MWYNA DI—HAIARN SÎR FFLINT

THE NON-FERROUS MINES OF FLINTSHIRE

J.R. FOSTER-SMITH

N.C.M.R.S Occasional Publication
No. 7

THE NON-FERROUS MINES OF WALES

Part 1. Flintshire

J.R. Foster-Smith

CONTENTS

Publisher

Northern Cavern and Mine Research Society, at
37 Broomhall Place, Sheffield, S10 2DG, England.

Printed by the Northern Cavern and Mine Research Society.
Covers and binding by the Craven Herald Ltd, High Street,
Skipton, North Yorkshire.

1974

NB

This publication was originally issued in the 10 by 8 inch format then used by the society. It has now been digitised and reformatted at A5. This has changed the original pagination, which is given in square brackets.

Publishers Note

The manuscript of this book was prepared for publication by the NCMRS in 1967 under the editorship of D.T. Richardson. Due to unforeseen circumstances publication was delayed and volume two of the 'Non-Ferrous Mines of Wales' series, relating to Denbighshire, was published first during 1972. We now present volume one and should emphasize that as the manuscript was compiled prior to 1967 some minor changes have taken place with regard to the current mining position.

We would like to thank G.W. Madoc-Jones of Denbigh for the Welsh translation of the title to this volume.

Peter Jackson
for NCMRS
November 1974

THE NON-FERROUS METAL MINES OF WALES

PREFACE

The purpose of this work is to put on record the locations of and some brief notes upon as many of the non-ferrous metal mines of Wales as it has been possible to trace during a long period of research into the history of the industry. Monmouth has been included with Wales for the purposes of the survey. It is hoped that the information given in these volumes may be found useful not only to students of industrial history, but also to the technical man who has occasion to investigate the mines of Wales.

Many of the smaller mines and trials have now been almost if not entirely obliterated and their location during the preparation of this work has been no simple task. An exhaustive study of old records and reports and of large-scale maps has been necessary, and even when this has been combined with physical examination of the areas in question it has not always been possible to trace all the mines named in old reports.

In a work of this nature it is impossible to claim that all the information given is original, since it is necessary to draw upon all the published sources of information, backed up where possible by a physical check of the sites. The published sources so used are listed in the Bibliographies and those seeking further details of individual mines are referred to such works. Unfortunately the published information is very scarce or even non-existent in regard to some of the mines and areas. In cases where little or no previously published information was found, or where such information is no longer readily available, the notes on the mines given in this work have been made as comprehensive as possible, considering only the limitations of space reasonably available. In this connection it my be mentioned that the issues of the Mining Journal from 1836 (when it was first published) until about 1880, contain a great mass of detailed reports on Welsh mines. At the same time a warning is given that a search for information from this source is likely to be extended and laborious.

An attempt has been made to render the work as complete as possible, but despite this it is inevitable that some of the smaller or more remote mines have been missed. Where groups of individual mines have later been worked together as one group, such as occurred in the Halkyn area, they have been separated again into the original mines as far as possible.

As a further point of interest it may be worthy of mention that considerable difficulty was sometimes encountered in the interpretation of old reports by the commonly used names for mines in Wales during the 19th century. Many of those names were a dreadful mutilation of the Welsh language and to locate the mines to which some

of the names refer has entailed much detective work and the liberal use of a Welsh dictionary, combined with a minute study of large scale maps. This task requires patience and it is hoped that the result is worth the effort.

It is not claimed that the information given in this work is complete or that no mistakes occur, in spite of close examination of the available material, and corrections or additions are always welcomed by the author.

Middleton-in-Teesdale February 1968

INTRODUCTORY NOTES

Included in this survey are all the identifiable mines and trials that have been worked for any of the following minerals or ores:

Lead ores
Zinc ores
Copper ores
Cobalt ores
Gold
Barytes
Witherite
Fluorspar
Pyrite (where it is found in association with any of the

above named ores or minerals.

In the descriptions of the mines the terms barite and fluorite have been used to describe the minerals in situ in the veins and barytes and fluorspar are used only to describe the dressed products as shipped to market.

Mines and trials worked for iron or manganese ores, except when they occur in the same deposits as minerals named above, have been excluded from this survey.

In order to make the list of mines as useful as possible the National Grid reference for each site taken to a point as near to the centre of operations as possible, is given, together with the name of the parish or parishes in which the mines occur.

In order to permit a quick reference to the mines by name, a list of all mine s included within the County, arranged alphabetically, is given at the end of the volume.

INTRODUCTION

Geography

Although Flintshire is not a large county it contains considerable mineral resources and so far as the non-ferrous metal mining industry is concerned, it has been the largest producing county in Wales. The metal mining industry of the county is also probably one of the oldest industries of the area and its history almost certainly goes back as far as Roman times, and probably pre-dates that era. Flintshire is not one of the more mountainous counties of Wales and since on one side it borders the relatively sheltered waters of the estuary of the river Dee and on another the lowlands of the Cheshire plain, it has always been one of the more accessible areas in Wales. This fact and that of the establishment of the Roman Legionary fortress at Chester probably greatly aided the early industrial development of the county.

This county contains the major portion of the most important lead-zinc orefield in Wales and most of the mines in the area occur in situations which are reasonably accessible for transportation and where the climate is not unduly severe in winter, as is the case with many of the mines in the more mountainous area. In general the mines are situated in upland areas, but not at elevations of more than one thousand feet above Ordnance Datum, most in fact being situated at comparatively low elevations; a fact which has partially determined the methods of working in this orefield. The highest point in Flintshire is at the summit of Moel Fammau, on the border with Denbighshire, which is situated at 1,820 feet A.O.D.

There are no large cities in the county, but Chester and Wrexham lie just to the east and the mining area is well served with roads, while the main railway line from Chester to Holyhead passes along the north coast. The internal railway system of the county is now largely abandoned.

History

As mentioned above, the mining industry in Flintshire almost certainly dates from at least the Roman times, various archaeological finds having confirmed this fact, though no mine workings can be conclusively proved to have been carried out by the Romans. Since that era, however, mining is known to have been more or less active almost down to the present day, though at the time of writing (1967) practically no lead or zinc ores are known to be produced in

Flintshire.

The earliest records speak of lead mining near Holywell, Halkyn and Bodelwyddan, between about 1300 and 1320, but on the whole mining during mediaeval times was on a small scale and sporadic in operation. The workings were confined to shallow excavations at and near the more easily accessible outcrops of veins and probably little or nothing was done below water level. Underground working undoubtedly received a strong impetus upon the introduction of the use of gunpowder for blasting, but even with this aid to working mining was a laborious business in those days, for the rock in which the ores occur is mostly limestone, which must be considered a hard rock when all the drilling is done by hand.

The metal mining industry rapidly grew in importance after the introduction of gunpowder however, until by the middle of the 18th century it was already operated upon a fairly considerable scale. Descriptions of the workings during that century were written by various travellers, the most notable of whom was T. Pennant, and from these descriptions it is clear that the industry was of importance at that time. It was during the same century too that water troubles in the mines began to manifest themselves, with the deepening of the workings into the waterlogged limestone of the area. Pennant gives a graphic description of the long drainage levels which were being found necessary for further development in the Holywell district. At about the same time deeper workings were also carried out with the use of the first steam pumping engines, but these were often found to be inadequate to deal with the water in the lower levels of the mines, and in any case appear to have been expensive in operation.

The result of the above conditions was co-operative efforts at obtaining deeper drainage through tunnels of great length, designed to unwater whole areas of the orefield. The first of these longer drainage tunnels, the Halkyn Deep Level tunnel, was commenced in 1818, and was driven at an elevation of about 200 feet A.O.D. from a portal at BRYN HOEL, (National Grid Reference, SJ/ 229711), to cut the vein afterwards known as the Deep Level vein, near Crockford's shaft, Halkyn. This tunnel and its branches was gradually extended to drain the most important mines of the Halkyn area. In 1875, the Halkyn District Mines Drainage Co. Ltd., was formed to extend the tunnel, which was first driven to Taylor's shaft at Hendre mine, and then southward to drain the Llyn-y-pandy mine, in which it occurs at a depth of 450 feet from the surface.

In 1896, the Holywell-Halkyn Mining and Tunnel Co. Ltd. was formed to drive a tunnel from sea level, near Bagillt (N.G.R.SJ/214761) and so to drain the mines in the Holywell area, which had by that time

been worked as far as was possible by pumping. The tunnel was commenced in 1897, and by 1908 had drained the ground as far an the area of the Milwr mines. By 1919 the tunnel had roached the company's boundary at Windmill, near Pentre Halkyn, and work was stopped at that point.

Towards the end of the 1914-18 war, the Government instigated a pumping scheme for mines in the Hendre area, since it could be seen that the Sea Level tunnel would take some years to reach that area and the need for metals was great. At the end of the war however, the scheme lapsed and nothing more was done towards drainage of the mines until, in 1928, the Halkyn District United Mines Ltd. was formed. This company acquired the mining rights over the whole of the orefield area from Windmill southwards to Llanarmon. The Sea Level tunnel was driven onward to the south from Windmill and the company's main base of operations was later established at Penybryn shaft, Halkyn. By this means the mines in the Halkyn area were drained 190 feet deeper than had been possible previously without the use of pumping machinery, and by extending the tunnel into this area it was hoped that a new lease of life would be given to the mines so drained, apart from the discovery of blind oreshoots which had not been worked before at all. In the event no great quantity of further ore was found in the previously worked veins, the resulting operations being little more than "clean-up" mining. On the other hand, many new oreshoots falling into the category of blind oreshoots were discovered in driving the tunnel, and these oreshoots have proved to be the mainstay of the area since that time. It may be as well to note here that the same remarks could also apply to the earlier Deep Level tunnel, so far as the discovery of new ore was concerned, and this tunnel was responsible for the discovery of large blind oreshoots in the Halkyn area and the Powell's lode in the Rhosesmor area.

Operations in driving the Sea Level tunnel were suspended in 1941, when the production of lead ore also ceased, but both activities were resumed after the 1939-45 war and continued until 1958, by which time the tunnel had been driven as far as the Cathole mine. In the meantime the mining of high-grade limestone was carried on from Olwyn-goch shaft in the Hendre area, and when lead mining ceased in 1958, the mining of this limestone continued. It is understood that lead mining has recently been resumed (1967).

Output

As stated earlier, Flintshire has been the largest producer of lead ore in Wales. If the north-east Wales orefield be treated as a unit (including that part of it which lies in Denbighshire), then the combined output of the mines is far and away greater than any other

lead-zinc ore producing area in Wales.

It is only since 1845 that proper records of output have been kept, so that the published figures fall far below what must actually have been produced in the area. Some estimates at the total production have been made, though many of the resulting figures can be little more than inspired guesswork. Even those figures which are available however add up to a most respectable total.

Schnellmann (1958) computed the total production of lead-zinc ores from Flintshire and Denbighshire between 1692 and 1958 at 1,870,000 tons of lead ore and 290,000 tons of zinc ore. In addition to lead and zinc ores Flintshire has also been responsible for the production of minor amounts of barytes and Witherite, probably some copper ore from the area south-east of Dyserth in the Vale of Clwyd, and a small amount of cobalt ore from the same area.

The approximate figures of output from 1845 to the present day are as follows:-

Lead ore concs.	540,000 Long tons
Zinc ore	162,000 Long tons
Barytes	7,472 Long tons
Witherite	3,092 Long tons
Copper ore	A few tons only, no figs. seen.
Nickel - cobalt ore	1,158 Long tons

Mineralisation

Mineralisation in the deposits normally found in the north-east Wales orefield consists of galena and sphalerite as metallic ores in the primary zone, the chief gangue minerals being calcite and quartz, the calcite being by far the most common gangue mineral. In some veins in the area however the vein filling has been found as a fine white sand, consisting mostly of quartz, while in many cross veins in the Halkyn area, needles of chalcopyrite occur in calcite, while more substantial amounts of chalcopyrite and malachite were reported from same of the veins in the Talargoch mines. Barite occurs in some quantity in some veins around the Cathole mines, while fluorite has been noted in parts of the Halkyn area, especially in the veins of the Rhosesmor mines, though never apparently in sufficient quantity to be of commercial value.

The only lead mine worked in rocks older than those of

Carboniferous age in Flintshire was the Pennant mine, at Rhuallt, where barite and witherite also occur in sufficient quantity for them to have been worked upon a commercial basis.

In the old iron mines of Moel Hiraddug, some chalcopyrite occurred and much of the pyrite associated with the hematite for which the mines were primarily worked was found to contain appreciable amounts of nickel and cobalt, and was worked as an ore of these metals for a time during the nineteenth century.

Secondary minerals occur in the shallower parts of the veins in some parts of the orefield, and in this situation smithsonite and cerussite are common, while minor amounts of pyromorphite have been found occasionally.

Geology

The strata in which veins occur consist of the Silurian rocks of the Clwydian Range, the Carboniferous limestone rocks and the lower parts of the Millstone Grit series. So far as lead-zinc mining is concerned, only the last two of the above are of importance, only one vein being known to occur in the older rocks in which these ores occur. But in addition to the one lead mine, (Pennant), some trials for gold were made on quartz veins which are found traversing Silurian rocks on the north and west slopes of Moel Fammau, but these trials were never successful as far as is known.

By far the most important horizon of the strata involved is that ranging from the Intermediate limestone upwards to the chert or sandstone which immediately underlies the Cefn-y-fedw sandstone, or the Holywell shales. On the west side of the Vale of Clwyd veins bearing lead and zinc ores seem to occur at a lower horizon in the limestone, but so far as Flintshire is concerned this involves only one mine, which is situated to the south of Bodelwyddan.

The Carboniferous strata are unconformable with the Silurian sediments of the Clwydian Range and the Devonian rocks are missing in this area. Again the overlying Triassic rocks are unconformable upon the Carboniferous rocks, while the Permian rocks are also missing in this area. Triassic rocks are found in the Vale of Clwyd to the west of the main orefield and also on the east of the county and extending into the Cheshire Plain.

The Carboniferous rocks have a general dip to the east, though this is interrupted to the east of the main orefield by an

anticline which raises lower Carboniferous rocks very close to the surface a few miles to the east of their actual outcrop. There is a strong possibility that a concealed orefield lies in this area of uplift, though no proof of this exists.

The structural pattern of the fractures which make up the veins of the orefield is a conugate system of faults resulting from a clockwise rotational stress in the rocks of the area. The dip faults of this system are tensional fractures and have a general strike from east to west, though this is an over-simplification of the actual pattern, since in the north of the county the strike tends to be north of east, while further south the general strike of the vein is more nearly east and west. These are the most productive veins of the orefield. The other set of fractures, locally called crosscourses, have a general strike from north to south and are compressional fractures. These veins do not as a general rule carry much ore, though they have been worked in places, particularly where they intersect east and west striking veins, and. have been extensively prospected all over the orefield.

Ore deposition was controlled by both the structure and the stratigraphy of the area and the, most productive zones have been found immediately beneath shale beds, especially near the crest of local anticlines. In this connection the rocks immediately underlying the Holywell shales in the north part of the orefield and those underlying the Upper and Lower shales further south are noteworthy.

Oreshoots within the veins tend. to be "wing-shaped", beneath the operative blanketing horizon, and sometimes ores hoots my be repeated below lower controlling beds along the strike of one vein. Sections demonstrating these phenomena are given in the previously published descriptions of this orefield. (See bibliography).

In addition to the normal oreshoots of tabular form which occur in the veins, other types of deposit have been found in north-east Wales. Thus the "Pipe" deposit, in which solutions cavities in limestone occur where joints and veins intersect, which cavities have later become filled with vein minerals. "Flat" deposits also occur, in which certain horizons in the limestone have been amenable to replacement mineralisation associated with nearby veins. The result of this type of mineralisation is a deposit somewhat similar to a coal seam, though of limited extent from ·the line of vein. Examples of the above-mentioned deposits are those worked at North Hendre mine, (flats), and Parry's mine, Halkyn, (flats and pipes).

In addition to what my be called the normal types of deposit for veins in limestone areas, some lead ore was got in several parts

of Flintshire from the glacial gravels which overlie the solid rocks of the area. This ore was probably torn from the outcrops of veins by ice action and now occurs disseminated through the glacial detritus nearby. Such deposits were found to occur upon a reasonably large scale at Talargoch mine and to a lesser extent at some other mines, especially those near Whitford. Trial workings into such gravels at the east end of Bodelwyddan mine failed to find any ore however.

For detailed descriptions of the geology and ore deposits of the county reference is made to the extensive published literature noted in the bibliography.

Present position of the industry in Flintshire.

At the present time (1967) it is understood that a limited amount of working for lead and zinc ores has recently been resumed by Halkyn District United Mines Ltd., following some years, since 1958, during which no mining for these ores had been carried out in the county, though the Olwyn-goch shaft of these mines, at Hendre, had been in use for the production of high grade limestone from underground workings. It is probably true to say that this is the first time in several hundred years that the metal mining industry of Flintshire has been completely inactive for any length of time.

Future prospects

That a fairly large potential for the production of lead and zinc ores remains in the county is quite certain. At present however conditions do not appear to be very favourable for further extensive efforts at development, but the time will surely come when the prospects will once more appear attractive to mining interests.

The area in which further exploration appears to be most promising lies in that part of the orefield which would be opened out by extending the Sea Level tunnel southward toward Llanarmon. In doing this the line of exploration would stand the greatest chances of success if it is aimed to penetrate the veins where they lie below the Upper or Lower shale horizons, which is the optimum horizon for the occurrence of oreshoots, going by previous experience in these deposits.

In addition to the above prospect, which is reasonably certain to discover fresh ore, there remain other possibilities in the county. Some minor prospects for further ore occur down to and below Tunnel level in the Holywell area, but the exploration of these prospects is not so promising as the extension of the Tunnel southward, previously mentioned.

The anticlinal structure, known as the Horseshoe anticline, mentioned earlier as traversing the coalfield area, east of the known orefield, contains some intriguing possibilities for the exploration of a concealed and hitherto unexplored orefield. The exploration of the favourable horizon in this area would almost certainly result in the discovery of new ore deposits, but such development would undoubtedly be expensive and so could hardly be considered seriously at a time when markets are not favourable and the taxation system is so unfavourable towards speculative investment.

Apart from the above, no really worthwhile targets for further exploration within Flintshire can be named. There is a possibility that. more ore could be obtained from the Bodelwyddan area, to the west of the Vale of Clwyd, but here the prospects are rendered somewhat uncertain by being limited to a small area and by the fact that the known veins are situated in a place where permission to engage in further mining activity might be difficult to obtain.

Taking an overall view of the position in the county it is fair to say that a good potential remains, but that the incentive to prove it seems to be lacking at the present time.

GENERAL NOTE

In the section giving detailed descriptions of the mines of the County the following standard layout has been adopted.

First, each mine is given a County number by which it is described.

Second, is given the name of the mine, followed by any alternative names by which it has been known.

Below the above will appear the name of the Parish in which each mine occurs, followed by the National Grid Reference, given to the approximate known centre of operations.

In describing the minerals of the area the commonly used names of ore minerals are used. In the case of barium. sulphate however, the term BARITE is used for the mineral in place in a deposit, and the term BARYTES is used to describe the dressed product from a mine. Similarly in the case of calcium. fluoride the term FLUORITE is used for the mineral in place, and FLUORSPAR for the dressed product.

In the descriptions of workings various forms of measurement occur. In the past it was common to measure mines in fathoms, especially in Cornwall and the North of England, and sometimes the depths of levels and shafts are so described. Similarly in North Wales and the English Midlands yards were used to describe mine measurements. So far as has seemed reasonable measurements herein are given in feet, but occasionally the older forms of measurement have been retained for clarity when comparing material given here with that given in older reports.

In the areas of Holywell and Halkyn Mountain the old mines were so numerous and were often worked in a small way and close together that it cannot be claimed that all the individual mines have been successfully separated and described herein, though it is hoped that as many as possible have been so treated.

DETAILS OF THE MINES

1) BODELWYDDAN

Bodelwyddan Ph. SH/997749

Lead and zinc ores were worked here in veins traversing massive white limestone, in which the gangue minerals are calcite and some quartz. The limestone dips at about 15 degrees to the north. There are apparently several veins in the mine area, though the abandonment plan (R.301) shows only three, but this plan does not seem to cover more than the later workings of the mine.

The main vein strikes a little north of east, while several cross veins intersect it, striking about north-east. The Old Series Geological Survey map of the area shows two veins striking about east and west, but the evidence for the more northerly of these veins appears to be slight.

The ores produced here were galena and sphalerite, the zinc ore apparently increasing in quantity in relation to the lead ore in depth. In the main vein two major oreshoots seem to occur in the length covered by the abandonment plan, while further west, in the region of Coed Pen-y-garreg there were certainly other oreshoots, but no record of the work done there remains. In the cross veins the only

oreshoots recorded occur in those which were worked under Bodelwyddan Park, known as the Clay joint and the South joint. Cross veins which occur further to the west were certainly explored, as may be seen from the evidence of old shafts in that area, but no details of these workings are known.

The earliest workings at this mine are probably of considerable antiquity, for lead ore is said to have been obtained from near Bodelwyddan in the 14th century, (FJH. p.31). The mine was certainly, at work between 1828 and 1836, and again from 1847 to 1859, when it was abandoned. Nothing is known to have been done at Bodelwyddan since that time.

Ore was got from the 60-yd. and 90-yd. levels on the main vein during the earlier period of working named above, while during the later period ore was got from both veins and the working finally reached a depth of 115 yards. The surface level at the mines is about 160 feet above Ordnance Datum and Adit level, which was driven in from the east side of Bodelwyddan Park, occurs at 90 feet depth at the main shafts. other levels were driven at depths of 60-yds., 75-yds., 90-yds. and 115 yds.

In October 1857, when the mine was offered for sale due to the death of the principal partner in the Company, according to the advertisement, the workings were drained by a 60-inch pumping engine of 10 feet stroke, made by John Taylor and Sons, of Rhydymwyn. The statement that the mine was never worked below adit level (in FJH. p.78) is not correct and the water inflow in the lower workings seems to have been about 400 gallons per minute. There are four main shafts, Old Engine shaft , to 90 yards, New Engine shaft, to 115 yards, Inclined Whimsey shaft, to 115 yards, and East Whimsey shaft, to 60 yards depth.

The older part of the mine is at the west end of the workings, in Coed Pen-y-garreg, where several open shafts and some surface workings may be seen, both on the line of the main vein and on cross veins. The mine seems to have been worked through the Old Engine shaft, on the west side of the road to Glascoed, up to about 1836, at which time a depth of 90 yards had been reached. The New Engine shaft was probably sunk during the later period of working, when the mine was deepened to a depth of 115 yards. Both these shafts were vertical, while the Inclined Whimsey and the East Whimsey shafts were sunk on the dip of the min vein, which is to the north. The pumping engine installed at the New Engine shaft was a large one and was obviously intended for working to a greater depth than 115 yards.

From reports received locally the landlord at the time of working at this mine would not permit any working above the 30-yd. level. If

ALPHABETICAL LIST OF MINES

No.	Name
219	AFON-GOCH
195	ARGOED
81	ASHTON
20	AXTON
143	BAGILLT (Sea Level tunnel portal)
68	BEDOL-AUR = PEDOL-AUR = GOLDEN SHOE
106	BERTHEN
117	BILLINS
45	BOAT LEVEL = HOLWAY = HOLYWELL LEVEL = HOLLOWAY = HOTCHKISS
1	BODELWYDDAN
2	BODFARI
137	BODLONDEB
42	BOG CELYN
178	BRYN-CELYN EAST
177	BRYN-CELYN WEST
75	BRYN CLODDIAU
84	BRYNFORD HALL
150	BRYNGWIOG
204	BRYNGWYN
7	BRYNGWYN-ESGOB = PENNANT
208	BRYNGWYN FARM
188	BRYN-HYFRYD
69	BRYNIAU
74	BRYN-LLWYN
147	BRYN MOEL (See PANT-Y-GOF)
175	BRYN RHODYN
41	BRYN-Y-GASEG
21	BRYN-YR-ODYN = TYDDYN-UCHAF
215	BUTLER'S FIELD = COETIA BUTLER
185	BWLCHYDDAUFRYN
206	BRYN HYFRYD
103	CAEAU = CAEAU AND LLONGLE = NEW CAEAU
165	CAED HENDRE = COED HENDRE = HENDRE
121	CAE TAN-Y-GRAIG = TAN-Y-GRAIG
79	CALCOT HALL = DYFFRYN CALCOT
56	CAMBRIA
15	CARREG-Y-FRAN
194	CASTELL

No.	Name
200	CATHOLE
189	CEFN BYCHAN
174	CEFN CILCAIN = CEFN CILCEN = COED-DU = DEVEREUX
174	CEFN CILCEN = CEFN CILCAIN = COED-DU = DEVEREUX
126	CHEYNEY RAKE = CHINA RAKE
126	CHINA RAKE = CHEYNEY RAKE
62	CLWT MILITIA
174	COED-DU = CEFN CILCAIN = CEFN CILCEN = DEVEREUX
165	COED HENDRE = CAED HENDRE = HENDRE
78	COED PRYSAU
160	COED-UCHAF
70	COED-Y-FRON
139	COED-Y-GRAIG
13	COED-YR-ESGOB = FISH CAVES
40	COETIA-EITHIN
33	COED PENYGELLI = PENYGELLI
215	COETIA-BUTLER = BUTLER’S FIELD
172	COETIA’R-YSGALL
83	CORNEL-LLWYD
101	CROSS LEAVINGS
133	CRWN
197	DEBORAH
145	DEEP LEVEL = PANT-Y-GOF = PANTYFFRITH
174	DEVEREUX = CEFN-CILCAIN = CEFN CILCEN = COED-DU.
136	DINGLE = HALKYN HALL
130	DOG PIT
216	DOLFECHLAS
97	DOLPHIN
79	DYFFRYN CALCOT = CALCOT HALL
9	DYSERTH
157	EAST HALKYN
140	EAST LONG RAKE
209	EAST MAESHAFN = GLYNDWR
213	EAST PANT-DU
14	EAST TALARGOCH
148	FFAGNALLT
31	FFORDD-LAS
55	FFRIDD-Y-GARREG-WEN
13	FISH CAVES = COED-YR-ESGOB
72	FOEL-DDA
67	FRAME
135	FRON (Halkyn)

No.	Name
162	FRON (Hendre)
163	FRON-DRAIN
191	FRON FAWNOG
203	FRON HALL = FRON HAUL
203	FRON HAUL = FRON HALL
202	FRON-ISAF = FRON-ISA
202	FRON-ISA = FRON-ISAF
205	FRON-UCHAF
138	GARNEDDWEN-BACH
27	GARREG
98	GARREG-LLWYD = HUGH PRICE
89	GELLI FOWLER
73	GELLI LOVEDAY
141	GIN VEIN
57	GLADSTONE
26	GLOL
209	GLYNDWR = EAST MAESHAFN
50	GOLCH HILL
221	GOLDEN GROVE
68	GOLDEN SHOE = PEDOL-AUR = BEDOL-AUR
76	GORS
37	GORSEDD = ORSEDD
11	GRAIG-FAWR
114	GRAINGER'S
155	GREAT HALKYN = HALKYN
18	GRONANT = TALACRE
124	GROSVENOR
201	GWERNYMYNYDD
218	GYRN
198	HAFOD
24	HAFOD = MOSTYN (Whitford)
155	HALKYN = GREAT HALKYN
146	HALKYN CASTLE
136	HALKYN HALL = DINGLE
80	HAZEL GROVE
165	HENDRE = COED HENDRE = CAED HENDRE
6	HENFRYN
87	HERWARD
44)	
45)	HOLWAY = HOLLOWAY = HOLYWELL LEVEL = HOTCHKISS
46)	= BOST LEVEL
47	HOPEWELL
98	HUGH PRICE = GARREG-LLWYD

No.	Name
210	JAMAICA
19	KELSTON = KELSTERTON
120	LIXWM
34	LLOC
104	LLWYN-ERDDYN
92	LLWYN-Y-COSYN
179	LLYN-Y-PANDY
127	LONG RAKE
48	LORD HILL
4	MARIAN-FFRITH = TYDDYN-Y-CYLL
132	MARY JANE
36	MERLLYN
85	MILWR
193	MOEL DYWYLL
5	MOEL HIRADDUG
184	MOLD MINES = PANT-Y-MWYN
24	MOSTYN = HAFOD
151	MOEL-Y-CRIO
153	MOUNT HALKYN
207	MOUNT PLEASANT
168	MWYN-BWLL
108	NANT-Y-FUWCH
16	NANT-Y-MWYN
167	NEW CARREG-BOETH
128	NEW CHWAREL-LAS
142	NEW NORTH HALKYN
63	NEW PANT-Y-NEF
88	NORTH HENBLAS
164	NORTH HENDRE
52	NORTH PANT-Y-NEF
99	NORTH PRINCE PATRICK
103	NEW CAEAU = CAEAU = CAEAU AND LLONGLE
169	OLD CARREG-BORTH
129	OLD CHWAREL-LAS
61	OLD PANT-Y-NEF
37	ORSEDD = GORSEDD
49	PANTASA = ST. DAVID’s
187	PANT-Y-BUARTH
145	PENTYFFRITH = PANT-Y-GOF = DEEP LEVEL

No.	Name
28	PANT-Y-GARREG = TAN-YR-ONEN
145	PANT-Y-GOF = PANTYFFRITH = DEEP LEVEL
184	PANT-Y-MWYN = MOLD MINES
115	PANT-Y-PWLL-DWR = ROWLEY'S RAKE
90	PANT-Y-PYDEW (Holywell)
171	PANT-Y-PYDEW (Cilcain)
64	PANT-Y-RHEDYN
25	PANT-YR-HWCH = WHITFORD
170	PANT-Y-TERFYN
110	PARRY'S MINE
113	PARRY'S VEIN
68	PEDOL-AUR = BEDOL-AUR = GOLDEN SHOE
161	PEN BRONWISKI
192	PENMACHNO
7	PENNANT = BRYNGWYN-ESGOB
217	PENTRE LYGAN
58	PEN-Y-BALL
71	PEN-Y-BRYN (Holywell)
86	PEN-Y-PYLLE
102	PENYRHENBIAS
96	PEN-YR-HWYLFA
59	PICTON
159	PEN-YR-ORSEDD
199	PILKINGSTON's = WEST CATHOLE
3	PISTYLL
39	PLANTATION
119	PLASAU
112	PRINCE PATRICK
51	PORTAWAY
105	PLAS CAPTAIN
29	PLAS-MAWR
154	PLAS WINTER
95	PULLEY = PWLL-Y-WHEEL
94	PWLL CLAI
122	PWLL MELYN
196	PWLL-Y-BLAWD
109	PWLL-Y-GASEG
95	PWLL-Y-WHEEL = PULLEY
33	PENYGELLI = COED PENYGELLI
125	QUEEN OF THE MOUNTAIN
158	RHOSESMOR
181	RHYDALYN = SOUTH LLYN-Y-PANDY
32	RHYDWEN (Lloc)

No.	Name
115	ROWLEY’S RAKE = PANT-Y-PWLL-DWR
49	ST. DAVID’S = PANTASA
60	SEVEN STARS
91	SILVER RAKE
66	SIR EDWARD
116	SIR GEORGE’S FIELD
181	SOUTH LLYN-Y-PANDY = RHYDALYN
152	SOUTH PANT-Y-GOF
53	SOUTH PANT-Y-NEF
111	SOUTH VEIN
54	SPEEDWELL AND GRANGE
190	STAMP OFFICE
18	TALACRE = GRONANT
10	TALARGOCH
144	TAN-Y-FOEL
121	TAN-Y-GRAIG = CAE-TAN-Y-GRAIG
12	TAN-YR-ALLT
28	TAN-YR-ONEN = PANT-Y-GARREG
17	TERFYN = VOLCNANT
93	THORNTREE
212	TIR-Y-COED
182	THE-LAN
222	TRELLYNAU
23	TRELOGAN
186	TREVATHEN
214	TRIMLEY HALL
100	TRUE BLUE (Halkyn)
65	TRUE BLUE (Holywell)
211	TRURO
118	TYDDYN SHEPHERD
21	TYDDYN-UCHAF = BRYN-YR-ODYN
166	TYDDYN-Y-BARCUD
4	TYDDYN-Y-CYLL = HARIAN FFRITH
220	TY-MAEN
8	TYNEWYDD
30	TY’N-TWLL
131	UNION VEIN
82	VALENTINE
173	VEIN SUSAN
35	VEIN UCHAF
17	VOLCNANT = TERFYN

No.	Name
38	WAEN = WAEN AND MERLLYN = WAEN-LAS
77	WAEN-ISAF
123	WAEN-TROCHWAED
107	WAGSTAFF
134	WAGSTAFF (Halkyn)
156	WERN = WERN-Y-GAER
156	WERN-Y-GAER = WERN
149	WEST BRYNGWIOG
199	WEST CATHOLE = PILKINGTON'S
43	WEST HOLLOWAY
180	WEST LLYN-Y-PANDY
183	WEST PANT-Y-MWYN
22	WEST TRELOGAN
25	WHITFORD = PANT-YR-HWCH

——ooo0ooo——