.

Before moving on, it should be noted that the remainder of the walk apart from the lighting and a little necessary safety work, is very much in the state in which the men of the quarry left it.

HOLLAND'S MAIN TUNNEL

The sign, "TO THE MINE," leads you under a corrugated roof, on which water falls constantly on even the driest day, running into a channel at the side of the tunnel. Above, invisible, is one of the old shafts, now blocked from which the tunnel ahead was driven. You are now walking in what was the main traffic tunnel of Samuel Holland's quarry. Known as "Lefel Fawr," in Welsh, it was driven in 1839-40 to connect his mine workings with the Festiniog Railway, and also to comply with the terms of his lease of the site from the Oakeley family of Plas Tan y Bwlch, near Maentwrog. The tunnel was originally nearly 2,000 feet long and was driven entirely by hand and black powder. Occasionally on the left hand wall can be seen rusting iron stanchions, reputedly the remains of Holland's attempt to light the mine by gas! There used to be a drainage channel for water at the foot of the left hand wall, but this has largely been covered over to provide a safe dry walkway.

Most of the present length of the tunnel is through Granite known as the "Glan y Pwll Trap Rock," by the quarrymen. About halfway along, the sound of water can be heard again as you pass beneath another blocked shaft. Eventually the tunnel ahead is blocked by a hut and your steps are directed to the left into a side passage. Beyond the hut, the tunnel continues on into the present workings of the quarry and in the event of an emergency, forms an exit from the walk.

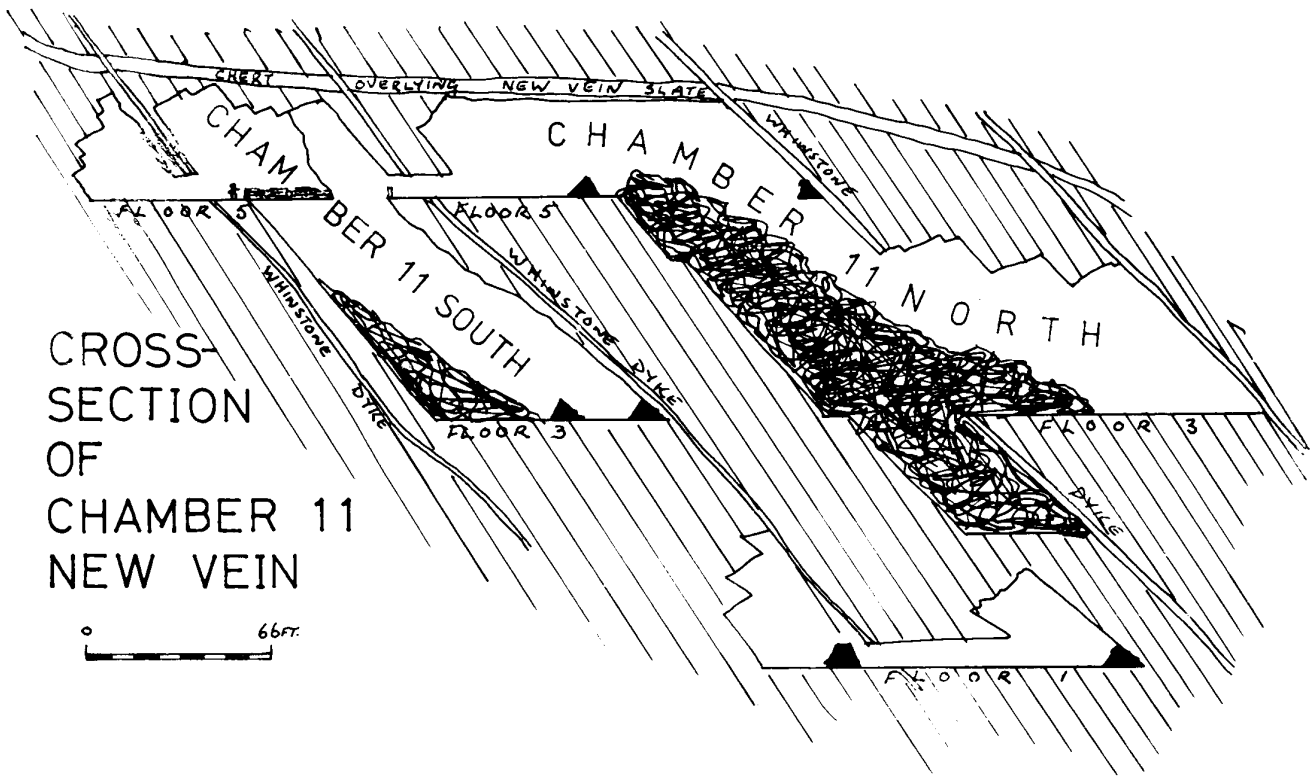
The passage is relatively narrow now, passing through a slab-built doorway, into the first opening or "Chamber" of the workings here on floor five. These are in the "New" or "Deep" Slate Vein, dipping into the ground at an angle of about 35 degrees. This dip was the principle cause of slate MINING being developed at Ffestiniog as opposed to the vast open quarries of Penrhyn and Dinorwic in what used to be Caernarfonshire.

CHAMBER 10 NEW VEIN

The chambers in the mine were numbered in two series from east to west. B17 was the most easterly while No. 48 was the most westerly. Each chamber was about forty feet wide, when fully opened, with a similar width of solid rock "Wall" between it



Entrance to Mine at end of Tunnel

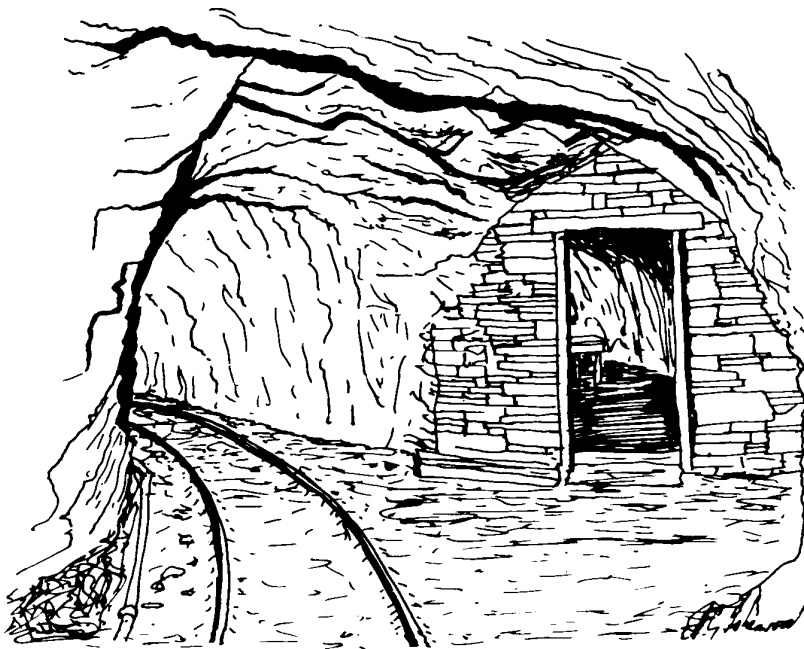


CROSS-SECTION OF CHAMBER 11 NEW VEIN

and the next chamber which served to support the "roof" of useless granite or chert over the chamber.

Here, in chamber 10, you meet the tramway rails for the first time, its gauge of about two feet gave rise to the Festiniog Railway as an economic means of transporting the produce of the mines to the sea at Porthmadog some 14 miles away. This tramway, for the movement of slabs to the mills and rubbish to the tips, gained entry to the chamber off to the right of the present entrance where the roof drops down towards the floor, but heavy handed operations at the end of the mines' life blasted huge blocks of rock down into the chamber blocking all means of access save the present one.

Ahead and to the left, rails pass beneath a section of timbering into Wall 11. This timbering, similar to that in a coal mine, was often used when the level had to pass through broken ground or chambers full of fallen rock. In this particular case, the same operations that blocked the original entrance have shaken the side of the chamber wall and the timbering is a sensible precaution. The level ahead through the slate rock is typical, the right hand wall smooth and steeply inclined at the natural splitting or "cleavage" angle of the



Junction in Wall 12, Caban on right.

slate, the opposite wall being contrastingly rough and broken faced.

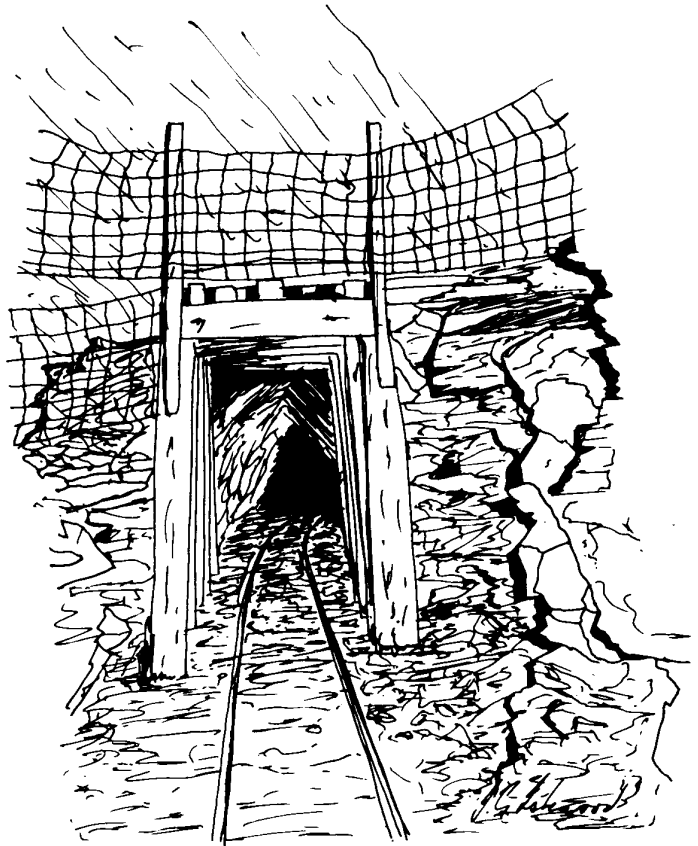
CHAMBER 11 NORTH NEW VEIN

The level emerges into a wide opening on both sides, to the left a shadowy opening in the rock gives a view over a low wall into a chamber beyond. In fact this is the same chamber, No. 11, which has been worked here in three distinctly but linked parts, owing to the presence of hard bands of rock called "Whinstone Dykes" cutting through the slate at a steep angle, about 50 degrees to the horizontal. You are standing in Chamber 11 North, looking through a hole cut in one of the dykes into Chamber 11 South. Invisible from your viewpoint, Chamber 11 South drops away beneath your feet to floor 3, roughly 80 feet below. On the far side of the chamber, other visitors move about, giving scale to the scene. Turning, the full height of chamber 11 North can be seen in the light of the lamps,

visible too, beyond the safety fencing can be seen the piles of broken rocks, brought down like those in Chamber 10, but in this case in far greater numbers dropping away out of sight, following the roof of the chamber down into the depths to floor 3.

Arrows beckon you onward into Wall 12, but instead of leading through into chamber 12, the level turns immediately to the left inside the wall. This section is wet and water drips continually from the roof to the tramway. After about twenty yards a junction is reached, the tramway taking the left arm. The right hand branch is almost filled with a slab doorway and a sign carrying the legend "CABAN". The "Cabannau" were scattered throughout the mine, some, as this one, in abandoned

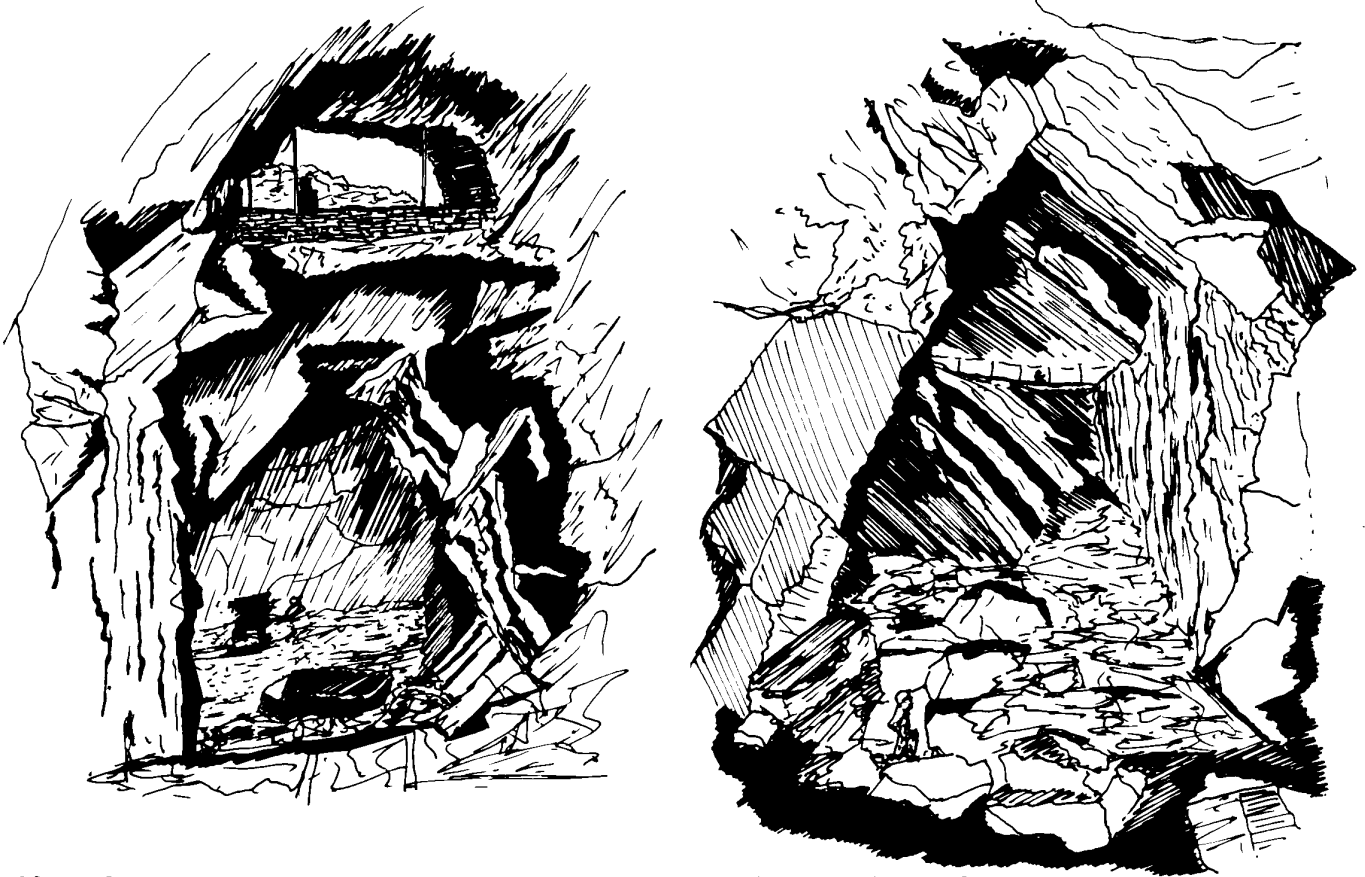
levels, other were purpose-built huts of slate or wood, but all served the same purpose. Originally a simple place for the men to eat their mid-day meal and brew the tea, they became almost an institution holding formal meetings with minutes, officials, etc. They formed an important part of the social, political and religious life of the men. A table has been added to give a better impression of this caban, which can only have held a few men compared with the far larger cabannau on the long deep floors.



Timbered Level in Wall 11

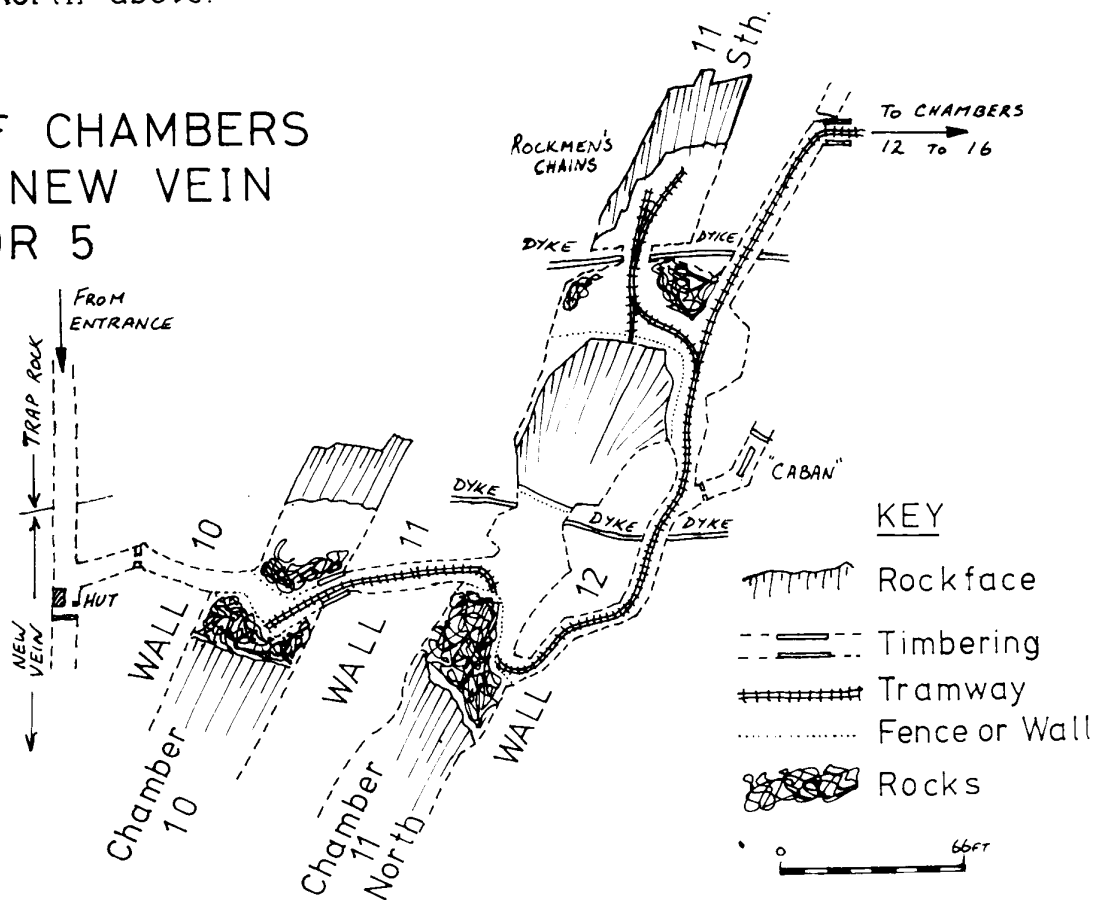


Chamber 11 North



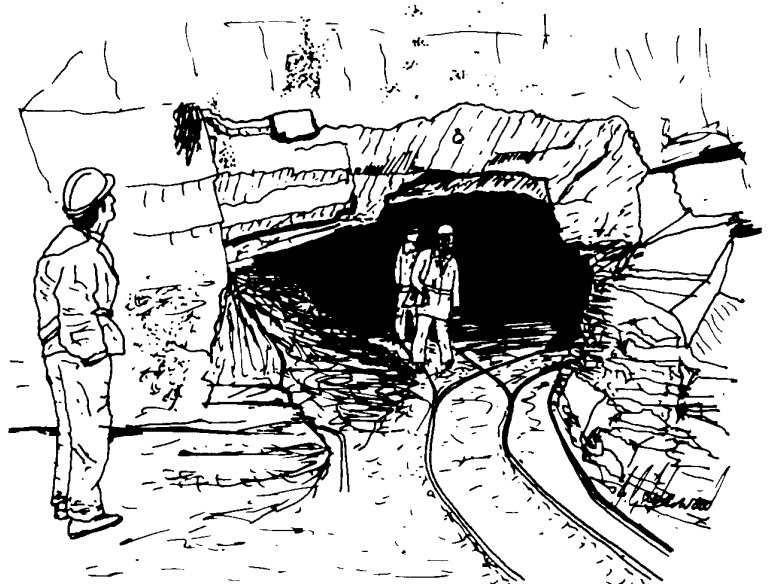
Chamber 11 South New Vein looking up from Floor 3 and looking down to Floor 3 with Chamber 11 North above.

PLAN OF CHAMBERS 10 & 11 NEW VEIN ON FLOOR 5



CHAMBER 11 SOUTH NEW VEIN

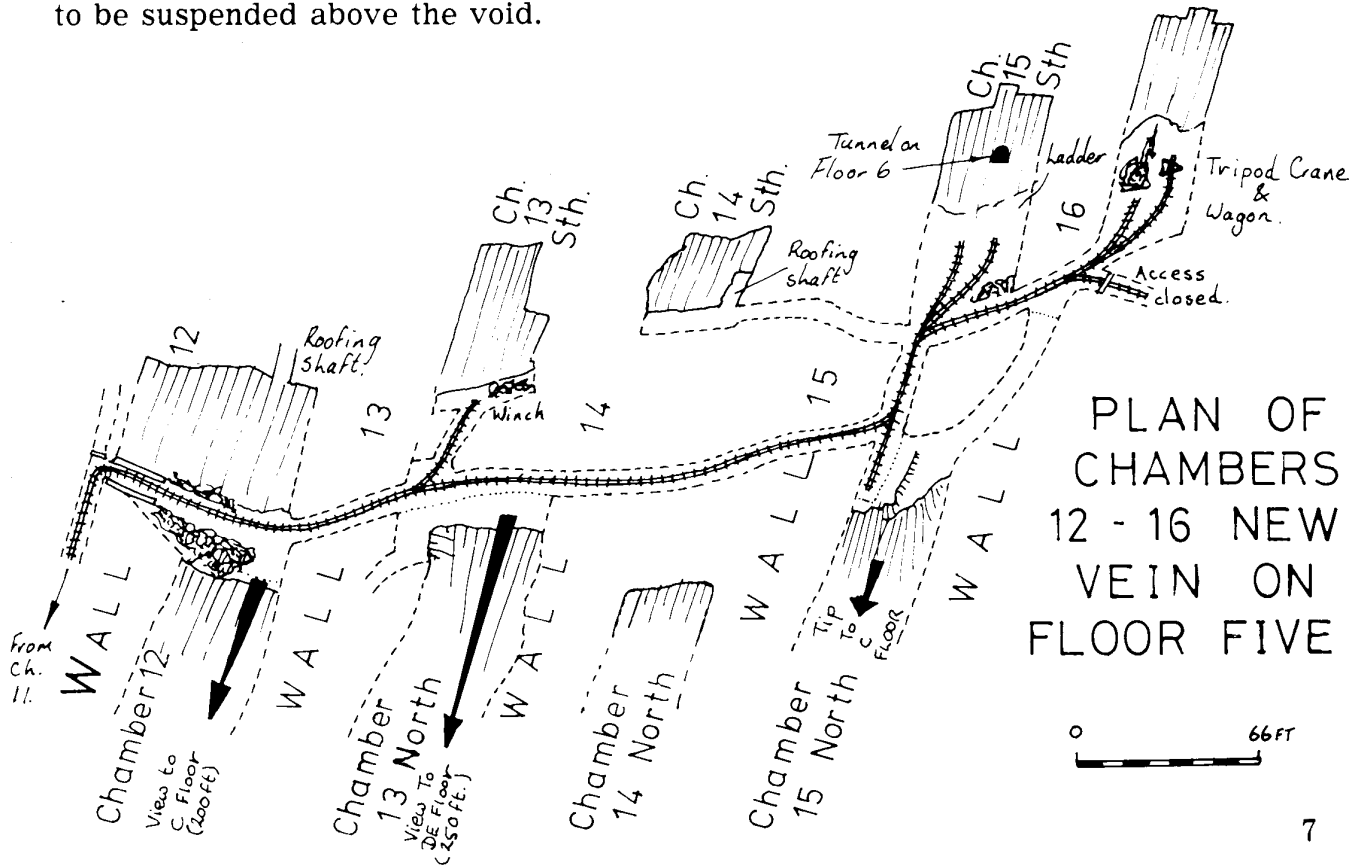
Following the tramway again, the left hand wall of the level suddenly recedes and is replaced by a low slabbed wall topped by a fence, beyond it are the illuminated depths of the chamber dropping down to floor 3. After a few more yards the tramway splits, part heading straight into the wall, the other arcing to the left across the floor of the chamber, skirting the low wall. The tramway then turns right and you pass through another hole driven through the whinstone and into the third and last part of chamber 11 where the chains still hang on the rock, perhaps awaiting the return of the men. Seeing them gives one a thought for the men who used them wrapped in a half-hitch over the thigh to cling fly-like to the rock face. Not for nothing were they



Chamber 11 South hole in whinstone.

known as “creigwyr” — the rockmen. Trying to climb these rusted old relics is **NOT** recommended, many have strange crystal-like growths on them and they are all uncertain in strength. Below the chains, awaiting, like them, the return of work is one of the slab wagons or “sleds” on which the slate slabs for the mills was transported.

Back in chamber 11 South, rails from the chain chamber lead to the edge of the abyss, for the drop below to floor 3 was used for three purposes in its life. Firstly as a source of slate, then as a temporary incline to let the slab wagons down from floor 5 to floor 3 where an outlet to the mills existed and finally as a place to tip waste rock, rather than tram it the long distance to the outside. From the rails’ end you can look down into the floodlit depths, where another wagon — for rubbish this time—gives scale to the chamber, and across to the viewpoint in chamber 11 North which seems to be suspended above the void.



CHAMBER 12 NEW VEIN

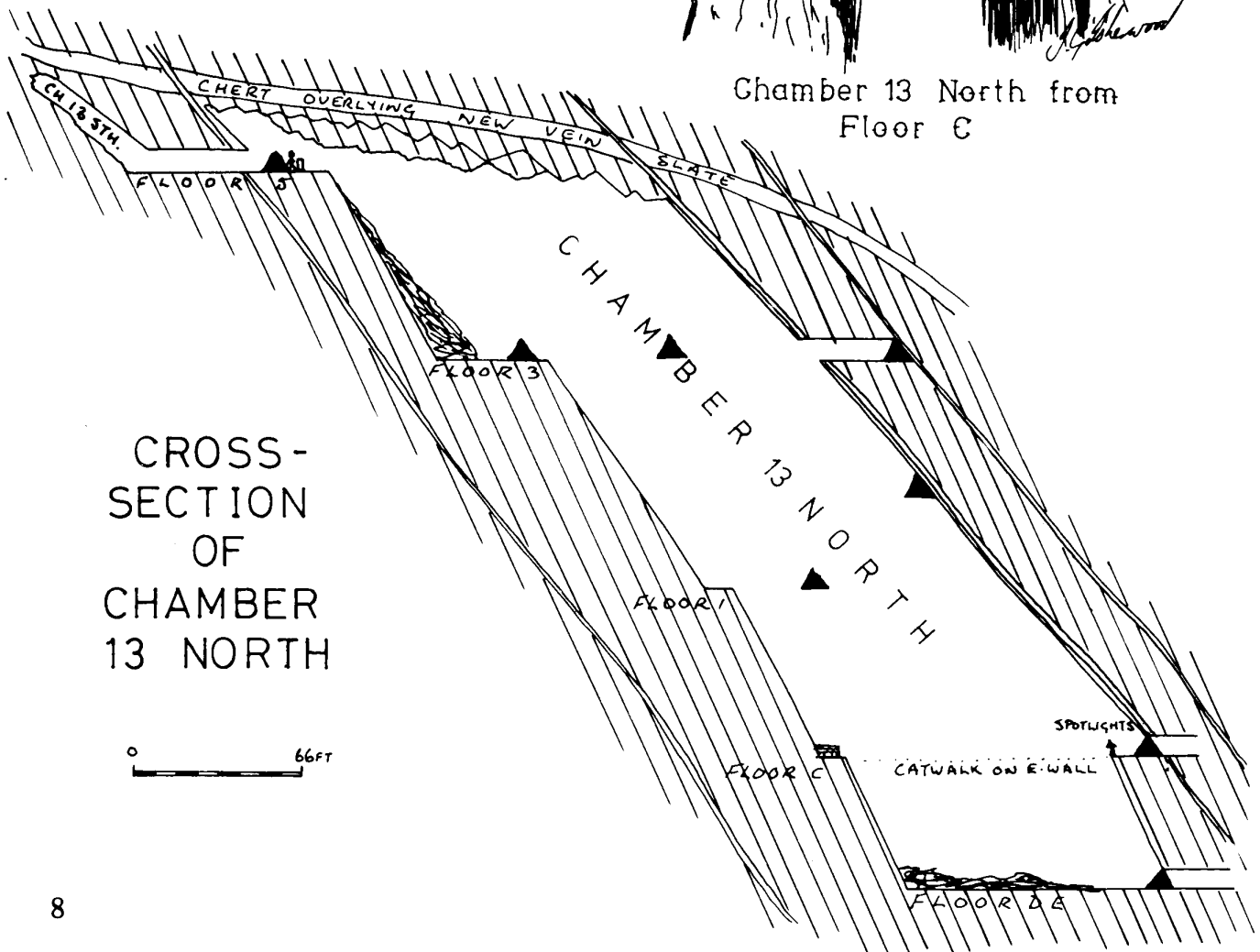
Following the tramway back into the wall, it almost immediately turns to the right through another short timbered level and you emerge in the top of chamber 12 North, hardly worked on floor 5. A smooth pristine slab of rock slopes away and above steeply overhead and down to the right. Further on, nearer to the far wall, a viewpoint in the low slab wall allows you to view the depths away far below you to floor C some 200 or so feet below.

CHAMBER 13 NEW VEIN

The level leads on through Wall 13 into a similar chamber to the one just visited, except that here the tramway ledge is much narrower and only a low slab wall separates you from the long drop to floor DE, 240 feet and 6 floors depth beneath you. The discerning eye may spot, dimly illuminated, the platforms of the other floors, 3, 1, C going down like giant steps immediately below.

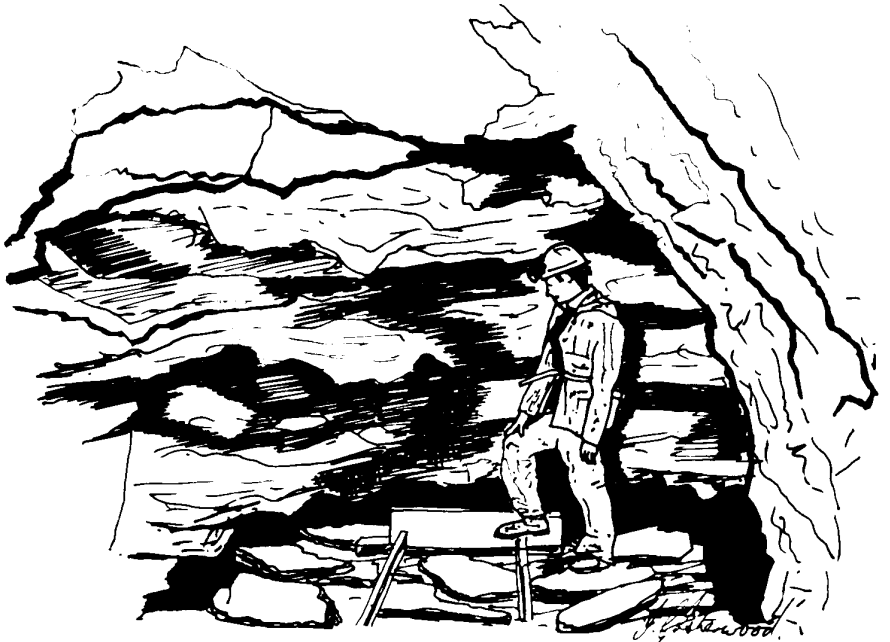


Chamber 13 North from Floor C



Behind a level has been driven through the whinstone again to reach chamber 13 South, here only partly opened, a winch standing mute evidence of the desire to continue but it has been immobile since the work stopped, many years ago.

The passage through the next wall seems very long compared to the others you have passed through both Walls 14 and 15 as well as the section where chamber 14 would have been if it had been opened from chamber 14 North, if that chamber had reached so high.



Tip Gallery in Chamber 15 South

CHAMBER 15 NEW VEIN

Here you emerge at a junction, the left arm swinging into chamber 15 South, the other leading you out on to a built-up mound of slabs. This was a tip head or "gallery" where wagons of waste discharged their cargoes into the worked out chamber below. Far below, at the foot of the tip, is C floor, the remains of the other floors being buried beneath the waste. To tip their load, the wagons were attached to a chain lying between the rails and then pushed towards the tip head, at the last moment the chain would become taut and the momentum of the waste would carry it out of the wagon and over the tip. That at least was the theory, but there were few tips indeed that did not have their graveyard of broken wagons at the foot to testify to occasional mishaps!

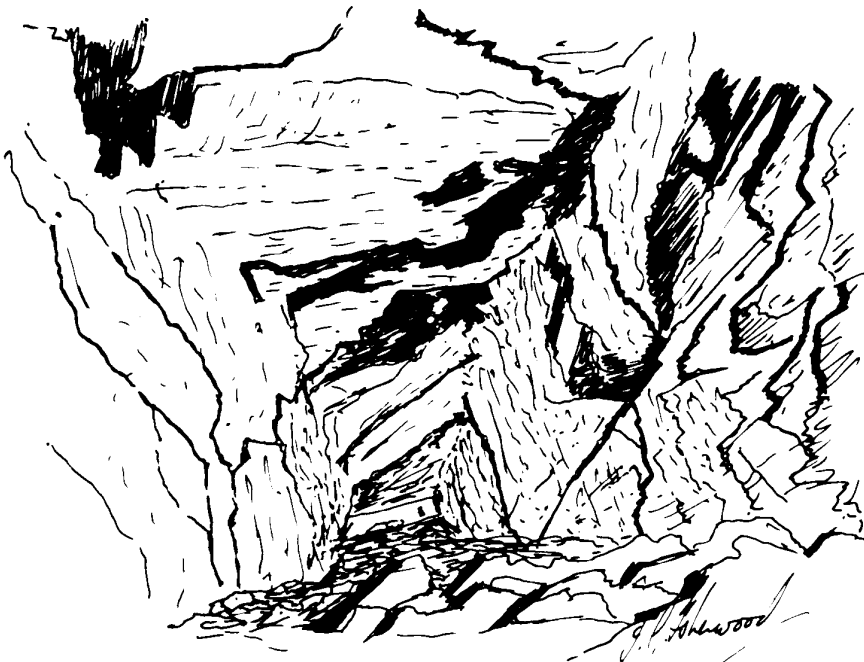
Chamber 14 South is reached from a small level back through Wall 15 just before chamber 15 South, but as can be seen has not been developed very far.

Chamber 15 South, on the other hand, has been opened and worked quite extensively, as the rock was found to be particularly fine grained, although the layer near

the entrance was marred in the first instance, by bands of Iron pyrites, "Fool's Gold", cubical yellow crystals which spoiled the smoothness of the slates. These, however, disappeared as the rock was worked deeper, the size of the chamber on this floor testifying to the value of the rock that it once contained. Some traces still remain of the pyrite — perhaps you can spot them.

Above the far end of the chamber, a spotlight illuminates the narrow roofing shaft by which the chamber was initially started and which connects it to floor 6 above.

Another means of access to the heights of the rock



Chamber 15 North looking down to C.

can be seen on the side of Wall 16, where a wire rope ladder is in place.

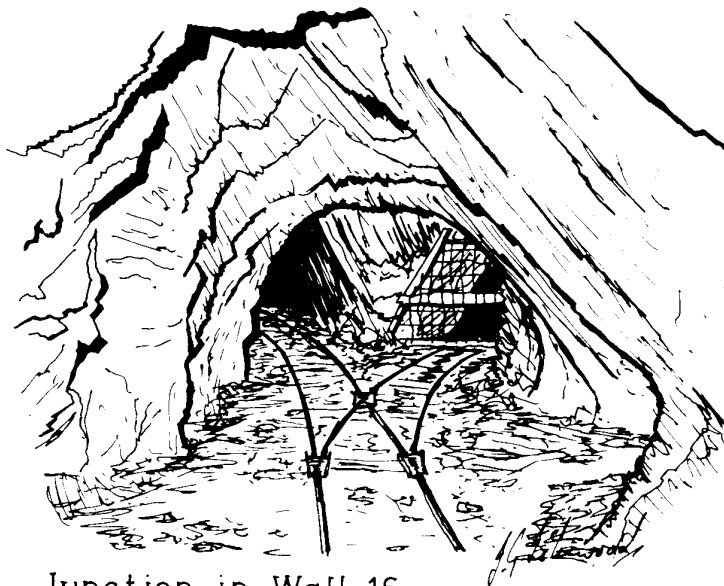
CHAMBER 16 SOUTH NEW VEIN

This is almost identical to, if somewhat bigger than chamber 15, it reaches up above the level of floor 6, itself not developed in the New Vein, and contains an old tripod crane, now restored which used to lift and lower slabs onto the tramway wagons for transport to the mills. Below it stands another slab wagon with its load, patiently

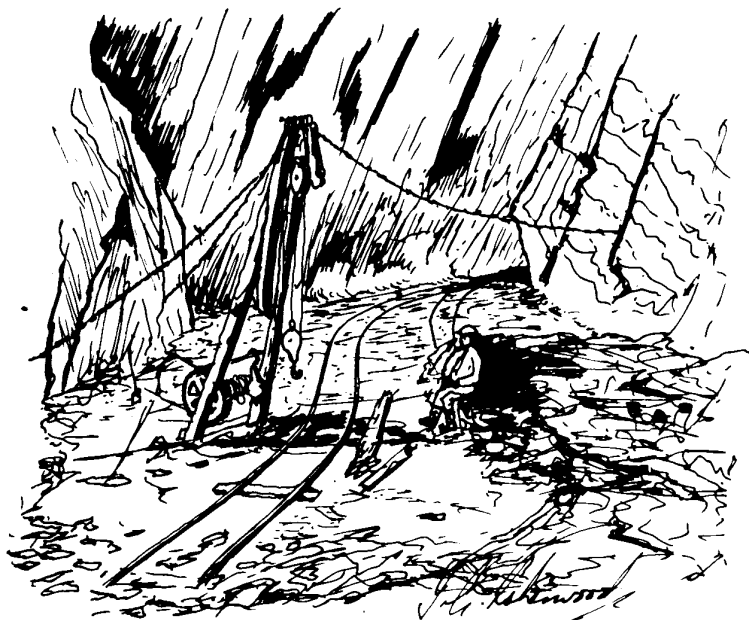
awaiting the hauliers to trundle it away to its destination, while on the working face or "forebreast" of the chamber a slab, hooked and chained waits to be dragged by the crane to its own loading.

In reaching chamber 16, you are at the end of the walk, for although beyond here the level goes on for a hundred yards or so, it ends in an older collapsed area of the workings unsafe to approach even for the well equipped caver. This then is the end, but you have to return, passing as you do so, through some four different ages of workings; Holland's tunnel, the oldest, circa 1840, chambers 10 and 11 and the deep chambers down to C and DE floors which were worked in the 1890's and again in the 1900's, the trial chamber of 1914, and this series Nos. 13 to 16 which were worked originally in the 1930's and again in part of 10 and 11 in the 1960's.

The ages in which the basic method of extracting the rock from the mountain had not changed except in lighting and drilling. Far below you above and to east and west there are vast chambers, some bigger than those you have seen, some smaller; the greatest and the deepest now flooded or filled with fall, truly, this was a hollow mountain, and still remains.



Junction in Wall 16



Chamber 16 South

These workings have not been specially prepared for the public and are unlit, unlike the floor 5 walk, visitors are therefore provided with genuine caplamps and batteries to illuminate their voyage.

FOR FURTHER READING

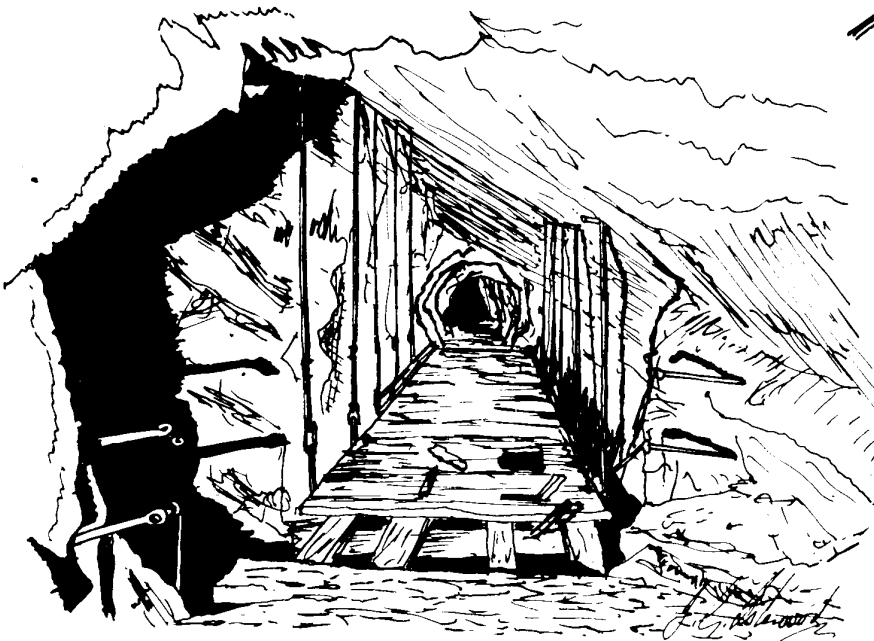
If you have enjoyed your walk underground and would like to know more about Gloddfa Ganol, may we recommend you to look at one of our other publications?

For those more deeply interested "CANDLES TO CAP-LAMPS" describes the history in greater detail and explains how the rock was won and converted into slate. Copies available from the "Mill Shop", where you can also book tickets for conducted "Safari Tours" of the floor 11 workings, conveyance is by "Landrover".

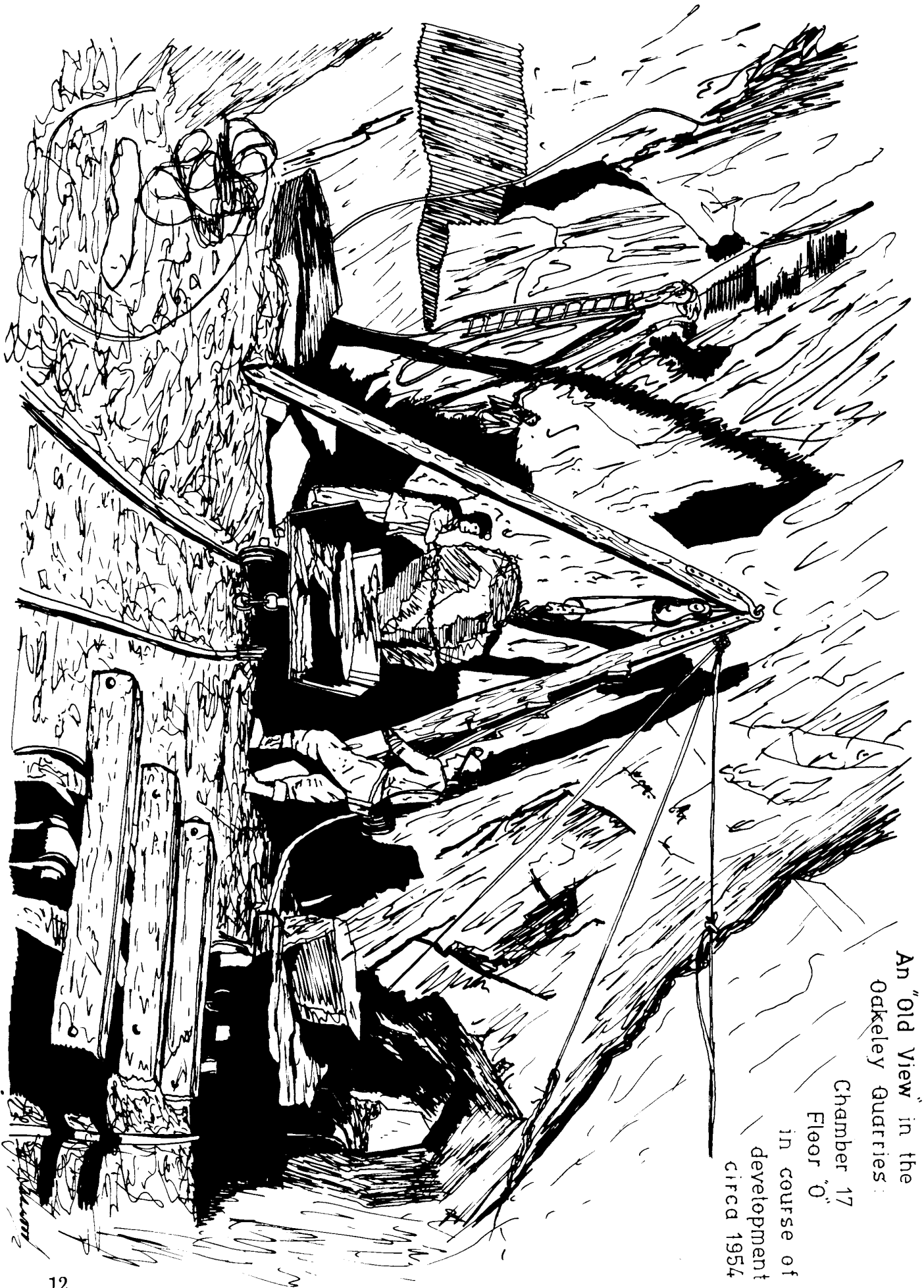
Chamber 15 South
New Vein on
Floor 5



Chamber 16 South
New Vein on
Floor 5



Rotten Timber Bridge
Chamber 17
New Vein on
Floor 3



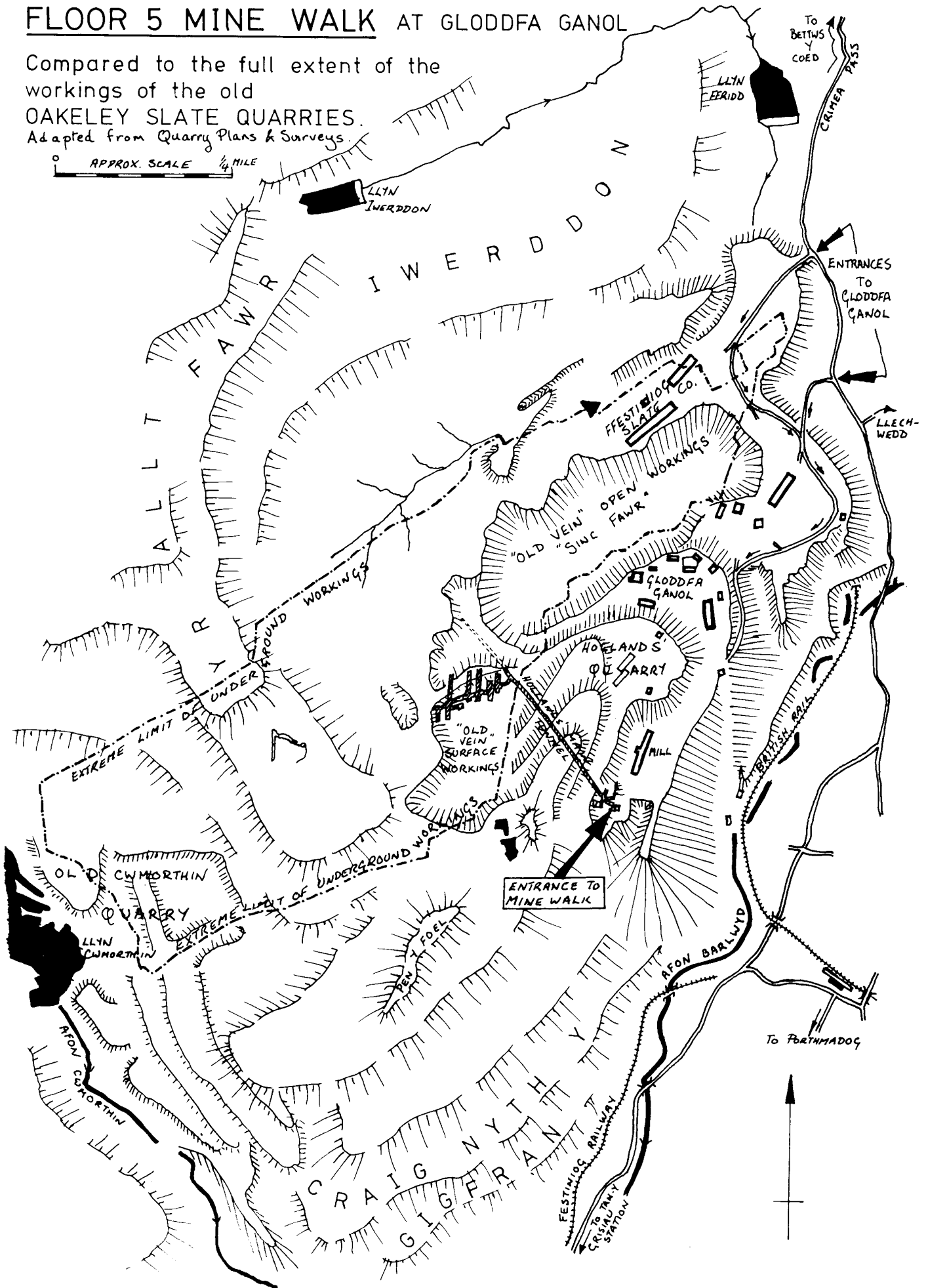
An "Old View" in the
Oakley Quarries:

Chamber 17
Floor "0"
in course of
development
circa 1954

FLOOR 5 MINE WALK AT GLODDFA GANOL

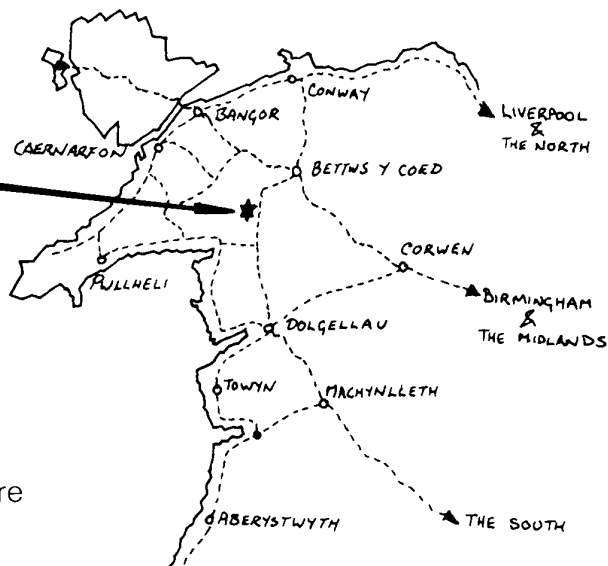
Compared to the full extent of the workings of the old OAKELEY SLATE QUARRIES.
Adapted from Quarry Plans & Surveys.

APPROX. SCALE 1/4 MILE





GLODDFA
GANOL
SLATE
MINE



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GLODDFA GANOL SLATE MINE
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Blaenau Ffestiniog
Gwynedd LL41 3NB
Telephone: Blaenau Ffestiniog 0766 830 664

OPEN

EASTER TO OCTOBER
10 A.M.—5.30 P.M.

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