

**HIGHAM. Barnsley, Yorkshire, 15th February, 1860.**

The colliery, near Barnsley, was the property of Messrs. Charlesworth and the explosion took place in the Silkstone Seam on the northern limits of the workings, claiming the lives of thirteen men and boys. The Seam was known to be fiery and in 1857, gas coming from the goaves ignited at the ventilating furnace and killed all the horses but the furnaceman, who was the only person underground at the time, was rescued.

The Inspector, Mr. Morton, had inspected the colliery in October, 1857 and again in December, 1858 and on both occasions he had advised the underviewer, John Ainsworth, to remove all the candles and to work the pit only with locked safety lamps.

The place where the men hewed the coal, was at the bottom of a steep incline and was at the far end of the workings where the ventilation was not good. There were pillar works and were close to the goaves on all sides. They were intersected by three large faults which ran parallel to each other.

On the morning of the explosion one of the goaves showed gas and there was another large goaves close by where gas was continually found. Even so the boys near these goaves carried naked lights and the colliers carried locked Davy lamps. After the explosion all the lamps that were found were locked and in good order but the horse drivers, who were boys, were permitted to carry candles to the bottom of the steep incline which was less than 20 yards from the furthest goaf. One poor lad was found lying burnt alongside his lantern about a dozen yards from the goaf.

JAGGER David 72 Coal getter Ofcawthorne. Left a wife.

JAGGER David 14 Hurrier Grandson of David.

CAWTHORNE Levi or John 33 Coal getter of Cawthorne. Left a wife and three children.

SOMERS or SUMMERS George 12 Hurrier Stepson of Levi Cawthorne.

BLACKBURN 12 Horse driver Of Cawthorne.

WILSON John 40 Coal getter. Left a wife and four children.

WILSON Joseph 11 Horse driver Son of John.

CLARKE George or Joseph 23 Collier Of Higham.

WHITEHEAD John 27 Of Dodworth. Left a wife and four children.

BROWN Henry 12 Hurrier Son of Mathew colliery banksman.

DEPLEDGE William 26 Labourer of gawber.

WILSON Henry (injured)

HIGHAM John (injured) 11 Son of Henry.

CROSSLEY Joseph (injured) 19

Mr. Morton had inspected the seam in October, 1857 and again in December, 1858 and on both occasions he advised the underviewer, John Ainsworth, to remove all candles and to work the pit with locked safety lamps only and expressed the opinion that the explosion would not have occurred if his advice had been taken.

The Inspector, Mr. Morton commented-

“It is surprising that the underviewer and deputies in charge of the pit, should have supposed that person in this particular spot could be protected from explosion when boys carried candles in close proximity to the edges of the goaves (or abandoned excavations) where men used locked Davy lamps.”

The jury returned a verdict of accidental death and recommended the owners to adopt safety lamps in the mine. The proprietors of the mine, *‘wisely determined to banish naked light lights entirely from the Silkstone coal seam.’*

**BURRADON. Burradon, Durham. 2nd. March, 1860.**

Some years before the explosion the colliery was connected to the Seghill colliery and the air passed down the Burradon shaft to the Seghill mine. In July 1858 the two collieries were sold to different owners and had to be separated. The Burradon shaft was destined to become the upcast shaft and the stone work round it was raised to protect it from the west winds. A furnace was built underground at a depth of 180 feet at the bottom of this upcast shaft. There were pumps in the shaft and these had to be taken out as the flue gases of the furnace would damage them. When the work was at this stage the colliery was reported as being in good condition and the ventilation simple and effective.

From 1858 the colliery was pressed to increase production due to the large demand for coal. A larger winding engine was installed and the shaft arranged to draw four tubs and not two was built and there were changes to the ventilation system. Mr. Dunn kept a journal, extracts from which, were included in his Report on the disaster-

“MINUTES FROM MY JOURNAL.

June 28th. 1858.

Down Burradon and went through to Seghill particulars among specific papers.

New ventilating shaft wanted for Burradon if separated from Seghill at present furnace smoke going up amongst the pumps.

[NOTE 1860. The workings were then carrying on in the north side pillars and eastern whole coal working, two-thirds the distance of the present workings in that quarter.

July 1858.

Colliery sold as well as Seghill.

June 10th. 1859.

At Burradon Colliery all is going well, raising nearly 100 scores per day, single shift, with four tubs. Preparing to get a junction with the Six-mile Bridge Railway, to increase their shipping powers by delivery to Hayhole Docks.

July 1st. 1859.

At Burradon Colliery, all is going well.

November 12th. 1858.

The top of the upcast shaft is now cleared up to the height of the engine-house, which greatly steadies and increases the upcast air. Something is done between this and the Seghill Colliery, and it is to be made complete shortly. Took detailed minutes of air currents. The air is in four splits, and where all meet the air course is preparing 50 feet area.

Present working, 78 scores per day: 20 pecks - 468 tons - 15 keels large coals.

Preparing to make cages carry four tubs, which will be done by Christmas.

Preparing new furnace, 9 feet wide, and distant from the shaft 40 to 50 yards, to be arched all the way 7 feet high, with a 20-inch arch on the east side.

Seghill has now increased it's air, and will further improve if the junction is cut off.

November 21st. 1859.

At Burradon. All is going well. Saw Johnson.”

It was known that there was gas and the mine which was lit by candles. Mr. Dunn, the Inspector of Mines received a letter from the colliery:-

“Burradon Colliery 24th. December 1858.

SIR,

We the miners of the Burradon Colliery request your inspection of the above colliery as soon as possible: the men are afraid to work, considering it to be in an unfit state for working in.”

THE WORKMEN OF THE BURRADON COLLIERY.”

Mr. Dunn visited the mine after prior arrangement and with Ralph Stobbs and Philip Young together with the persons appointed by the colliery viewer, he went to the colliery on 27th. December and he met with these men and the colliery agent. He inspected the

mine and looked at the plans of the work that had gone on at the colliery and was satisfied with the work that had gone on after the loss of the Seghill pit.

He found that the ventilation was good. It was a simple system that had to be complicated and they were opening a field of coal called the 'New Incline' The whole system of working and the ventilation of the pit was in the process of being changed but he commented that he thought the quantity of air previous to the explosion was greatly over estimated.

Mr. Dunn's journal again-

"December 27th, 1858.

Down Burradon pit at the request of the men, amongst whom a false alarm had taken place regarding the air courses, goaves &c.

I found that a proper course had been taken a few days ago, viz., that three of the workmen had been appointed to visit the suspected parts, along with the wastemen of the colliery, and that all had turned out satisfactory.

I expressed my approbation of this course to all the men with who I came into contact during my walk through the pit, and showed them that if a similar course had been taken in the affair so lately investigated at Tyldesley the loss of 25 lives would assuredly have been saved, especially if they and called in the Government Inspectors of the district.

Since Burradon and Seghill Collieries have been at my suggestion separated, this upcast shaft has been bratticed up to the pulleys, and thus defended from the gusts of wind which formerly affected the ventilation, so that now it is steadied and increased to great advantage. The whole coal workings are carried on with candles, and the pillar workings with safety lamps.

Preparing to bring up four tubs at the time instead of two, also a larger furnace, all of which will be accomplished in a couple of months and the state of the colliery is greatly improved."

He noted obstructions made by the conditions in the waste which interfered with the ventilation and he detected gas in the goaf that extinguished his lamp. This complex system of ventilation was in operation at the time of the explosion.

The explosion occurred on the 2nd. March, 1860 and Mr. Mathias Dunn, Her Majesty's Inspector went to the colliery. He commented on the fact that '*the explosion interested the Country in so remarkable manner.*' Seventy six persons lost their lives by fire afterdamp and by falls in consequence to the explosion.

The victims died partly from burns, partly by afterdamp and partly as a result of falls after the explosion.

Two wastemen, Thomas Friar and Robert Jefferson went down the pit to assist with the recovery of the bodies but by 9 p.m. they had not returned and were feared lost. The overman, Mr. Weatherley, shortly after parting with them, tried a trap door leading to the waste with the hope of being able to approach the bodies by that route but he found the noxious gases so overpowering that he quickly withdrew to save his own life. Weatherley was of the opinion that the two men followed him and were overpowered by the gas.

Those who lost their lives:-

George Maddex who left a wife and six children.

John Maddex jnr, nephew of George who left a wife and three or four children.

Thomas Maddex, single. Brother of James and John.

James Maddex, single.

John Maddex, single.

Edward Dryden left a wife and child.

John Carr left a wife and seven children.

Samuel Carr, son of John.

Thomas Lawson, single.

William Wilkie, left a wife and four or five children.

Thomas Wilkie, putter, single, son of William.  
James Brown, left a wife and two children.  
Thomas Wilkinson left a wife and family.  
Thomas Thompson left a wife and two children.  
William Turner left a wife and one or two children.  
William Urwin left a wife and four children.  
Thomas Beadlen, single, cousin of John.  
John Beadlen, single.  
Thomas Dawson, single.  
Robert Soulsby left a wife and three or four children.  
William Donnelly left a wife and family.  
Joseph Vougha, single.  
David Addy, snr.  
David Addy jnr.  
John Addy, father and two sons.  
Robert Leitham, nephew of D Addy, wife and large family. This was his first day in the pit.  
John McWilliams left a wife and three children.  
John Fittes, single.  
Robert Kyle, single.  
John Amor, married.  
Ralph Heron, widower.  
John Pease wife and two children.  
John Pease son of John.  
John Thrift, putter.  
George Thrift, putter.  
Alfred Allen, single.  
John Carr, single.  
George Fisher, wife and three children.  
Martin Sankey, married three months before.  
An unknown stranger.  
Matthew Mordue, single.  
William Nichol, single.  
David Phillips, single brother of Thomas.  
Thomas Phillips, single.  
Matthew Hepplewhite, single.  
James Nichol, single.  
Andrew Messer, recently married.  
Matthew Cleghorn, single. His first day in the pit.  
Moses Thompson, boy.  
James Brown. His first day in the pit.  
Jacob Weatherley, boy.  
Thomas Grey, boy.  
William Cook, boy.  
Thomas Golightly, boy brother of Ritson.  
Ritson Golightly, boy.  
Joseph Musgrove, boy.  
John Marshall, brother of Thomas. Mother widowed.  
Thomas Marshall.  
William Alderson, back overman with a wife and five children.  
Benjamin Nicholson, deputy overman, wife and large family.  
John Dewery, deputy overman, wife and large family.  
Henry Johnson, putter.  
Isaac Johnson, single.  
John Hetherington, boy.

Isaac Wilson, single.  
John Jervis, single.  
John Frier, single.  
George Shotton, left a wife and two children.  
John Gallon, putter.  
William Doxford, putter.  
John Copeland, boy.  
Francis Smith, single.  
George Schimpf, left a wife and two or three children.  
Edward Thompson, boy.  
George Whips, wife and family.

The explosion on the 2nd. March caused the deaths of 76 persons, some burnt, some by the afterdamp and some by falls of roof caused by the explosion.

Mathias Dunn commented-

“No wonder that so dreadful event should interest the country in a remarkable manner, so that the inquiry continued irregularly over 12 days numerous viewers and other witnesses were examined and also the following law-men were more or less engaged in the inquiry, viz.- for the owners, R.P. Philipson, Solicitor, for the Inspector, Mr. Dunn W.L. Harle, Solicitor. for the workmen Mr. Blackwell and Mr Sergeant Ballantyne, Barristers and Mr. Roberts and Mr. Longstaff, Solicitors.”

During the course of the inquiry there were many recriminations and there were objections to Mr. Dunn reading the reports of his visits to the colliery prior to the disaster relating to the ventilation, his opinions of it's cause and his suggestions for the future of the colliery.

Mr. Dunn commented-

“In the course of the examinations much recrimination was introduced, and especially upon my proposing to read a report explanatory of my visits to the colliery some months antecedently and especially explanatory on the condition of the ventilation at the period of the explosion, and of my opinions as to the causes, with suggestions for the future. My object was first to give a collective narrative upon which I could be examined, the better to enable the jury to appreciate the subject.”

Mr. Dunn produced a document that included his observations on the system of ventilation at the colliery and his opinions as to the cause and suggestions for the future so that the jury might have the information before the inquiry.

The document had been circulated before the inquiry and at the inquiry objection to the document was made by Mr. R.P. Philipson, the solicitor who represented the owners of the colliery. The coroner Mr. Stephen Reed upheld the objection even though the document was in circulation.

The document was presented by Mr. Dunn in his Report when he found, after inspection that the colliery was in a satisfactory condition in July 1858. This continued until December 1858 when he went down at the request of the men. He suggested that the ventilation system of the colliery should be altered and gave great detail of how this should be done.

Mr. Dunn's journal again-

“July 21st, 1860.

The air was this day changed on to the above system by Maddison Fryer and others, being precisely and substantially the same s recommended by me upon April the 10th., but rejected up to the present time.”

On making measurements of the quantity of ventilation passing through the mine, with Mr. Atkinson, the Inspector for South Durham and others, they found that there was far less air passing through the mine than was alleged by Mr. Johnson at the inquest.

**ADDERLEY GREEN. Longton, Staffordshire. 17th. July, 1860.**

The colliery was the property of Messrs. Stirrup and Pye. A rail fell down the shaft and caught thirty yards from the bottom. It upset an ascending coal tub and sent the deceased to their deaths in down the shaft.

Those who died were-

James Hurst aged 45 years.

William Taylor aged 14 years.

Daniel Salmon aged 35 years.

Enoch Woolley aged 18 years.

William Hulme aged 40 years.

At the inquest which was held at the Crown and Anchor, Joseph Donkin, a collier, was working with Thomas Edwards at the pit, bottom when he heard something falling down the pit. Previously he had seen an iron bar on the scaffold, about nine feet long. It had been a wagon rail but was now used as a guide in the shaft. He supposed it had fallen down the shaft and he replaced it supposing the cage had hit it and displaced it. Joseph Edwards and Obidiah Rowley removed the scaffold and all went up the pit.

When they had gone up the pit, Thomas Edwards sent a message with the man in the corve stating that no men should come down until a wagon had been sent down to test the work. About five minutes later he was at an inset and saw a cage load of men go past down the shaft. He called that they had no right to go down until an empty corve had been down just as he heard a noise in the shaft. He called out to find what had happened and was told that Hulme had fallen down the shaft.

A collier, Joseph Edwards told of a conversation he had with Edwards the butty about an empty corve being sent down first and he requested the engineman to lower gently as he got to bottom as there could be a rail in shaft. He then went to cabin and saw that the rope had slackened and George Edwards, the engineman stated that the cage was far from bottom. Joseph Edwards went to pit and heard moans coming from down it.

The jury found no fault with management of colliery and there was not enough evidence to charge anyone with manslaughter.

**WINSTANLEY. Wigan, Lancashire. 3rd. August, 1860.**

The colliery was owned by Meryrick Banks and the explosion killed thirteen men and boys and took place in the Orrell Five Feet Seam which was worked at a depth of 140 yards. Joseph Dickinson, the Inspector, had visited the colliery before the explosion and had found very little gas in the workings but thought that the ventilation of the mine was insufficient. He commented-

“The ventilation seemed scarcely adequate to dilute even a moderate quantity of explosive gas, if it were suddenly given off, and the mode of distributing the air through the working places was of the rudest and most primitive description it was the system adopted by our forefathers, vestiges of which I remember having seen in my youth in working mines, which did not call forth the power of steam, or the wonderful simplicity of artificial ventilation with the exception only, that there I found a small furnace under ground fed by the return air from the workings, while to me the seam appeared the easiest to ventilate of any which I had become acquainted.”

The risks of the ventilation system were pointed out to the manager. He agreed and had promised to carry out improvements with unremitting energy'. The improvements were to install a new furnace which would feed on a pure air intake and the ventilation of the workings to be divided into three separate districts. Unfortunately the manager died before the explosion. The workings were extensive, extending nearly a mile from the downcast shaft and two thirds of a mile from the upcast. The Inspector again visited the colliery and found that work on the improvements had progressed but the work was not

yet finished and he suggested that the mine should be lit by safety lamps which was accepted.

On the day of the explosion the underlooker at the mine, George Holland was in the act of making his daily examination and after visiting some of the places was giving instructions to a workmen in the wagon road when he was hurled over by the force of the blast and severely scorched by the blaze.

Everything was going well while coal getting went of forward and the pillars of coal that were left supported the roof. When the pillars were removed the roof fell liberating much firedamp and the ventilation of the mine was overpowered. At one of the ends of the workings a lamp was found after the explosion belonging to Thomas Sharples with its gauze top removed.

The men who died were-

Thomas Sharples aged 50 years a fireman.

Joseph Heaton, fireman

**11 OTHERS WANTED.**

A searching inquiry was made as to the cause of the disaster and Mr. Dickinson along with Mr. William Greener, manager of the Pemberton Colliery, made an inspection of the explosion area. They came to the conclusion that the gas had been suddenly liberated by a fall of roof following the working of the pillar coal, that it accumulated in the adjoining workings and that the deceased fireman, Thomas Sharples, went there with an uncovered light and hence ignited the gas and caused the deaths of thirteen men and boys.

There was no evidence to show the state of the ventilation at the ends on the day of the explosion. The Inspector finished his report with the comment-

“They had fallen victims to unskilful management, to the disregard of acknowledged and general principles of mining and the casualty, frightful as it was, would most certainly have been averted if the instructions I had given and the suggestions I had previously made been carried out with unslackened energy. They were sanctioned by the owner, who it was stated withheld nothing that was required for the works, and I had never found sufficient danger to justify further and more extensive measures.”

### **BENSTONE, Johnstone, Fife, 23th. October, 1860.**

The colliery was the property of Ludovic Houston and the greater part of the workings were on Johnstone's estate on which work had gone on for a very long time. The plans could be traced for only 60 years and they did not have information regarding the explorations which had been made in the coalfield.

The workings were known to border old workings that had been abandoned for years and that were known to be flooded. The Benstone pit was situated to the dip of these old pits and was 54 fathoms deep. At the time of the accident two coal seams were being worked at the colliery. They lay near to each other, seldom above ten feet apart.

The workmen at the colliery had been anxious for some time and they dreaded 'waste' water and the position of the greater part of the waste was known to the management of the pit. Mr. Alexander visited the colliery the previous July and examined the whole of the underground workings. He pointed out to the manager that only safe way to advance the workings was to make continuous boreholes in advance of the workings. It was his understanding that this had been done except in what was considered to be the most dangerous part of the pit.

The 'waste' to the south of the workings was dreaded and proper precautions were taken but no one thought of driving the mine to the north. It was known that the Shaw's Pit was connected to the No.8 pit and an exploring mine had been driven from Shaw's Pit

to the west but there were no plans to show the limits of the workings in this direction. According to the evidence of the workmen who had worked this colliery a long time ago, the exploring mine had been abandoned for 40 years. They were aware that it had been drive to the west and a former overman explained that its position was to the north of the Benstone Bridge. This traditional account of the workings to the north of the pit was assumed to be correct. The water is supposed to have entered the mine from Shaw's Pit.

Those who died in the disaster were-  
John McMillan aged 40 years, collier.  
John Alison aged 20 a collier.  
John Hendry aged 20 years, collier.  
Robert Alexander aged 20 years, collier.  
Alexander Stewart aged 14 years, collier.

It was several months before the bodies were recovered.

At the inquiry Mr. Alexander commented-

"There was no seeming want of care in the manner in which the works to the south were conducted, where a 'waste' containing water was known to exist and I have every reason to believe that if those connected with the management had anticipated 'waste' so near to the north of the pit, that the usual precautions would have been adopted there also. However, I cannot forbear remarking that the workings from Shaw's Pit were more recent than those from No.8 pit and that some of the late managers must have neglected to carry out the prudent arrangements of their predecessors.

The importance of mining plans has long since been demonstrated and the Mine Inspectors Act, which provides that proper plans shall be made and exhibited of all underground works, will in future, to a great extent, prevent the loss of life from such accidents but it is painful to reflect that there are several collieries throughout the mining districts situated similar to that which I have just described and there is no means now of correcting the errors of the past."

### **LOWER DUFFRYN. Aberdare, Glamorganshire. 6th. November, 1860.**

The colliery was the property of Thomas Powell and Son and the explosion claimed the lives of 12 men and boys. It was the third explosion that had taken place at the colliery in the space of a few years and had claimed a total of 33 lives. The shafts at the colliery were in the valley of Aberdare and the workings extended a considerable depth under the mountains. The coal that was worked was known as the Merthyr Steam Coal. It was known to be a fiery mine and there had been an explosion which caused the death of one man earlier that year as a result of blasting the coal.

The explosion was confined to the Nine Feet Vein of coal and the damage was confined to the No.1 and 2 cross headings, on the western side of the incline.

Those who lost their lives were-  
Thomas Evans aged 31 years, collier.  
David Richards aged 25 years, collier  
John Rendle aged 25 years, collier.  
John Davies aged 33 year, collier.  
R. Williams aged 15 year, collier.  
George Morgan aged 11 years, doorboy.  
John Box aged 35 years, collier, left a wife and child.  
John Regan aged 62 years, collier, left a wife and three children.  
Evan Thomas aged 34 years, collier, left a wife and 4 children.  
Edward Jenkins aged 16 years, collier.



Robert Lewis, aged 20 years, collier.  
James Lewis aged 12 years, collier.

The survivors were:-

Howell Arthur,  
James Gilbert,  
John Isley,  
Jacob Jenkins,  
William Jenkins,  
John Jones,  
Isaac Lee,  
John Lewis, a lad,  
Robert Lewis,  
William Lovell,  
Samuel Morgan and  
John Richards.

Mr. Evans and Mr. Brough, Her Majesty's Inspector, and extensive examination of the colliery after the explosion to try to determine the cause of the disaster. Mr. Evans addressed the inquiry-

"I have no doubt the ignition of the gas took place in the No.11 stall then it passed through the wind ways in No.1 cross heading and also along the upper level between Nos. 1 and 2 headings and then down the No.2 heading. There was doubtless an accumulation of gas in the No.11 stall, it may be the canvas door was opened as alleged by a witness but there is no reliable evidence as to the fact. I found the No.11 stall six yards in advance of the brattice, this length multiplied by the breadth, eight yards and the height nine feet gave a space of 3,888 cubical feet without any supply of air except that which passed through a small hole described by Mr. Wilkinson between the No. 11 and 12 stalls about 16 inches by 4 inches. I do not state that this space was filled from floor to roof with inflammable gas, but it is clear that a considerable proportion must have been there at the moment of the explosion."

Mr. Evans went on to say that he thought that there was inadequate ventilation in the mine and that blasting in a fiery mine should not be allowed and he was critical of the lamp system at the colliery. He said-

"I do most earnestly and strongly recommend that some steps should be taken in addition to the special rules now in force whereby some more severe punishment than a mere fine shall be inflicted upon these persons who are guilty of such a dangerous practice as removing the gauze from their lamps, or tampering with them for the purpose of smoking, obtaining more light or under any other pretence whatsoever, and in future it is my determination to enforce the law and let this be a caution to all employed in mines, not to risk the lives of those others.

The fireman, or other competent person ought to examine all the lamps each morning before the men have them delivered to them and the duty certainly ought not to devolve on a mere boy. Rule 29 directs it shall be done by the fireman. The overmen, firemen and chief officers, who watch the changes and carry out safety regulations, can scarcely read and write. Keys for opening the lamps are intrusted, contrary to the rules (31 and 32) to hauliers, they are hung at the bottom of the shaft. Stations, if fixed upon for lighting lamps, are not used, for the fireman lights lamps anywhere he thinks proper.

I consider the underviewer at the Lower Duffryn Colliery has too much under his charge the Lower Duffryn Colliery ought to have all his time."

Lionel Brough the Inspector for the Western District, agreed with everything that Mr. Evans said and strongly objected to blasting being carried on in fiery mines. The jury after hearing the evidence brought in a verdict of 'Accidental Death.'

A fund was established for a presentation for the men who helped rescue the men which was reported to '*being gradually increased.*'

**BLACK VEIN PIT. Risca, Monmouthshire. 1st. December, 1860.**

The colliery was the property of Mr. J. Russell and Company and there had been several explosions at this pit. The condition of the pit was of serious concern to Herbert Mackworth, the Inspector of Mines and he had sent the following report to the owners-

***"Notice To John Russell And G.R. Hookey, Esqrs., And Other Owners Of The Risca Collieries In The Parish Of Risca And The County Of Monmouth.***

having, during my inspection of the Risca Collieries on the 10th inst. found them still in a dangerous state and having thereupon summoned before me the manager, Mr. William Bedlington, I hereby give notice in accordance with the Act 13th and 14th. Vic, cap. 100, that they are dangerous and defective, chiefly on the following grounds:-

Notwithstanding the numerous explosions and the sacrifices of life which occurred in the years 1846, 1847, 1848, 1849 and in 1853, firedamp is still allowed to stand in many of the working places and candles or unlocked lamps are still employed.

It is my opinion, as well as that of Government officers who have examined the workings of the Black Vein coal, confirmed by the evidence at the inquests, that as long as properly locked safety lamps are not exclusively used in these pits, explosions are certain to recur.

The responsibility of allowing any other lights, or any exposed flame or fire, rests now, after what has passed, with the proprietors of the colliery and I am surprised to learn that my previous letters, and the cautions and information given at each inquest, or published by command of the Government have not been communicated to the colliery manager.

The safety lamps should not be locked with the common screw, but with a padlock or in some equally safe manner, and given locked to the men before they enter the pit.

Blasting should not be allowed as long as there is any accumulation of firedamp in the colliery. The shots should only be fired by careful men appointed for this duty, and after a minute examination of the surrounding works.

Smoking, except in appointed places, should be strictly prohibited.

The return air from the Black Vein should not pass within 20 yards of the furnace.

The amount of ventilation is very inadequate. Many of the working places have no current of air, even for 20 or 40 yards, going into them. The air which has passed through one range of working places is used for airing a second range. Many of the working places are not examined by the firemen for twelve hours before the men come in.

Danger signals are not put up, so as to prevent the men going into places where there may be firedamp and into abandoned works. Those signals consist of props with a painted board secured to them.

The men are not withdrawn until the air becomes explosive.

Brushing out of firedamp is still continued.

Adequate means, such as stoppings, working in panels, &c., are not adopted to prevent a repetition of the destruction of life which has been caused by afterdamp. More extra doors are required for the same object.

The printed rules at all collieries are far from being precise, complete, or carried into effect.

The props and other timbers should not be set by inexperienced hands.

The safety of the roof in each working place should be examined several times each day by the firemen and overmen. They should be responsible for its safety, and for the proper supply and use of timber and punch props.

The tops of the shaft require fencing.

The hitchers and other persons should be prevented from crossing the bottom of the shaft whilst the shaft is at work.

The chains are in bad order, and the placing of the guide does not allow sufficient play for the cage in descending the shaft.

There are no beaks to the engines, the bearings are out of order. there are no covers on the cages. There are no shaft indicators in the engine house.

No person should be allowed to ride or be upon the inclines when they are at work

I beg to call your attention to my letters addressed to Mr. Russell on the 5th. May and the 3rd. December, 1853, respecting the danger of the Risca Collieries, which apply with almost equal force to its present condition. I remark that the colliery boys under fourteen do not go to school on week days and that there is no benefit society attached to the works, and no accident room for keeping simple remedies, and the speedy relief of cases of accident, which on former occasions might have been the means of saving lives.

The plans are not yet in conformity with the Act.

I must beg you to communicate the contents of this notice to those persons who may now or at any time in the future time be in charge of the Colliery works.

*HERERT MACWORTH.*

Inspector of Mines.

Clifton, July 25, 1855."

About 1858 the 70 yards upcast shaft had been dispensed with and the other shaft which was 16 feet by 10 feet was made into the upcast. A more efficient ventilating system was introduced by a pair Sturvés air pumps which was capable of producing 51,000 cubic feet of air per minute but usually produced 37 to 38,00 cubic feet at 8 r.p.m. Of this quantity 3,000 cubic feet were scaled off to keep a feeder of gas clear and aid the foul returns. The remainder escaped, divided at the bottom of the slope, 11,000 cubic feet going to the east and making a circuit of about four miles and 10,000 going to the west. Some of the airways had an area of only 12 square feet. The fan was driven by an engine with two cylinders, eighteen feet six inches in diameter with a six foot stroke. The ventilation was considered to satisfy the law but the Inspectors stated, '*it was too near a balance to be satisfactory*'.

The other oval shaft, 16 feet by 10 at the 146 yards winning was the downcast shaft and a circular pit near it was use solely as a smoke pit for the boiler fires. The only air that went to the boilers was what escaped through the main separation doors.

Davy safety were used in the workings and there was very little blasting in the mine. The workings were of the dip of the old winning and there was an engine plane or slope driven for 650 yards, which dipped to the north with levels and numerous heading on both sides. From six to eight and half feet of the coal was worked on the system of pillar and single stalls which were driven with little regard to their direction or of keeping a

uniform thickness of pillar between the stalls. The roof was dangerous under this system and the floor often heaved

In addition to the old goaves on the rise there were now numerous ones on the dip where, it was said emitted blackdamp not firedamp.

The discipline in the mine proved not to be as strict as it was said to be. Four safety lamps were found unlocked and although smoking was prohibited, pipes and tobacco were found in the pockets of a few of the victims and lamp keys in others. The lampman told the court that on the morning of the disaster he gave out 200 lamps and there were 33 lamps missing.

Mr. Thomas Evans, Inspector believed that there had been some gas standing in the gobs near the stalls and that a sudden fall of roof had taken place which released considerable quantities of gas under pressure. Mr. Brough that the first gas that fired came from the Black Mine itself but he agreed with Mr. Evans that the roof rippings had fallen.

A new shaft on the dip was recommended and the ventilation to be arranged, so that in the event of an explosion, its results would be confined to one district and that the working places would be inspected every six hours. An opinion was expressed at the inquest that the Stephenson lamp was the best and safest.

On the day of the disaster about 200 men and boys descended the shaft and all went well until 9.30 a.m. when the explosion occurred.

Those who lost their lives were-

David Bailey aged 27 years.

John Banfield aged 40 years.

Joseph Banfield.

William Banfield.

Isaac Bateman.

Levi Bateman.

William Bath aged 31 years.

Thomas Bath aged 15 years.

Evan Beddoe aged 43 years, overman.

Stephen Beddoe aged 17 years.

William Bevan.

Elijah Binding aged 36 years.

Enock Binding aged 34 years.

Joshua Binding aged 36 years.

Joseph Bowen.

Mark Brace.

James Brimble aged 35 years.

Thomas Brimble aged 12 years.

William Brimble aged 13 years.

Benjamin Britain aged 22 years.

Moses Bryant aged 49 years.

Thomas Chivers.

Henry Court aged 13 years.

James Cousener aged 28 years.

Charles Cox.

John Crew aged 34 years.

Emanuel Crew aged 34 years.

Alfred Davies aged 24 years.

Hopkin Davies.

William Davies aged 35 years.

William Davies..

William Davies aged 22 years.

Henry Edwards aged 22 years.  
Jonathan Edwards aged 29 years.  
David Edwards.  
Edward English.  
Thomas Evans aged 41 years.  
Charles Evans aged 20 years.  
Joseph Evans.  
Isaac Evans.  
George Fisher.  
James Fisher aged 18 years.  
John Fisher.  
George Goulding aged 23 years.  
Henry Goulding.  
George Gough.  
John Griffiths aged 18 years.  
John Griffiths aged 23 years.  
James Grindle.  
Joseph Grindle.  
Frederick Gullick.  
Charles Hale aged 34 years.  
William Hale.  
James Hammond aged 25 years.  
John Harris aged 25 years.  
John Harris aged 32 years.  
William Harris aged 32 years.  
Edwin (or Edward) Holder aged 21 years.  
William Hughes aged 40 years.  
Morgan Hughes aged 39 years.  
Joseph Jacquy.  
Henry James aged 45 years.  
David Jenkins aged 28 years.  
Phillip Jenkins aged 22 years.  
William Jenkins aged 24 years.  
Thomas Jenkins aged 24 years.  
Richard Jenkins.  
William John.  
William Jones aged 42 years.  
John Jones aged 16 years.  
John Jones aged 29 years.  
Thomas Jones.  
Thomas Jones aged 21 years.  
William Jones.  
John Jones.  
William Kealing aged 18 years.  
Nathaniel King.  
Charles Ledbury aged 24 years.  
James Lewis aged 41 years.  
George Lewis aged 19 years.  
William Lewis aged 28 years.  
John Lippiett.  
John Morgan aged 35 years.  
John Murray aged 23 years.  
Thomas Nelmes aged 22 years.  
George Newport aged 27 years.

James Newport aged 27 years.  
James Nicholas aged 17 years.  
Frederick Norris aged 11 years.  
Aaron Parry aged 15 years.  
George Pearce aged 13 years.  
William Perry aged 13 years.  
John Phillips aged 35 years.  
John Phillips.  
James Phillips aged 20 years.  
John Phillips aged 26 years.  
George Pike aged 52 years.  
James Plumber.  
Jenkin Pritchard aged 15 years.  
James Pritchard.  
Thomas Prosser aged 22 years.  
Henry Purnell.  
Daniel Rees aged 17 years.  
Abraham Rees aged 31 years.  
Rees Morgan aged 27 years.  
George Robbins aged 38 years.  
Gething Roberts.  
Thomas Rosser.  
Isaac Sage aged 32 years.  
George Sage.  
John Sage.  
Isaac Saunders aged 42 years.  
George Skidmore aged 35 years.  
Llewellyn Thomas aged 15 years.  
Henry Thomas aged 11 years.  
James Vizard.  
Nathaniel Watkins.  
Isaac Watson.  
Abraham Watson aged 32 years.  
Isaac Watson aged 12 years.  
George Watson aged 10 years.  
John Watts aged 15 years.  
George Webb aged 40 years.  
John West aged 24 years.  
Joseph West aged 13 years.  
George West aged 11 years.  
Frederick White.  
Charles White aged 17 years.  
Daniel Wilkins aged 41 years.  
John Williams aged 26 years.  
William Williams aged 17 years.  
John Williams aged 31 years.  
John Williams aged 17 years.  
William Williams aged 55 years.  
William Williams.  
Edmund Williams.  
Thomas Williams.  
William Wilson aged 18 years.  
John Wilton aged 29 years.  
William Wilton aged 12 years.

John Woolley aged 17 years.

Llewellyn Saunders, was rescued from the pit alive but died 30th, November, 1861.

Moses Banfield overslept on the day of the explosion but he lost three of his family. Included in the list were five men from the same house and a woman named Sage, whose husband was killed in the pit five years before, now lost two sons, two brothers and a lodger in this disaster. Abraham Watson was killed along with his two sons. At the inquest at the Albert Inn, Fanny English said her husband, the overman, made his escape from the pit and then went down again with a search party. He was never seen alive again. James Plummer alias Ashman, was a native of Somerset as were John and Joseph West, Frederick Gullick, Isaac Sage aged 32, Joseph Jacquey who appears as Jackway in some reports. George Webb was from Little Dean in Gloucestershire and George Bullock was a native of Warwickshire. George West could be identified by the wellingtons he wore as he was the only man to wear them and William Bevan was reported to be '*nothing but coke.*'

The inquest on the was held by Mr. Brewer, Coroner at the British School-room, Risca on the 12th. January, 1861 and later moved to the New Inn at Bridgend.

Charles Anderson Harrison, manager, produced plans of the colliery and said-

"On the 1st. December a little after 6 o'clock in the morning, I descended the No.1 Black vein Pit. I examined the intake air with my lamp and found it good. I then went through the double doors to the east side return, and found the return air good. I proceeded to the east return to what we term the mountain side cross-heading and examined the in-return and the upcast pit, and we found that all was right. I proceeded down the west return, the west side of the shaft and came through the two west side separation doors to the east side of the pit, and then crossed the pit to the east side. There I met overman Evan Beddow. I asked him how it was going this morning and he replied, '*All right.*' I then measured the air in the main intake and found 37,500 cubic feet per minute passing. I then came up the pit with my son and had breakfast. My son went down into the Black vein again and I went to the Rock Vein Pit to examine the workings there. William Cocker, the banksman at the Black vein came to me at the Rock Vein to inform me that sulphur had gone off in the Black vein Pit. I went down the black vein at once, and told Cocker I could not believe it, as it could not happen in so short a time. I took off my coat and trousers, got a lamp, and descended the pit immediately.

As soon as I descended, I first went to the west side separation doors and found them all right. I then went to the east side separation doors, and found them all right. I then went to the top of the slope, there I met a man, who told me that Palmer and Wyld had gone to the first east. I then examined the separation doors at the first west and found them all right. I also found that the regulator through the second door was right. I went down the slope to the second east, where I found my son, Thomas Harrison alive. I lifted up so that he could get fresh wind and then I left him. I then saw David Jenkins dead. he was some three or four yards from my son. I saw a boy named George Lewis alive. I next saw Lewis Thomas and William Thomas, both alive. We went to the second west and found the two doors gone there. We got the sheet put up. as soon as it was done I directed some of the men to remain there and I ran down the slope to the third west, over a small fall. I tried to go over the big fall but was unable. It was so high that I could not get over it, there being no room. It was not on account of the air. I then had to go to the fourth east. I could not progress in consequence of a fall. I next came up the slope towards the second east. I then tried to go down the return to the fourth east. I could not

get there in consequence of the fall. I went up the slope to see about a man and a boy who were working there. I went down the slope again and assisted in getting bodies out. I went on with this for several days. When I went down the slope to assist in getting bodies up, I can't say how many we found alive. Forty two were brought up during the day of the explosion."

John Grey, the colliery engineer said that he was 70 to 80 yards from the top of the pit when the explosion occurred. He sent for Mr. Harrison who was in the Rock Vein and he arrived in about ten minutes. He looked after the ventilation machine and rendered assistance to the 60 men who were brought up alive. The lampkeeper, George Hemmons gave out 200 lamps on the day of the explosion.

The fireman in the Black Vein Pit left twenty minutes before the explosion and came up with Evan Beddow and he had found no gas in his morning examination. When he heard of the explosion he went to the pit and immediately went underground. He went to the second west and found John Davies alive who was carried out of the pit. he then went to the No.3 cross-headings and found Daniel Wilkins, George Newport and James Hammond, all dead. By that time, he was exhausted by chokedamp and went home for the day.

David Thomas, collier was working with two boys, one about 17 years and the other 12 or 13 years old. Between nine and ten o'clock, he felt a change in the wind and knew that an explosion had occurred. He had the boys immediately went to the level and were going up the slope when they encountered afterdamp which blocked their way. They turned back and went to the wind road to the top level on the east side. They managed to get out of the pit and saw no bodies.

Thomas Errington Wales, H.M. Inspector of Mines, told the court of his experiences at the disaster. He said-

" I heard of the explosion on Sunday evening, December 2nd. 1960, and on the following morning came to Risca to give all the advice and assistance I could in recovering the bodies of the unfortunate sufferers

On my arrival I descended the Black Vein workings in company with several others. We found the men engaged in ridding a fall of stone in the No.2 east level, which was stopping the current of air, and preventing the men, who were engaged in recovering the bodies, getting into the workings in No.3 and 4 east levels where it was known a large number of men would be found. The workings at this time were still heavily charged with gas. During the time the men were engaged in clearing the fall on No.2 east level, the gas continued to issue from No.3 and 4 east workings to such an extent that it was deemed advisable to reverse the air current and so take it from the east side to the west side, leaving only sufficient fresh air to pass along the No.2 east level for the workmen engaged at the fall. This fall was cleared after two days and the air was again reversed with a view to clear the No.3 and 4 east level workings of gas and so enable the work of recovering the bodies there.

By the time the quantity of air was improved and I think, the discharge of gas from 3 and 4 east workings had, to some extent, diminished and the men proceeded to recover the bodies in the district, but great hindrances were met with, both as to the quantity of gas remaining in the workings, and also by the great falls. So great were those difficulties to overcome that, although relays of men were sent into the pit every six hours, the last body was not recovered before Tuesday 5th. February, nine weeks after the explosion."

After all the bodies had been recovered Mr. Wales along with other Inspectors and experts, made a detailed inspection of the mine to try to ascertain the cause of the disaster. Thomas Evans, H.M. Inspector of Mines gave the following evidence to the court-

"To account for the explosion it will be necessary to see how the gas accumulated or was given off and by what means it was fired. From the



evidence of the witnesses and from personal observation, I am induced to believe the explosion did take place at No.3 cross-heading, fourth east level, but the exact spot I am unable to define. The marks of the fire, the way in which the timber was blown and other indications all tend to this conclusion. After the great explosion in the east level, I am of the opinion there must have been some others, for we trace considerable distances without marks of fire and then it appears with signs of violence.

The effect of the first explosion was felt by the timbers being removed or knocked down and heavy falls of roof. This disturbed the ventilation very many lost their lives from afterdamp. I believe that there was some gas standing in the gobs about the stalls in that heading, No.3, around Sage's stall and others, that a sudden fall of roof took place, liberating large quantities of gas under considerable pressure. This, together with a very low barometer, was too much to be diluted by the air passing and to render it inexplosive. The mixture came into contact with a flame, it might have been a defective lamp or one injured by the fall but there is no evidence to lead me to suppose it was from Richard Jenkin's lamp as he and his companion were found some distance from the explosion."

Mr. Evans, along with the other Inspectors who gave evidence at the inquiry, were critical of the ventilation of the mine. After a lengthy summing up of the evidence by the Coroner, on the eighteenth day of the inquiry, the jury deliberated for about an hour. When they returned, Mr. Banks, the foreman delivered the following verdict-

"We find that the deceased, James Hammond, died December 1, 1860 from the effects of an explosion of firedamp at the Black Vein Pit, which gas was given off suddenly in the group of stalls, third cross-heading, fourth east level but there is no evidence to show how the gas was ignited.

We further recommend, first that the present rules shall be revised secondly, that the working places in the pit shall be frequently inspected and thirdly that the suggestions of Mr. Brough, the Government Inspector, - that the ventilation and underground workings shall be so arranged that, in case of any future explosion unfortunately occurring, the disastrous results would be confined to the district in which it took place, and that a new pit shall be sunk for the permanent improvement of the ventilation of the colliery - should be taken into the serious consideration of the directors and proprietors of the works. We take this opportunity of remarking, that it appears to us that the Stevenson lamp is the best and safest."

Some time after this about 1862 the system of working was changed from single stall to double stall and the colliery was worked for many years until it was closed without another serious explosion. By that time the workings had become greatly extended on the dip, the lowest sets of level being about 730 yards down the engine slope, one pair of drifts being driven below that part where the new colliery was sunk, about 1,200 yards on the dip of the old 146 yard winning. The Stephenson lamp was tried at the colliery but given up two years later as the colliers did not like them. The colliery closed in 1878.

#### **MINOR PIT. Hetton, Durham. 20th. December, 1860.**

There were three collieries that constituted the 'Hetton Collieries' and they were owned by the Hetton Coal Company. They were the Hetton, the Elemore and the Eppleton pits and they were about a mile apart from each other with the Hetton pit in the centre, the Elemore lying about a mile to the south west and the Eppleton which was also known as the Downs pit lying the same distance to the north east. All the collieries had separate ventilation systems with two shafts at each colliery, one a downcast and one an upcast.

Two seams were worked at the Hetton colliery, the Main Coal Seam at 109 fathoms and the Hutton Seam at 148 fathoms. The Low Main Seam at 131 fathoms had been partially worked but was not worked at the time of the disaster. The colliery had three ventilating furnaces in the Hutton Seam and one in the Main Coal Seam. The area of the downcast was 98 square feet and the area of the upcast 132 square feet.

In the past, gas from the coal had exploded at the boiler doors but no damage had been done but in the case of this tragedy there was along a nearly level flu in which a large amount of gas accumulated and the violence of the resulting explosion was like a cannon through the workings.

Those who died were-

William Marley aged 58 years a furnaceman.

John Greeves aged 20 years a timber leader.

Ralph Ross aged 16 years a timber leader. His father was in Australia and he supported his mother, two sisters and two brothers who were at work but reported to be delicate.

These three were found near the furnace in the West Minor pit-

Thomas Robinson aged 36 years a hewer.

Henry. Wonders aged 28 years a hewer.

George Walton aged 16 years a putter.

Three were found in the workings up the new incline.

J. Soulsby aged 16 years a timber leader.

James Walker aged 32 years a deputy.

Fr. Gray aged 29 years a deputy.

Joseph Scott aged 50 years a shifter.

Thomas Wright, aged 43 years a shifter.

John Jobling aged 40 years a shifter and Thomas Sunderland aged 32 years a shifter. He supported his mother and two sisters and two children whose father had gone to Australia.

Three men who were making refuge stalls in the inclined plane of the Ridding South wagon way-

John Gibbon aged 63 years a shifter.

John Ferguson aged 62 years a shifter.

Anthony Young aged 52 years a shifter. Two men who were riding in the south wagon way-

James Box aged 20 years a shifter and Robert Hall aged 17 years a shifter.

Three men who were repairing timber at the station in the South-east Drift-

Thomas Mitchinson aged 61 years.

Robert Wilson aged 54 years a shifter.

John Lowdon aged 63 years a shifter.

The inquest was held at the Colliery Hotel, Hetton-le-Hole before Coroner, Thomas Christopher Maynard. George Lowden, overman, told the court that he went to work to examine the workings at 2.20 a.m. He had two colliers, Robson and Warders and two boys Walton and Soulsby under his charge. He was also with the rescue party and found the bodies of Hall, Box and Richardson in the return.

Edward Wailes Hall was the master shifter at the colliery and one of the first to descend after the accident. He said-

“I went to the pits and found there was no means of getting down and proceeded to Downs Pit and went down it. When I came to the wagon way I found all the timber had been blown down and several falls from the roof in the way. I got over a very large fall but the afterdamp prevented me going further.”

Thomas Smith a master shifter in the colliery was down the pit at the time of the explosion He was blown over and when he regained his senses he found that the

ventilation was going the wrong way round the pit. He gathered some men together and led them out of the pit

The jury brought in the following verdict-

“We find that John Greaves and 21 other persons on the 20th. day of December now last past, came to their deaths at the East and West Minor Pits at Hetton Colliery by an explosion of inflammable gas which had accumulated in the flue heading from the boiler of Davidson’s engine to the upcast shaft and which had not accumulated in the workings.”

At the conclusion of the inquest it was suggested that, in order to prevent similar occurrences in the future, flues should be constructed to have a continuous rise. The fire in the north stables was not extinguished for about six weeks.

### **BROWNHILLS. Brownhills, Staffordshire. 9th. January, 1861.**

The colliery was near Walsall and owned by William Harrison. Four men and two boys had gone down the Red Pit, which was a downcast shaft, the previous night, to work in one of the upper seams. At about 3 a.m. the engine-tenter received a signal to lower the cage, which he did. He waited for a few minutes for the next signal but this was not received and he drew the cage up and found it was empty. he noticed a large volume of smoke coming from the shaft and he raised the alarm and went for the help of some men who lived on the colliery site. They found that they were unable to descend because of the density and volume of smoke that was coming out of the shaft and they went to the upcast shaft called the Meadow Pit which was nearly half a mile away. The managed with difficulty to descend and found the four men and two boys lying dead near the Red Pit. They had left their working places in the gate-road, which was about 500 yards from the shaft, probably on discovering the smoke.

On investigation, it was found that the solid coal was on fire in the airway in the lower seam of an adjoining pit which was worked by the same engine. The airway in which the fire was burning was used to ventilate the sump of the Red Pit shaft under the scaffold. The smoke from the fire travelled with the air into the sump and rose through the scaffold when it met the downcast air and was carried into the shallow coal workings where the men were at work. It carried on to the Meadow Pit but as the temperature increased in the downcast shaft, the ventilation was reversed, with cold air coming down the Red Pit. The effect of this was to bring the smoke and fumes to the red Pit shaft. So dense was the smoke that the timbers and the headways were blackened with a coating of soot. Six horses were also suffocated in their stables.

All the victims were suffocated by smoke from a fire which originated in the air way to the Deep Coal workings of an adjoining pit.

Those who lost their lives were-

James Cooper. aged 26 years.

John Cooper, aged 30 years.

Charles Coldrake aged 41 years.

Emmanuel Millington aged 14 years.

Thomas Craddock aged 37 years

Levi Craddock aged.11 years.

It emerged that there was no satisfactory explanation of the outbreak of the fire in the airway. The men changed over shift at 10 p.m. the preceding night in the deep workings where the fire was afterwards discovered but there was no indication of fire at that time. A boy was sent out of the workings during the night. He stated that he saw no fire but he did stick his candle on the side of the gate road near the mouth of the airway. He denied going further down and having caused the coal to light. The coal, was however, found to be on fire half an hour after he had been to the stables.

It was supposed that the candle had fallen over and ignited some chaff, chips and small dry coal and dust which had accumulated at the mouth of the airway and then set fire to the solid coal. Some of the jury were of the opinion that the boy had made the fire for his own amusement. He denied this and there was no proof that this was the case. The jury returned a verdict of 'Accidental Death.'

After the verdict it was stated that a collection for the bereaved families and 16/6d. was collected.

**BRERETON. Breton, Staffordshire. 6th. February, 1861.**

The colliery was the property of The Earl of Shrewsbury and was near Rugley. Seven men were killed in an explosion of firedamp. It was known that there was gas in the mine. A fault had been struck and water had flooded the lower seams of the colliery and the water was rising.

A few days before the explosion the water had cut off all communication between the two shafts and prevented the shaft in which the disaster took place being ventilated. The manager of the colliery were aware of the situation but took no steps to restore the ventilation. Safety lamps were not used to make an inspection as was demanded by the Special Rule 17 and he thought that gas might have accumulated under the scaffold.

The explosion took place shortly after the undermanger had visited the sump and the scaffold was blown out and completely demolished. Two bodies were found in the sump and the rest in the workings near the shaft. Only the man who was working on the scaffold showed signs of being burnt. The gas that was thought by the manager to be under the sump had escaped as the debris was removed and fired a workman's candle. The afterdamp had suffocated the five men in the headways.

The who died were-

John Gough, aged 54 years, collier, married.

J. Gough, aged 15 years, collier.

Daniel Clarke, aged 54 years, collier, married with eight children.

Thomas Kent, aged 48 years, collier married with seven children.

T. Burgess, aged 32 years, collier.

John Burgess, aged 36 years, collier, married with seven children.

Edward Kent, son of Thomas.

The undermanager of the colliery stated that he never used a safety lamp and indeed did not understand them. Mr. Baker strongly recommended that other means should be taken than natural ventilation and that furnaces should be adopted at the colliery.

The jury returned a verdict of 'Accidental Death' and added-

"That the deceased persons met their deaths through an explosion of firedamp occasioned by an accumulation of gas under the stage of scaffold, which would have been prevented by having the pits properly ventilated."

The Inspector, Mr. Baker, commented-

"This accident illustrates the necessity of using competent men to supervise the working of mines and of carefully maintaining a complete and uninterrupted ventilation in every part of the mine workings by artificial means."

As a result of the accident the manager and the undermanager were summoned before the magistrates and fined. The manager was found guilty of a violation of the 1st. General Rule and fined the sum of 10/-. The undermanager was charged with a violation of the Special Rules 3 and 17 and fined £20 and one shilling. Under the direction of the Secretary of State, Sir G.C. Lewis, the fines were distributed among the families of the people who lost their lives. Mr. Baker and J. Whitgreave, one of the Justices, made the payments.

**LINNYSHAW. Worsley, Lancashire. 27th, February, 1861.**

The colliery was the property of the Bridgewater Trustees and nine colliers lost their lives in a an explosion in the Rams mine. It was also called the Berry Field Pit after the farmer's in whose field it was situated. It had been working for about two years and it was known that there was firedamp present and great care was observed in working the mine. There were two shafts about 30 yards apart, an upcast and a down cast. Both shafts were sink to the same depth and the downcast went to the lower workings and the workings from the upcast shaft were 40 yards above the lower mine.

The explosion occurred at about 1.30 when there were 14 men in the lower pit and 20 in the higher workings. Smoke came up the shaft and an immediate rescue attempt was out of the question. It was also found that the cage was stuck and the signal wires destroyed. A party of volunteers eventually got down the pit and groped their way through a tangled mass of debris.

The first body that they found was very badly mutilated and then they came across William Knight was alive and sent to the surface as quickly as possible. After an hour underground, three of the rescuers became affected by the bad air and lost consciousness. They were Richard Evans, Armstrong and Jones. They were taken to the surface where they recovered.

On man made his escape through the workings with his coat over his mouth. He found James Lyon lying on his face and he said that he had been blown over by the blast. The man got Lyon on his feet and both made their attempt to get to safety but Lyon fell down and lost his life.

The men who lost their lives were-

John Latchford aged 34 years, fireman who had a wife who was in a delicate state of health.

Peter Hope, assistant fireman who left a wife.

James and William Cooke aged 20 and 17 years, brothers.

Edmund Rushton aged 43 years, who left a wife and three children.

William Crompton aged 16 years,

Joseph Wilcock aged 15 years.

William Knight aged 19 years, who was take from the pit but later died.

The inquest was held at the Stocks Inn, Worsley by Mr. W.S. Rutter, Coroner. Peter Molyneaux told the court-

"I was at the pit eye fetching a wagon when I felt the explosion. I was thrown over but recovered my senses and found my self by the side of a door that led to the tunnel near the pit eye. I opened the door and went into the tunnel as there was safe from harm. Soon afterwards Hassal, Tudge and Seddon came and we sat behind the door for a quarter of an hour when John berry came to us, he had a lamp and after a short time we got to the pit eye."

The Coroner summed up by observing that the cause of the explosion was doubtful and advised the jury that the only safe verdict that they could reach was to say that the men had died from an explosion the cause of which there was no evidence to show. This the jury did.

**BLAENGWAWR. Aberdare, Glamorganshire. 8th. March, 1861.**

The colliery was at Aberdare and was the property of David Davies and thirteen men and boys lost their lives in an explosion of firedamp. At the time of the explosion the colliery was under the management of Mr. David Davies jnr. with Richard Evans as the colliery underviewer.

The Inspector, Mr. Evans, made an examination of the colliery the year before and made a recommendation by letter that locked safety lamps should be used in the mine but there was no action taken by the colliery management. On the morning of the disaster, William Terrant, a collier entered his stall with a naked light and the explosion took place.

Those who died were-

George Phillips, aged 30 years, collier.  
William Phillips, aged 19 years, collier.  
Charles Williams, aged 43 years, collier.  
Richard Williams, aged 44 years, collier.  
Hopkin Hopkins, aged 46 years, collier.  
Henry Evans, aged 13 years.  
Thomas Jones, aged 34 years, collier.  
Ebenezer Thomas, aged 14 years.  
William Davies, aged 15 years.  
Morgan Henells, aged 36 years, collier.  
John Morgan, aged 52 years, collier.  
David Thomas, aged 60 years, collier.  
William Davis aged 10 years.  
Five others were also injured.

Mr. Evans made an examination of the colliery and workings after the explosion and found that the explosions had taken place in the Four Feet Coal at a considerable distance from the shaft. The air to the place passed along the engine plane which was about a mile in from the shaft, then through the working places and back down the return airway to the bottom of the upcast shaft. The return airway in many places was very small and the ventilation to Terrant's stall was totally dependent on a small single door which was left in charge of a boy who was ten years three months old.

The accumulation of gas probably took place during the previous night and the Inspector thought that the ventilation from the single door was inadequate and Mr. Evans thought that the fireman had not examined the place in the morning. He believed that the explosion occurred by the first general rule not being observed. The rule stated-

"There should be an adequate amount of ventilation to dilute or render harmless noxious gasses to such an extent that the working places of the pit and the travelling roads to and from such working places shall under ordinary circumstances be in a fit state for working and passing therein."

Richard Evans, the underviewer, told the court-

"I have been underviewer at the Blaengwawr Colliery for 7 or 8 years. I can not read, write or speak English. When the explosion took place I was near the bottom of the pit, it was about 7.30 in the morning directly on receiving the information from one of the hauliers that an explosion had taken place and having ascertained that it was in a part of the mine known as the 'Crimea' workings, I went there as soon as possible and on the engine plane met William Tennant, a collier he was burnt, and on asking him where it had happened, he said wit me in my stall. It was some time before I could get to the workings, I did so that evening and remained until all the bodies were out. I know something of the rules they have been read to me. I consider it my duty to see the places are kept safe for men to work in. It is the duty of the fireman (or deputy) to go around in the morning before the men come in."

Since Mr. Evans thought that the first General Rule had been breached and he instituted proceedings against the manager of the colliery Mr. David Davis. the case was heard before the Stipendiary Magistrate, Mr. Fowler, at the Merthyr Court. In giving the benches' decision he said-

“The Inspector proved the fact of the explosion, but did not supply the bench with evidence as to the causes which led to such an accumulation of gas, which doubtless, he had been unable to ascertain with sufficiently certainty. but from the evidence of the defendants, it seems that the ventilation of Terrant’s stall depended on a certain door being kept shut, and that the real cause of the explosions was the keeping open by some of that door by which the air which would have cleared the stall was sent in another direction. Assuming this to be the cause, was the proprietor liable in any form for this result?, First, what is the scope of the first General Rule. It appears to me to refer to the general ventilation of a mine, by the proper construction of airways, doors and other contrivances for the dilution of noxious gasses.

On the whole, therefore, I think that the door itself was faulty, a charge might be made against any officer whose duty it is made to see to it and that if it was rightly constructed, but was maliciously or negligently wedged open, a charge might be successful against the person acting so. Looking at Rule 19 I think that if there had been no doors at all the manager and the owner might have been charged with the offence under General Rule 1, but that, having provided doors, the particular construction of them was part of the duty of the overman to see to under Rule 19.”

Mr. Evans concluded his report on the disaster-

“I agree with the magistrates that the owner of the colliery is not liable for such details when the duty is imposed on the overman by the special rules. But I do not think the special rules can override the general rules, for surely if the owner appoints an incompetent person to carry out a specific duty no special rules can relieve the owner of responsibility.”

### **CLAY CROSS . Chesterfield, Derbyshire. 11th. June, 1861.**

The colliery was the property of William Jackson and Partners. The late Mr. G. Stevenson had given instructions to the Mr. Martin, who was now dead, to take care when working the coal in the area as it was known that there were workings that had been made about twenty three years before the disaster.

In 1848 the No.1 Pit stopped getting coal and the Black Shale Ironstone was opened. This was 23 yards above the former. the extension of the workings down the outcrop let more water down the pit than the pump could lift and the water backed up in the old No.1 workings. At the time of the breach on 11th. June 1861, there was 14 yards of water in the No.1 pit and a head of 24 yards at the breach.

When the pit was working, there were 249 men and 71 boys employed with 17 men in the roads and airways. On the north side of the mine there were four day deputies and five day deputies on the south side. There was also a day overman and night overman and two night deputies who were under the direction of John Parker, the underviewer.

The No.2 pits were sunk in 1839 under Mr. Stevenson’s direction and both shafts were tubbed. The Main or Black Shale coal in these pits was found free from water and Mr. Stevenson decided to have no communication with the old pits with the objective of keeping about the water. In 1851, the Clay Cross works were purchased by William Jackson, M.P., Sir Morton Peto, M.P. Sir Joshua Walmesley and E.L. Betts. Mr. Binns was appointed manager and he confirmed the views that had been put forward by Mr. Stevenson that the pit should not communicate, but before the No.2 workings approached near the No.1, Mr. Binns was anxious to correct the plan. The whole of the No.2 workings were surveyed and a new plan made. He had confidence in the plans of the No.1 workings and at first, he decided to leave a barrier of 20 yards of coal between the two and he intended to make borehole towards the old workings. He had so much confidence in the old plans and weighed up the difficulty in making boreholes and plugging them, he decided to leave a barrier of forty yards and dispense with the boring.

Five headings had been driven according to Mr. Martin's information and a tunnel had been constructed on the level, along the extremity of the headings. This was surveyed and laid on the plan. Martin was a competent manager and he had been instructed to get the coal up to thirty yards of the boundary but Mr. Stevenson and Mr. Binns were away from the mine for weeks at a time.

When this work was completed Mr. Binns who was the manager of the colliery, The end of the colliery was near the Black Shale No.1 and Nathaniel Dawes was working at the face up Dan's incline on the south side of the No.2 pits when he noticed a little wet in his stall while he was holing at the bottom of the coal. it was not unusual for there to be water in this stalls.

Dawes left work about 3 p.m., a short time before the regular time, and went down Dan's incline to tell Timothy Smith, a son of the deputy of the district and his father about the water. The boy was occupied on the incline brake and could not go to tell his father. Dawes, instead of going to tell Smith himself, left the pit, which was against the Special Rules of the Colliery.

At the time of the disaster there were 63 men and 23 boys on the north side and 39 men and 32 boys on the south side. About 5 p.m. Alfred Smith, the deputy of the district in which the breach occurred, came to his son who had been told of the wet by Dawes, The son said he had to run one set down the incline when another tub arrived and then he had finished his work. Together they heard a noise which Alfred thought was some tubs coming along the incline. They listened for a moment and he thought the noise was roaring water, coming from Dawes' stall.

Alfred Smith ordered his son out of the pit and to tell the same to everyone he met on his way out. By great exertions Smith got the men out safely. His son told the deputy he met on the south side and they went quickly to tell the men on the north side. The deputies on the north side got the men out but there was an oversight, they forgot to warn the three men and a boy working in the stone headings which were bring driven from the north side of the No.2 pit to the Tupton coal, 60 yards above the main coal. The levels rose to the mouth of these headings and the headings rose half an inch to the yard for 400 yards so the pit bottom would be sealed before they were aware of the water.

The deputies on the south side did not act as quickly as those on the north side and they sent boys to tell the men in the workings to get out. fifteen men and boys working in the Britton and Wood's district did not escape as well as three in the Silkstone District. From the evidence given at the inquiry it was clear that they did receive a warning.

A man named Slater who was working at the far end of the south side was the last to come out. He had passed some of the men when he came to water at the foot of Dan's incline where he found several men who were afraid to go through the water. He stepped in and urged the others to follow him expecting that they did so, but on getting to the No.2 ventilation door near the shafts, he looked round and found that none were following him. At the door he met E. Forrester, George Mills, Siddens, Brunt and others who were trying to open the door to get to the downcast shaft but it would not open because of the rubbish that had washed against it. Slater asked them to follow him to the upcast shaft but they did not do so. He escaped and the others died in the mine and he was the last to see them alive.

When John Parker, the underviewer, heard of the accident, we went immediately to the pit and descended. By this time the downcast shaft which was three foot six inches lower than the upcast, had water almost to the roof. Parker, John Brown, the officials and a large number of men, tried to get the trapped men out of the mine. Some of the rescuers broke down the brickwork at the No.2 separation door and there they found a youth named Bounce.

Bounce had been left at the far end of the south side for a quarter of an hour after the others had left since he had received no warning of the immanent danger. He waited for some time for an empty tram but the trammers did not return and he thought it was time



to end his work. He got dressed and struggled through the water to the door and he had just arrived there when the brickwork was knocked out.

The men on the south side and were killed, were at the place fifteen minutes before Bounce. It was supposed that the men went down the level when Slater left them, they went along the level and joined the men and boys at the foot of Dan's incline down which the water was a rushing torrent.

After the escape was cut off there was a route through the furnace drift which entered the upcast shaft eight yards from the bottom and went to the seam fifty yards on the rise side of the shaft. Water was poured down this drift to cool it but no one could get into it against the stream of water and no one escaped by this route.

When Mr. Hedley, the Inspector arrived at the colliery between 8 and 9 p.m. he found that the water was up to the furnace drift. Preparations were being made to recover the bodies by drawing water and making a connection from other workings. The bodies were removed from the mine twenty two days later.

The men were entombed in the No.2 Black Shale Pit for 22 days and were suffocated. Four bodies were found at the foot of the No.1 incline on the north side, thirteen at the foot of Dun's incline on the south side, five near the foot of the horse road on the south side and one on the back level at the far end of the south side.

Those who died were-

F Bradley aged 35 years miner.  
S. Wilbraham. aged 25 years, a miner.  
Joseph Wernon aged 27 years, miner.  
William Holmes aged 13 years, trammer.  
S. Coates aged 33 years, miner.  
John Carr a miner aged 26 years.  
Thomas Wood aged 60 years, miner.  
Joseph Wood, aged 35 years, miner.  
A. Bettison aged 44 years, miner.  
E. Forrester aged 45 years, miner.  
Thomas Street aged 69 years, miner.  
George Mills aged 25 years, miner.  
John Buxton aged 38 years, miner.  
John Butterfield aged 14 years, trammer.  
R. Jones aged 13 years, trammer.  
John Ashmore aged 13 years, trammer.  
Samuel Ashmore, aged 21 years, miner.  
R. Siddons aged 40 years, miner.  
Thomas Brunt aged 32 years, miner.  
John Hill aged 41 years, miner.  
Joseph Cook aged 50 years, miner.  
Joseph Hawley aged 60 years, miner.

The fourteen widows and the thirty two children who were left without fathers, were provided for. Ten of the children could earn their own living and Mr. Jackson on behalf of the Clay Cross Company, offered to make provision for the dependants. Many gentlemen of the Count subscribed and a fund of £2000 was raised, headed with £500 from the firm. This was considered sufficient to provide a widow without children 8/- to 9/- per week and she was given coals and a widow with children was allowed from 12/- to 14/- per week again with coal given.

The Inspector, Mr. Hedley made an examination of the mine and found a hole sixteen inches wide and eight inches deep in the parting between the top and bottom coal in a narrow pointed corner of a heading which was four feet six inches in. It was thought that

Martin was driving this heading as a lodge for water until he worked the coal for a short distance. After that the goaf would hold the water that drained from the coal.

Mr. Hedley commented-

“The Fifteenth General Rule states that sufficient boreholes shall be kept in advance and if necessary on both sides, to prevent inundations in every working approaching place likely to contain a dangerous accumulation of water.”

Mr. Binns had complete confidence in the old plans and felt secure in leaving a barrier of forty yards of coal and not to bore would put the mine in no danger. It was obvious that boreholes should have been made.

Mr. Hedley concluded his report-

“From this accident we learn two important lessons, viz. that extreme accuracy is necessary in laying down upon a plan every detail of the workings of a mine and secondly the necessity, where two shafts are upon or near the same level, in inclined seams, for an outlet on the rise, or communications with the workings on the rise side of the shafts, and the shafts some distance above the bottom, as a means of escape.”

### **DYKEHEAD. Hamilton, Fifeshire. 7th. August, 1861.**

The colliery was the property of Wilsons and Company and was on the Dykehead Estate about three miles from Hamilton. It was also known as the Summerlee Colliery. The pit was about forty fathoms deep Woodwork underground caught fire and the ventilation was deranged causing the deaths of thirteen colliers.

The man at the pit top was surprised when he saw smoke coming from the shaft at about 1.30 p.m.. Within ten minutes flames rose to the height of a two storey house and could be seen two miles away in Motherwell. Attempts to put out the flames from the surface and attempts to get the forty men and boys out of the pit were made. Fire-engines from Motherwell went to the scene and continued operations until 4 p.m. A rope was then lowered down the shaft with the hope that the men could attach it to them and be drawn up. This proved to be too slow and the men in the pit were very weak.

Two men, Andrew Hunter and another named Harvie gallantly volunteered to descend and were relieved at intervals by other volunteers. Twenty eight men were got out of the pit by this method. All of them were totally exhausted and McLeod Nelson (Robertson) was found to be dead.

News of the disaster had spread and a crowd estimated at 1,600 people had gathered round the pit. At about 6 p.m., Mr. Austine, coalmaster of Hamilton, directed that poles be thrown across the mouth of the pit and by means of a tarred cloth attached to these and let down as a temporary vent, the smoke was carried off to give some relief to the men still down the pit.

Mr. W.G. Simpson of Dundas Simpson and Company, directed operations for the driving of a mine through the waste his mine to the Summerlee workings. This was done and the bodies recovered.

All those who lost their lives were listed as colliers-

McLeod Robertson.

Neil Thompson.

McLetchie Baxter.

John Potter.

David Hamilton.

Alexander Hamilton.

Thomas Currie.

Thomas Miller.

John Craig.

Hugh Craig.

Thomas Potter.  
David Maxwell.  
Francis Cassey

The Government Inspector, Mr. Williams, visited the pit but could not go down as the pit had been sealed to contain and extinguish the fire. It was thought that the wood work at the shaft bottom was too close to the furnace.

**DONNINGTON. Wellington, Shropshire. 9th. September, 1861.**

The colliery was owned by the Lilleshall Company and was at Wrockwardine. Three men and two boys were killed when the flat chain broke. The accident occurred just as the men had finished work and were returning to the surface. The cage was six yards from the bank when the rope broke and the victims fell 80 yards to their deaths at the pit bottom.

Those who lost their lives were-

Thomas Swift aged 23 years,  
Thomas Foulke aged 14 years,  
Thomas Davies aged 14 years,  
William Worrall aged 36 years, married with six or seven children, and  
Henry Swift aged 19 years, brother to Thomas.

The inquest into the deaths took place at the Lambs Inn, Wrockwardine when the jury returned a verdict of 'Accidental Death' with the recommendation that the Company should employ someone to look after the ropes and '*those things.*'

**SOUTH MOSTYN. Mostyn, Flintshire. 26th September, 1861.**

The colliery was owned by Adam Eyton with Mr. John Williams as the manager. Six colliers lost their lives in an explosion of gas. The colliery had two shafts which were 110 and 140 yards deep respectively and 135 yards apart. From the bottom of the second shaft two tunnels extended 700 yards to the coal on the dip underneath the tideway of the River Dee. One of these tunnels was the return air course and opened out several coal seams all of which were now exhausted and abandoned. An overlying seam had been recently opened and it was in this seam that the explosion occurred. The mines between the shafts had been extracted and the return air from the workings on the deep was sent through the goaf which was intersected by faults and so it was difficult to keep a road open to the upcast shaft.

The mine was ventilated by a fan 6 feet 8 inches in diameter and 2 feet wide with vanes 2 feet deep. This was driven by straps from a steam engine with a 8 inch cylinder and 2 feet stroke which ran at about 300 revolutions per minute. The Inspector, Mr. Peter Higson had visited the colliery and raised a strong objection to the fan and for some time afterwards a furnace was used to ventilate the pit. He also found gas in the return air and as the workings were being extended he insisted on the use of safety lamps in the mine. He suggested that the tunnels and airways should be enlarged and a new shaft sunk. There was no objection by the management and lamps and work on enlarging the roads began almost at once and it was intended to sink another shaft.

Witnesses at the inquiry said that they saw the shed which covered the fan on fire for twenty minutes to half an hour before they heard the report of the explosion. Before the shed caught fire a strap on the engine had broken. The strap was repaired and the engine driver increased the fan speed to increase the ventilation but the shed caught fire.

The Inspector arrived at the colliery shortly after the explosion and found a considerable amount of gas a few yards from the bottom of the downcast shaft which prevented further operations to recover the dead and injured. The return air way had

been closed by the explosion and gas was coming from the upcast shaft through the fan to such an extent that it fired at a lamp.

The deceased were found lying about midway in the tunnel dressed with their lamps locked and perfect and it was supposed that they were leaving their work and on their way out of the pit when they walked into the afterdamp.

Those who lost their lives were:-

Wm. Parry,  
Hugh Holland,  
Thomas Jones,  
John Roberts,  
John Ellis,  
Moses Daniels,  
Edward Twiss,  
Henry Roberts,  
Edward Hughes and  
Kenrick Roberts.  
All were colliers.

Mr. Higson examined what he could underground after the accident but there was so much gas he was unable to find out how it had occurred as the colliery was closed.

It was stated that the north level was one of the mines which had recently passed through a fault and into another coal seam called the 'Dwrbog'. Gas came from the start at the fault freely. The Manager, John Williams said that the fan had been used for only a short time and the return air still had to pass over the furnace. On one occasion he had seen flames coming out of the chimney at the surface.

The Inspector thought that-

"For some weeks prior to the explosion, the colliery had been in a critical state and that the preparations for producing ventilation had reached the utmost limit. As the ventilation would almost cease with the last revolution of the fan, inflammable gas would then rapidly accumulate throughout the workings which might cause the poor fellows to leave their work a little before the usual time."

The fire in the fan shed would ignite the gas in the mine. He concluded his report-

"The circumstances attending this casualty are such as to give rise to the most serious considerations, while they show in language stronger than can be written the superiority of the furnace over the fan where one fan only has been provided, and that in trusting to one only in this case an irretrievable error was committed. Where an underground furnace is properly constructed and of sufficient powder, but the heat which the shaft would acquire ventilation would be continued for some time even after the fire was subdued but in the case of other appliances, it ceases when their operation become suspended."

The jury found that the deceased persons came to their death accidentally and by misfortune and not otherwise.

### **SHEVINGTON. Wigan, Lancashire. 1st. November, 1861.**

The colliery was the property of John Tayleur and Son who made no restrictions on the money spent in the safe working of the mine which was small, covering less than a statute acre. The management of the mine was experienced and in the opinion of the Inspector, above average. The pit was also known as the Prince Albert Pit.

A plane had been driven against a fault on the south side and the workings there had been abandoned for a few months and the heading stowed full of dirt. Several other places had also been driven to the same fault when the roof had become unstable and these also had been abandoned. There had been a fall of roof two days before the

explosion which had liberated gas which accumulated in the goaf and had come over the stowed dirt, into the main intake.

Mr. Makinson, the manager of the colliery, and Mr. Close the fireman immediately prepared to examine the workings and a search party went towards the explosion area. Many were burnt and disfigured in the blast and Mr. Daghish of Wigan attended to their injuries

Almost immediately after the explosion Mr. Higson made a detailed examination of the colliery and even though the furnace was out, he found no trace of gas but he found the ventilation defective. A stopping had been put in the drift and at the end of the drift pillar working had commenced. It was known that the roof would come down when this work started and that there was gas in the goaf and yet there were no provisions made to sweep that gas away by a ventilating current.

Those who lost their lives were-

John Culshaw aged 29 years, collier.

James Culshaw aged 22 years, collier, brother of John.

Edward Goulden aged 22 years, collier

William Yates aged 40 years, collier.

William Crook aged 79 years, collier

James Gaskell aged 35 years, collier.

John Ashcroft aged 47 years, collier.

Solomon Ashcroft aged 13 years, collier.

James Ashcroft aged 15 years, collier son of John

James Baron aged 12 years, collier son of John.

Thomas Reed, aged 60 years, collier.

William Ridings, labourer aged 45 years.

Robert Holcroft aged 38 years, collier.

The injured were:-

Robert Howcroft, collier.

Robert Thompson, collier.

Ralph Ellison, collier, married with six children.

Two died later-

Thomas Reed aged 60 years, collier who died on the 6th. November and

William Ridings aged 45 years, fireman, who died on the 11th. November.

Ann Reed wife of Thomas was told that her husband had been injured on Wigan Station as she was waiting, with her daughter, for a train to take her home. When she received the news she began to shake and fell down. efforts to revive her failed and she died in a few minutes. the inquest into her death returned a verdict of '*died from fright.*'

The inquest was held at the Plough and Harrow Inn before Mr. M. Myres, District Coroner. The proceedings went to the house of Ralph Ellison who had been injured in the accident and was too ill to be moved. he said that on the morning of the explosion he had found a piece of the side in the main road had fallen and he went to fetch Makinson and Riding. When they returned they found that some of the roof had fallen. They removed the debris and filled two or three tubs. Makinson then went away to get some bars after telling Riding to get Holcroft to help him put up the bars. After the fallen roof had been removed, Ellison left them and it was about twenty minutes later that the explosion occurred.

A long and detailed statement was taken from William Riding and was presented at the inquest. Riding died as a result of his injuries during the proceedings.

Mr. Higson thought that there was enough ventilation going through the mine if it was correctly distributed but a stopping had been placed in the drift at the very spot where the

explosion occurred. There was no doubt as to the cause of the disaster which was caused by a labourer who had previously been employed as a fireman in the mine and had retained a lamp key. He was burnt in the explosion and his dying testimony said that he unlocked the lamp to relight of one of the men's lamp and the explosion resulted.

From the Inspector's Report-

"It appeared from the testimony of the poor men whose temerity cost him his life and sacrificed the lives of others, that upon putting the open light on the stopping it suddenly ignited the gas. In this there was nothing but what under the circumstances any one of ordinary capacity might have expected. As that was the highest point of the workings, the gas would, from its own specific gravity, escape, if possible, there while as the risk of attempting to stop it back had often been grossly neglected. If such omissions are to be tolerated, casualties of the description may be a daily occurrence."

The Coroner summed up and brought the statement of the Inspector to the notice of the jury. After a short consultation the jury returned the verdict that-

"The deceased were killed by an explosion of firedamp at the Prince Albert Pit and that the explosion occurred in consequence of William Riding having improperly caused his lamp top to be taken off whilst working."

### **NEW HARTLEY. Hartley, Durham. 17th. January, 1862.**

The Hartley disaster of the 25th. January 1862 was one of the first great mining disaster of Victorian times to catch widespread public attention when upwards of two hundred men and boys lost their lives after a shaft accident at the colliery.

The Hartley colliery, owned by Messrs. Carrs, was in the Great Northern Coalfield and gave it's name to the steam coal that was produced there. The house coal was known as Wallsend coal. The coals from Hartley were shipped to the artificial harbour at Seaton Sluice by a primitive colliery railway, two miles long.

The shaft at Hartley was sunk eighty fathoms, in 1830 to three rich coal seams, the High Main was at thirty eight fathoms and was four feet six inches thick, the Yard mine at sixty five fathoms, three feet thick, and the Low Main at ninety five fathoms. There had been problems in sinking the shaft. A manuscript left by an old pitman, stated that an attempt had been made to build a steam boiler at Hartley during the last century. There had been 'creep' round the shaft and a whole boat load of strong wooden baulks, cut to lengths, had been used at the pit top but this did not stop the creep and the work was abandoned.

The colliery was worked by means of one shaft although there was a staple from the surface to High Main and one from the Yard to the High Main. The shaft was twelve feet in diameter with three inch planking forming the brattice down the centre. The Low Main was accessible only by the shaft which was bratticed down the middle. There were two men at the upper seam at the time of the accident.

There had been a depression in trade in the coalfield and the value of the steam coal had not been fully appreciated but when the demand for this coal was realised the colliery became profitable. Due to the drop in coal prices in 1857, four collieries, worked by Messrs. John Carr and Co., were put up for public auction at Newcastle on the 20th. July 1858. They were the Hartley Colliery, the Burradon Colliery, the Cowpen Colliery and the Seghill Colliery, which was the oldest and sunk in 1822. There were three thousand acres of coal at the colliery and it was withdrawn from the auction when arrangements made between Messrs. Carrs and Lord Hastings. Mr. Carr also owned the Burradon colliery and was not in good health.

The mine was subject to flooding and six or seven years before the disaster it was inundated. At the time the engineers thought that they had struck the sea and the pump was too small to do the job of clearing the mine. The pumping engine was installed four years before the disaster and at the time was the largest in the north of England. The

cylinders were immense and it generated four hundred horse power and lifted the water two hundred and forty feet up the shaft. The beam weighed forty tons. Even so, water was still a problem in the mine and it was only when they holed into the workings of the abandoned Mill Pit did the water become less of a problem.

The accident took place at 10 a.m. on Thursday 17th. January when the great beam of the pumping engine broke without warning. It hit the brattice without doing any damage but then it rebounded against the side of the shaft and then fell down it carrying all the timber of the brattice with it. There was great consternation throughout the district. The night shift were coming up the pit at the end of their shift at the time only sixteen had let the pit and eight men were in the cage when the beam snapped and fell down the shaft.

The cage was shattered and debris cascaded down the shaft. Two men in the cage were killed when they went to the bottom and three died soon after. Two were not badly injured and rescued after a few hours. A lad named William Sharpe and his father climbed out of the broken cage to the pumps and held on to await their rescue. Dr. Davidson of Deval was in attendance at the pit top to give medical assistance to the injured as they were got out of the shaft. There were two hundred entombed men in the pit and weeping women were in attendance at the pit top. Mr. Charles Carr, the viewer at the colliery and the son of Mr. Carr and Mr. Humble, the resident viewer, were aided by Mr. G.B. Forster, viewer of Cowpen and North Seaton, superintended the operations. On the Friday after the accident, Mr. Mathias Dunn, Her Majesty's Inspector came to the colliery and with others made an inspection.

On the second day, cries were heard coming from below. The Yard Level was reached and by Friday night the first body was recovered. It was that of a young man named Sharpe and by Saturday, the body of his father George was recovered by Ralph Robson. On Saturday Mr. Coulson, master of sinker of Durham, inspected the pit and it was thought that the debris was in danger of falling down the shaft. Two men were working at the debris with ropes attached to them and six or seven others were helping to remove the debris up the shaft. Two men at the surface kept the gin, jack and grab going to the impatience of the onlookers at the pit head.

At 9 p.m. on Saturday the men in the shaft heard the men in the Yard Seam but work was held up because the shaft wall had come away and the engine which was being used to raise the large quantities of timber and stone from below ground drowned the sounds of the men below.

On Sunday a large meeting of engineers and mining experts was held at the colliery. Most of the eminent names in mining and mining engineering were present at that meeting and the list read like a who's who of mining in those days and no better plan could be thought of than to get the debris out of the shaft.

Late on Sunday all the stone and rubbish had been removed from the shaft with the greatest difficulty. At 2 p.m. on Monday. Mr. Coulson sent word up the shaft that he expected the men to be withdrawn from the shaft in four hours as he had seen some smoke in the shaft and he thought that those underground had lit a fire.

By Tuesday a hole had been made through the debris and the workers in the shaft could see the clack door of the pump but there was gloom among the rescuers that the men would be reached too late.

It was thought that there was foul air in the pit and this was confirmed by an accident that occurred at the pit. At about 4 to 5 a.m. a cry went up from the shaft that a man had been affected by stythe. Mr. G.B. Foster, one of the mining engineers helping with the rescue attempts describes it thus:-

“On Monday a new enemy began to develop. A vapour had been observed coming out of the pumps. During the night sinkers at each change of shift began to show symptoms of nausea on coming into the fresh air and it became evident that they were under the influence of some gas which produced these effects.”

John Liddell of North Seaton and Richard Wilson had been at work in the shaft when some of the debris fell and the stytch had come through the clack door and overpowered them. They had been able to catch their implements and had been got to the pit bank. Liddell came up first and had to be supported to a cabin on the surface by two men and behaved as though he was drunk. Dr Davidson saw to him and revived him with liquor. Wilson was brought up and he was in very bad condition. He had to be laid on the floor of the hut and bathed with water. Spirits were administered and he was taken to Mr. Emerson's house by ambulance.

Richard Pickard, William Coulson and Matthew Dodds were also affected and three others who were brought up in a similar condition Thomas Fairbairn of Cowpen, Robert Fairbairn and Ralph Maughan. Two master sinkers, Mr. Shields and Mr. Wilkinson were involved in the rescue. William Shields brought the men out and he was later to be the man that first discovered the bodies of the victims. The rescued were revived at the surface and had been working in the staple in the High Main Seam. They were brave men beyond all praise. Operations were suspended until brattice was rigged in the shaft before they could continue and all hope for the men below had now gone. It was thought that it was a pit of corpses.

While there was hope and the work was going on in the shaft, there were several medical men at the surface. Mr. Anthony Davison was the colliery surgeon and was a member of the Royal College of Surgeons in Edinburgh and was assisted by Mr. Gilbert Ward of Blyth who was a member of the Royal college of Surgeons, England. Both men stayed at the pithead in the bitter cold and furnished supplies of food and blankets at the local school room.

Among the other doctors that were at the scene were Mr. T. Dawson and Mr. White of Newcastle, Dr. Pyle and his son of Earsdon, Mr. Ambrose, surgeon of the discovery ship Endeavour, Mr. Nichol, Mr. M'Allister, and Mr. H. Ward, the last four men volunteered to go into the furnace drift if their services were required.

A large crowd had gathered at the pithead and there was neither confusion nor noise. Around the pit buildings groups were gathered speculating on the fate of the comrades in soft undertones. Whenever the gin was required, there was no shortage of volunteers as the horses at the gin were worn out. When there was nothing to do, they stood around in the bitter cold and from time to time, anxious women came from the village to see if there was any news of their loved ones.

The correspondent of the Newcastle Chronicle described the scene-

"The flaming beacons on the high platform of the Hartley pit glare steadily in the eyes of the weary footed pedestrians approaching from Deval or from the nearer cottages. A thin covering of snow over spreads the ground and has changed the dark, brown, coaly roadways to a path of clear whiteness. The pit heaps are sky grey and the stillness of death reigns, broken only by the interminable orders from the gin, the crab and the jack, which are heard through the morning air. Black figures bend their steps noiselessly towards the gleaming fires where groups of persons were sitting or reclining quietly, the fountains of their grief being well-nigh exhausted, and the anguish of their minds, great as it is, being almost overpowered by the sleepy influences of the hour. On the boilers and in all corners and crevices where shelter is afforded and warmth can be gained, miserable mortals cower and crouch down in silent wretchedness. Some care for not even the slight comfort they derive from shelter and warmth, and stand patiently exposed to the cold, in bleak open spaces. Women still come and go, pensive, sad, and heartbroken the interest waxes stronger and stronger, and every one descending from the high platform, where it is supposed correct intelligence of the state of the working can be obtained, is humbly questioned on the vital subject. And they who reply shake their heads and say, "They are doing all that can be done but there is no further news". On the platform misery and desolation rule. melancholy forebodings take the place of the cheerful looks of the officers, and every glance of the eye, each slight shake



of the head, seems to presage evil. Meanwhile the ponderous machinery works smoothly on, the ropes as thick as a man's leg glide up and down like slimy serpents, and in the hollow depths of the pit the lights burn distantly in a watery atmosphere."

The cloth brattice was finished and the shaft cleared of gas by the afternoon and the men resumed work and got into the workings. They found several dead bodies by the furnace and the air was bad. Near a door they found a large number of dead men and boys as though they were asleep but it was the sleep of death.

The party went to the pit bank with this awful news and Himble and Hall went down again and returned half an hour later with the news that they had found only more dead bodies. Families were lying in groups, fathers clutching sons and brothers. All were asleep. Near the furnace some strong men had died a horrible death. The corn bins were empty and corn was found in the pockets of the victims an unmarked pony was found dead with the men. The rescuers were affected by the gas and no work was done underground until the ventilation was fully restored.

Queen Victoria took a great interest in the events at the colliery and sent the following telegram to the pit-

"Osborne, Jan. 22.

General Grey, Osborne, to the Viewer of the New Hartley Colliery, Shields.

The Queen is most anxious to hear that there are hopes of saving the poor people in the colliery, for whom her heart bleeds."

In reply, Mr. Carr telegraphed that there were faint hopes of the men or a portion of them, being recovered alive. An hour later another telegram was sent telling Her Majesty of the finding of the bodies.

A second message came from Her Majesty-

"Osborne to South Shields.

23rd. January 1862.

Sir C. Phipps to Messrs. Carr Brothers, Hartley, Newcastle.:-

The Queen has been deeply affected by the dreadful news from Hartley. Her Majesty feels the most sincere sympathy for the poor widows and orphans. What is doing for them? I write by tonight's post."

Mr. G.B. Forster replied:-

"Measures have been adopted for the immediate relief of the poor people. A public meeting is to be held tomorrow at Newcastle for forming a permanent relief fund. There are 406 women and children left destitute."

The following letter written to Mr. Carr, the head viewer, by command of Her Majesty was read by the Vicar of Easdown at a large religious meeting held at the pit on Sunday:-

*"Osborne January 23rd 1862.*

*Sir, The Queen, in the midst of her own overwhelming grief, has taken the deepest interest in the mournful accident at Hartley and up to the last had hoped at least a considerable number of poor people might be have been recovered alive.. The appalling news since received had affected the Queen very much.*

*Her Majesty commands me to say that her tenderest sympathy is with the poor widows and mothers, and that her own misery only makes her feel the more for them.*

*Her Majesty hopes that everything will be done as far as possible to alleviate their distress and Her Majesty will have a sad satisfaction in assisting in such a measure. Pray let me know what is doing.*

*I have the honour to be your obedient servant.*

*C.B. Phipps."*

The clergy visited the bereaved read them the letter and they found it a great consolation.

When the pit was entered, the party found all the men dead. Weymiss Reid described their reactions to the dreadful scenes that greeted them-

"It is only that uncertain flickering flame that now has been quenched. With a dead silence the people heard the winds which told them that they were widows, orphans or childless. Job in all his calamities, could not have been more resigned than they and the audible '*God help them all*', muttered upon the platform, was the only comment the address called forth."

On the recovery of the victims' bodies. Reid again:-

"Some of the dead had died with a smile on their faces others frowning in terror or anger. Some were fresh and pure as the day upon which they left God's blessed light, never to be return to it again in life on others, the hand of the corrupter had been planted, and already dust was returning to it's nature dust. They were strong men of gigantic mould still apparently engaged in a deadly struggle with the last adversary and there were children - weak and helpless, ever doomed to toil in everlasting darkness - clasped in the arms of loving fathers, who, even in their extremity, remembered those whom they had begotten."

The victims had left messages, some in pencil and paper and others scratched with a nail on water bottles. James Armour who had taken charge of the men below wrote the following words in a pocket book in pencil-

"Friday afternoon at half past two.

Edward Armstong, Thomas Gladstone, John Hardy, Thomas Bell and others took extremely ill. We also had a prayer meeting at a quarter to two when Tibbs, Henry Sharp, J. Campbell, Henry Gibson and William Palmer (The sentence is incomplete) Tibbs exhorted us again and Tibbs also."

On the Monday after the disaster, a large collection of tin flasks, candle boxes and other of the miner's articles were brought to the surface and all day long the heap was wistfully turned over by poor widows and orphans all trying to find something of their lost relative. On one of the tins was found scratched, '*Mercy, oh God!*' and on another '*Friday afternoon. My Dear Sarah, -- I leave you.*'"

The events at the colliery drew wide national interest and many people expressed their views.

A letter under the heading, '*The Heroes of Hartley*', was sent to the editor of the '*Colliery Guardian*.'

"Sir,

I am sure every Englishman will heartily re-echo the generous sentiments expressed by the Bishop of Durham at the meeting held in Newcastle on Friday last on which occasion his Lordship eloquently eulogised the noble conduct of those brave men who toiled amidst danger and discomfort to rescue their brethren buried in the Hartley pit. Drenched with water that descended the shaft and in momentary peril from the falling stones and noxious gases they bravely persevered in their disinterested and humane efforts and even when half carried away half suffocated by the 'stythe' they were ready to return again and again to the scene of action. The ecumenisms pronounced upon these noble fellows by his Lordship and others are well deserved. They do honour alike to those of whom that are uttered and to those who utter them. But should the matter end in words? Would it not be a graceful act for the nation, by some substantial token of approval to acknowledge the heroic daring and fortitude displayed.

We adorn out military heroes with Victoria Crosses and medals of honour. Why not treat these heroes with equal consideration?

If a national subscription were opened I am sure the people of this country would respond heartily and joyously to the call, and a sum of enough or more than enough would be raised for the purpose. A gold medal might be struck and while we know that Her Majesty has taken a great interest in the efforts to rescue the unfortunate miners of Hartley and expressed so lively a sympathy with the bereaved ones may

we not venture to hope that she would condescend with her Royal hands to place upon the breasts of these humble heroes of the mine a decoration so well deserved and so hardly won?

I venture to trouble you with these remarks hoping that some of influence may take the hint and initiate the movement.

Yours, &c.,

W.M.H.

Wigan, Jan. 28th. 1862."

There were two hundred and four victims of the disaster. The male population of three hamlets has been swept away. All underground were dead and of those who worked at the pit, only twenty five of the surface men remain alive.

A wife of one of the lost men was very ill with consumption. When he did not come home from work, she got worried but it was only after a day or two that he was told the news and this was her deathblow. She died on the Sunday and her remains were interred besides those of her husband.

John Ainsley, aged 19 years. His parents John and Elizabeth at lived in Morpeth and were both blind.

William Alderton, aged 31 years who left a wife and two children.

William Allan, aged 36 years who left a wife and five children.

James Armour, aged 43 years. He was a back-overman. He left a wife and five children.

William Anderson, aged 27 years who left a wife and four children.

John Armstrong, aged 36 years. He left a wife and two children.

Edward Armstrong, aged 12 years. John was his father and John aged 10 his brother.

John Armstrong, aged 10 years. His brother and father were lost.

Abraham Atchinson, aged 20 years who left a wife and four children the youngest of which was four months old.

William Bannan. His name could have been Bann or Barron aged 24 years.

Mark Bell, aged 23 years.

Thomas Bell, aged 23 years.

Thomas Bell, aged 13 years and was a cousin of the above Thomas. His mother was widowed and he had four brother and one sister.

John Bennett, aged 25 years. two of the victims. John Coil and Patrick Sherlock lodged with him.

James Berwick, aged 34 years left a pregnant wife and two daughters.

John Berwick, aged 32 years and was brother to James. He left a wife who died of consumption in March 1862 and five children.

Robert Berwick, aged 30 years left a wife and three children.

Samuel Birtley, aged 24 years left a wife and two children the youngest of which was born 21st. January 1862.

Samuel Blackburn, aged 26 years who left a wife and one child.

John Broadfoot, aged 19 years.

Thomas Brown, aged 25 years who left a wife and a son.

Ralph Brown, aged 15 years and was Thomas' brother. He was an orphan and had a brother. They lived with their sister-in-law who was married to Thomas.

George Brown, aged 31 years who worked as a brakeman on the inclined plane. He left a wife who was pregnant and two young children.

William Brown, aged 25 years left a wife and two children.

John Burn, aged 49 years let a wife and three children.

Thomas Burn, aged 14 years and was John's son.

James Campbell, aged 18 years who left a wife and three children.

George Carling, aged 27 years who left a wife and four children.

Thomas Chambers. aged 55 years who left a wife and a daughter who was not in good health.

Clark Chambers, aged 19 years who was Thomas' son.

Alfred Cheetham, aged 33 years who left a wife and two children.  
Oswald Cleghorn, aged 24 years left a wife and three children.  
Henry Clough or Cleugh, aged 47 years. he worked as a rolleyway man and this was his first day at work. He left a wife and three children.  
John Coil, aged 28 years. He was an Irishman who lodged with the Bennetts.  
Thomas Coil, aged 37 years. he was a deputy overman and left a wife and five children.  
John Coulson aged 33 years who left a wife and four children.  
Robert Coulson, aged 26 years left a wife three children.  
John Cousins, aged 18 years.  
Robert Cousins, aged 10 years and was John's brother.  
Philip Cross, aged 59 years. He left a wife and two children and his widowed daughter, who had two children lived with them.  
Philip Cross, aged 20 years who was Philip's son.  
John Davidson, aged 38 years. He worked as a rolleyway man who left a wife and three children.  
William George Davidson, aged 11 years. Son of John.  
Thomas Dawson, aged 49 years who left a wife, three daughters and one son.  
John Dawson, aged 12 years who was Thomas's son.  
Robert Dixon, aged 12 years. His mother had two other children and his father was in a lunatic asylum.  
William Dixon, aged 27 years who left a wife and two children.  
William Dixon, aged 34 years. He was a single man but he had a son who lived in Corbridge.  
John Douglas, aged 25 years left a wife and an adopted child.  
Patrick Duffy, aged 34 years who was an Irishman and left a wife and three children.  
James Duffy, aged 10 years.  
Allison Elliott, aged 29 years who worked as a stoneman. He left a widow and three children.  
Edward Elliott, aged 19 years. His parents kept a public house in Choppington.  
George Fairbairn, aged 33 years son of William.  
William Fairbairn, aged 70 years, He left a widow, Margaret who was described as a 'poor weak woman' who was left to live with her son Robert at Cowpen.  
Henry Ford, aged 32 years who left a pregnant wife.  
John Ford, aged 27 years who left a pregnant wife and a child.  
Peter Ford, aged 12 years. He was the nephew of another victim, William Oliver. His 50 year old father was described as 'an ailing man' and he had a brother and a sister.  
Joseph Forester, aged 19 years. He was an orphan who lived with his aunt.  
John Forester, aged 15 years and Joseph's brother.  
George Fulton, aged 25 years. He left a pregnant wife.  
John Gallagher, aged 32 years who left a wife and two children.  
Duncan Gallagher, aged 28 years. John was his brother.  
Henry Gibson, aged 18 years.  
William Gledson, aged 71 years who left a wife.  
William Gledson, aged 43 years and was William's son. he left a wife and a child.  
George Gledson, aged 41 years who was another son of William. he left a wife and a child.  
Thomas Gledson, aged 16 years and Thomas's son.  
Thomas Gledson, aged 36 years, son of William (snr.) who left a wife.  
James Glen, aged 18 years. he had a disabled father and four brothers and sisters.  
William Glen, aged 14 years.  
George Glenn, aged 12 years.  
Patrick Gormley, aged 25 years.  
Christopher Graham, aged 27 years who left a wife and two children.  
George Hall, aged 28 years who left a wife and two children.

James Hamilton, aged 56 years. A Scotsman who left a wife and child.  
James Hamilton, aged 12 years, son of James.  
John Harding, aged 14 years.  
Thomas Harrison, aged 16 years.  
Frank Hauxwell, aged 25 years who left a wife and child.  
George Hays, aged 41 years who left a wife and three children.  
Thomas Hepple, aged 27 years.  
George Hill, aged 31 years who left a wife and three children of which was in the Blind Asylum.  
Robert Hill, aged 21 years, a stoneman.  
George Hindmarsh, aged 30 years. This was his first day at work and he left a wife and five children.  
John Hodge, aged 33 years, a Scot who left a wife and three children.  
Andrew Houston, aged 34 years, a Scot who left a wife with a baby who was eight days old.  
James Howard, aged 20 years. His father was a ventriloquist.  
Joseph Humble, aged 33 years who left a wife and five children.  
Peter Humble, aged 33 years who left a wife and two children.  
Henry Hunter, aged 13 years.  
Winsnip Jacques or Jacks, aged 24 years who left a wife and three children.  
Joseph Johnson, aged 41 years left a wife and three children.  
Robert Johnson, aged 42 years, brother to Joseph.  
William Kennedy, aged 30 years who left a wife and three children, the youngest was born 20th. January 1862.  
George Laws, aged 20 years, an onsetter who loved with his widowed mother.  
Thomas Laws, aged 34 years. He lived with his widowed mother and younger brother.  
John Liddle, aged 46 years left a wife and four children.  
Thomas, George and John Liddle, aged 18, 16 and 11 years respectively. They were brothers and John was their father.  
Thomas Liddle, aged 41 years and was John's brother. He left a wife and three children.  
Thomas Liddle, aged 11 years, son of Thomas.  
William Liddle, aged 40 years who left a wife and four children.  
James and William Liddle, aged 15 and 17 respectively. They were William's sons.  
William Logan, aged 30 years, a Scot who left a pregnant wife and five children.  
John Long, aged 15 years. His father was a blind miner.  
Robert Long, aged 17 years and was John's cousin.  
Thomas Macauley, aged 38 years who left a wife.  
Richard McClutchey, aged 24 years who left a pregnant wife and three children.  
William McCracken, aged 24 years.  
William McFarlane, aged 15 years.  
John McKee, aged 55 years who left a pregnant wife and three children.  
Adam McKee, aged 24 years, son of John.  
Robert McMullen, aged 27 years. His wife died of consumption soon after the disaster and left a two year old daughter.  
Peter Manderson, aged 50 years. He left a wife who was the sister of Joseph Humble the under-viewer.  
Robert Marley, aged 23 years who left a wife.  
Hugh Mason, aged 24 years.  
Walter Miller, aged 43 years, a stoneman Who left a wife and five children.  
William Miller, aged 34 years, a stoneman and brother of Walter. He left a wife and three children and at the time of the first payments from the Relief Fund, one of the children had typhus fever.  
Andrew Morgan, aged 44 years. He was a widower with a daughter who went to live with her married sister in Fence Houses.

John Mullen, aged 36 years who left a wife and four children.  
Michael Murray, aged 26 years who lodged with the Mullens.  
Peter Nesbitt, aged 20 years. He was the nephew of Peter Manderson.  
John Nicholson, aged 14 years.  
Joseph Nicholson, aged 20 years and brother of John.  
Joshua Nicholson, aged 52 years who left a wife and three children.  
Robert North, aged 26 years who left a wife and two children.  
George and Thomas North, aged 15 and 12 years respectively. Brothers..  
Alexander North, aged 10 years. William Oliver, aged 56 years, let a wife and daughter.  
He was the Uncle to Peter Ford.  
John, James, William and Peter Oliver, aged 27, 21, 17 and 15 years respectively, all sons of William.  
John Ormiston, aged 32 years who left a wife and two children.  
William Palmer, aged 35 years who left a wife and three children.  
William Pape, aged 14 years.  
Thomas Pearson, aged 28 years.  
William Redpath, aged 24 years who left a pregnant wife and three children.  
Robert Reynolds, aged 33 years, a Scot, left a wife and five children.  
Alexander Richardson, aged 22 years left a wife.  
Hugh Riley, aged 30 years left a wife and two children.  
Mathew Robinson, aged 30 years left a wife and two children.  
Thomas Robinson, aged 42 years left a wife and three children.  
Ralph Robinson, aged 36 years left a pregnant wife and five children.  
James Robinson, aged 12 years. His father was a disabled miner.  
Thomas Ross, aged 46 years who was a widower who had a daughter.  
Edward Rowley, aged 33 years left a wife and three children.  
John Rutherford, aged 25 years.  
William Rutherford, aged 23 years brother of John.  
Thomas Rutherford, aged 32 years left a wife and two children.  
George Scarefield, aged 51 years lived with his parents and sister who 'took fits'.  
Thomas Sebastian, aged 19 years who lived with his widowed mother.  
George Sharp aged 49 years left a wife and three children.  
George Sharp Aged 15 years and George Sharp aged 13 years, both sons of George (snr.).  
Henry Sharp, aged 44 years, a deputy overman who left a wife.  
Thomas Sharp, aged 48 years, brother of Henry.  
Patrick Sherlock, aged 14 years.  
Robert Small, aged 19 years.  
Francis Smith, aged 33 years who left a wife and five children.  
William Smith, aged 19 years left a pregnant wife. He was a glass maker of Seaton Sluice and was visiting the pit.  
Edward Softley, aged 17 years.  
Lionel Stainsby, aged 23 years.  
William Stanley, aged 23 years.  
Joseph Taylor, aged 36 years left pregnant a wife and two children.  
William Telford, aged 29 years, a rolleyman left pregnant a wife and two children.  
John Ternent, aged 44 years a deputy overman, left an adopted daughter and five children.  
George Ternent, aged 15 years son of John.  
George Thirwell, aged 27 years left a wife and two children.  
William Tibbs, aged 32 left a wife and four children, two of which were twins.  
James Tierney alias Gallagher, aged 14 years.  
James Tryer aged 36 years.  
John Veitch, aged 21 years.

George Wade, aged 31 years left a wife and a two month old son.

Benjamin Walker, aged 21 years.

James and William Walker, aged 16 and 12 years respectively. Their mother was a widow.

Patrick Walpole, aged 30 years left a wife from which payment of relief was withheld. This was the only one of the suffers to which this happened. No reason was given.

Christopher, Thomas and John Wanless, aged 20, 19 and 14 years respectively. Brothers.

James Watson, aged 38 years left a wife.

Joseph Watson, aged 16 years son of James.

John Watson, aged 38 years left a wife and four children.

Thomas Watson, aged 16 years son of John.

Thomas Watson, aged 34 years who left a wife and three children.

Robert Wears, aged 20 years.

Thomas Wears, aged 40 years left a wife and three children.

William White, aged 16 years who lived with is widowed mother.

John B. Wilkinson, aged 38 years, a rolleyway man who left a pregnant wife and three children.

George Wilson, aged 16 years an orphan.

William Wilson, aged 12 years.

David Wypher or Wyper, aged 24 years left a pregnant wife and a son who was '*deformed and imbecile*' and was granted relief up to the age of 18 years.

John Youll, aged 28 years left a wife and four children.

John Young, aged 25 years left a wife and two children.

Henry Younger, aged 33 years a deputy overman who left a wife and two children.

The funerals took place in Earsdon churchyard on 26th February and it was estimated at the time that there were about 60,000 people at the funerals of the victims, between noon and 1 p.m., carts lined with straw were driven slowly to the doors of the colliers cottages and lifted onto them. Each cart carried five victims and made the journey to the churchyard surrounded by the relatives of the dead and the followers extended down the road as far as the eye could see.

Some of the victims, about ten, were buried at Cowpen and a few at Seghill but the majority were buried at Earsdon. The Duke of Northumberland gave a plot of land to the north of the church for the burials and this was later incorporated into the churchyard. The work of digging the graves had not proceeded as quickly as it should have and when the procession reached the churchyard only two thirds of the graves were completed but the work was quickly completed.

The graves were dug in three parallel rows, one to the west which was an immense trench, the middle one contained a trench and in this thirty three coffins were placed and smaller graves in which two or three bodies were buried and the third was of double of single graves with earth walls between them.

The Reverend E.R. Mason, the Vicar of the Parish and his Curate, Reverend D.T. Jones met the coffins as they arrived and read the service for the dead and it took until 3 p.m. to complete all the proceedings. After the service was finished the graves were filled and this took until late into the evening.

Mr. T. Wemyss Reid, wrote on the burial of the victims-

"There is something dreadful in thinking of the desolation which the departing carts left behind them. That which is merely a misfortune to the kingdom generally, has been the destruction of the village of New Hartley. With very, very few exceptions, every strong working man in the place had been carried away to his long home and there is only left a company of aged men, weak women and helpless children. When the place will recover form the paralysing shock it had received, if indeed it ever recovers, Heaven only knows. For many years to come babes yet unborn may rue the terrible occurrence of last Tuesday week."

At a meeting in Newcastle it was thought that a sum of £17,000 would be required for the permanent relief of the widows and orphans but this sum was exceeded by the generosity of the public, particularly miners from other coalfields and private donations of eminent people including the Queen, who donated £200 and the Duke of Northumberland £300. Several £1000 had been subscribed in Northumberland alone and by the time the inquest was started, the Fund had reached £30,000 and subscriptions were coming at a rate of £1000 per day and eventually reached about £80,000.

Mr. W.F. Barymorean was appointed actuary for the Fund and 7/- per week was assigned to each widow and 10/6d. to a widow and child, 13/6d. for a widow and 2 children, 15/6d. for a widow and three children, 17/6d. for a widow and 4 children, 19/6d. for a widow and five children. The allowances would continue with no misconduct on the widow's part as long as they remained unmarried and the children to age 15 years for girls and 12 years for boys. Infirm adults received 7/- per week. The widows would get £20 on remarrying and £3 for funeral expenses on dying with £1 for the death of a child.

The Fund was so large that the Hartley Fund to relieve the dependants of mining disasters was set up and over the next years was sadly used a very great deal.

Mr. S. Reed was the Coroner at the inquest which was held at Seaton Deval. The Home Secretary, Sir George Grey had instructed Her Majesty's Inspector of Mines, Mr. Mathias Dunn to conduct an investigation into the cause of the disaster and Mr. Kenyon Blackwell was appointed to help Mr. Dunn and report in full to the Home office.

The single pit shaft was 12 feet in diameter and 100 fathoms deep with a substantial wooden brattice down the centre made of 3 inches plank on plank. The pumps were 24 inches in diameter and the shaft was blocked for 7 fathoms after the disaster.

Carbonic acid gas was thought to have been the cause of death of those entombed which could have been produced by the dying embers of the furnace. The Inspector said-

"We would hope that the sufferings of the poor people would be of a specific character and unattended by violent pain."

This was the opinion of the jury on how the men met their deaths and they added-

"The jury can not close this painful inquiry without expressing their strong opinion of the imperative necessity that all winding collieries should have at least a second shaft or outlet to afford the workmen the means of escape, should any obstruction take place as occurred at the New Hartley pit.

Those that were trapped were hungry, thirsty and weary but a new enemy appeared, gas."

Unlike many disasters that would happen in the mining industry in subsequent years, legislation was quickly enacted and stated that all collieries were to have two shafts.

There is little evidence in Hartley today of the momentous events that occurred at the colliery in 1862.

### **BRNGWEOG. Mold Flintshire. 12th. February, 1862.**

The mine, which was being developed to exploit the deposits of lead ore, was near the high road from Mold to Denbigh, about 4 miles from Denbigh and was the property of the Brngweog Company. The area had been worked previously from the Hendre Mine which had been abandoned and was known to be flooded.

On the morning of the disaster seventeen men went down the mine and penetrated a wall which let the water from the work workings into the mine. The workings filled very quickly and one man, Edwin Powell, managed to escape with his life. He got to the shaft where he managed to catch hold of a rope and pulled himself up through torrents of raging water. He was near the surface and was totally exhausted and saved only by someone pulling him from the pit by his hair

### **VICTIMS REQUIRED.**



**CETHIN. Merthyr, Glamorganshire. 19th. February, 1862.**

The colliery was the property of Mr. William Crawshaw of Cyfarthfa and was about two and a half mile from Merthyr Tydfil and this was the first serious accident that occurred in the district. The collieries had been worked for some years and the coal went for the manufacture of iron in Merthyr. The coal had been worked along the outcrop of the measures and the gas had drained away naturally. At the time of the explosion the mines were being sunk to a greater depth and giving off greater quantities of gas which demanded greater skill and attention in their management.

The colliery was managed by Mr. Moody and he was assisted by his son and several underviewers. There were two working pits at the colliery, one was a pumping pit and the other an upcast. The winding and pumping pit was 17 feet by ten feet and the upcast pit was 10 feet in diameter. The downcast pits were 126 yards deep and the upcast was 576 yards in depth. The shafts were sunk in the late 1840's.

There were about 800 men employed in six pits on two levels. The No.1 pit was on the East side and it was here that the explosion took place. At the time there were about 100 men at work on the west side.

Mr. Moody went underground with the underviewer, John Enyon and John reported daily to Moody. Mr. Moody was the viewer for all the Cyfarthfa Collieries of which the Cethin Collieries was one. He laid out the ventilation of the mine and with the help of John Enyon who was his son. He had the job for eight years and over a million tons of coal had been worked from the colliery.

The firemen reported any danger to Enyon and they firemen made their inspections of the mine before the men went down. The night fireman had found nothing out of order and he told the day fireman, Thomas Thomas-

“All is right, but there is a little gas in John Jone's heading, No.20 about 10 yards back from the face there had been a bit of a fall above the timbers and gas was lodged there.”

Thomas Thomas, the fireman was at work when the explosion occurred. He had just examined the Nos. 16 to 19 cross headings, found everything all right and was on his way for his dinner. He reached the No. 14 heading when he was knocked down from behind and burnt by the blast.

Mr. G.H. Laverick, viewer at the Plymouth works heard the explosion at 2 p.m. He went to the pit, met Davies and Mr. Kirkhouse and went down the pit. He examined the doors at the No. 13 and 14 headings and a great many bodies had been brought there. he continued-

“I then proceeded to the No.18 when I got up about 50 yards on the road I picked up a burnt handkerchief. At the bottom of the No.19 heading there was a horse blown across the level. Attached to the chain was a train of coal the train was off the road, about eight or nine feet from the north side level. On the west side of the heading saw a portion of what seemed to have been a door did not observe anything of the other doors there had been a fall of earth between the level and the windroad could not proceed any further because of the chokedamp. I believe that the door at the bottom of No.19 must have been kept open at the time, otherwise it would have been shattered to pieces. The haulier was jammed between the rib and the trams. They had to left the tram to remove his body. The horse was blown across with it's head inclined to the west, indicating that the blast had come down the heading from the north. Further up we came across four men who appeared to have had their dinners, for the stoppers being out of their bottles. They appeared to be suffocated.”

The mineral agent of the Cyfarthfa Colliery, Mr. Bedlington Kirkhouse, heard the explosion about two o'clock. He wen to the pit and descended with Laverick and others. After meeting some men who told him that they had recovered some of the bodies, he went along the No.16 heading where men were putting up some brattice to drive the air

on. They were in a hurry to get the bodies out and he did not start to take notice of his surroundings until he was in the No.19 heading when he noticed a tram. A man had been blown down the heading and jammed between the tub and the rib and they had difficulty in getting him out. Kirkhouse then went on and before he got to the No.20 heading, he found five men. They were lying on their side. he was not sure, but Isaac Davies could have been one. Their tins contained tea and there were pieces of bread lying around. They could not go on because there was gas still in the mine.

John Instone, who was the surgeon attached to the colliery found that the forty seven men and boys were killed, forty six were brought put of the mine dead and one died the following morning.

Those who were suffocated-

William Richards, aged 42 years.

Jenkin Jones, aged 39 years.

John Jones, aged 31 years.

Edward Benyon, aged 37 years left a wife and 3 children.

Daniel Rees, aged 30 years.

George Rees, aged 20 years.

Titus Jones, aged 16 years.

William Lewis, aged 18 years.

William Lewis jnr.

William Williams, aged 32 years.

John Jones aged 23 years.

Samuel Morgan, aged 27 years.

Evan Davis, left a wife and 6 children.

Griffith Powell, aged 56 years.

Daniel Griffiths, aged 48 years.

John Griffiths, aged 13 years.

Silvanus Griffiths, aged 43 years.

Morgan Jenkins.

Edward Edwards aged 44 years.

John Edwards aged 52 years.

William Davis, aged 21 years, single.

James Turner, aged 36 years.

Daniel Walters, aged 21 years.

William Evans, aged 21 years.

Lewis Rees, aged 22 years.

James Gwynne, aged 32 years.

Those who were burnt-

Isaiah Davis, aged 41 years with a wife and 5 children.

Thomas Jones, aged 20 years.

Herbert Davis, aged 20 years, single.

Morgan Evans, aged 13 years.

William Jenkins, aged 29 years.

Richard Lewis, aged 56 years.

Ebenezer Jones, aged 44 years.

Rees Morgan, aged 35 years.

John Lewis, aged 56 years.

Thomas Evans, aged 38 years.

Griffith Griffiths, aged 17 years.

William Hughes, aged 11 years.

Thomas Griffiths, aged 17 years.

Those who were burnt and bruised-  
Thomas Morris, aged 13 years.  
David Jenkins, aged 21 years.  
Benjamin Richards, aged 30 years.  
Thomas Evans, aged 30 years.  
Samuel Jones, aged 38 years.  
William Edwards, aged 37 years, single.  
Thomas Evans, aged 14 years.  
William Humphries, aged 13 years.

The inquest into the deaths of the men was held by the Coroner for the Northern Division of Glamorgan, Mr. George Overton. The inquiry took nine days before the verdict was delivered. Mr. Kenyon Blackwell, the manager of the New British Iron Works assisted the Coroner at the request of the Coroner. Mr. Charles H. James, solicitor of Merthyr watched the case for the proprietor of the colliery and Mr. Brough, Inspector of Mines for the Western District of England assisted Mr. Evans.

John Lewis, the engineer and surveyor at the colliery produced plans of the workings in which the explosion took place and the Colliery Rules which had been established in accordance with the Act.

John Enyon, the underviewer at the colliery was in charge of six pits on two levels. He did not hear the explosion as he was on the east side but he went to the west side and helped in the recovery of the bodies. From the position of the bodies and the doors that were blown down he believed that the explosion occurred in the inner cross headings.

The fireman at work at the time of the explosion was Thomas Thomas. He had been round the pit to see that the doors and brattice were all right. Everything was in its place and was right for the men to come down to their work. He met the night fireman, Rees Herbert, finished his inspection and was burnt by the blast when he was on his way to his dinner.

Rees Herbert, the night fireman, was the next to give his evidence. He said that he could neither read nor write. He had inspected the working places the night before the explosion and found some gas which he reported to Thomas Thomas. He told the court that the roof in the No.20 cross heading was bad and often broke through the timbers. He had found gas in John Jones' place and had erected a 'Fire' notice but there was not time for him to remove the gas. He gave orders for safety lamps to be used in the place but all the people who were killed, except four, used naked lights.

The master wasteman at the colliery, Edmund Rees, had six men under him but he could not read the rules. He had charge of the roadways and airways and two or three days before the explosion he had been in every part of the colliery but he did not see any blowers of gas.

Several colliers were examined on the state of their working places but the evidence of James Thomas, Lewis Davies, Joseph Evans, David Thomas, Edward Edwards, John Davies and others did not throw much light on how the explosion occurred. A collier, Benjamin Beddoe, who had worked as a collier at the colliery three years before the disaster and Seth Francis who had work there two years before, Daniel Phillips and others who had worked in the pit were called but they did not know the state of the mine after such a long absence.

Mr. G.H. Laverick was of the opinion that the explosion took place at the mouth of the No.19 heading or up the stall. Mr. Bedlington Kirkhouse who was with Laverick's party, told the inquiry that he had seen previous explosions and he thought that the greatest injury would be at the point where the gas ignited. He was also of the opinion that the seat of the explosion was the No.19 heading.

Mr. Moody thought the explosion had taken place on the No. 19 heading and was well aware of the others explosions that had taken place in the area. He was of the opinion that a single bratticed shaft was dangerous but the ventilation of the colliery was good.

Lionel Brough, the Government Inspector for the Western District of England, was told by the Secretary of State to attend the inquiry. He thought the explosion took place on the No.19 heading and that the gas was ignited at a naked light. Mr. Evans gave his evidence and the Coroner addressed the jury-

“It is for you to consider how and by what means the explosion occurred firstly, did it arise from a mere accident secondly, did it occur through culpable neglect. If the former, it will be your duty to return a verdict of accidental death but if you think it arose from the carelessness or negligence of any of the viewers, agent or overmen, or others who had duties to perform in reference to the pit, or the men who were employed therein, then it will be your duty to find a verdict of manslaughter against the delinquent.”

The Coroner then explained the law upon this point, and gave the decisions of the various judges as to the liability of officers who wilfully or carelessly neglect their duties. He observed that the cases of this description might be multiplied, but it was sufficiently laid down to show that managers, agents and others who have duties to perform, on the due and careful performance of which the lives of the miners and others engaged in these dangerous undertakings, are bound to bring to the exercise of their respective duties ordinary and reasonable precaution, as well as skill and ability.

The Coroner, Mr. Overton, then commented on the leading facts given in evidence and said-

“Do you, gentlemen, think, from the evidence that the accident is to be attributed to the ventilation or management of the colliery? Have the operations been properly planned and executed, is the mode of working coal, partly with naked lights and partly with safety lamps, safe and proper or, on the other hand, do you consider that the operations have been badly devised and executed or that the ventilation has been insufficient or defective or that the mode of using the lights is dangerous and bad, and that this unfortunate occurrence may be attributed to all or any of these causes? This is the question for you to decide you have heard the evidence and you must draw your own conclusions. I will conclude by thanking you for the great attention you have paid to this very protracted inquiry, and with the earnest hope that you will give such a verdict as the justice of the case requires, and will satisfy the public at large.”

The jury retired to consider their verdict and returned after an hour and half with the following verdict-

“In the inquiry into the cause of death of Samuel Jones and others, we find, 1st. that the ventilation of the No.1 Cethin Pit was deficient in quantity, badly arranged, and liable to frequent interruption 2nd. that the viewer disregarded the first general rule and also permitted the Special Rules Nos. 16, 18, 24, 26, 31, 34, 37, and 63 to be generally disregarded by his officers, and we find a verdict of manslaughter against John Moody.”

Mr. Moody was subsequently indicted at the assizes at Cardiff. A grand jury heard the evidence and found *'No true bill.'*

### **WESTWOOD. Sheffield, Yorkshire. c.10th. April, 1862.**

The colliery was the property of Messrs Newton, Chambers and Company and was a very large one. On the day of the explosion there were about 200 men and boys in the workings when, at about 8 a.m., a loud report was heard in the extremity of the south side workings. Adjoining the workings there was a large area of goaf where falls of roof were common. The mine was 'fiery' and there was gas in the waste. Even so, the colliers were allowed to use naked lights. It was supposed that a large fall of roof drove out gas into the workings and was ignited at the light of one of the men. Six colliers lost their lives.

They were-  
Thomas Clitheroe,  
John Clitheroe, his son,  
William Morton,  
Walter Roger,  
Thomas Laycock, trammer and  
A. Hemingway.

At the inquest the assistant viewer admitted that the men were allowed to take in naked candles but on the morning of the disaster he examined the workings before the men went in and found that there was gas present. Mr. Morton told the court that the air was so bad at the colliery that an anemometer would not turn. The agent for the colliery, Mr. Edward Beachar admitted that there was no ventilation at the far ends of the workings. The Coroner said that this conduct was disgraceful and recommend that he should be charged.

The jury returned a verdict of 'Accidental Death' and expressed the opinion that it was not safe to work the mine with naked lights near the large goaf.

### **OLD BRADLEY. Bilston, Staffordshire. 30th. May, 1862.**

The colliery was the property of Mr. G.B. Thornycroft and seven men lost their lives by an inundation from the Thick Coal workings. The Ten Yard Seam had been worked up to a few months before the accident but water had stopped the operations and pumping was found to be inadequate to clear the water. The workings had been carried on by way of the No.23 shaft but to try to drain them, a headway had been driven from another shaft, the No.7 in the Gubbin Ironstone Measure which lay below the Thick Coal. The level was intended to intersect the headways and the 'Thick Coal' to drain the water away. Up to the time of the accident the level had been driven 103 yards at an inclination of about 1 in 19 from the No.7 shaft to within about three or four feet of the bottom of the Thick Coal. A loud rush of water was heard at the surface, the scaffold at the entrance to the level was swept away and the shaft filled with gas which was swept before the water from the workings.

News of the accident reached the Inspector, Mr. Baker, at 5 p.m. and he was at the colliery by 7 p.m. where he found two large pumping engines at work to try to clear the mine. The pump had a 16 inch cylinder with a stroke of six feet and was working at 10 strokes per minute and there was a 10 inch pump with a five and half foot stroke working at 14 strokes per minute. These pumps had cleared most of the water from the engine pit shaft and two bodies had been recovered. Mr. Baker went down the pit and at the pit bottom found a search going on for the missing men. Progress was limited as water from the upper workings was pouring into the sump.

The Inspector returned to the surface and went to the No.7 shaft and gave orders for the band chains to be lengthened so that the bottom could be reached with the hope of finding the other bodies. It was found too dangerous to proceed below the level at which the accident occurred since the sides of the shaft walling had almost been totally destroyed by the influx of water. Steps were taken to re-wall the shaft and this work was carried on by relays of men working during the night when there was very heavy rain falling. The work went on until Sunday by which time all the bodies had been removed from the mine. The last body was found in the sump of the engine pit. During the whole of the operations Captain Thornycroft remained at the pit head and descended the pit with Mr. Baker and others to make an examination.

Those who lost their lives were-  
T. Dinning aged 48 years, a deputy,  
J. Wilkes aged 38 years, a miner,

C. Deakin, aged 22 years, a miner,  
S. Speed, aged 20 years, a miner,  
J. Dunning, aged 12 years, F. Cound, aged 15 years and  
W. Schofield, aged 15 years.

As a result of the examination made by Mr. Baker, Mr. Smallman, the consulting engineer with the firm and others, Mr. Baker said-

“When I found it practicable to examine the level, the cause of this sad accident was rendered perfectly clear. Just above the level at the end, and within four feet of the roof, were gate-roads in the ‘thick coal’ and the water having lain in these had suddenly burst into the level through an opening it made in the roof and thus swept all in it into the shaft.”

Mr. Baker also tried to get into the gate-roads in the ‘thick coal’ which the water had filled to a depth of five to six feet but he could get only about 42 yards because of the remaining water.

At the inquiry into the disaster before the Coroner, it was shown that the workings were under the control of Mr. John Harvey, the colliery manager whose son surveyed the pit under the direction of his father. Mr Smallman, as the general consulting engineer to the firm, had visited the colliery about five weeks before the accident and told Mr. Harvey to be very cautious.

On the day before the accident the younger Harvey had latched, (surveyed) the workings and entered his latching on a plan of the thick coal workings. They were looking at ways to drain out the water from the workings and Harvey snr. was of the opinion that the level had reached only to within 15 or 16 yards of the water in the thick coal.

At the inquiry, Mr. Harvey stated that he had been trying to get into the thick coal workings for some time but he could not on account of the damp. In the past, he had found that the water in the workings had always run off into the goaves when it reached a certain height.

On the day of the disaster Mr. Harvey went down the pit with the chain-master and the doggy, who was killed. He told the doggy not to drive the level any further but to start bricking the part that already been excavated and the boring rods were to be used. The butty did not hear this as he was out of earshot. There was evidence to show that the charter-master was ignorant of these instructions and it was certain that the doggy did not act on the instructions immediately and about five inches of the roof was brought down by blasting that evening.

It was agreed by all parties at the inquest that the boring rods had not been used and that if they had, according to the 15th. General Rule, the disaster might have been avoided and the jury returned the following verdict-

“The deaths of the seven deceased persons were caused by a rush of water into the pit in which they were working, occasioned by the neglect of John Harvey, senior but the jury do not consider the evidence sufficient to criminate him.”

A few days after the inquest John Harvey was dismissed as the colliery manager but was employed at the colliery in another capacity.

Mr. Baker thought that there was a case to prosecute Harvey for a breach of the 15th. General Rule. This stated-

“that sufficient boreholes shall be kept in advance, and if necessary, on both sides, to prevent inundations in every working place likely to contain a dangerous accumulation of water.”

A summons was issued and the case was heard before William Partridge, stipendiary magistrate, on the 24th. September. Mr. Thomas Bolton, solicitor of Wolverhampton appeared for the prosecution and James Motteram of the Oxford circuit for the defence. After a long hearing the magistrate said-

“This was most important case, and if it had been proved to his satisfaction, it was one in which he should have inflicted the very highest penalty, namely £20. The Government Inspector had done his duty in bringing these proceedings, because it was important to bring all cases of negligence on the part of men having the care of mines before the magistrates.”

It appeared to the magistrate that the case was broken and that there was no evidence whatever to show that there was any reasonable cause to suspect that there was any dangerous accumulation of water and the case was dismissed and in his final remarks Mr. Partridge said-

“In all cases of this class boring rods ought, as a precaution, to be constantly used. If in this case they had been used, the lamentable accident would not have happened.”

### **OLD CASTLE. Llanelli, Carmarthenshire. 3rd. July, 1862.**

The colliery was the property of Messrs. Simms, Williams, Neville and Company. The collieries were the most extensive in Carmarthenshire and at the time and produced over 200,000 tons of coal a year. No expense had been spared for the safety of the mine and improved machinery had been introduced a short time before the incident.

On the morning of the 3rd. July there was a sudden inundation of water from old workings that surrounded the pit and had been abandoned for a large number of years. There were 60 to 70 men in the pit at the time and all those from the upper workings escaped through the second shallow shaft that had been sunk a short time before, to be used as a emergency escape shaft, except six.

The shaft was 90 fathoms deep and the water reached 60 fathoms. Large pumps were brought in a pumping continued at the colliery for several weeks before the bodies were recovered

The victims were listed as Benjamin Harry and five others aged between 24 and 39 years.

### **VICTIMS REQUIRED**

Mr. Evans, the Inspector, examined the colliery several months after the accident and found that there were boreholes on each side of the face but an old top hole had so weakened the barrier that it could not hold back the water.

### **MONKWEIRMOUTH Monkweirmouth, Durham. 7th. September, 1862.**

The shaft was twelve feet in diameter and four sinkers and a mason were working in the shaft on a cradle, walling part of the upcast shaft. Ten fathoms of the shaft were partly timbered but this was rotting. Water had previously broken through the tubbing at 40 fathoms from the surface. The cradle was eleven feet eight inches in diameter which was hung from six, half inch, iron chains, seventeen feet long and slung to a rope that had a diameter of nine or ten inches. The chains should have taken a load of fifty one tons but two of them broke when the scaffold gave way and the cradle tipped and sent the men to their deaths down the shaft.

The scaffold was constructed by laying a main, oak bunton on the three inch plank brattice and let in the freestone rock for eighteen inches. On top of the bunton were four cross buntions, twelve inches square and let into the rock. On top of this there was a covering ten inches thick which was covered with fourteen inches of fireclay to make the whole mass air tight. It was filled with five fathoms of stone and ashes to save the sides of the shaft from shrinking. The weight was calculated to be 224 tons and could bear upwards of 500 tons.

The cause of the scaffold giving way was discovered to be an unseen slip which gave way under the weight and when the scaffold fell, the sudden change in atmospheric

pressure caused the chains to break and hurl the men down the shaft. The pressure was so great when the scaffold fell that some men, who were near the shaft, were drawn in. Joseph Lamb, one of the sinkers, left the cradle a short time before and went to the pit bank for materials. He said-

“My foot was in the tub to go down when the wind was so strong that I had to hold by the staple so save myself there was a chock to steady the cradle which forced it over the working side.”

A cradle was lowered by Anthony Wardle, master sinker with William Adams on it. Adams was the first man to go down the Hartley shaft after the disaster at the colliery there and was now employed at the Monkweirmouth Colliery.

The men who died were-

David Mason aged 30 years, married with four children.

Charles Wright, aged 37 years, married with seven children.

Robert Lamb aged 21 years who had been married three weeks.

James Hall aged 44 years, married with four children.

Robert Dryden aged 35 years, married with three children.

### **WALKER. Durham. 4th. November 1862.**

The colliery was one of the oldest in the district and according to some of the old men had been sunk one hundred and two years before when a commemorative medal had been struck.. The colliery was worked by Messrs. N.G. Lambert and Co. who employed Mr. T.W. Jobling as the principle viewing manager and Mr. Cole as the resident viewer.

The coal was used for the production of gas and manufacturing but until about fourteen months before the incident, had not been worked but undergone considerable repair work. The high main or Henry pit as it was known, had been worked out about ten years previously and the miners employed in the Jane Pit in the low main. The workings ran from north to south and the downcast shaft was known as the Ann Pit in the north and was situated near the Catholic Church at Walker and the upcast, the Jane Pit, was close to the Walker Iron Works. The distance from one shaft to the other was about four hundred yards.

The Walker colliery was one of the few in the district into which water had not burst. The ventilation was provided by two furnaces in the centre of the colliery and the pit had a good reputation for safety among the colliers. Davy lamps were used and no naked lights were permitted. The pit employed about 120 hewers and those who worked on the haulage and at the surface. There was an explosion of gas which claimed the lives of sixteen men.

Just previous to the explosion a ‘trouble’ had been encountered. This was the local term for a mass of stone within the coal seam and the usual practice was to blast the stone sway to reach the coal on the other side. All the men employed on the first shift came up at four o’clock on Friday afternoon and on any other day would have gone to work on the following morning but the Saturday happened to be the fortnightly pay day and, as was the practice, the pit was not working on that Saturday. On these occasions, men known as ‘off-hands’, were sent down to do necessary repair work and at two o’clock on Saturday morning, several hewers went down to fill tubs. These hewers proceed to the north west part of the pit to hew coal.

The ‘off-hands’ were employed in different parts of the pit repairing stonework, tramways and any other work that was required. It was thought there were about thirty people in the pit on the day of the disaster and the only other living creatures in the pit were nine horses and twenty one ponies which would have been in the stables about forty yards west of the downcast shaft.

Between five and six o’clock, the men engaged in the repair work heard a rushing and mighty wind and instantly were thrown down. At the same time two banksmen at the



mouth of the pit, Robson and Richardson, heard a sound which they said was like the muffled report of a boiler explosion. This was immediately followed by a strong current up the shaft which brought with it, straw, rubbish and particles of coal. Immediately afterwards, the air took up its normal course.

Anthony Brown and some other men were working at the bottom of the shaft of Jane Pit were able to get in the cage and were drawn to the pit bank. They told Cooper, the engineman that there had been an explosion and word was sent to Mr. Cole and the alarm spread round the district.

Mr. Cole along with Brown and several men who had come up went down the pit. The men repairers who were some distance from the seat of the explosion were not dead but some of them were unconscious. They were brought up as quickly as possible and attended to by Dr. Aitchenson of Wallsend. The men down the pit discovered that the stables were on fire and some coal also. The fires were soon brought under control with buckets of water. Unfortunately all the horses and ponies were dead. Further explorations through a noxious atmosphere revealed two bodies and sent to the surface.

Twelve men were rescued and they were-

James Giles, rolleyway driver.

John Wilson, deputy.

William Jobling, wasteman.

John Shields, backoverman.

Thomas Holt, onsetter.

Robert Barnes, deputy.

Anthony Barnes, master wasteman.

William Joicey, rolleyway man.

Edward Joicey, deputy.

Henry Holt, furnaceman.

George Mitford, stonemason.

Thomas Watson, boy, who was a driver.

Those who died were-

Thomas Miller, hewer who was single but supported his mother.

John Moore, a married hewer.

Thomas Kenny, hewer married with three children.

John Ellerton, hewer, single but supported his mother

Joseph Atkinson, single.

Thomas Atkinson, brother to Joseph.

Joseph Foster, hewer, married with three adult children

John Holt, rolleywayman, married with a daughter

William Barnes, deputy, married with three children

James Haswell, deputy, married with three children

George Watson, wasteman, a widower with one child

Martin Fatkin, married with two adult children

George Barnes, hewer, brother to William and married with two girls and two boys

John Mitcheson, hewer, married with two children.

George Mitford, door boy.

William Burrell, putter.

The widows were not provided for as the men at the Walker Colliery were not in a Permanent Relief Fund.

The inquest was held by the Coroner, Mr. S. Reed on the 28th. November. Around the Coroner's chair were several colliery viewers including Thomas E. Forster, G.B. Forster and W. Armstrong who were convened by Mr. Jobling the viewer of the Walker Colliery. Mathias Dunn, the Inspector of Mines had no legal adviser present and not one viewer

came forward to assist him. There were very few workmen present and only two or three gave evidence to the court. it was believed that their employers would not like them to give their evidence to the court.

The first witness, Anthony Barnes, who was the wastemaster at the colliery, said he had never seen gas in the mine. *'It was a mystery to me where the gas came from,'* he said and yet the mine had more than 10,000 square yards of excavations of five and a half feet coal that had been completely exhausted and the goaf was unventilated. He also knew that the two innermost bords which connected with the goaf were fouled and unventilated and yet there was blasting going on there. He had gone through the waste just before the explosion and found nothing to worry him but there were men blasting stone to enlarge the air course. He told the court that the furnace was damped before the explosion from 4 p.m. on Friday to 6 a.m. on Saturday.

John Shield, the back overman, had found small amounts of gas the day the pit fired. He did not know where the gas came from and could not identify the seat of the explosion. He said that even though the furnaces were slackened there was enough air for the men to work with safety. There were eight hewers at work on that morning.

Edward Robinson, the overman, was down the pit when it fired and he managed to get a light at the shaft and tried to get to the place where he knew the men to be. He had to turn back because of the afterdamp. He did not think that the explosion took place where the men fired the shot and he did not think that the gas fired at a lamp. William Mason the lampkeeper, said all the lamps were in good order.

Mr. Cole, the resident viewer of the colliery said that from his records the ventilation was good but Mr. Dunn thought that this was not the case, particularly when the furnace was not working at it's full capacity. The colliery was examined by Mr. Thomas E. Forster but the figures that he gave to the court regarding the ventilation Mr Dunn regarded as 'erroneous'. Mr. William Armstrong agreed with Mr. Forster as did Mr. Johnson the viewer of the Haswell Colliery.

Henry Holt, the furnaceman and T.W. Jobling, the viewer gave evidence and said it was difficult to discover how the explosion occurred. The jury then retired and brought in the verdict, *'That the explosion was purely accidental.'*

### **EDMUNDS MAIN. Barnsley, Yorkshire. 8th. December, 1862.**

The colliery was owned by Messrs. Mitchell and Co. of Barnsley and was situated in Worsboro' Dale, a mile away from a new deep colliery called Swaith Main. The plan was to connect the two collieries underground by two parallel passages sloping downwards. These were called 'the dip bordgates.' The plan was established by Messrs. Mitchell Snr., Bartholomew and Tyas with Mitchell the Managing Director of both collieries. The disaster resulted in fifty four dead and sixteen injured and it was the worst in the Yorkshire coalfield for thirteen years.

The colliery had three shafts two downcast, which were close to each other. No.1 was eight feet in diameter and No. 2 ten and a half feet in diameter and both 106 yards deep. The third shaft was about two hundred yards away and was the upcast or furnace shaft with two furnaces at the bottom and a cupola at the top. The workings went to the Nine Foot Barnsley Seam and extended a mile north from the shafts which was one hundred and eighty feet deep. The coal sloped, rising towards the north and dipping to the south. The shafts were sunk about half way along and the upcast was higher than the downcast shaft. The coals were drawn and water pumped in Nos.1 and 2 shafts. No 3 was nine feet in diameter and 104 yards deep and had two very large furnaces. This shaft was topped by a very large chimney.

Over the years there had been extensive workings upbrow which was by then worked out and the coal was now coming from the downbrow part of the mine. The seam was being opened up by driving two parallel roads which were called bordgates. These followed the coal for three quarters of a mile to the bottom of the downcast shaft and

were eight feet wide with a strip of coal the same width between them. From the bordgates, other passages branched out into the coal which was being mined in large squares. The branches or roads were at three different points, the one nearest the shaft was called the 'first halfway', the middle one the 'second halfway' and the furthest was called the 'Swaith level.'

A bonus had been offered to speed up the work in joining the two pits. James Allen, a miner who worked in the bordgates, said Mr. Lawton told him and his four mates to get on with the work as quickly as possible. They were getting 5/- a yard for blasting and Lawton had offered them 6/- a yard for wedging with a sovereign between the four of them if they did fifty yards in a fortnight but they thought they should get 9/- or 10/- for wedging and could not earn their money at Lawton's price so they decided to carry on blasting.

The ventilating air current to the workings went down a central wooden brattice in the bordgate, the air going down one side and up the next. When the excavations had gone twenty yards a 'slit' or hole was made in the coal to the other bordgate and air passed through this slit from one bordgate to the other and the brattice was then taken down. This procedure was repeated every twenty yards. As each slit was made, the one nearest the shaft is built up with bricks and mortar to make a stopping to force the air on to the next stopping.

The work at the colliery had been going like this for three quarters of a mile and the air passed down the bordgate and up the last stopping which was three quarters of a mile away from the downcast shaft. The ventilating air was forced into the workings by brattice.

Two hundred and eight five men and boys were employed in the mine but on the day of the explosion there were two hundred and thirty eight down the pit. They were working the Barnsley Bed which was nine feet thick and dipped to the north east 1 in 11. The workings were one mile west to east and half a mile wide and the Inspector reported that the ventilation was very good but the air passed over and through the furnaces of the upcast shaft. The workings were 1 mile west to east and half a mile wide and the inspector reported that the ventilation was very good and at that the air passed over and through the furnaces.

Blasting was indiscriminately used to get coal so as to save labour and the colliers fired the shots when they needed them. The shots were lit by the persons selected for the duty and it was their job to examine for gas. The Barnsley seam was known to be a fiery seam. On the day of the explosion the ventilation was so good and no gas was found in the mine except at the face of the two 'dip gates'. The men and management had so much confidence in the ventilation that candles were permitted in parts of the mine and the Inspector had advised that the colliery used lamps.

Due to the situation at the bordgate dips, the blasting of coal at this point was dangerous. During the week before the explosion firedamp had been ignited by naked lights and gunpowder at the remote extremities of the bordgates and as a result safety lamps had been brought in but blasting was continued and naked lights were not entirely discontinued and they were taken to within a few yards of the bordgates. The gas that had been ignited the week before had set fire to the coal and this fire had proved difficult to put out.

Special Rules had been drawn up for the colliery but they were not always observed and authority and discipline, in the opinion of the Inspector, was not held in high esteem. So the scene was set for the explosion. Between 9 and 10 in the morning of the 8th. December another shot was lit. The coal was again set on fire but this time it could not be extinguished. For half an hour the men tried to put it out but were driven back by the heat and the fumes and smoke and went to seek guidance from the underground viewer and the deputies.

Mr. George Lawton, the underground viewer, was not in the colliery but was at Swaith Main and had to be fetched. He and his son made an ineffectual attempt to build a brick

stopping at the Swaith Level but they were driven back by the smoke and flames from the burning seam below. Every minute now became important and the flames were fed by a powerful breeze. The flames took possession of the two dip-bordgates and advanced rapidly to the west.

About 7 a.m. it was necessary to fire a shot which was a gunpowder charge. The coal gave off a large quantity of gas and all the men had Davy lamps but the shot lit a blower of gas which set fire to the coal and blew down a portion of the brattice in the air course.

There were two hundred and sixty men in the mine at the time and it seemed reasonable they should have been warned of the danger that the fire presented. Some of the men said that this was not done. George Lawton tried to put the fire out without telling anyone in the mine. He got a party of men and started to build a stopping to prevent air getting to the fire. While this was going on, some men were trying to put the fire out but neither of these efforts were successful.

The air became foul in the mine and at 11.30 am. there was a explosion which blew down air courses. The miners in the pit flocked to the bottom of the shaft for aid. To many in the mine the first sign of danger was the appearance of the deadly afterdamp.

A young man James M'Quillan told the inquiry he was in the No.2 board in the south workings which was away from the other workings. He felt the gas and became alarmed and left his work place to look for other miners. He found Peter Blacker who said there was something the matter with the mine and suggested that they should retreat but Blacker said that he was too frightened. M'Quillan went towards the shaft and met gas and had to make a detour through the mine which took him about one and a half miles through the workings and roads of the mine. On his way he met Edward Hunt at the bottom of the bord. Hunt asked him to go with him to find his younger brother but they were driven back by gas. M'Quillan struggled into the shaft where a large number of men were waiting to get up the shaft.

No systematic efforts were made to warn the men underground or to send them out of the pit. Subordinate officers were waiting for specific orders from the underground viewer who did not arrive on the scene until 11 am.. Many people were told about the fire between 10.30 and 11 am and many were apprehensive about suffocation but no one foresaw the explosion. Some men and boys did leave the mine and George Lawton's arrival at the colliery hastened the departure of others. By 11.30 a large number were on the surface or had got to the pit bottom and were waiting to be drawn up but there were still others in the far workings that either never heard or disregarded the messages reaching them.

There were some that thought it no risk at all to stay saying that the fire would soon be put out. It appears that George Lawton believed that by blocking the intake air course in the first incline between the second half way along to the Swaith Main Level, he could put out the fire without danger to the men. He, his son and others, took a lot of materials and desperately tried to erect a brick stopping in an ill- judged experiment. All were killed in the subsequent explosion.

At 11.30 am a fearful explosion took place which carried death and destruction throughout the pit. Confusion and panic reigned. George Lawton was the underground viewer and was assisted by his son Henry and several deputies were all killed. Despite the obstacles some escaped from the pit. Volunteers rushed to the pit and some died trying to save others. The horse-keeper, Mr. Soresby, managed to get nine out of the ten animals up the shaft but he himself was burnt.

There was a second explosion and alarm had been spread throughout the pit. The survivors gathered at the bottom of the shaft in the hope that they would all get up the pit before there was another explosion which was expected at any time and the shaft was worked with discipline and order and a great many men were rescued.

Communication with the shaft to the workings of the mine had been destroyed by the second explosion and it was thought that fifty to seventy men who were still in the mine. A number of volunteers went to the workings to look for survivors and five men made up

the rescue team. George Lawton, the bottom steward, Henry Lawton, his eldest son, Charles Frobisher, John Parkin, Benjamin Hoyland. None of these men were to return, all were killed in the third explosion. They had been in the mine for some time and a number of injured men had been sent to the pit bank, some of them in a very bad condition. When, at about 1 p.m. there was a third explosion which sealed the fate of those in the mine.

After the third explosion a conference was held at the pit bank as the pit headgear was not damaged there were volunteers to go down the pit but their efforts were fruitless. There were fires raging underground and they reported that the air was so foul that it was impossible to go more than ten yards along the levels.

About 4 p.m. it was realised that the state of the mine was such that there was no chance of getting anyone out of the mine and the managers turned their attention to putting out the fires that were raging underground by putting water down the pit.

The Inspector urged the owners to run water in the pit to quench the flames. On 9th. December the two downcast shafts were capped and smoke and gas came out of the upcast shaft for some time. There was great pressure to get the bodies out as soon as possible but the advice of the Inspector was taken and the pit flooded.

On Thursday afternoon a deputation of men went to the colliery office to have an interview with the proprietors and Mr. Morton, the Government Inspector, and they told these men that they thought that the bodies ought to be brought up but Mr. Morton would not give his consent for anyone to descend the mine because of the danger of gas and another explosion. When it became known the Mr. Morton was going to flood the pit there were threats of violence against him from the relatives of the victims.

Most of the men that were got out were uninjured and others were affected by the afterdamp but they were soon removed to the surface. Some were bruised and burnt and one man, William Davy of Worsborough Common was so burnt that he lived for only a few minutes. His body was removed by the police to the nearest public house.

Some of the injured were named as George Pickering, fireman, a man named Hollingworth, Samuel Tyas, Joseph Walton, John Bellerby, Samuel Soresby, Hewitt, Swift, Morrison, William Davy, Edward Hunt and several who had been removed to Barnsley.

George Pickering was the most seriously injured. He had gone down the pit in the morning and was in the headings when the last explosion occurred. The blast passed over him, licking him with flames which burnt off his clothes and hair and left him almost dead. He managed to crawl to the bottom of the pit and was taken to his house in Worsborough.

There he lay in great pain, in a temporary bed, tended by his wife and daughters who administered what remedies they could. Around the bed stood a group of colliers, some of whom had been with him and others that had come to offer help to their afflicted neighbour. A local paper at the time reported that-

*"As the poor fellow groaned, there was always a helping hand near. He said, 'I can not lie. I can not sit, I can not stand.'*

*'Pray God to help you through,' said his daughter."*

The incumbent of the Parish, Reverend Mr. Barnham, went from house to house and he did not spare himself.

Sometime later the possibility of re-opening the pit was looked into. At the investigation of the Inspector, the proprietors invited Mr. John Thomas Woodhouse, mining engineer of Derby and Mr. John Brown mining engineer of Barnsley, met to seek a way the best and safest of re-opening the colliery and reclaiming the bodies of the victims.

They met at the colliery on the 17th. December and there were still vapours coming out of the upcast shaft and decided not to carry on with the operations. A quarter of an hour after they had left the colliery and there was a violent explosion and a loud blast was heard throughout Worsborough Dale. Great clouds of smoke enveloped the

headgears of both down cast shafts and fragments of splintered wood flew aloft. A black smoky column at the furnace shaft mounted straight and high into the air for a period of several minutes and then quickly reversed.

John Brown and the Inspector went straight back to the colliery and ordered the downcast shafts to be closed. The upcast shaft was filled with soil to a point ten yards above the roof of the furnace drifts and an stream of water was be run into the dip workings. This was necessary to save the colliery and the bodies therein.

The advice of the Inspector was accepted by the viewers and it was agreed that the water should reach at least twelve feet above the floor of the mine the downcast shafts. This was considered enough to extinguish the underground fires.

The work was completed in the middle of February and the water reached eighteen feet in the first of the downcast shafts.

Mr. Charles Morton, the Inspector of Mines for Yorkshire, commented in his Report on the explosion-

“The explosion was remarkable for it’s origin and for its awful result. It would be a mistake to call it an explosion of firedamp but an explosion of inflammable gasses and vapours which were given off a burning coal seam. It involved terrible sacrifice of human life and mining property. 59 were killed and 15 others were burnt and injured. There were 36 widows and 93 children left fatherless by the disaster.”

Those who died were-

George Firth of Worsborough Dale, married with two children.

James Ewins of Barnsley, married with five children.

Richard Hunt of Worsborough Common who was a single man.

Charles Wildsmith. of Worsborough Common who was married with eight children.

Matthew Bates of Worsborough Dale who was married with three children.

Thomas Gawthorpe of Worsborough Dale who was married with five children.

William Rigby of Barnsley who was single.

George Columbine of Worsborough Common, a boy.

Thomas Wroe alias Mitchell of Worsborough Common who was single.

Thomas Oxterberry of Barnsley who was married with two children.

George Galloway. of Worsborough Common who was single.

Henry Palfreyman. of Barnsley who was married with six children.

George Ogley. of Worsborough Common who was single.

William Ogley. of Worsborough Common who was married with two children.

William Sharrock. of Worsborough Common who was married with two children.

John Shaw. of Barnsley who was single.

James Radcliffe. of Worsborough Dale who was married with one child.

Radcliffe’s hurrier whose name was not known.

William Parkinson. of Worsborough Common who was married with two children.

Peter Blacker. of Worsborough Dale who was single.

George Wroe. of Worsborough Common who was single.

Edward Leech. alias Phillips of Worsborough Dale who was married with five children.

Two of Leech’s sons not included in the five children that he left.

John Hitchin. of Worsborough Dale who was married with one child.

George Baker. of Worsborough Dale who was single.

John Schofield. of Worsborough Dale who was married with one child.

Joseph Walker. of Worsborough Common who was married with two children.

Joseph Hawley. of Worsborough Dale who was married with one child.

Patrick M’Court of Barnsley who was single.

George Lawton of Worsborough Dale who was married with one child.

Henry Lawton of Worsborough Dale who was single.

Benjamin Hoyland of Worsborough Dale who was married with one child.

Robert Farrington a Lancashire man whose residence was unknown.

William Porter of Worsborough Dale who was married with five children.  
William James Porter of Worsborough Dale, a boy.  
John Hartley of Worsborough Common a widower with one child.  
Two of Hartley's sons, John and Walter.  
James Ellis. of Worsborough Bridge who was single.  
John Ellis (snr.). of Worsborough Bridge who was married with two children.  
Walter Ellis. Son of John Ellis.  
Charles Frobisher. of Worsborough Dale who was married with three children.  
Robert Oldfield. of Worsborough Dale who was married with two children.  
Robert Cottle. of Worsborough Dale who was married with five children.  
Nicholas Cottle son of Robert Cottle.  
A son-in-law of Robert Cottle whose name was unknown.  
Robert Watson. of Worsborough Dale who was married with three children.  
Robert Hough. of Worsborough Common who was married with two children.  
Thomas Margerison. of Worsborough Common, a boy.  
John Parkin. of Worsborough Dale who was married with one child.  
William Fielding. of Barnsley who was single.  
James Eastwood. of Kitroyd who was married with two children.  
William Davy. of Worsborough Common who was married with one child.

At list of the injured and their injuries was also listed in the press of the time:-  
George Barnett of Worsborough Common suffering from contusions.  
A man named Rose of Worsborough Common who was slightly burnt.  
Charles Taylor of Pantrey who was slightly burnt.  
A man named M'Court of Barnsley who was slightly burnt.  
William Hollingworth of Pantrey, burned ankle.  
George Pickering of Darley Houses, severely burned.  
Samuel Sowersby, Berry Row, slightly burnt.  
Edward Hunt of Worsborough Common who was severely contused.  
A man named Armitage of Barnsley slightly burnt.  
H.Swift of Goose Holes who was severely burned.  
A man named Rose of Speddings Fold suffering from the effects of chokedamp.  
William Morrison Edmunds Main Cottages severely burned.  
Samuel Tyas of Berry Row, slightly burnt.  
John Davy of Worsborough Common, contusions.  
A man named Roder of Worsborough Common, slightly burnt.  
Joseph Walter of Barnsley suffering from the effects of chokedamp.

The inquest was held before Mr. T. Taylor, the Coroner, and it concentrated on four points, the measures were taken to warn the men in the mine of the danger when the gas fired, the steps taken to put out the fire before the explosion, the steps taken to inform the men of the dangers and lastly the general state of the pit before the explosion.

At the inquest the jury met for four days and heard thirty witnesses. Mr William Stewart, solicitor appeared for the owners and Mr William Henry Gill, solicitor, for the relatives. The proceedings were take down in shorthand at the request of the Inspector. Mr Thomas Taylor was the coroner. Evidence was first taken from the men who had worked in the mine and then the expert witnesses were called. Finally the Inspector gave evidence to the inquiry.

The primary cause of the explosion was gas which came from a blower caused by blasting at the dip point at the southern most part of the workings. As the mine was being connected to a new shaft which was being sunk and a straight heading was being driven through the coal to this shaft which was at Swaith Main colliery. The headings and bordgates became magazines of gas and as the furnace was blow down all ventilation to the mine was effectively stopped.

Many witnesses were called to give evidence to the inquiry and a clear picture of the working of the mine previous to the explosion was given in the statements of these men.

Joseph Mitchell jnr. a mechanical engineer of Derby Road said Benjamin Clegg, of the fireman in the mine, was in charge of the pit on Monday morning of the explosion and James Sigley was in charge of the cupola. After the explosion, Mitchell gave Sigley orders to put the ventilating fire out.

Benjamin Clegg, a deputy in the mine, and lived in Worborough Common. He was a 'fire-triers' or fireman at the colliery where he had worked for five years went down the pit on Sunday midnight. There were no men working when he went down the pit but he saw Pickering, the other shotfirer, who had to examine the faces near the shaft before the men came down. He arrived at the dip bordgates about 1 am. He found two or three blowers of gas in there but these were both very weak and the ventilation appeared to be good. These blowers were common and he saw no special danger in them.

Joseph Walton, a shotfirer, arrived a little after 1 p.m. as Clegg was leaving the area. The men working in the bordgate were James Allen, William Leach, William Archer and some others that Clegg did not know but there were three colliers and three hurriers. It was the practice that horse-lamps were taken to within nine or ten yards of the face and naked lights were authorised to go up the last dip. This was done on George Lawton's orders. As a result of something he heard at the surface, he went down the pit at 1 p.m. He had not been down more than a few minutes when the explosion made him stagger. He did not know what direction it came from and he was nearly insensible by the afterdamp for two or three minutes. He got out of the pit by going up the north side and then went with the air current.

He saw Pickering brought up and he went into the pit again to see if there was any fire in the pit. He made his way to the furnace and found that it was out but he could only get within ten yards as there were suffocating vapours and blackdamp but he came out with what little air there was available. He went down the pit for a third time about 2.30 with Mr. Maddison Guest and others. They found that for one hundred and twenty yards all the stoppings were blow out and the ventilation in the pit had stopped. They could make no further progress because of the afterdamp. They came back together and heard no moans or cries of any description and this lead them to believe that everyone in the pit was dead. They then went twenty yards down the south side to the stables. Mr. Maddison was told that nobody was alive or could possible be alive and they came out of the pit. The fourth time he went down he got the horses out with John Guest and Ralph Simms. He found it strange that the horses were not in the least damaged.

James Johnson of Worsborough Common, a shotfirer was appointed by Lawton to fire shots with a touch paper and to see that they were within a foot of the face before he lit them. He went to work on Sunday night with Benjamin Clegg and the hurriers had candles, the miners safety lamps. The hurriers came within five yards of the face. On Saturday there was some gas on fire in the bordgate and William Archer and another man were trying to put it out. The coal was red but did not blaze. It took twenty minutes to put it out.

When he was at the pit bottom he saw Lawton and told him that he had ordered nothing but safety lamps to be used. The lamps were supplied by Solomon Morley but some of them were not safety lamps. There was nothing out of the ordinary with the pit on Monday and he came out about 6 a.m. after telling Lawton at the bottom that everything was all right. Joseph Walton succeeded him and as he went put he met him and asked him if he had any lamp keys and he replied that he had some. He was recalled to the pit at 1-12 when the explosion occurred when he arrived he saw Pickering being taken out of the pit when he was going down for a third time.

When he got down there was smoke in the south level. Joseph Taylor was with him and they saw William Dean and William Rowbottom running towards the shaft with a naked light which they were told to put out. It was a candle and they did this at once. They went 300 yards down the engine plane and saw some men trying to repair a



stopping. They wanted brattice and Walton said that he would get them some. Benjamin Hoyland was one of the men and it was about 1 p.m. the he saw Pickering brought up in a corve with three other men. He felt the second explosion as a 'suck' and then a loud report. Pickering had been inured before and he was blown to the ground and lost some picks that he had in his hand.

He got George Hough and William Lawton to go down for them. Joseph Walton was his mate worked in the same board on the night shift taking water into the workings which was ladled out by the men to help them work.

Joseph Walton of 7, Banker Street, Barnsley who was a labourer, started to work at the pit in 1856 and his main duties were to attend to the doors and the brattice. He was at work in the south levels on the morning of the 6th. soon after 6 a.m. George Guest told him to get three safety lamps and to go and meet Gorge Lawton at the dipboards. He went and found Lawton with John Brown and Lawton took one of the lamps and exchanged it with Brown. Lawton told him that no shots were to be fired until all the soft coal at the bottom of the face had been removed.

George Pickering had made a complaint about his place and Walton thought that it was justified. He said that Clegg and Pickering wanted to alter the brattice and Lawton would not let them. There was plenty of gas in the mine of Saturday and it had fired at their lamps but there was no order to get out of the pit. He did not send them out on his own authority and he did not tell Lawton of the gas. He left the pit at 5.30 a.m. on Monday.

Lawton told him to go down the dip boards with safety lamps and he found three men working in the backboard getting coal they were Thomas Guest, Joseph Dobson, William Archer William Fisher and two others who had come to work at 6 a.m. At 10 a.m. a fall took place which liberated gas and he fired a shot on the Monday for a collier. Lawton thought that something would happen and he given him a lamp key and told him to snuff out the lamps 30 yards from the face. The shot was fired for William Fisher in the bordgate Fisher gave him the touch paper. He fired another for Thomas Guest fifteen minutes later and he lit the fuse with his lamp. They took refuge and the blast blew down nearly all the coal but gas was ignited.

They tried to put it out with their jackets and by throwing on wet slack There was no 'throw' or slip in the place and the gas appeared to be coming from the coal. He went to the Swaith level and filled a corve with bricks. Henry Lawton had come up by that time and the coal was now getting on fire but he did not see the brattice boards on fire.

From the first breakout it took Henry Lawton 45 minutes to arrive and he helped to throw the bricks out of the corve and stated to build a stopping to stop the air getting to the fire but the smoke was so bad that they had to withdraw. The other men had already gone to the pit bottom. Henry Lawton went there to get more bricks and to try to build a stopping half way down.

Richard Watson and Sam Thomas came to him and asked him if they were to go out of the pit but we had no orders but he told them that they had better warn as many as they could. The conditions were then getting so bad that they had to leave and it took theme a long time to get out. He was injured by the smoke and gas and it was 12 a.m. when he got out and he knew nothing of the explosion.

William Davy worked in the second bank in the first halfway on the north side. He saw George Pickering just before 12 he left the pit and he warned me that something was wrong. When he got to the pit top he went to the storeroom and it was there that he heard of the explosion. He knew that if the men at the been warned when he was at the second half way then they would have got out of the pit.

William Archer of Worsborough Dale, a miner, went down the pit at 6 a.m. with William Fisher and George Firth the hurrier who worked with him. He said there was no explosion at the bordgate where he worked i.e. the dip boards. Joseph Walton looked after the bordgates and fired shots and he had fired one about 8 a.m. and he heard another at 9.30 a.m. He smelt gas and went there to find that the gas was alight. They tried to knock

out the flames but they failed. He stayed 5 to 10 minutes and then went to look for Lawton. He met James Stead the water carrier and told him of the fire. He then went to Henry Lawton who told him to find his father at the shaft. There he told Thomas Glover and John Hurst of the fire and the men went up the pit to George Lawton's house but he was not at home.

He then went to Linley the blacksmith to get Lawton who was at Swaith and he told Solomon Morley that the pit was on fire. He then got his lamp and descended again and went as far as the halfway. He met Henry Lawton and several other men and Lawton was the only one with a lamp this was about 10.30 a.m. He went out of the pit with the men and Lawton went to the storeroom and took four lamps but he did not see him descend the pit. He did not get orders to take the men out of the pit. He saw George Lawton at the surface but did not say anything to him.

At the pit top he saw the two Mitchells in the pit yard. They asked Thomas Guest where the fire was and he told them in his own workings. When he told Henry Lawton what had taken place. At the time he did not think that there was any danger.

The Colliery Guardian of the 14th November 1863 reported that it had been almost eleven months since the explosion and the greater proportion of the bodies were still in the pit until a week ago.

The inquest was resumed by Mr. Taylor Coroner at the Barnsley Court House. Benjamin Clegg of Worborough Dale a shotfirer. He went down the pit with Johnson and went to the dip bordgate face 1500 yards from the shaft and he got there about 12.45 a.m. on the day of the explosion. He found three feeders of gas but this was not unusual. They were trying to cut through to the Swaith Main and they used powder to blast. There was firedamp seen before the explosion and for several days before there had been blasting in the mine. Naked light were used in the mine which he knew was against Rule 20.

James Johnson the shotfirer, went to look for gas with Clegg and he insisted that the lamps were locked. Allen commenced drilling and when the hole was fired Johnson fired the shot. He left the pit at 6 a.m. and all appeared well and he met another shotfirer Joseph Lawton. Archer helped him to unload the bricks to build the stopping after the fire. He was making his way out of the mine when he was asked by the men if he had ordered them out of the pit. He got to the first halfway when he saw Tyas and Watson who told him to warn the men. He met Henry Lawton coming down the incline from the pit bottom. He thought that from the first fire there was plenty of time to get the men out of the mine. Lawton had expressed a fear to him that something might happen before the two pits were joined.

John Webster whose job was to take the state of the air in the mine and he did not see any gas on the 6th. December but he told Lawton about the fire. He recorded his findings in a book that was produced at the inquiry.

Joseph Briggs labourer had heard Lawton telling Ewing to tell the men on the north side about the fire.

Thomas Guest the hanger-on, at the second half way heard James Ewing give the alarm.

William Fisher miner He knew that Lawton was worried about the condition of the dip bordgates.

The following verdict was returned-

"We find that James Ellis came to his death by suffocation caused by an explosion of gas in the Edmunds Main colliery on Monday 8th December 1862. And we are also of the opinion that the cause of the explosion was owing to the dangerous use of gunpowder in blasting the coal in the dip bordgates in the mine which practice of blasting ought not to have been permitted by the managers or prosecuted by the workmen after the system of wedging was introduced."

The Coroner asked what was the real nature of the verdict and did they imply culpable negligence upon any person and if so whom? In reply to the coroner the jury stated that

they were of the unanimous opinion that Mr. Mitchell snr was the manager of the colliery but they did not wish that this be added to the verdict. Mr. Sleigh barrister of London who was acting for the widows and orphans contended that the verdict substantial was one of manslaughter. The coroner said he thought it was open verdict and this was confirmed by the jury.

The foreman then handed the following recommendations to the coroner and hoped that they would be forwarded to the Home Secretary-

“We are of the opinion that a regular inspection of mines by government takes place, accidents will be of a frequent nature in collieries in this neighbourhood.”

The inquiry was terminated shortly before midnight.

After due deliberation the jury arrived at the following verdict:-

“We find that William Davy and George Pickering came to their deaths by an explosion of gas in Edmunds Main colliery on Monday the 8th. day of December 1862. For their immediate deaths we are unable to attach blame to any single individual.

The jury at the same time wish to express their unanimous opinion that the cause of the explosion was owing to the unsafe working of the dip-bordgates of the colliery.

The mode of blasting with powder the jury see as highly injudicious and dangerous and feel that it should not have been allowed by the underground viewer or prosecuted by workmen.”

Sixteen of the jurymen were sworn at the inquest. Fifteen delivered the verdict and signed the coroners inquisition but there was one dissenting juror who protested about it.

### **LLYNVI. Maesteg, Glamorganshire. 26th. December, 1863.**

The colliery was worked in connection with a large iron works and was owned by the Llynvi Iron and Coal Company and was 6 or 7 miles from Bridgend. It was known as the Gin Pit. The pit employed 160 men and boys and 18 horses.

The explosion took place on the Saturday morning after Christmas Day and there had been no work at the mine from the previous Thursday evening until the morning of the fateful day and neither had the colliery been examined for almost thirty six hours.

It was the duty of the fireman to examine the mine every morning before the men went to work and to report the results of his examination to the appointed place. The colliery overman, Eynon Jones, had told his son who was the fireman to report to the underviewer as he was unable to be at work and asked his son to appoint someone in his place. It appeared from the evidence given at the inquest that his son did not carry out the inspection and he was killed in the explosion that followed.

Mr. Evans, the Inspector examined the colliery after the disaster and found that in many places the coal was charred and coked and iron trams had been completely doubled up by the force of the blast.

The men who died were-

William Isaac aged 40 years, married.

Morgan Thomas aged 21 years.

Benjamin Rees aged 17 years.

David Williams aged 44 years, married.

David Williams aged 14 years, son of David.

David Rees aged 36 years, married.

Dennis Mahoney aged 14 years.

David Jones aged 21 years.

William Davies aged 23 years.

David John aged 30 years.

Daniel Edwards aged 25 years, married.

John Bevan aged 41 years, married.

William Elias aged 27 years, married.

The Company paid a weekly amount to the relatives of the victims.

The inquest was held before Mr. Alexander Cuthbertson, Coroner. The explosion was caused by a young lad who took a naked light into work before the fireman had been there. The gas had accumulated in a stall in front of the air. The place was a considerable height and the coal eight feet thick. The Inspector commented-

“If this stall had been properly bratticed and the rules carried out as regards the examination of the workings, this explosion would not have taken place. The important office of fireman was entrusted to a young man about 21 years of age, of no great experience as a workman and none as a fireman. Sometime previous to this explosion I felt it to be my duty to serve on the general manager a notice of the dangerous condition of the colliery. It was then nearly at an explosive point, and safety lamps were used in lieu of ventilation. A change of the management of the colliery took place soon after and it is due to Mr. Grey, who is in charge of the mine, to state that he has made a considerable improvement.”

**LLWYNVI. Llwynvi, Glamorganshire, 26th. December, 1863.**

The colliery was the property of the Llwynvi Company and fifteen men and boys lost their lives in an explosion.

Those who die were:-  
David Williams  
& 14 others.

**DARK LANE. Wellington, Shropshire, 29th. December, 1862.**

The colliery was the property of the Lilleshall Company and 12 men and boys lost their lives when a coupling box at the end of rope broke and the box fell 290 feet to the bottom of the shaft. Work was suspended and it took most of the day to get the bodies to the surface.

Those who died were, J. Guy and 11 others including nine men and three boys.