

BRYN-yr-OWEN. Wrexham, Denbighshire. 11th January, 1855.

Seven Persons
MIR Correct date
Owned by Bryn Malley Colliery Company

GWENDRAETH. Pontyberem, Glamorganshire. 10th. May, 1855.

The colliery was owned by Alfred Watney and was situated in the Gwendraeth Valley about three and half miles from Llaon and a mile from Pembrey on the coast. The colliery suffered an inundation of quicksand from the valley. Twenty seven men and boys lost their lives.

On Monday evening about twenty eight colliers were at work and everything went on as normal until about 10 o'clock when the water suddenly broke in. The effect was so instantaneous that only one man escaped by climbing the machinery in the shaft.

ABERAMMAN. Aberdare, Glamorganshire. 20th. April, 1855.

The colliery was the property of David Williams and five men and boys were killed in an explosion of gas. The explosion was due to naked lights and there were no Rules at the colliery. The Inspector's cautions had been neglected.

Those who died were-

Thomas James aged 12 years, haulier,
Evan Thomas aged 23 years, collier,
Richard Lovett aged 23 years, collier,
William Davis aged 26 years, collier and
James Williams aged 16 years, haulier who was drowned when he was blown into the sump.

OLD FIELD. Longton, Staffordshire. 25th. May, 1855.

The colliery was the property of W.H. Sparrow and six men lost their lives in an explosion of firedamp. There were two shafts at the colliery between 300 and 400 yards deep and a dip or incline 600 yards to the deep. at the bottom of this a small quantity of work had been opened and little gas had been encountered while the ventilation was good.

The day before the accident the shaft of the engine at the bottom of the pit which was used to draw the coal up the incline broke and the engineer put out the fire under the boiler. The colliers had stopped working. Next morning John Lloyd, the ground bailiff or manager, ordered a number of men to go down the pit, some to clear airways, waggon ways and others to do general repairs and Lloyd went down with them with a boy.

Shortly after 9 a.m. the explosion took place caused by the naked light which the boy was carrying. It was several months before the workings could be examined as the coal caught fire.

Those who died were-

John Lloyd and six others.

Mr. Wynne, the Inspector commented-

"Before the disaster I recommended that a furnace should be put into the pit at once, even if it were used as an auxiliary. I cannot conceive how any man in his senses, possessing the smallest amount of mining knowledge, could proceed himself and direct others to perform work that is at all times attended with some

amount of danger after the only means of ventilation was cut off. Lloyd was, I believe, a sober steady man, but was brought from South Staffordshire, the worst of all schools for miners. I am therefore led to the conclusion that his own life and the lives of the six others were sacrificed to an entire want of knowledge on his part of the first and plainest principles of ventilation.”

CWMAMMAN. Aberdare, Glamorganshire. 28th. November, 1855.

The colliery was owned by Messrs. Carr and Morrison and eight men were killed in an overwinding accident in which they were thrown down the pit. Instead of creeping towards the bank the carriage shot up like a dart, past the startled banksman and crashed heavily into the headgear above him. The occupants were thrown 240 yards down the shaft to their deaths.

Those who died were all listed as miners-

Thomas Jones aged 30 years,
Philip Kelly aged 25 years, both left a wife and two children,
David Thomas aged 24 years, left a wife and child,
Samuel Thomas aged 25 years,
Jenkin Davis aged 24 years,
William Thomas aged 17 years,
William Hooper aged 17 years and
Richard Weeks aged 23 years.

At the inquest into the men's deaths, held at the Boot Hotel, Aberdare, it emerged that there was a very casual system of signalling in operation between the shaft and the enginehouse. The jury said nothing about these shortcomings but delivered a verdict of manslaughter against the engine driver. He was new to the work and it was alleged that if he had counted the number of engine strokes made during the ascent, he would have known that the carriage was nearing the bank.

Solomon Lloyd aged 21 years appeared at Glamorgan Winter Assize to answer the charges. He was defended by a barrister nominated from the well of the Court by Mr. Justice Vaughan Williams who found the defendant 'Not Guilty'. The prisoner appeared greatly affected by the serious position he had been placed and wept during the trial.

YNISDAVID. Cwmavon, Glamorganshire. 24th. May, 1856.

The colliery belonged to the Governor and Company of Copper Miners of England who were the proprietors of the whole of the extensive works at Cwmavon and there were five collieries.

About 3 a.m., when there were about seventy men in the mine, the people at the pit mouth heard an explosion from the depths below. Some men immediately went down and discovered that there had been an explosion of gas in the Big Vein mine.

Mr. David Thomas, the manager of the colliery, and W. Gilbertson, the General manager were soon on the scene to supervise the rescue work of the many volunteers. Mr. Gilbertson provided brandy for the men who were rescued and pillows and bed clothes for the injured who were brought to the surface. The operations to secure the pit and retrieve the men were carried out speedily. Some were alive when brought to the surface but later died. Henry Griffiths lived for about three hours, Jason Evans for about four. David Thomas lingered for a day but John George died soon after being brought out. The disaster killed nine men and three boys.

Eight of the victims were burnt and mutilated and four died from the effects of gas and their injuries. There was no difficulty in finding them as they were lying within a short distance of each other.

Those who lost their lives were:-

Jason Evans aged 21 years.

John George age 13 years.

Henry Griffiths aged 35 years.

Hopkin Hill aged 50 years.

David King aged 25 years.

John Lewis aged 30 years.

Walter Morgan aged 26 years.

David Morgan aged 19 years.

Thomas aged 45 years.

David Thomas aged 16 years.

David Williams aged 19 years.

Hopkin Williams aged 27 years.

The victims were buried at Cwnavon, Aberavon, Taibach and some at Neath.

It had been known for some time that area in which explosion occurred was dangerous but every precaution had been taken to prevent an accident. There were regulations that only safety lamps were to be used and two Struvé's Patent Mine Ventilators had been erected, each 18 feet in diameter and capable of delivering 1000,000 cubic feet of air per minute but the work had not been completed.

After the disaster, workings were inspected by Mr. W.P. Struvé, who was the consulting mining engineer to colliery company, accompanied by Thomas Evans, the Government Inspector of Mines

The inquest was held at the Mechanic's Hall, Cwnavon and David Thomas, the agent of the mine, told the court of the increased ventilation and gave a detailed account of rescue work. he said:-

"I went late to pit on Saturday about half past ten o'clock in morning after accident had occurred. I descended downcast and on arriving at bottom, proceeded along the Upper Four Feet Seam until I came to the second drift of Big Seam. I then proceeded on same drift about forty yards and there saw the bodies of Walter Morgan, David Morgan and David King. Proceeding on as far as the heading on lower leaf of the Big Seam, I was prevented from going further as gas was too strong. I then thought it desirable that the workings in the Lower Four Seam should be examined. John Williams and Griffith Jones were sent direct to that heading and after stopping there for about a quarter of an hour, I came to conclusion that the men who were at work in that part must have been killed, the heading being full of gas.

I gave orders for the men to remove the three bodies I have named and when I left that part and came back along the Upper Four Feet Seam and along the first drift from the pit. About one hundred yards in the same drift I met Ebenezer Morris coming out with his son. I again proceeded along the Lower Four Feet Seam to within ten yards of the outermost door, where I saw a great number of bodies. I did not know whether they were dead or alive. We looked over them all, the first I found being John Lewis who was found midway between the two air doors on the Upper Four Feet Seam. I went on to the end of the drift and found the bodies of Hopkin Williams, David Williams and John George, the door-boy, lying close to the door which he attended. Within two yards of the body of Hopkin Williams, I found Henry Griffiths who was taken up alive but expired in a few minutes. On the opposite side of the pit Jason Evans was found alive. I had him raised and placed in a tram.

I then went back along the same heading for about one hundred yards to see whether more were killed. I found that them men to render assistance at the time had increased and were in the course of putting the bodies in the tram. Afterwards I returned to the drift and endeavoured to get along the drift to the Big Seam where we thought the explosion had taken place.. The gas was rather strong and we thought it better to stop for about ten minutes to see if it would be reduced. During that interval the men reported that all the bodies in the district had been found, some dead some alive.

We next endeavoured to proceed in the east heading of the lower leaf of the Big Seam where Hopkin Hill and Thomas Thomas were working. The gas at this time was so strong as when we first endeavoured to enter. By placing men at different distances from each other we succeeded in getting to the body of Thomas Thomas who was found about sixty yards from the drift in a sitting posture, quite uninjured and must have been suffocated. The next body missing was Hopkin Hill who was employed in driving that same heading. We thought that he might, at the time of the explosion, have been at work at the end of the heading. Knowing the distance of the heading we measured as far as we were able and found that the heading had been filled for a distance of six to eight yards.

The next operation, I thought requisite was to clear the whole distance already filled in so as to arrive at the body of Hill. Several trams were filled until the men were nearly exhausted through the strength of the gas. Observing several falls on the heading, and having been informed afterwards that Hill might have been at the time of the explosion about thirty yards from the drift fixing several timbers which he was requested to by the foreman in the morning. I gave orders to examine the falls and in the first fall, which was partly cleared, we found the body of Hill. We were then sure that all the bodies had been found and then proceeded back to the top of the pit. Hill was very much burnt. His lamp was found eight or ten yards from his body. The lamp was uninjured and the top was on."

It was also stated that there was always a large quantity of gas in the Big seam but it was not thought unusual. The fireman had made a full inspection in the morning but had not found large quantities of gas. There was evidence that the mine was worked with lamps but they were not locked and some men were known to raise the gauze to light their pipes.

The Coroner, Mr. Cuthbertson summed up and the jury retired to consider their verdict. After some time they returned with the verdict that:-

"The deaths were accidental from firedamp but there was no evidence to show how it occurred."

OLD PARK. Dudley, Staffordshire. 20th. June, 1856.

The accident happened at the No.20 pit which was owned by Lord Wood when eight men were ascending in a skip and a link in the chain snapped. They fell twenty two fathoms to their deaths and six were killed outright and two others soon died from their injuries. The victims were found in what was described as a 'terrible huddle, bungled together and quite dead'.

Those who died were-

Stephen Crewe aged 20 years,
John Crewe aged 18 years,
William Crewe aged 13 years,
Jesse Hawthorn aged 18 years,
Henry Fletcher aged 14 years,

J. Jones aged 20 years,
Henry Glaze aged 13 years and
Joseph Plant aged 15 years.

The inquest was held at the White Swan Inn, New Dock, Dudley before Mr. W. Robinson, Coroner when the only point in question was what had caused the chain to break. There were two kinds of chain used in the pit an ordinary round and a single link chain and a flat chain which was made of three links. The advantage of the latter was that there were three links and it lay flat on the winding drum and was less liable to slip. The part of the chain that went round the drum was flat and the part that went down the shaft was round. It was a link in the round part that broke.

Charles Hill was employed to go round the collieries belonging to Lord Ward every week to examine the chains, adjust machinery and he kept a note book. He had found nothing wrong at the colliery on his last inspection but when he was shown some of the links by Mr. Brough, the Government Inspector he agreed that they were worn. Mr. Brough went on to say that the chains were very well made and that the iron was of excellent quality but the lower part of the chain was very worn and that it was required by the Special Colliery Rules that the chain should be examined link by link.

The jury consulted for about two hours and returned a verdict of 'Accidental Death' and expressed their disapproval of the conduct of the pit manager in not having carefully examined the chain and added their recommendation that flat chains should be used instead of round chains in all mines, A spokesman for the mine owners said that round chains would be discontinued.

OLD COAL PIT. Coalbrookdale, Shropshire. 3rd July, 1856.

The colliery was owned by Couttwell and Lewis and the explosion was due to neglect by the management of the Special Rules for the ventilation of the colliery. The lamps were not locked and there was no single main ventilation door. All the men who were underground at the time were killed in the explosion.

The victims were-

Noah Vaughan, collier, aged 20 years.
William Parker, roman, aged 20 years.
James Morgan, aged 19 years, a collier.
George Morgan, aged 28 years, a roadman.
Samuel Jenkins, aged 20 years, a collier.
William Lewis, aged 13 years, a haulier.
David Williams, aged 25 years, a collier.
Robert Arnold, collier aged 22 years.
George Greenway, aged 22 years, a collier.
Hopkin Lewis, aged 31 years, a fireman.
Richard Ketherall, aged 23 years, a collier.

George Greenaway and Hopkin Lewis were killed leading the rescue.

CYMMER. Rhondda Valley, Glamorganshire. 15th. July 1856.

The colliery was the property of Messrs. Insole and Son of Cardiff with Jabez Thomas as the manager. One hundred and fourteen died in the explosion at the colliery, which at the time was the worst mining disaster that had struck Wales up to that time.

The Inspector commented-

"On Tuesday, the 15th. of July, the inhabitants of the Rhondda Valley were thrown into a state of the most frightful excitement arising from the fact that an explosion of

gas had taken place that morning at the Cymmer Colliery and had resulted in the sacrifice of human life to an extent unparalleled in the history of coal mining in this country."

The colliery was ventilated through a bratticed shaft, the upcast portion of which had an area of 10 square feet and the air travelled from the intake and the return in one continuous current for a distance of about 6 miles and passed over a furnace through an opening about six feet square. The airways ran parallel to each other for a considerable distance inside a 16 feet downthrow fault and were separated by loose stones and rubbish that made up the gob. The area of the airways at the fault were 13 square feet through which the whole of the air that ventilated the colliery had to pass. Seventy two doors were used to direct the air to the working places and stalls. There were two levels driven from the bottom of the shaft. one to the north and one to the south. Off these, cross headings were worked for a distance of about to six hundred yards.

On the morning of the explosion, the two firemen that were employed, went through the workings and reported that all was safe and the men entered at the usual time. Early statements as to how many went down varied from 120 to 140 and there was no doubt that it would have been more if it had not been for a fair held on Newbridge Common which many had attended and not returned.

The explosion occurred about 8 a.m. and there was no violent noise as the force of the blast did not reach the shaft which passed through the west workings and was followed by the deadly afterdamp which claimed the lives of everyone in that part of the mine. All the men in the east workings, of which there were not many, escaped unhurt.

The news spread quickly through the valley and there was soon a crowd of women and children around the pit anxiously seeking news of their loved ones. Colliers from other districts rushed to the scene and as soon as it was safe to do so, descended into the workings to save life and bring up the dead. It was impossible to say how many came up alive amid the scenes of confusion but there were between eight and fifteen while by 2 p.m. 70 dead bodies had been recovered.

The men who died were-

John Thomas.

Henry Griffiths.

A boy.

Budway.

David Davies.

Thomas Davies.

Thomas Davies.

David Morgan.

David Daniel.

Thomas Matthews.

William Davies.

David Daniel.

Thomas David.

Richard Rees.

D. Morgan.

William Davies.

John Rees.

Thomas Williams.

Two sons of H. Davies.

Enoch Morgan.

William Jenkins.

David T. Dennis.

John Jenkins.

Thomas Williams, a boy.

David Jenkins.
John Isaac.
Rees Jenkins.
Hezekiah Davies.
Benjamin Evans.
Rees ?
Peter Griffiths.
William Jones.
David Edwards.
Evan Thomas.
Edward Dennis.
Thomas Hopkin.
Daniel Lewis.
Philip Evon.
Thomas Lewis.
William Morgan.
David Richards.
Zachariah Richards.
Aaron Rees.
Thomas Williams.
Isaac Morgan.
Thomas ?
David ?
William ?
William Jenkin.
Thomas ?
Walter Miles.
John Jenkins.
John Evans.
Morgan Evans.
Thomas Rees.
John Williams.
William Jenkins.
John Roberts.
Walter Williams.
Richard Miles.
James Thomas.
Samuel Edmunds.
Son of Samuel Edmunds.
Thomas Morgan.
Jaconi Salathiel.
David Samuel.
John Salathiel.
Benjamin Rees.
Edward Howell.
William Llewellyn.
Richard Hugh.
Morgan Morgan.
Joseph John.
Daniel Lewis.
William Evan.
John Evans.
Evan Hugh.
Thomas ?

Isaac ?
Daniel Thomas.
William Rees.
David Thomas of Raglan.
David Harris.
Morgan Morgan.
Philip David.
Evan Hulen.
William Martin.
Thomas Edwards.
David John.
Thomas Andrews.
John Morgan.
George Griffiths
Thomas John.
David Powell.
George Sollburgh.
Edwin Hughes. and his brother.
Isaac Phillip.
Matthew Thomas.
David Morgan.
William Thomas.
Thomas Llewelin.
William Llewelin
Thomas Llewellyn.
Evan Lewis.
William Lewis.
Henry Jones.
Matthew Evan.
Thomas Haymond, a boy.

After the explosion the Inspector made a detailed examination of the circumstances and the workings and found that it was confined to the south. the flame appeared to have travelled from the face to with 300 yards of the shaft. He said-

“I think it first originated in the extreme end of the workings in a stall which had been idle for some days. It would appear that fireman, in making his examination in the morning before the men went down, discovered the presence of gas in David Morgan’s stall but did not report it to the manager.

Rowland Rowland, the overman, not knowing the state of the stall, ordered William and Llewellyn Thomas to go in and work and from the position of the Llewellyn’s body, it was most probable that this was the point of the first explosion and by blowing away doors, the ventilation was cut off which caused smaller explosions but if the return air had not been so charged with gas, the fire would not have extended so far.

The rider coal above the main coal gave off more gas than the main coal but as the rider coal was taken down in the headings and levels inside the fault, firedamp could not exist in the workings and the gas would be given off into the ventilation current. It the ventilation was weak it was very likely that gas lurking in the gobs and roof would make it unsafe for the workmen.”

At the inquest it was stated that the manager seldom went underground and he spent most of his time at the surface making the necessary arrangements for the disposal of the coal. The overman and firemen took charge of the underground workings under the direction of the surface manager. From all the witnesses connected with the colliery it was clear that the mine had been in a dangerous state for some time. Griffith Williams said

that on the Thursday before the disaster, the cap on a candle was more than three inches long and there was not a breath of air moving. Mr. Gray, the colliery surveyor, also observed a cap and told Jabez Thomas, who was supposed to be the manager, that it was necessary to improve the ventilation of the colliery and that a communication should be made between the new and the old pits, the size of the shaft increased and the brattice done away with..

The Inspector commented-

"I would remark that brattice shafts are always more or less objectionable and for extensive collieries like those in the Rhondda valley, they are not safe."

There had been clear breaches of the 1st and 14th. General Rule by the manager and the 20th Rule by the overman. The Coroner's jury, after a long and patient hearing of the evidence, returned a verdict of manslaughter against Jabez Thomas, manager, Rowland Rowland, overman and the three firemen.

At Swansea Assizes, his Lordship, Mr. Baron Watson in his address to the grand jury said-

"Inasmuch as Mr. Jabez Thomas was the above ground manager and did not go underground, he could not be held responsible and that as regards to the other men no direct case of omission was brought against them and I do not see how they could be guilty of manslaughter."

The grand jury did however return a true bill against Jabez Thomas, Rowland and Morgan Rowland. The prisoners were tried and after hearing the evidence his Lordship directed the jury to return a verdict of 'Not Guilty' against Thomas and said that the law required that there should be an immediate personal default before a conviction for manslaughter could take place.. In summing up, the Judge said in the case of the other prisoners-

"The two prisoners stood indicted for slaying another, without malice aforethought, which was manslaughter. Now, did the facts as they had come before them bring the charge of gross negligence, which gross negligence was the immediate cause of the deaths, home to the prisoners, to return a verdict of 'Guilty' against Morgan Rowland? The jury must be convinced that the explosion originated in deceased Morgan's stall and that the usual precaution had not been taken by placing the proper danger signal. if they supposed that the explosion originated in any other part of the mine they would have to give the prisoners the benefit of doubt and return a 'Not Guilty' verdict."

The jury returned a 'Not Guilty' verdict.

RAMROD HALL. Oldbury, Staffordshire. 13th. August, 1856.

The colliery was owned by Lord Ward and was at White Heath Gate. The explosion occurred because of bad ventilation. This was due to the neglect of the 'butty', Thomas Barker who did not discharge the 17th. Rule and did not inspect the mine before the men descended. Of the sixteen men and boys who were in the mine at the time of the explosion, eleven were killed.

Those who died were-

Thomas Barker aged 23 years,
R. Cartwright aged 43 years,
John Sheldon aged 36 years,
Thomas Shaw aged 35 years,
Thomas Round aged 34 years,
John Walleys aged 28 years,
William Simpson aged 33 years,
Samuel Willett aged 26 years,
J. Fulford aged 16 years,

John Bryan aged 13 years and
T. Hampton aged 18 years.

At the inquest it emerged that on the morning of the disaster the men descended one of the shafts. One of them had a lighted candle which was seen to burn blue, indicating the presence of gas. The candle was blown out and the occupants told the banksman. By the regulations, a lamp should have been used to test for gas before the men went down. This rule was neglected.

Another skip containing seventeen or eighteen men was lowered and a man named Barker ordered some live coals to be placed in it. There was no reason given for this action. The explosion took place as they were being lowered. The accident was put down to the fact that there were two shafts at the mine and water was being drawn off which forced the foul air up the other shaft.

BRYNMALLY. Wrexham, Denbighshire. 30th. September, 1856.

The colliery was in the ownership of Messrs. Clayton and Darlington. An inundation of water, supposed to have come from old workings, claimed the lives of twelve men and one of the rescuers also lost his life.

TOWNHOUSE. Burnley, Lancashire. 13th. November, 1856.

The colliery was owned by Spencer Wilson and Co. and the colliery was worked with locked lamps but blasting by gunpowder was allowed under the close supervision of an underlooker or fireman. A new man came to the pit and he was not given the Special Rules and tried to fire his own shot with a '*german*' which was a squib filled with gunpowder. When he lit it, it jumped into the goaf and ignited some firedamp which had collected there when a fall of roof occurred a little time before. Ten men were burnt and five died at their homes during the next few days.

Those who lost their lives were-
William Johnson. Died 15th. November,
John Craven. Died 17th. November,
M. Bannister. Died 22nd. November,
John Ellis. Died 10th. December and
William Higson. Died 12th. December.

SHIPLEY. Derby, Derbyshire. 4th. March, 1857.

The colliery was owned by A.M. Mundy and an explosion of gas claimed eight lives.

Those who died were:-
John Stabuck miner aged 24 years.
Abraham Stabuck miner aged 43 years.
Abraham Starbuck jnr. trammer aged 13 years.
Thomas Hensham trammer aged 15 years.
Joseph Richardson miner aged 25 years.
John Purdy miner aged 36 years.
Joseph Fowles miner aged 20 years.
Job Richardson miner aged 21 years.

LUNDHILL. Barnsley, Yorkshire. 19th. February, 1857.

The colliery was between the villages of Wombwell and Elescar, five miles south east of Barnsley. They were owned by Messrs. Simpson, Stewart, Taylor and Galand and at the time they were the deepest in South Yorkshire.

Mr. Henry Holt of Wakefield was appointed Chief Viewer of the colliery and Mr. Joseph Coe was the resident overviewer. For several months these men directed operations at the colliery and limited coal had been got from the Wathwood Seam 46 yards deep and 4 feet thick and the Abdy seam 75 yards deep and 3 feet thick but these seams had now been abandoned.

There were three shafts. No.1 was the pumping and downcast shaft and was 77 yards deep and 10 feet diameter, sunk to the Abdy seam. No.2 was the downcast and coal drawing, 217 yards deep and 11 feet 4 inches in diameter. No.3 was the upcast and furnace shaft, 215 yards deep and sunk to the Barnsley seam. The gaseous character of this coal seam was known when an explosion killed six men when the shaft was being sunk.

At midday, twenty two of the workers came up the pit for their dinner but the majority stayed down for their meal. When the explosion occurred, the corves which were at rest were blown into the headgear and flames reached twenty yards above the pit shaft illuminating the surrounding countryside. The cage went high into the air and there was a very loud report. The rope and the chain of the cage in the drawing shaft were thrown up into the headgears and became entangled with the pulleys and it took a long time before this could be put right and the cage lowered down the shaft.

About three hours after the blast Messrs. Joseph Coe, William Porter Maddison, Robert Charles Webster, John Warhurst, William Beevors, William Utley and others attempted to descend the drawing shaft but their process was held up by the obstructions in the shaft. They made great efforts to get through and when they eventually succeeded they found twenty survivors at the bottom of the shaft scorched and injured. They sent them up the pit and began their exploration of the mine.

They found the most dreadful havoc around them. The dead and horse lay in confused heaps, overturned corves shattered doors and broken timber. Fallen roof stones and the furnace arches were in ruins. They went about 400 yards in all directions to look for survivors but that was in vain. They had passed a score of corpses but there was no sign of life. The coal near the upcast shaft had been ignited and masses of burning coal tumbled down from the sides. The stables were also in flames. The presence of gas showed in their lamps and another explosion seemed to be imminent. The furnace might collapse and the wooden framing of the pit might catch fire and cut off their escape, so they decided to retreat. The smoke and the afterdamp were too strong.

At 7.30 p.m. the men came up the pit when an impressive and spectacle took place. A cloud of flame rose 100 feet from the furnace pit while clouds of blazing embers and sparks rose from the pit higher and higher dispelling the darkness and shed a lurid light on the faces of the men, women and children who were waiting at the pit head. There were an estimated ten to fifteen thousand people around the pit at that time. The explorers had got out of the pit just in time. A telephone message was sent to the Sheffield Fire Brigade and some engines arrived and the fire blazed for about four hours.

Many managers of local collieries offered their assistance and at a meeting with the management of the colliery, they decided that if they were not to loose the pit altogether, they should cap the two downcast shafts as soon as possible but leave the upcast shaft open. This proved successful and the flames above ground abated before midnight but dense clouds of smoke still came from the open upcast shaft.

Some tales emerged in the press reports of the time. A man named Joseph Simmons was found in the mine and was put in a chair ready to go up the shaft. He struggled, broke away from the men and ran to the workings. He was caught a second time but he had great strength and in his delirium due to the gas he had inhaled, he ran into the workings. His body had not been recovered at the time of the report.

The following morning the Inspector met with Mr. John Thomas Woodhouse of Derby, Mr. Henry Holt of Wakefield and several viewers of the Lundhill colliery. A plan was approved for the next day by Messrs. Nicholas Wood and George Elliot, mining engineers of Durham, who had been called in to help. At Her Majesty's Inspector, Mr. Morton's suggestion the proprietors of the colliery delegated four chief viewers with the responsibility to re-open the mine and to recover the bodies of the victims. They were authorised at the owners expense to engage such assistants as they saw fit in the circumstances. Accordingly Messrs. N. Wood, G. Elliot, J.T. Woodhouse and H. Holt undertook direction and brought in Messrs. W.P. Maddison, C.R. Webster, J. Brown, R.R. Maddison, Edward Potter, A. Palmer, Thomas Cooper, Joseph Coe and Richard Pease to assist them to carry out their instructions. On the day after the explosion the mouth of the furnace pit was closed with the exception of an aperture eight inches across the middle, from which came smoke and watery vapour and carbonic acid gas mixed with air from the downcast shafts which were not quite tight.

At 4 p.m. the same day the temperature of the furnace pit, twenty feet below the surface was 1050C and had fallen to 850C in 24 hours. Nevertheless it was still too dangerous to open the shafts as it would still be hot enough to cause another explosion.

It was suggested that carbon dioxide gas could be put down the shaft to put out the flames but it was thought that if this was done most of the gas would go up the upcast shaft and this idea was abandoned. The solution that was adopted was to send a strong jet of steam was forced down the downcast shaft to put out the fire. But it was realised that the safest way was to put it out with water. The springs at the pumping pit gave 200 gallons per minute and they were allowed to run from the Adby seam into the Barnsley workings and a additional 100 gallons per minute were obtained from diverting a nearby brook into the drawing shaft.

It was decided to keep the pits closed until the water had reached the roof of the mine at the bottom of the furnace shaft. During these operations, a careful record was kept of the temperatures in the shafts. The air temperature in the furnace shaft gradually and steadily decreased. On 21st. February the temperature was 800C, 770C on the 23rd, 750C on the 24th, 720C on the 25th, and at the bottom it was ascertained to be 81 0C on the 24th February but on but 27th. it rose to 910C and on the 28th. to 1000C and the water at the bottom by 830C while that at the top was 45 0C. By March 3rd. the water temperature had increased to 850C and by March 5th. to 870C.

It was essential that all underground material should be extinguished and it was decided that water should be allowed to reach the roof of the Barnsley Seam at a point not less than ninety yards from the furnace. It was thought that the water would rise twenty yards in the furnace pit and a reading of that depth was reached, the extraction of water would commence and carry on day and night. Preparations were made for the day when the water reached this level and the water reached the top of the furnace arches. The tops of the shafts would be uncovered and the drawing pit bratticed. The framing and conductors would have to be repaired in the shaft. Doors would be put in the connecting drifts between the downcast and the upcast shafts in the Wathwood and the Adby seams, safety lamps being used while this work was done and three tubs, each of 500 gallons were made of strong iron sheet to lift the water.

Observations were take as to the depth of the water and the temperature at the bottom of the furnace shaft. On March 5th., the temperature was 87 degrees C and then lessened to 61 degrees C on the 24th. and then increased to 66 degrees C when the water was at about sixty feet and then became constant.

The water drawing operating were stared and carried on for a month until the pit was drained. It was thought that during the drainage, emissions of gas would occur so the burning of naked lights round the shaft was prohibited and only locked safety lamps were used at the top of the shafts. The benefit of this decision became apparent on the 4th. April when a large volume of inflammable gas was liberated from the mine and fired harmlessly at the lamps on the surface. The gas continued to be emitted all though the

next day. The water in the pit which had been lowering at two feet a day stood at forty feet deep on the 4th. April. In twelve hours it fell fifteen feet and in twenty four hours it had gone down more than thirty one feet. The temperature of the top of the water was 66 degrees centigrade on the 24th. March and had fallen to 61 degrees centigrade on the 5th. April. As the water fell below the furnace arches gas was given off in the upcast shafts and the temperature of the gas at the top was found to be only 63 degrees centigrade. The temperature at the bottom of the furnace pit 100 degrees centigrade on the 28th. February and on the 8th. April, 63 degrees centigrade. The temperature of the water fell from 83 degrees centigrade to 61 degrees centigrade over the same period. On the 17th. April the water was only three feet deep in the downcast and a current of air passed freely between the up and downcast shafts and continued for two or three days. The temperature decreased to 57 degrees Centigrade and the first examination of the mine was made. They made their way twenty yards north, south to a great fall of roof near the furnace pit and west to the stables which and crumble in. They found no signs of combustion.

The ventilation was produced by two fans, which were lent by Earl Fitzwilliam, were fixed above the upcast shaft and a waterfall as an auxiliary step was sent down the downcast shaft. Each fan was driven by a steam engine with twelve inch cylinders driven by steam from the colliery boilers, driven by straps at 200 r.p.m. and produced 15 to 16,000 cubic feet of air per minute and with the waterfall 23 to 24,000 cubic feet per minute.

On the 17th. April it was resolved to commence the search and recover the bodies which were found to be nauseous, odious and hazardous. These were words that described the work as well. The work was arranged by forming companies or relays of practical miners. Each company consisted of twelve people who each worked for four hours with two experienced deputies and at least one of the assistant viewers superintended the work of each company. Only Stevenson safety lamps were used in the work.

The dead colliers and horses that were lying at the pit bottom were quickly removed. The putrid stench was unbearable and neutralising and deodorising agents had to be used, tar and chloride of lime and McDougalls Disinfection Powder, the latter being the most efficacious. Dr. Stenhouse's Charcoal Respirators for the mouth and Mackintosh gloves were used and a medical advisor was always on the spot. There were special sanitary arrangements for handling the dead, shrouding and the final interment of the dead. The Mines Inspector acknowledge the held and advice given by the Inspector of Burial Grounds, Mr Holland.

Falls of roof made the progress difficult. Embers were re-lit as the ventilation air came in and there was a lookout posted for unquenched spots. The southern part of the mine was found to be the most open and this was ventilated first before the men went in. Ventilation was by means of wooden stoppings which was eventually followed by brick ones. By the 30th. April they reached the coalface at the South Level. They then went west and then east to the upcast pit.

When the great falls of roof on the North side had been cleared or by-passed, the North workings were reached on the 8th. May and two weeks later they reached the bottom of the upcast shaft. By the 22nd. May one hundred bodies had been recovered and by the end of July all the dead had been got out of the fated mine and from under the falls. The amount of work that had been done was prodigious, ripping, stowing, packing, timbering and bratticing. Firedamp was encountered at every step so often that it put out the Stevenson's lamps and the afterdamp was very strong. Due to the state of the dead there was also an unpleasant atmosphere.

The damage to the pit was very great. Balks of broken timber, substantial brick arches and stopping demolished, thick pack walls torn down and distorted and strong iron rails torn up. Human bodies had been dismembered and heads and limbs were lying about.

One man was found transfixed to his pick, several were found as though sitting at their dinner and were victims of the afterdamp.

The Inspector Mr. Morton made an inspection of the colliery to try to discover the seat of the explosion. Some tokens were found hanging on a string even though the place had been on fire.

Those who lost their lives were:-

From Ardsley:-

John Stevenson aged 25 years.
William Dyson aged 17 years.
Joseph Childs aged 23 years.
William Childs aged 19 years.
James Barrow aged 29 years.
George Moss aged 17 years.

From Darfield:-

Richard Marsden aged 24 years.

From Gawber:-

Joseph Lumb aged 33 years.
John Lumb aged 11 years.

From Broomhill:-

Thomas Kitchen aged 28 years.
Philip Dart aged 30 years.
John Haley aged 22 years.
Andrew Musgreave aged 33 years.
Samuel Thorp aged 16 years.
George Farmer aged 24 years.
Thomas Kellett aged 39 years.
William Kellett aged 10 years.
Joseph Blackburn aged 11 years.

From Monk Bretton:-

William Mitchell aged 61 years.

From Newhill:-

George Law aged 29 years.
John Phillips aged 19 years.

From Hemingfield:-

John Denton aged 39 years.
Thomas Denton aged 18 years.
John Russell aged 27 years.
Stuart Russell aged 17 years.
George Gill aged 49 years.
Stephen Turner aged 31 years.
John Scott aged 25 years.
John Hodgson aged 31 years.
Thomas Turner aged 17 years.
Josiah Whitney aged 24 years.
David Howarth aged 39 years.
John Ward aged 24 years.

Henry Brooker aged 22 years.
John Booker aged 16 years.
William Horsfield aged 32 years.
William Moore aged 23 years.
E. Knowles aged 30 years.
Thomas Gee aged 27 years.
George Gee aged 25 years.
John Dawson aged 10 years.
Arthur Dawson aged 13 years.
Thomas Naylor or Levett aged 22 years.
Edward Trainer aged 23 years.
Michael Baine aged 22 years.
Samuel Roebuck aged 24 years.

From Jump:-

George Thompson aged 37 years.
Henry Wilson aged 18 years.
William White aged 25 years.
Abram Wildsmith aged 18 years.
Richard Smith aged 25 years.
George Mason aged 33 years.
James Litchfield aged 26 years.
Thomas Litchfield aged 22 years.
William Litchfield aged 11 years.
Richard Dunstan aged 33 years.
Thomas Farmer aged 26 years.
William Candlett aged 18 years.

From Lundhill:-

Dennis Bush aged 22 years.
Joseph Allenson aged 23 years.
Thomas Faulks aged 29 years.
John Cutt sen. aged 40 years.
John Cutt jnr. aged 17 years.
William Cutt aged 19 years.
George Cutt aged 16 years.
Ezra Illingworth aged 25 years.
William Illingworth aged 32 years.
John Illingworth aged 10 years.
Thomas Hilton aged 24 years.
Joseph Crossland aged 32 years.
Joseph Simmons aged 26 years.
Edward Simmons aged 11 years.
Richard Wilkinson aged 35 years.
Thomas Wilkinson aged 33 years.
James Wilkinson aged 22 years.
Henry Barraclough aged 26 years.
Charles Barraclough aged 22 years.
Joseph Smith aged 53 years.
James Smith aged 23 years.
John Smith aged 19 years.
John Smith aged 51 years.
James Smith aged 22 years.

Robert Howarth aged 25 years.
Benjamin Batty aged 22 years.
Joseph Goohall aged 24 years.
George F. Shepherd.
George Scholer aged 32 years.
John Malkin aged 22 years.
Barney Bailey aged 40 years.
George Bailey aged 14 years.
Edward Walker aged 27 years.
James Walker aged 22 years.
William Hutchinson aged 20 years.
Charles Lutrick aged 20 years.
Peter McAllister aged 26 years.
Joseph Abbott aged 40 years.
Samuel Abbott aged 10 years.
Richard Kellett sen. aged 33 years.
Thomas Kellett aged 17 years.
Richard Kellett jnr. aged 13 years.
Samuel Hunt aged 32 years.
James Hunt aged 27 years.
Edward Garbutt aged 36 years.
Witham Garbutt aged 17 years.
John Garbutt aged 11 years.
Benjamin Beevers aged 23 years.
Elijah Beevers aged 18 years.
Elijah Crompton aged 19 years.
Joseph Backwood aged 23 years.
Robert Fletcher aged 55 years.
Alfred Windle aged 30 years.
John Halliday aged 20 years.
William Monks aged 32 years.
John Hobson.
Israel Hobson aged 20 years.
Levi Jackson aged 44 years.
Samuel Schofield aged 25 years.
Matthew Broadhead aged 25 years.
Richard Corbridge aged 27 years.
James Burthard aged 21 years.
Matthew Cowen aged 15 years.
Thomas Uttley aged 20 years.
John Harper aged 20 years.
Thomas Horne aged 24 years.
A. Nicholson aged 17 years.
One not named.

From Wombwell:-

John Carr aged 14 years.
James Oldham aged 24 years.
Stephen Depledge aged 13 years.
James Ives aged 19 years.
Joseph Smith aged 22 years.
William Smith aged 27 years.
William Greenwood aged 24 years.

Abraham Nettleton aged 41 years.
Henry Hawcroft aged 22 years.
Joseph Margison aged 38 years.
Joseph Harrison aged 18 years.
John Beevers aged 20 years.
John Grimshaw aged 32 years.
Joseph Grimshaw aged 42 years.
John Thompson aged 30 years.
H. Mellor aged 22years.
Samuel Parkinson aged 21 years.
Luke Hartley aged 20 years.
George Moore aged 50 years.
Robert Moore aged 43 years.
James Coates aged 34 years.
Charles Coates aged 29 years.
Edward Pollard aged 50 years.
James Pollard aged 49 years.
Robert Pullan aged 20 years.
Charles Kellett aged 28 years.
Joseph Kellett aged 19 years.
Charles Walker aged 24 years.

From West Milton:-

Thomas Nortcliffe aged 17 years.
George Nortcliffe aged 15 years.
William Thompson aged 19 years.
Benjamin Guest aged 17 years.
John Frost aged 32 years.
George Dawson aged 26 years.
Amos James aged 30 years.
John Cooper aged 11 years.
George Townsend aged 19 years.
Robert Burland aged 20 years.
George Tattersall aged 29 years.
James Tattersall aged 19 years.
George Law aged 39 years.
Sampson Law aged 21 years.
Thomas Drury aged 32 years.
James Drury aged 10 years.
Thomas Logan aged 37 years.
Thomas Gray aged 22 years.
William Mangham aged 25 years.
Charles Milner aged 22 years.
George Tunnacliffe sen.
George Tunnacliffe aged 20 years.
William Webb aged 22 years.
Daniel Chisholm aged 27 years.

Old Factory:-

Abraham Turner aged 21 years.
George Foster aged 16 years.
William Pickles aged 29 years.

George Mangham aged 24 years.
John Wilkinson aged 22 years.
George Dyson aged 19 years.
George Maugham aged 24 years.
George Offenden aged 25 years.
N. M'Laughlin aged 23 years.

From Worsbro' Dale:-

John Rooke aged 26 years.
Benjamin Johnson aged 31 years.
William Thomas.

The last body that was recovered from the mine was that of Matthew Broadhead. This was on the 16th. July 1857. In some cases whole families had gone. The Kellett family lost seven sons and of the two hundred and twenty people in the mine only twenty four were rescued leaving a final death toll of one hundred and eighty nine. One hundred and forty nine of the victims were buried in four mass graves at Darefield Church and a monument marks the spot.

The disaster left ninety widows and two hundred and twenty orphaned children. The Relief Fund realised almost £10,676 with the Lundhill Coal Company donating £500. The estimated loss to the owners of the colliery was £20,000. By the end of March 1860, forty six of the widows had remarried.

The County Coroner, Mr. Badger, of Rotherham and the jury of respectable and intelligent men assembled on eleven different days and also heard the evidence from sixty witnesses over a period of three months.

There was a summary of the events at the inquest in the Mines Inspector's Report which was taken from the shorthand notes of the proceedings that were taken for the Home Secretary, Sir George Grey. From this account, a detailed description of the events in the mine before and after the explosion can be gleaned.

William Corbridge, a deputy at the colliery, said he had worked at the colliery for three years and on the day of the explosion, which he said took place about twenty minutes to half past noon on the 19th. February. He was one of the lucky ones to get out of the pit with nineteen others and they reached the surface between 4 and 5 p.m. He was having his dinner with five others at the explosion near the bottom of the drawing pit. He had been putting brattices in the north levels. These brattices were as close to the face as possible which was in accordance with the rules but some were more than twenty feet from the face.

John Warhurst, another deputy at the colliery was at home when the explosion occurred and immediately went to the pit. He found the cage blown up into the pulley wheels and stuck there. The rope was cut and put on the other side of the shaft as soon as possible but it was 4 p.m. before anyone could get down the pit. John Warhurst, Mr. Coe and William Beevors were the first to go into the pit. They found sheeting boards blown loose on the side of the shaft. These they removed and brought them to the surface.

Beevors and Warhurst went to the bottom of the shaft and found a number of men lying there who they got to the surface as soon as possible. He went to the furnace pit and saw a large fire above the furnace and a man lying on a heap of burning coal. He dragged the man off the coal. He proceeded towards the furnace broadgate and had to return when gas was firing in his lamp. He found another body on the level and two on the south level. He went another 60 or 70 yards and then went to the surface.

He reported to Mr. Coe what he had seen. Messrs. Coe, Maddison, Webster, Utleigh and John Warhurst then descended the pit again and went to the south level as far as the second or third bordgate where they found five more bodies. Two hundred and fifty yards

further gas fired in their lamps and they were afraid to proceed so they returned to the surface for more men and went down again.

On returning, Mr. Coe and Mr. Webster gave him orders to remove the bodies that had been found and then to join them on the north side. Warhurst went with Benjamin Hoyland to the south level as far as the fourth broadgate. Forty yards further on gas showed in their lamps. The bodies that were found were taken to the pit bottom and left there and Mr. Warhurst then followed Coe and Webster up the north side where a further six bodies were found.

They were frightened that the burning furnace pit would fall in and they did not have time to remove the bodies. He found Mr. Coe and reported that he had seen the burning furnace arches falling and masses of burning coal falling down the sides of the drift leading to the furnace. The party could not get to the stables as they were a mass of flames and could only get forty yards down the bordgates when they were driven back by gas. When he left the pit at 7.30 p.m., he had no doubt that there was no one alive left in the mine.

As a deputy he had examined the mine at 3 a.m. on the morning of the explosion and found, '*not a working place where gas would fire in the safety lamp and the goaves seemed clear.*' On the preceding night William Lodge had complained to him that the brattices were a long way from the face on the south side. They were 20 to 30 yards away and ought to have been four yards away according to Rule 23. Mr. Warhurst did not see any danger in this as there was thought to be little gas in the headings and Rule 23 was strictly adhered to in the bordgate as the coal there did make gas. William Lodge was working with a candle and Warhurst offered him a lamp but he declined.

Mr. William Porter Maddison, was the viewer at the Wombwell Main colliery gave his account of the disaster.

"About twenty minutes to one o'clock on the afternoon after the explosion I arrived at the Lundhill pit, and found that the men had just completed fastening the broken chain on the headgear they were also reversing the rope and adjusting it on the drum. Every exertion was made and no time was lost, and the rope was got to work about a quarter to three. Mr. Coe and two of his men went down the shaft, but their descent was much impeded by pieces of loose timber, which were removed and after some time they reached the bottom. Shortly after Mr. Coe returned to the surface and then I and Mr. Webster went down the pit together. We had great difficulty on keeping out lights in, because of the current of air: we had to scramble over a heap of broken slides and stays, and proceeded along the south-horse level about fifteen yards we saw an opening to the upcast pit, where there had been two doors, not a vestige of which remained. A fire was raging furiously, the arching of the furnace was in ruins, and fire was also coming down the furnace broadgate towards the pit. We went further along the south-horse level, and turned up the next opening westward, in the hope of getting round the other side of the fire, but soon the flames stopped us. On the rise we found the corner of a solid pillar of coal on fire, but it was afterwards put out. Altogether we got 70 yards to the rise of the horse level at this point. Mr. Coe tried to go further up, but he was stopped by want of air. We then returned to the horse level and travelled southward, turning up several of the west bordgates as far as we could until the gas fired in the safety-lamps. we went to the south, a distance of about 350 yards, found three dead bodies and were again stopped by gas firing in our lamps. We then returned to the downcast pit, scrambled over debris, went to the north levels, and a few yards from the pit bottom we saw a dead horse and a train load of corves, on the top of which he had been blown by the explosion. We turned to the broadgate leading the stables, and found two horses lying dead. The stables were on fire, more particularly on the side next to the hay cribs and the edges of the coal were also on fire. We then went along the north-horse level, turned up No.1 broadgate, found the stables on fire there also, and a large body of smoke backing along the north level, which led us to suppose

that there was fire still further up. Proceeding on the horse-level we found several dead men we went up No.2 boadgate about 40 yards, until we could go no further because of the firedamp returned to the horse-level, examining the stoppings as we went northward, some of which were blown out. Went up No.3 boadgate about 40 yards, where gas fired in the safety lamps proceeding along the north horse-level to within 40 yards of the face at the entrance to No.4 boadgate we found a dead boy, burnt and blackened then went into the water-level and brought out the dead body of another man. Just at this time John Warhurst came to tell us that if we did not at once return to the shaft, our means of escape would be lost but we did not leave the levels and boadgate, even then, until we had examined every place that was approachable, or in which it was possible for any person to be alive. We examined several places on the dip-side but we found no one dead or living. Those who had been working there had got out. We returned to the shaft and counted eight dead bodies on the way and tried to enter the stables again but we could not. The flames were then raging so furiously that it was impossible for us to go near for more that 100 yards the solid coal and timber &c. were a sheet of flame and it was fearful to contemplate the increase of the fire during the time we had been in the pit. In the first instance we might have gone up in the fire, but afterwards we dare not go within many yards of it. Again we went to the bottom of the upcast shaft and found the flames there burning at white heat. we did not leave the pit until we believed beyond doubt that there could not be a living person in it excepting ourselves.

About half past seven we ascended the pit and consulted with Robert Charles Webster, Joseph Coe, William Uttley, John Hoyland, William Duckworth, James Cookson, Benjamin Hoyland, John James and Elis Woodcock, all of whom had been down the pit. The unanimous opinion was that there could be no living person down the pit that it would be dangerous and unsafe for any man to descend the pit for any purpose whatever and that the only remedy, seeing that the fire was now so strong, was instantly to close the downcast shafts and they were closed accordingly, leaving the furnace pit open. At 7.40 p.m. the flames rose upward 100 feet above the top of the furnace pit, and sparks rose at least 300 feet into the air. The closing of the pit was completed at 10 o'clock. No person objected to the closing of the pits."

Mr. Robert Charles Webster was the manager the Hoyland and Elsecar Colliery accompanied by Mr. Maddison and others went into the pit on the afternoon of the explosion. He agreed with the decision to close the pit and thought that there was great danger of the sides of the furnace pit caving in which would put the mine out of action for months. The closing was the best way to save the pit. Mr Nicholas Wood, Mr. George Elliot, Mr. John Thomas Woodhouse, Mr. Henry Holt and Mr. Morton, the Government Inspector all approved of the closing of the shaft.

William Lodge, a miner, gave his account of the events on the night before the explosion. When he went to work in the north level he saw a chalked notice 'to be careful' careful'. He was working with a candle and there seemed to be very little air so he sent for the deputy John Warhurst and expressed his misgivings to him. Warhurst tested for gas with his lamp and found none. He asked Warhurst for bratticing but he replied that there was shortage. He had never told Mr. Coe that the Special Rules were being broken. He said on the night before the explosion, he was working with a safety lamp when a hurrier came in with a lighted candle. This was against Rule 21 but it was something that was regularly done.

Joseph Swift, another miner was working with a candle on the night before the explosion and he had seen no gas but there had been some falls previously which had not been accompanied by gas. George Burrows, John Thompson, David Rowlings, James Flint, Samuel Low, and John Robinson, all miners worked with candles the night before the explosion and saw no danger from gas.

Edward Simmoms, a miner, was down the pit when the explosion occurred. He was working in a broadgate on the dip side of the pit about 140 yards from the pit bottom. He

ran for the shaft and met the afterdamp which nearly choked him. He lay down until fresh air came again and he was rescued. He said he had no idea how the explosion occurred.

William Hubbershaw, was working on the low side of the north horse level about two hundred yards from the shaft at the time of the blast. Three others were working with him, one of whom ran away was lost but the two others and he remained in their place for several hours. The air became hotter and hotter and they feared for their lives. They decided to go together to the pit bottom and had to hold onto each other as they made their way past several dead bodies. At the bottom of the pit they found other survivors but William lost conciseness and did not remember being brought up the shaft.

John Dunston, a miner, gave evidence that for sometime before the disaster the airway from the No.4 broadgate to his bank had fallen in. He had tried to pass over this fall and for some weeks had crawled over it. In the weeks before the explosion he could not get over the top of this fall. He thought that if it had been open properly, air would have been brought to his working place. As it was very little air was coming in. He worked with a candle and had not complained about the situation to Mr. Coe.

Thomas Dallison, a miner, spoke of the fall in the airway that had been impassable for weeks but he said that a new air road had been made. He worked with candles and saw no danger from gas.

William Beevers, a deputy at the colliery, was on the night shift before the disaster and made his statutory inspection of the mine. He saw nothing wrong and encountered no gas. He told the inquiry, "I thought it was as safe a pit as ever I travelled in".

George Goodison, the furnaceman, left the furnace at 5 a.m. on the morning of the explosion. He had kept a good fire burning all through the night and everything seemed normal to him. The furnace was attended both day and night and the furnacemen did nothing else in the mine. On that night, the flames in the furnace did not look as if gas from the mine was burning in the return air. It was usual for thirty or so men and boys to come to the furnace for their dinners about noon and fewer at supper time. They stayed half an hour while they ate their meals. Mr. Goodison often told the doorkeepers to go back to their doors but there were occasions when deputies came and stayed with the doorkeepers at the furnace. He thought it was wrong for the boys to leave their doors.

John Long, a miner, came out of the pit at 10 p.m. said that there were forty four yards from one slit to another and he did not like working with so large a distance between slits and would have preferred a slit every twenty yards. He worked with candles but he used a lamp when there was gas coming from 'blowers' which he saw from time to time but not immediately before the explosion.

Joseph Scholey, a miner, said he worked in good air with candles. It was his opinion that the gas had lodged higher up and a great fall of roof might have brought this down at any time.

George Ramsden, a miner, had noticed gas in several places and on some occasions it had fired at his candle and he had told the deputies. He also criticised the fact that the slits were forty yards apart especially when they were short of brattice.

Abraham Levitt, a packer, was sitting near the pit bottom at the time of the explosion with five other people and was building a pack wall in the No.4 north goaf on the day before the explosion. He worked with a candle or a safety lamp. Mr. Coe had said that all packers were to use safety lamps but the oil was so bad that they would not burn and they were not locked. As a result they were often unscrewed. He knew they were disobeying Rules 18, 20 and 21 but Mr. Coe and the deputies had seen them doing this and they did not intervene knowing that the oil burnt badly. He observed that Mr. Coe would employ 'farm-servants', or any sort of men if he could get them cheaper. Levitt was at the furnace about twenty to thirty minutes before the blast and saw twenty to thirty men and boys dining there. He found the air current very strong and the mine was in a safe condition.

George Hartley cleaned and trimmed the safety lamps but he never locked them as was required by Rule 1. The lamps did not have shields and wire pricklers and he had never had any complaints about the oil.

Samuel Abbot thought that the pit was not properly ventilated. He worked on the No.2 and No.4 broadgate on the north side. He thought that there should be double, not single doors at the broadgate ends which was against Rule 24 and, he thought, unsafe. He had seen gas in all the broadgate faces and had heard a hissing noise as it came out of the coal.

George Blackburn worked on the south side of the No.3 broadgate and had heard a rumbling and a crashing as if the roof was falling from a great height. This made him fearful for gas but he never saw any. He thought that the ventilation of the goaves was defective and dangerous in fact they were not ventilated at all. He knew that at Thorpe's Gawber Pits near Barnsley, the goaves were in thick coal and ventilated. He thought holes should have been left in the pack at Lundhill so that air could pass through them.

Henry Holt, a miner, came out of the pit at noon on the day of the disaster. He reported the ventilation as usual but at his work in a slit there was very little air at the face which was thirty two yards out of the airway. There was no brattice to take the air to the face and he worked with candles. He thought that the explosion was caused by a fall of roof liberating gas. He added that he thought that there ought not be any candles in use in working the thick coal of the Barnsley seam.

At the inquest there were certain allegations have been published that due diligence not exerted after the explosion to extricate the sufferers. Several of the witnesses were supposed to be the complaints but they were not examined on the subject at the inquiry. The result was that such implications remained not proved.

There were several experts who gave evidence at the inquest. Mr. Rowland Childe, a mineral surveyor at Wakefield who was assistant to Mr. Henry Holt, a mining engineer made a survey of the plan of the Lundhill Colliery on 1st. January 1857 on behalf of the lessees. At that time upwards of twelve acres of thick coal had been extracted. The are included all the boadgate, levels, goaves and slits. He thought that the mine was in good order and in a very good working condition. It appeared well conducted and well ordered and the ventilation seemed efficient.

Mr. Benjamin Sellars, a mineral surveyor of Netherhaugh near Rotherham made a survey of the colliery for the lessors on the 5th. February 1857 when nearly fourteen acres of coal had been worked. He made no special study of the ventilation of the mine but he thought the ventilation as good as any of the pits in the district.

Joseph Coe, the under-viewer of the Lundhill Colliery had held the post only from the beginning of the year. Before that he was the principle viewer at the colliery and became under-viewer when Mr. Henry Holt was appointed to the post. His duty was to manager the working department and the ventilation of the mine and the deputies were under his control.

On the day before the explosion, he found nothing wrong with the pit and the fall in the No.4 district had a two foot space over the top and a strong passage of air. He thought this was satisfactory. At the faces he stated that the brattice was 20 to 30 yards from the face and there was a little gas coming from the coal that would ignite at a candle.

Mr. Coe gave the court a full and detailed account of the working of the mine before the explosion and it appears that he was perfectly honest in his evidence. Many of the facts that he gave the inquiry reflected on his own competence and he made no attempt to hide the facts. He said the pack wall builders were appointed by him and he considered them competent. He thought it was safe for them to work with naked lights. The packers had to provide their own candles and often screwed the top off the lamps, which were not locked, rather than go to the expense.

He said that there were fifty fixed doors in the mine and they were all single doors and he was aware that according to Rule 24 they should have been double doors and if a door was left open at the lower end of the broadgate, the workings of the far side would

not be ventilated. The method by which the coal was worked, required a great number of doors and he had no cause to complain about the work done by the door-keepers. Mr. Coe said that he was unaware that the Rules had been broken.

There were two hundred and ninety or so people employed underground at the colliery with seventy working on the night shift and two hundred and twenty on the day shift. Five to six hundred tons of coal were raised in twenty four hours and the pit worked six days a week.

With regard to his duties on the ventilation of the colliery, he saw no danger in the amount of gas that the mine produced and according to General Rule 1. There was a strong steady air flow through the mine and he said that he had never seen a better ventilated mine in his life. Steady and careful men were employed as furnace keepers and they were not allowed to leave their place of work during their shift.

Before the explosion Mr. Coe thought that the construction of the furnace was good but, in the light of experience he changed his mind and expressed the opinion at the inquiry that it was unsafe to carry the return air through the furnace in Barnsley collieries, where the coal was likely to give off gas suddenly, he thought that the furnace should be fed with fresh air and the return air fed through a dumb drift.

With regard to the matter of men working with candles, which was considered safe at Lundhill, he also changed his mind and recommended that every mine in the Barnsley district should be worked with safety lamps.

Mr Coe had experience of the mines in the North of England, Staffordshire and other mines in Yorkshire and he was very critical of the method of working the coal at the colliery. He thought the gas came from the roof which was allowed to fall freely in the goaf and a thin layer of bituminous shale in the roof liberated much gas. In his opinion, this is where the gas came from.

Mr. Nicholas Wood, a mining engineer from Durham was sent for by the owners of the collier and made an examination the day after the explosion. When he got to the colliery Mr. George Elliot, mining engineer of Houghton-le-Spring, Durham, Mr. John Thomas Woodhouse, mining engineer of Derby, Mr. Henry Holt, mining engineer of Wakefield and Mr. Morton the Government Inspector of Mines for Yorkshire were already at the pit. The tops of the two downcast pits were closed and the top of the upcast pit almost closed. The engineers agreed that the best thing to do was seal the mine and that no one could be left alive underground.

The problem that they faced was to extinguish the fire and recover the bodies of the dead miners. The only way to do this was to flood the pit with water and quench the flames underground. The air temperature in the mine before the water was used was exceeding 150oC and after the water had risen to sixty feet in the shaft the temperature had fallen to 63oC. This was considered safe to pump out the water and recover the bodies from the mine. This work started on the 20th April.

The mining engineers made a detailed examination of the mine. Mr. Wood was very critical of the use of naked lights and the ventilation system at Lundhill. He pointed out that this was the third explosion in the Barnsley district that he had been asked to investigate and in all cases naked light contributed to the explosion. He also criticised the discipline in the mine as '*lax and defective*'. In particular he thought it unsafe to allow workmen the discretion to use lamps or candles and the door keepers were allowed to leave their post at meal times.

In examining the working the experts tried to determine the direction of the blast through the mine from the was in which stoppings and doors had been blown by the blast. As far as they could tell, the blast came from the north west part of the mine and went towards the south, up Nos. 2,3,4 and 5 boadgate on the south side. The evidence was not as clear on the north side. The fire had travelled a distance north and west of the shafts

As to the cause of ignition of the gas, there was little doubt. There were so many naked lights in the mine both candles and lamps that had been unscrewed, that if the gas

came from a fall of roof, then the concussion would make the liberated gas come into contact with one of these flames and cause the explosion. Mr. Wood did not believe that the gas ignited at the furnace but was caused by gas being expelled from the goaves by a fall and ignited at a naked light.

He recommended that safety lamps be used and the method of working the coal must be improved. he concluded his evidence by saying-

“Coal mining in Yorkshire is becoming more dangerous as the pits are sunk deeper and unless naked lights are excluded there will be frequent explosions. Whether miners object to safety lamps or not, it is absolutely needful that they be used in this district and the prejudice against lamps will soon be overcome. It is not necessary for trammers and drivers to carry safety lamps the practice in the North of England is to hang up safety lamps in the tramways for lighting purposes.”

The Coroner, Mr. Badger summed up on the evidence given by the witnesses and the jury retired to consider the evidence. They returned the following verdict-

“That the deceased were killed by an explosion of carburetted hydrogen gas at the Lundhill colliery, on the 19th. February 1857 but there is no conclusive or sufficient evidence to show the immediate cause of the ignition. Therefore, the jury cannot come to the decision that it was criminally negligent, but accidental. They however, must condemn the laxity of discipline, and the non-observance of the special rules. The jury do not attach blame to the proprietors of the colliery, who were not cognisant of the loose discipline and misconduct of the under-viewer, deputies and workmen. The jury fully concur in the remarks of Messrs. Wood, Elliot and Woodhouse, that an improved system of ventilation and a better subdivision of air are requisite, and ought to be adopted, especially when working day and night. The jury further approve the suggestions made by those gentlemen in reference to the use of safety lamps and although the better education of workmen was not alluded to by the witnesses, yet the omission has been properly supplied in the able charge of the coroner and the jury cannot too forcibly recommend that every practicable effort should be out forth to raise the miners to a higher moral and mental standard. The jury also record their approval and admiration of the heroic conduct of Messrs. Webster, Maddison and others, in their arduous exertions to recover the unfortunate victims and, finally, the jury express their deep sympathy for the bereaved sufferers in this most disastrous accident.”

The Lundhill Colliery Company changed the management of the mine immediately after the verdict. The valuable services of Mr. Nicholas Wood and his colleagues was withdrawn and the direction of the colliery went to Mr. John Brown, viewer of Barnsley.

HINDLEY. Wigan, Lancashire. 26th. April, 1857.

The Hindley Colliery was the property of the Kirkless Hall Company and the accident caused the deaths of nine men and boys and seriously injured several others and happened in the Yard Mine which was worked on the longwall system with naked lights.

A fall of roof took place just before the explosion not far from the face on the intake side which liberated gas into the workings. The gas was fired and many of the men were killed by the afterdamp.

On inspecting the colliery after the disaster, the Inspector, Mr. Peter Higson, thought that the ventilation was only just adequate and recommended changes to the system and that there should be safety lamps used in the mine. As a result the air was taken along the face and returned through the goaf to the upcast shaft and men would not travel in this road.

TRY NICHOLAS. Cwmtelery, Glamorganshire. 27th. May, 1857.

The colliery was owned by Mr. John Russell. John Carpenter was the underground viewer for the colliery. He had two fireman under him, Samuel and Joseph Merrifield. The Inspector, Mr Mackworth, knew the two fireman at the Risca colliery and had full confidence in them. In fact, he had selected them to come to the Try Nicholas colliery as fireman. Carpenter and the Merrifield's met at 5 a.m. every day to go down and inspect the pit before the men started work. They went down with locked lamps and if they found anything wrong they reported to John Carpenter and the men.

The colliery worked two seams, the Big Vein, or the Upper Seam which employed 45 men and boys and eleven yards under it, the Three Quarter seam which employed 25 persons. It was in this seam that the explosion took place. The Three Quarter was from three feet nine inches to four feet thick with a shale roof and up to the explosion, little gas had been encountered in the seam. There had been a small furnace in the pit but this had been removed two years before the explosion and the pit had no means to drive the air through the pit and the tops of both the shafts were on the same level. The ventilation air for the Three Quarter mine went down the pumping pit, along the water level, around the workings and back by the main level to the winding shaft which was the upcast. The ventilation in the workings depended on a single door and if that was damaged or destroyed there would be no ventilation to that part of the mine. There were four other doors further on but these would be useless if the first one was damaged.

At the inquest, John Carpenter gave an account of the events leading up to the disaster and the rescue work in which he risked his own life. John Carpenter, the underground viewer for the colliery, was the first to be sworn at the inquest. On the day before the disaster he made his inspection and found all was well and the firemen had nothing to report. At about 7 p.m. all three were at the surface when Joseph said to Samuel, *"Thee be sure to be careful how you strike Wyatt's loose."* Samuel made light of it saying, *"Never mine, I shall be all right."*

Mr. Carpenter had been in Wyatt's stall on the previous Saturday and thought no loose had been struck but he knew that the men were near going through the loose and he heard nothing further about the matter until Tuesday. John Carpenter continued-

"On Wednesday morning I was at the pit top at six o'clock and the firemen were down when I came. About half past six William Wyatt came to the pit to go to work as usual. When he came I asked, "How did you get on?"

"Not very well", he said, "for I struck the loose yesterday".

"How do you know?" I asked.

"I struck the mandrill through, and after that I put a wire through to be satisfied".

I knew there was another loose and asked him, when he struck through, if he knew where it was. Wyatt replied that he thought it was his own stall and said, "I caught a little fire yesterday morning"

I asked him if he thought the fire had drained from the loose he had driven a wire through, and had gone on top of the air, and had collected at the hole at the top. He said that this could not be as he had not driven the wire through at the time.

Wyatt said that he had never seen gas before and Carpenter told him to be careful and not to go to the place without lamps and the fireman and that he would go to the place as soon as he could. He was delayed in going down by attending to a disabled horse and as he went to the pithead he saw the banksman turn away and he asked him, "What was the matter?" He told Carpenter that the "Firedamp had gone off". The cage was at the pit head and he took his lamp and went down."

He continued-

"When I got to the three quarter vein working, and came along the level to the first door, I found three men who had made their escape through the windway. We found the first door all knocked to pieces. I picked up the fragments and put them against the frame which was knocked out to drive the wind forward in its proper course. I then went into the level. About 140 yards in from the level or 300 yards from the pit bottom, I found George Miller and brought him back into fresh air. I left him there

and went back again and found George Bence and I carried him to fresh air also. By going into the chokedamp I was a good bit exhausted, so other men came from the other working and went in. When I was recovered I went in again and brought some dead bodies out. William Sage, seeing me fall, about overcome, caught hold of me to prevent me going in any more bit I persisted and brought out the last body there. When I was in the pit on Wednesday I found the bottom of Samuel Merrifield's lamp a few yards from Wyatt's deep, and the gauze of the lamp about 15 yards further down. His body was a few yards from the bottom of the lamp. The bodies of Wyatt and Barwell were found not far from Samuel Merrifield's, a few yards further off."

Joseph Merrifield was the foreman at the colliery and he went down the pit with his brother, Samuel and their father, who was a collier at 5 a.m. They saw only the engineman and he went to examine the Big Vein and his brother and father went into the Three Quarter Vein. He found his place safe and the men were allowed down the pit. He continued the narrative-

"My brother had gone round his side, and had returned to the bottom of the pit also. My father was then at work in the Three Quarter Vein. He had gone in for company with his son. The men went into work in the two Veins and I went in to see them. I had seen my brother before this, trimming two lamps at the bottom, but I do not know for what purpose. When I was in my own work one of my hauliers ran to me and told me to come after him, for the firedamp had gone off in the Three Quarter Vein. I ran there with all speed. The first thing I saw was George Bence, led out by John Carpenter, who was showing him a light. I went on and tumbled over the body of a horse. Then I was crawling along, very weak, on my hands and knees, when I found a lamp at the double parting and put it in my pocket. When I was on the ground I reached round with my hands, to try if I could catch hold of my brother, but found the body of Gregory, the haulier. I then tried all I could to bring him out, and in doing so fell over the mare and so became entangled with Gregory. Assistance came and his body was taken out. I then crawled out and got a little fresher where the air was, and when I recovered I went in again. I went to the end of the double parting and tried to close the door there but this was very much injured. I was obliged to go back for fresh air as I was exhausted. When I recovered I went in again and met two men bringing out my father, Charles Merrifield. I helped them out with him and went back into the work again, and met two bringing out my brother. I helped them and again returned. I met George Taylor's son, alive, and brought him out part of the way, when I was obliged to drop him and have a rest. While resting with him, not liking to leave him, John Carpenter and another man came and I told them I must leave the boy. 'Go thee', they said and I crawled away for fresh air again while they carried the boy out. When I got to the fresh air I was overpowered and fell down on the ground. Some of the parties who were outside found me and took me to purer air once more. I recovered in a quarter of an hour and went in and assisted them to bring out George Taylor. The father of the boy. He was dead. All were then got out and I went up the pit with all the dead bodies."

George Bence, a collier went down the pit with William Wyatt and other men on the day of the disaster. He went to his work leaving Samuel Merrifield with some men. at the inquiry he told the court of the events in the mine-

"I went to the double parting and sat down to wait for a light. Then the horse and man came in Samuel Merrifield was walking behind the tram William Wyatt, Thomas Barwell and one of the hauliers were with the tram. I got in with them and went to the top of Wyatt's deep. Merrifield then went past us with a lighted lamp in his hand without the top. Wyatt jumped out first and Barwell fell out and I went on in the tram to the level without stopping. When I last saw Merrifield he was preceding them with his open lamp. there was no naked candle with them. I went into the level in the dark where I had to work. in about 20 minutes after I went to work I heard the wind which tumbled me about and I knew there was an explosion. Henry Clark, my butty, gave

John Mason a light and then we went to the pit and I did not see him again. I then went to the bottom of the heading and met Jonas Brown, George Taylor and his little boy and we agreed to make our way out of the pit. I got on my clothes and was the first to get to the door, the last door but one on the level. It was knocked to pieces. we crawled under it and escaped from there. Brown and Taylor were close after me but finding the sulphur, we turned back. I went on through the sulphur as far as the horse was and fell down insensible. I put my cap in my mouth and kept it there before I fell to save myself from suffocation”

Those who died were-

Samuel Merrifield, fireman aged 29 years,
Charles Merrifield, collier aged 58 years,
William Williams, collier aged 40 years,
Jonas Brown, collier aged 52 years,
John Hawkins, collier aged 51 years,
John Silcox, collier aged 30 years,
George Taylor, sinker aged 58 years,
William Wyatt, collier aged 58 years,
Thomas Barwell, collier aged 18 years,
Thomas Parry, collier aged 50 years,
John Jones, doorboy aged 12 years,
James Gregory, haulier aged 18 years and
Henry Clark, collier aged 40 years.

The inquest into the explosion was held at the Bridge End Inn, Cwmtelery was conducted by the deputy coroner for the district Mr. W.H. Brewer. There was some confusion regarding the rules that were in force at the colliery.

Mr. Mackworth questioned John Carpenter about the rules of the colliery. Carpenter said that there were rules posted at the top of the pit and they had been in force at the colliery about twelve months. Every man and boy employed was given a copy when they started work at the pit. He did not know if the Rules had been sanctioned by the Secretary of State.

The manager of the Try Nicholas Colliery, Mr. Ludovick William Rees said that the Secretary of State had given his sanction to the rules of this colliery about 17th June, 1856 but the rules to which the assent were given were not the rules that were used in the colliery. The copy of the rules which were approved were not returned by the Secretary of State but a letter was received by the colliery with a copy of them. The original rules were printed and posted at the top of the colliery.

The inquest also had to inquire into the causes of the disaster. Mr. John Carpenter said that he thought the explosion had occurred in Wyatt's deep heading. He said-

“I know this from what I have seen since. I saw that one of the men's coats was put in that place, Thomas Barwell's, and that the division of the coal connected with the old loose was blown out. The first door was blown towards the bottom of the shaft, and the other door was blown upwards from the place of explosion. The coal was coked in that place and there the timber was burnt. From those circumstances I state my belief that the explosion took place there.”

The old loose was a stall that had been driven 16 yards from the water level and Carpenter continued-

“I have no idea who caused the explosion. It appeared to me that the men had begun to work in this place (Wyatt's). I believe Barwell was in the act of driving his mandrill into the loose when the explosion happened. I told Wyatt he must get the firemen with lamps because he said he had struck firedamp. I meant that they were to work with safety lamps. It is known that lamps were taken in. It is the custom that after the firemen come out and say all is right, the men go in and work with naked

candles. He (Merrifield) must have tried for gas when he went down first, and had come back safe to the bottom of the pit to tell the men. Then he must have returned with the naked light, and the act of the man striking the loose produced the gas."

When he examined the explosion area, Joseph Merrifield found a lamp No.33, which he identified as the lamp his brother used. He had warned his brother to be careful in holing in Wyatt's place but his brother had not listened to him.

George Bence said that he had seen little firedamp in the pit and on the morning of the disaster there was only Merrifield's lamp. William Smith, a haulier, had seen Samuel Merrifield with an open lamp. He felt the wind of the explosion and was very frightened and ran away. He had been working there for only a week and had not been given a copy of the rules but he had read the rules that were posted at the top of the pit. George Parfitt said he had seen Wyatt with a candle at the bottom of the pit on the day of the explosion.

The engineer of the Risca Colliery, Mr. Charles Anderson Harrison, was called as an expert witness. He inspected the explosion area after the event and thought that there was enough air passing to ventilate the workings and would not have been afraid to work in the colliery with naked lights. as to the cause of the explosion, he thought that when the men had struck through the wall of coal which was very thin and full of breaks, it fell, liberating gas that fired at a naked light. he was in favour of a furnace being installed at the colliery but foresaw difficulties in installing one as there was so much timber in the pit.

The Inspector commented that the owner had made no Special Rules at the colliery and had not carried out provision of adequate ventilation, doors and locked lamps and the fact that John Carpenter and Samuel Merrifield distinguished themselves in the rescue attempts of their comrades. He concluded his report-

"From the evidence which has been given I am induced to attach blame to the fireman, Samuel Merrifield, deceased in so far as he took the top off his safety lamp before being perfectly assured that there was no firedamp in the loose for both sets of rules state that no one shall be allowed to work without a safety lamp in any place where there are signs of firedamp.

The ventilation of the whole colliery is inadequate, even for amine totally without firedamp and this is attributable chiefly to the want of some artificial means of ventilation. The authorised rules imply that a furnace should be employed. Although ventilation is of great importance, in firedamp collieries it cannot be relied upon as a security against explosions. The only real safety lies in excluding altogether naked lights although the use of which in the last five years in England 1,187 lives out of 1,200 have been sacrificed, 13 only have lost their lives through defective lamps."

The coroner summed up and the jury retired to consider it's verdict. They returned the following verdict-

"That John Hawkins (one of the 12 deceased) was killed by suffocation consequent upon the explosion of firedamp, occasioned by the recklessness of Samuel Merrifield and the jury recommend that Mr. Russell should restore the furnace or adopt any other plan of adequately ventilating the works, with the double doors referred to in the evidence, and also the observance henceforth of the rules sent by the Secretary of State."

There was a separate verdict on the death of Samuel Merrifield-

"Burnt to death by the explosion of firedamp caused by his own negligence and recklessness."

SANKEY BROOK. St.Helens, Lancashire. 11th. June, 1857.

The colliery was owned by the Sankey Brook Coal Company and Mr. Higson, the Inspector, had previously visited the pit and had drawn the attention of the manager who was not an engineer to the dangerous state of the pit but he could not understand what should have been done. Mr Higson recommended him to appoint a viewer and promised

that he would return to the colliery and explain to the newly appointed viewer. On the day he arrived at the colliery to see the viewer, the accident had just happened.

John Myres the banksman stopped at 140 yards to clear the water table said it was not worth while making two windings so they would all go together and stop at the water table. There was the call to lower and those on the surface saw the rope vibrate and the engine was stopped. It was then lowered at a signal from the bottom and then raised. Two blood stained caps that belonged to the lads were found and it was seen that two hooks had broken off. Michael Richie, the fireman at the bottom of the pit, heard screams and it was he who signalled the banksman. There was 60 yards of rope on the drum. William Rigby, a collier, said that the rope was in a bad state. Mr. Higson was at the colliery and saw what happened. He thought the colliery was badly managed and he expressed a pit of that depth should have guide rods. The Inspector said that no coal should be wound until the pit had been made safe.

Six persons, five men and a boy, were killed in descending the shaft to the Rushy Park mine in a waggon suspended from four corners. The waggon caught the side of the pit which caused two of the hooks to become detached and the men fell 200 yards to the bottom of the pit.

Those who died were-

Matthew Barnes aged 32 years,
Robert Halliday aged 16 years,
Thomas Whitehead aged 16 years,
Robert Thornton aged 16 years,
Thomas Hullet aged 12 years and
Thomas Jason aged 12 years.

The pit was 360 yards deep was out of the perpendicular, irregularly and badly walled and without guides. Mr. Higson had first hand experience of what caused the accident when he was descending the shaft and the waggon nearly caught one of the rings. Mr. Higson commented-

“Sadly, this is enough to convince the colliery proprietors that the services of a competent colliery viewer is indispensable as are guides and conductors in deep shafts where two ropes are used in one shaft.”

On the 3rd. July 1857, a portion of the brickwork surrounding the pit fell down the shaft and filled it up for seven yards. A number of workmen were about to descend the pit to examine and repair the pit but fortunately there was no one down the pit at the time. Mr. Higson had the working of the shaft suspended.

THE HEYS. Ashton-under-Lyme, Cheshire. 31st. July, 1857.

The colliery was the property of John Kenworthy and Brother and the explosion, which killed forty men and boys occurred at a time when there was no suspicion of any danger. It was in a seam called the New Mine which was the deepest and the most fiery at the colliery. It dipped at 1 in 2 and the distance from the top of the pit to the end of the workings was about one mile.

The workings in the seam were in two places, one about 280 yards from the top of the engine brow called the ‘stumpings’ where the coal was worked in the return air by pillar and stall and the other in the levels at the bottom of the engine brow and the up brows which went out of these levels. This was worked by narrow work. It was at the far end of these latter workings that the explosion left the coal charred and the general direction of the blast seemed to come from the end and through the workings.

On the morning of the explosion, everything seemed to be going well and at dinner time the engine at the pit brow was stopped and the doors of two underground boiler fires were opened. They were left open until the end of the dinner time at 1.25 p.m. when the

engineman saw flames coming from the top of the underground engine house. It appeared that the flames had started in the flues leading from the boiler. Immediately after the flames spread and there was a violent explosion.

The engineman saw this and was got out of the pit alive but later died from his burns. Of the remaining thirty nine in the pit who were on the brow, all lost their lives. It was known that the taker-of at the top of the brow had gone down to see if the rails were clear and he was one of the victims.

40 victims required.

The mine was worked with safety lamps but some of these were unlocked but it was only on the engine brow, the lamp station on the level and near the boiler fires that open lamps were used. All these places were in the intake air way. From the evidence of the badly burned engineman, it appeared that the gas was ignited at the boilers and fired back into the workings. Mr. Dickinson had doubts about the evidence of this man and he may not have recollected whether he first saw the fire or felt the explosion. An open lamp was found at the top of the brow after the explosion, contrary to the rules of the colliery, and the Inspector thought that this could have been the source of ignition of the gas.

As to the source of the gas there was no direct evidence. The men who worked on the night shift found the ventilation good and saw no cause of the explosion except a sudden increase of gas in the mine, probably from an outburst or by some derangement of the ventilation. Mr. Dickinson postulated that the gas could have come from old workings near the top of the engine brow. If this had been the case then it would have had to pass the taker-off at the end of the brow who had an open light. When the Inspector made his examination of a small fault near the main fault that had been cut through he said- '*there was an audible and rapid issue of firedamp at the place,*' and he thought that the ventilating air in the colliery was not sufficient to dilute this gas.

Some months before there had been a fire in the airway and flue between the boiler fires and the upcast shaft and as a result of the damage that was done by this fire, a new flue in the airway was being constructed. This new flue was connected to the downcast shafts to the upcast shaft and had ventilation doors in it and any leakage through this door would weaken the ventilation.

A new level was being made from the engine brow to the stumpings from the main intake to the return. This level contained a door and had not been holed through before the explosion but after the disaster the level was holed through between the intake and the return and the air door had been blown to pieces by the blast. There was no one at work in the place and it was impossible for the inquest to determine if it had been holed through before or after the explosion.

The mine was known to give off very pure firedamp which did not always show in a lamp but, in accordance with the most modern methods of the time, the coal was got by driving out levels and the coal was worked back towards the shaft but pillar and stall work was going on in the stumpings in the return air and it was entered from the intake along which trams and persons were continually passing to and fro.

The Inspector was critical that the firemen at the colliery also worked as colliers and recommended that the furnaces should be fed with fresh air. He also said that the mine should be light by locked safety lamps.

GWANE. Dudley, Worcestershire. 10th. September, 1857.

The colliery was owned by William Mills and Son, near Rowley Regis Hills and the Inspector commented, '*that it was around this vast basaltic mass that some of the most serious explosions of late years have taken place.*' The colliery had two shafts, seven feet

in diameter. The downcast was 155 yards deep but at 135 yards it went through a thick coal seam and air was taken from the shaft to ventilate these. The remainder of the air went down the shaft and passed into an old ironstone mine called the 'Whitestone'. The air to the coal mine was split to the deep side workings and the crop. In the latter, it passed through a gate road seven or eight feet square which contracted to a small passage and then on to large chambers, through the workings and to the upcast shaft.

Lionel Brough, Her Majesty's Inspector, had made several visits to the pit before the explosion and closely examined every part of the mine. He had brought to the notice of the owners that the main defect in the pit was a road that would not carry enough air to the far end of the workings and it was here that the explosion took place. The Inspector said-

"I sought an interview with Mr. William Mills, and explained to him the extingency of an entirely new gate-road, or of enlarging the existing narrow one into more ample dimensions. He promised me that it should be done forthwith, but unfortunately it was never performed."

Nine men lost their lives, six killed instantly and three badly injured. Two of these did not live long but the third died some weeks later. The explosion which was caused by a fall of roof interrupting the ventilation and a build up of gas followed. The gas was ignited by lax discipline in the mine.

Those who lost their lives were-

J. Griffiths aged 46 years,
G. French aged 31 years,
A. Sherwood aged 40 years,
J. Dainty aged 19 years,
J. Madley aged 35 years,
D. Chinn aged 34 years,
J. Darby aged 12 years and
S. Silver aged 20 years.

RIPLEY. Ripley, Derbyshire, 10th. October, 1857.

Owned by the Butterley Company.

Wm. Walters Miner 38
S. Shooter Trammer 14
W. Bullock Miner 34
W. Bunting Miner 30
H. Hirving Trammer 14

GREENLAND WALLS. Berwick-on-Tweed, Durham. 8th. April, 1857.

The new colliery was near Duddo, about ten miles south of Berwick. Five men were killed when water broke into the pit from old workings. the colliery was owned by Mrs. Johnson and Messrs. Carr and had two workable seams, one at ten fathoms which was three feet thick and one at eighteen fathoms deeper which was two and half feet thick. it was the latter that was being worked at the time of the disaster. The workings in both seams were described by Mathias Dunn at the time as '*very ancient*' and there were no plans of the old neighbouring pits, only traces of them and the knowledge of the old colliers which was taken into account when the pit was sunk.

The new pit had a bratticed shaft, nine feet in diameter with an engine on both sides that pumped water and raised coal. the upper coal seam was found to have been worked and was drained by the coal in the lower seam appeared not to have been touched.

When the drifts were started, water, tinged with red, came from the coal which was a warning that it was from an old waste. When the drifts reached sixty yards, the men urged the overman, Thomas Ray, to start boring in the headings. This request was passed on to the resident viewer, Mr. Bayles and although he had been in the workings the day before the disaster, he decided that boring was not required.

The work went on and the south drift suddenly holed into a drowned waste. The seam was thin and the workings narrow and it was soon filled with water killing all the people in the pit. Three men were at the surface and had to wait for the banksman who was having his dinner before they could go down.

The men who died were:-

Thomas Patterson,
John Robson,
Andrew Oliver
and two young men named Hogarth.

All the men with one exception were married and several left families.

The jury of twenty men at the inquest concluded that the accident was due to Bayles and his superiors placing the pit so close to old workings and disregarding the request of the men to bore. A verdict of '*Accidental Death*' was returned. The disaster left four widows and ten children fatherless.

HOLLINGWOOD. Chesterfield, Derbyshire. 15th. November, 1857.

The colliery was owned by Mr. R. Barrow and twelve men and boys were suffocated by the smoke from a fire in the mine. The coal was won by two engine planes 1,200 yards long and being liable to sudden outbursts of gas, was worked with locked safety lamps. There was a cabin at the foot on the back engine plane to clean the lamps.

On the morning of Sunday 15th. November at about five o' clock, the horse keeper noticed smoke coming from the lamp cabin. He went to find Mr. Alexander Scott, the overman of the colliery and with his son and his brother, Robert, and others, went down and found that the cabin was burning fiercely.

Robert Scott and others went down the back plane and got within sixty yards of the fire and found that smoke was making its way rapidly up the back plane. Robert left to try and get a fire engine down the pit to throw water on the fire while his brother Alexander and others went down the front plane where he met Mr. Cooper, the under-viewer of the pit, who was with his brother who was visiting. This made a party of twelve people at the bottom of the plane.

The smoke from the fire rolled up the front plane and overcame these men. Some had run 400 yards before they were overcome and fell from the effects of the smoke.

The Inspector, Mr. Hedley, reported-

"We could only recover eight bodies the other four. Thomas Scott, John Fowkes, Job Richardson and John Corns could not be found where it was possible to get. Mr. Woodhouse and myself went to the foot of the front plane after stoppings had been put in at Nos.3 and 4 doors to dam out the smoke, when we found the fire raging, the roof falling from the effects of heat and steam and the levels filled with gas and chokedamp, so that it was not safe to risk life in searching for the missing bodies."

The air was excluded from the fire as soon as possible and a dam built across the front plane and when the smoke dispersed another was built across the back plane. These remained closed until 27th. January when the dam in the back plane was opened. It was assumed that the air door in the back plane was closed and the air would pass along the stalls and not towards the fire. The dam was left open until the 30th. and when no indications of smoke were found in the return air, the hole was enlarged and Mr.

Woodhouse, the consultation engineer of the colliery, Mr. Seymour, the resident viewer and Mr. Hedley went down the plane towards the seat of the fire which they found was out.

When they came to they air door on the back plane which was thought would be closed, it was found to be open they found that Mr. Cooper had taken precautions to try to stop the smoke. One of the doors, the top one, was propped open with props and the other with coals which had fallen due to the heat and had allowed both the doors to close. The Inspector was surprised at the time of the accident, that Mr. Cooper had not made a stopping across the back plane before the smoke reached the No.3 doors. He appeared to have set the doors open when an unfortunate accident closed them.

After the mine was thoroughly examined, it was decided to open it out on 1st. February. This was done and all the men in the pit were ordered out. Half an hour later a very great explosion occurred. This was evidence that the fire was still raging and in order to extinguish it, water was run into the mine. This extinguished the fire. There is no record if the remaining bodies were recovered

There is some confusion as to the victims. The appendix to the 1857 Inspectors Report, the following are listed as victims but those that are mentioned above as not being recovered, Thomas Scott, John Fowkes, Job Richardson and John Corns are not on the list. The Inspector records the number of deaths as twelve but it appears that sixteen was the correct number.

Mr. James Cooper, visitor to the pit aged 22 years.

Mr. D. Cooper, undermanager aged 30 years.

Alexander Scott, overman aged 43 years.

Thomas Watson, miner aged 40 years

Joel Walters, deputy aged 56 years.

George Wagstaff, miner aged 34 years.

William Chapman, miner aged 64 years.

William Trueman, aged 37 years miner.

Richard Foulles, horsekeeper aged 33 years.

George Trueman, lamp keeper aged 33 years.

Thomas Swift, road repairer aged 16 years.

James Corn, miner aged 33 years.

BARDSLEY. Ashton-under-Lyme, Cheshire. 2nd. February, 1858.

The colliery was owned by the Bardsley Coal Company and the explosion took place in the Victoria and Diamond pits at the colliery. The explosion affected both seams and was the result of large quantities of gas being given off and occurred in the Two-Foot and Peacock Seams which were also known as the Upper Bent and the Lower Bent Seams which were seven yards apart. the Upper Seam was 18 to 27 inches thick and the Lower Seam about 28 inches thick. They were both fiery mines and worked at 470 yards deep.

The Inspector commented-

“The expense attendant upon working such thin seams at so great a depth is a strong inducement to get a large quantity of coal to cover the general charges, and seems to have led the managers to have more places of work going on than there is air to ventilate and which ought to have been remedied either by larger airways or delaying some of the openings until the mines became somewhat drained of firedamp.”

After he had made an inspection of the colliery in September 1856, Joseph Dickinson, the Government Inspector, had cautioned the underlooker, Mr. William Hibbert, that the mine was not ventilated as to the first general rule and no work should go on in a place where the air was foul. He acted on information he had received that the pit was in a dangerous state.

The were proposals to install a furnace and boilers for a steam engine underground and Mr. Dickinson thought that both should have been fed by fresh air with the return air brought into the pit out of reach of flame and fire.

The Inspector received another complaint about the colliery on 4th. August 1857 and again cautioned the underlooker and his brother, James who was his assistant, and gave notice to the owners in writing that-

“1st. Both the upper and lower mines are giving out firedamp rapidly and it was visible in the return air, especially of the lower mine. I concluded that there was too much work going on for the quantity of air.

2nd. The safety lamps should be locked and one lamp which I examined was so much scooped out to catch oil escaping, that no base was left at the bottom of the gauze ring to rest on and when the lamp was closed the gauze could be moved up and down.

3rd. Double sets of air-doors are wanted at three important points.

4th. The ventilation should not depend upon gobbing, except for a short bratticing.

5th. (As to fencing mouthings). A few weeks after this, on the 30th. October I was again at the colliery, after the new furnace was lighted and saw that a steam blast had been put into the upcast shaft, and ascertained that the ventilation had been increased.”

Between the 30th. October, 1857 and the explosion, James Hibbert had become the underlooker when his brother took charge of another colliery belonging to the same company, the colliery was in a very bad state with the air, on occasions firing at lamps, airways being small in places and having so much rubbish in them as to lessen the ventilation and safety lamps unlocked.

The managing partner of the colliery was an experienced man but the seldom went down the pit and was supposed to be unaware of the dangers. His son and a surveyor finished their day's work and came up the pit a few minutes before the explosion. The underlooker, James Hibbert and his brother William had been helping in the surveying work along with two firemen, one of whom was killed.

The men who died were-

George James.

Forrester Brierly.

Jonah Taylor.

Samuel Taylor.

Joseph Taylor

Edward Taylor.

Joseph Lomas.

John Brierly.

Ralph Mirtle.

William Quarmby.

Isiah Ingham.

John Roberts.

William Yardley.

Joseph Barber.

Peret Knight.

Lames Lees. snr.

Thomas Stafford.

Thomas Robinson.

James (surname unkown), a stranger.

Joseph Bankcroft.

Jonathan Wardle.

Two lbbotson, brothers.

Samuel Ogden.

Stringer.
Samuel Hamston
and two others.
Thomas Shaw.
Samuel Stepney.
Kavanagh
Isaac Berry.
John Hewitt.

Those seriously hurt and probably died-
Jonah Graves,
Hopkins,
S. Robinson and
Thomas Cooper.

Forty five of the fifty three victims that were killed were burnt.

The explosion caused a loss to the owners of £3,000 who were fined £5 for a breach of the First General Rule. The Inspector concluded his report-

“Under such circumstances and the heavy responsibilities attaching, it did not seem desirable to proceed for the small penalty.”

LOWER DUFFYN. Aberdare, Glamorganshire. 24th. February, 1858.

The colliery was owned by Messrs. Powell and Son and was one of the deepest and most fiery in South Wales. There were two large shafts cased with bricks and stones. One was used as a downcast and the other as an upcast to the rise of the workings at the bottom of which was a furnace over which passed a large proportion of the return air. At the bottom of the downcast shaft the air was divided to ventilate the lower and the upper collieries. The latter was worked from the upcast shaft. Coal was wound at both shafts and it could be looked at as two distinct collieries except for the ventilation. The coal that was worked was the upper four feet or the Duffryn steam coal and it was subject to give off sudden blowers at great pressure and with large quantities of gas.

The explosion took place in the upper colliery following a large fall of roof in a stall at the extreme rise which liberated gas which travelled along the return air road and down the main road where it exploded at the naked or defective lamp of the men who were having their dinner in this heading.

The colliery was worked by locked lamps and at the inquest it emerged that matches were found on some of the victims which were probably used for lighting candles. Nineteen men and boys lost their lives.

Those who lost their lives were-

George Cox, collier aged 35 years, married Father of Joseph.

Joseph Cox aged 15 years.

Henry Morris, haulier aged 15 years.

David Davies aged 20 years, collier.

William Auberry aged 36 years, a married collier, father of William.

William Auberry jnr. aged 12 years.

John Morgan, collier aged 24 years.

Richard Jones aged 28 years, collier, married.

Thomas Sheercross, Shawcross or Shalcross, collier, widower aged 32 years.

Daniel Jones, collier aged 25 years, married.

Edwin Strong aged 10 years, door boy.

Levi Davies aged 45 years, collier, married.

Thomas Richards, collier aged 14 years.
Peter Morman, collier aged 44 years, married.
James Rumley aged 40 years, married collier.
Henry Salmon, collier aged 10 years.
John Rosser, collier aged 22 years.
Owen Jones aged 18 years, haulier.
George Gale aged 15 years, door boy.

The inquest was conducted by Mr. Overton, Coroner. Mr Evans commented on the fact that-

“The main ‘return’ to the furnace is also the main travelling way, and all gasses given off, and the air after ventilating the colliery passes along it this, in my opinion, is most objectionable, and attended with danger the intake courses are too small and the air ought to be taken to the face of all the workings.”

The jury brought in the following verdict-

“Accidental Death caused by an explosion of gas but how it was ignited there is not sufficient evidence to show.

The jury strongly recommend that:-

“A large furnace of two furnaces be employed in these coal workings and that the return air road should not be used as a travelling road as also the rules prohibiting pipes or matches to be taken into the pit should be rigidly enforced so as to stop the men from doing so.”

BRYNDDU. Pyle, Glamorganshire. 28th. May, 1858.

The colliery was owned by Messrs. Ford and son and was on the southern outcrop of the South Wales coalfield and the strata dipped very steeply in these mines. The mine was ventilated by two Sturve's pumps and the Inspector reported that large quantities passed through the workings of the Nine Feet Vein which was the seam that was worked and the workings were only 65 feet below ground. The coal was said to be so hard that it could only be won by blasting. Only the foreman was permitted to light a charge, after first testing for gas but the charges were lit by him taking off the top of his lamp.

The explosion occurred when a men was working on the level boring a hole in the coal. When the shot was ready to fire he went for the fireman whose duty it was to make an inspection and fire the shot but he did not make the inspection. A little gas had accumulated near the face which exploded at a naked light killing twelve men and boys.

Those who died were-

William Morgan who left a widow and five children.

Joseph Morgan, single.

William Morgan who left a wife and five children.

Thomas Griffiths who left a wife.

John Rees who was single.

Jenkin Lewis who left a wife and two children.

Morgan Lewis who was single.

Edmund Thomas who was single.

John Thomas, left a wife and five children.

John Higham , or Hopkins, who left a wife and four children.

John Thomas who left a wife and five children .

David John who left a wife.

There were eight widows and twenty three children left fatherless by the disaster.

Mr. Mackworth stated that it was locked lamp colliery and in his opinion the blasting of the coal should not be allowed.

CYFING. Swansea, Glamorganshire. 11th. August, 1858.

The colliery was owned by Mr. Thomas Walters of Swansea. It was also known as the Crimea Pit. The colliery had not been open for long and it had worked a only a small quantity of coal but blowers of gas had been found in the pit. There had been an explosion at the colliery about four months before when William Issac's son was burnt.

The manger, Mr. Rees Thomas, went down the pit about once a month. Rees Thomas gave a description of the colliery and the ventilation system-

"The air passes down the pit along the west course, rises along the headings pointing to the north then back an upper level to the east down a slope, and down through the stalls to the lower level, and then to the upcast pit. The pit is divided by a brick brattice four and a half inches thick. The upcast pit is two and a half feet wide by ten and a half feet. There is only one door on the first stall, on the western side of the pit. Part of the air goes up the works, and when necessary we place a door to send it further on. we allow the whole of the air to distribute through the whole five stalls, so as to send the air through the whole. The air passes on to the face of the level without a door on the second stall, which is a distance of 120 yards. The air does go there the use of the door on the first stall is to prevent the air returning up the heading of the workings."

There was furnace night and day in the air way at the top of the pit and Thomas Evans was the furnaceman.

On the morning of the explosion the men went down the pit and had not gone far along the main road when the disaster took place. The colliery was not examined before the men went in and the Inspector found that the ventilation was '*most defective*'.

William Williams went to the pit at 8 a.m. and went down with David Jones. He sometimes worked as a cutter and had more authority than the other colliers. He was paid 10/- a month extra to see that everything was all right underground. Jones tested for gas near the bottom of the shaft before the men went to work but did not go into the workings. There were twelve men at the pit bottom, John Morgan, Owen Owen, John Jones, John Harris, John David Evans, David Williams, William Jones and some others. They were sitting down smoking before they went to their work. David Jones and Williams were the first to go into the mine. They were sitting 20 to 30 yards from the pit bottom. They sat there for about half an hour and Williams went back the way he had come. John Morgan went in the opposite direction to his work. Williams had gone about five or six yards with a naked candle in his hand when the explosion took place but it was not his candle that ignited the gas. The doors at the bottom of the pit were blown from east to west and the violence of the explosion broke the guide chains

The men who died were-

David Jones aged 30 years, overman,

Lewis Jones aged 14 years,

William Jones aged 13 years,

David Williams aged 38 years,

Owen Owen aged 17 years and

John Jones aged 33 years.

Three men were injured,

John David Evans and

John Morgan, slightly and

John Harris suffered a broken leg. Lewis and Davin were the overman's sons.

The inquest was held before Mr. Charles Collins the Coroner with Mr. William Simons watching the proceedings on behalf of the relatives of the deceased and C.H. James acting on behalf of the proprietors of the colliery.

William Williams, a collier who survived the explosion gave evidence at the inquest. He had a naked light but he did not think that it was this that caused the explosion but he did not know if Morgan also had a candle. He said that Morgan did not make a through inspection of the mine before the men went to work. Williams told the court that he did not have a copy of the rules of the colliery.

The door on the east was opened to let waggons and colliers pass and Rees Thomas, the manager, said that if this door was left open then the pit would fill with gas. The doors did not shut of their own accord but there was a boy employed to open and close them. Mr. Thomas also said that the rules of the pit had been sent and they were posted at on the door of the engine room and that it was required for every employee to have a copy under the Act. he had not read the rules to David Jones and was not sure that he could read but he had explained them to him about a fortnight before the explosion.

John Thomas, the banksman at the colliery, said that the furnace was not attended at night and he had light it on several occasions.

In his evidence to the inquiry, Mr. Thomas Evans, the Inspector, had examined the colliery after the disaster with Lionel Brough, another of Her Majesty's Inspectors and found that the explosion occurred near the bottom of the slope in the western district. Gas had accumulated in the stalls at the top of the slope. In his opinion the furnace at the top of the pit was of little use to ventilate the mine since the air it used came from the surface and should have been place at the bottom of a proper upcast shaft. He found that the whole of the western working were unventilated and the working of the colliery, '*unsafe, defective and dangerous*'. Mr. Brough concurred with Mr. Evan's statement.

The coroner addressed the jury and told them that they had to decide, first, the cause of the explosion and second was blame attributable to either the overman, the deceased David Jones or to Rees Thomas, the general manager?. After an hours consultation the jury returned the following verdict-

"Accidental death but the jury consider that the colliery is not properly ventilated and some degree of blame is attributable to Rees Thomas, the manager."

Proceedings were instituted by the magistrate against the owner and the agent of the colliery for violations involving the lack of inspection before the men went down and the highest penalties were imposed. They were fined £35 with expenses, a total of £40.

PORKELLIS. Helton, Cornwall. 20th. August, 1858.

The mine was in the parish of Wendron, three miles from Helton. It worked the north lodes where there was a flat rod shaft which was used as a sump. Seven men lost their lives in an accident caused by the inrush of slime. There had been former workings on the south lode and there was an old shaft which was sollared to a depth of three or four fathoms with the wastes formed from the tin dressing floors.

The old shaft had been sunk forty or fifty years before and at the surface for about half an acre, the tins streamers had worked and the while of the space was covered with slime and refuse from the stamps. Some men had been working in the back of the 12 Fathom Level on the south lode and it is supposed that they worked too close to the sollar in the shaft and weakened it. The solar gave way and the slime and water above the sollar, poured down the shaft. The run was about 30 fathoms long, 20 fathoms wide and three fathoms deep around the shaft fell in. It was estimated that about 2,000 square fathoms fell in carrying with it ten or twelve dressing frames.

The slime poured down the shaft and rushed through a 24 Fathom crosscut and from there found its way into the deeper parts of the mine on the north lodges where 50 men were working. They had to run for their lives. It was said that they came up the shaft '*like*

a swarm of bees.' The inrush caused a rush of air in the levels and the men's lights were extinguished. The roaring was heard at the surface.

The sump of the shaft was 65 fathoms deep and the slime rose to the 24 Fathom Level so filling the mine to a depth of 41 fathoms. All the miners escaped with the exception of seven.

Those who lost their lives were:-

Sineoak,
Ching,
Penlerrick,
Andrew,
Commbellick and
two named Dunstan.

Three were shaftsmen and the others were working in the deeper levels in the western part of the mine. Their bodies were buried under a mass of slime. Three of them were married and one left a family of five children.

There were fears that two other men and the sinking a shaft to rescue them was considered but it was discovered that they were safe. Upwards of 2,000 people surrounded the mine. It was thought that digging for the bodies would be too dangerous and would be attended by further loss of life. Even the slightest disturbance of the ground sent tons of rubbish down the gaping chasm. All the men in the mine refused to work and it appeared that the mine would soon have to be abandoned.

PAGE BANK. Brancepeth, Durham. 1st. October, 1858.

The colliery was the property of Mr. R.W. Jackson and had none shaft twelve feet six inches in diameter. It was divided into three equal parts by brattice. One of the parts was the downcast and the other two upcast. One of these, the engine shaft, went to the pit bank and the other came from the bottom for twenty fathoms, went up a staple seven feet in diameter into a drift near the surface and up a chimney which was forty five feet tall at the surface. The ventilating air went down the downcast which was also the coal drawing shaft, into the workings and then to the upcast shaft.

When the pit was sunk a blower of gas was encountered at twelve fathoms and it extended all round the shaft. This gas fired and the master sinker was killed in the explosion. The plank tubing was installed to collect the gas and gas boxes with metal piping was fixed through the tubing and brought to the surface thirty fathoms above. This arrangement had never caused any trouble. Gas was also encountered at twenty eight fathoms during the sinking and this was also dealt with by plank tubing and a pipe into the upcast drift.

The whole shaft was lined with plank tubing to thirty fathoms, then three fathoms of metal tubing and stood without support and was forty five fathoms deep. The main brattice separated one of the upcast from the downcasts from top to bottom. The main brattice and from side to side of the pit and the quarter brattice extended from the centre of the main brattice at right angles to the west side of the pit. It started at twenty three fathoms from the surface and went to the pit bottom. At the top of the quarter brattice there was a caphead to send the air through the drift. The caphead was a continuation of the quarter brattice turned at right angles horizontally and turned the air along the drift. At the bottom of the quarter brattice there was a scaffold similar to the caphead below the furnace drift which was to prevent the downcast air getting into the upcast shaft and to leave the bottom of the shaft free.

The furnace drift came into the shaft three fathoms from the seam and was eight feet wide. There was another ventilating drift on the south east side. The furnace drift and this

other entered the upcast drift together. The heated air went through the furnace and the cool air through the second drift. Half of the air passed over the furnace and the other half went partly by the second drift and partly underneath the furnace. On the north west side of the furnace drift there was a travelling way in which two doors separated the downcast and upcast air. The furnace was thirty yards from the shaft and was only temporary with bars six feet long, eight feet six inches deep and five feet wide.

A pipe was inserted at the bottom of the well used for feeding the boilers at the surface so that there was always water in the pipe. The pipe was sunk below the surface so that the supply of water could not be stopped and went down the shaft into a box under the caphead and from there into a horizontal box, the length of the quarter brattice and at its side, in which there were holes to distribute the water over the whole of the quarter brattice. The engine feed water was supplied from a pond a considerable distance above which was always full of water. The waste water from the engine pit and the water from the pumps kept the shaft wet.

About 8 o'clock on the morning of Thursday the 30th. September 1858, Thomas Kellett, a back overman at the colliery who was also in charge of the shaft, went down the pit to his normal work. As he was descending, he noticed the smell of burning timber. On reaching the bottom he sent for the principle overman, John Mould and told him that he thought there was something burning in the shaft. They looked up the shaft and could see no fire but both could smell burning wood. They sent messengers to various parts of the mine carrying instructions to the men to come to the bottom of the shaft to leave the pit until any fire that there might be could be put out. Mould got into the cage and Kellett stood on top of it. They intended to find the fire and extinguish it with water.

At the inquest John Mould gave an account of the events at the colliery that day-

"On Thursday 30th. September I went down the pit at two o'clock in the morning. I was accompanied by three of the deputies, David Bolam, George Robinson and John Waller. We all went down together. There were no men ready to follow us. One of the stoneman, James Stobart, came down after us to mend the rapper. My first duty and that of the deputies, when we first go down, is to see that the pit is right. It was all right that morning. We went into all of the working places or flats, each of us taking a part, and found all was right. We met afterwards in-bye, and the three deputies reported to me that all was right. The men that live at Page Bank came to the pit first. They came in about half past two o'clock. The Spennymore men follow them. They came in about three. I saw none of the stonemen but Stobart come down that morning. I did not see Thomas Horsley. The boys came in last, between five and six o'clock. Before any of them come down I report all is right. I was up the shaft a five o'clock to see if the boys were coming in. Stones were being drawn in the shaft between two and five o'clock. Coal is not drawn until the putters (boys) come down. The stonemen were in the pit. When I went down at five o'clock I did not notice anything particular in the shaft. I remained at bank about a quarter of an hour or twenty minutes. I then descended again, and remained in the mine until some person come to me. That was Thomas Kellett, one of the deceased and the back overman. The name of the onsetter was George Sheraton. he went on his shift at six o'clock. James Stobart was acting as onsetter till he came. Each time in going down and ascending I observed the shaft and brattice. That is part of my duty as overman. I found everything good in the shaft and brattice, as far as I could see. The deputies look at the shaft as well as myself. The men go down the shafts with Davy lamps. The onsetter and the banksman are instructed not to let naked lights to be taken down the shaft. The men mostly go in the dark, but if they do take lights they are Davy lamps. The lamps are lighted at an oil lamp at the bottom of the shaft near to the onsetter. After half past five I was seeing about getting the boys started at their work at the different parts of the pit. No one came down to me between the lads and Kellett. he came down about a quarter past eight. I was then in the return at the back of the furnace, at the new furnace drift. Thomas Horsley, George

Pattison and William Pattison were working besides me. Kellett sent one of the boys for me to go to him directly. I was to go to the shaft. When I got there he was standing at the bottom of the shaft on top of the cage. He said he perceived the smell of burnt wood. I got on a bunting and smelt burnt wood. We thought we had better go to bank and put as much water down as possible, and then go and examine the shaft. I could not tell where the fire was before getting to the bank. I got into the cage, and Kellett remained standing on the top. The onsetter, Sheraton, rapped us away. The water was at the time running down the brattice as usual. We were then drawn away. We had been draw ten or twelve fathoms up the shaft when something fell upon the top of the cage from above and knocked Kellett off the top of the cage. I did not hear him say anything. I could form no idea what it was that fell. I did not see anything fall. I did not see any flash of light at the time. I had not a light with me. I was drawn up. In going up I did not see any fire in any part of the shaft. I got to the surface without any stoppage. I was stopped about a fathom short of the ordinary place. I told the banksman to draw me further up. Smoke was coming up at the time. It prevented the banksman seeing me. The smoke had beaten me up. It came up the shaft thickly. The first time I saw the smoke was when I stopped at the surface. When I got to bank I went to set the water down the engine shaft. That was before I saw the flames coming up. We stopped the (landry) box up with hay and so turned the water down the shaft. Several men assisted me. I was at the bank when I saw the first boy brought up. He was brought up by John Nicholson. I remained there until all the bodies were brought up.”

Mould and others went to the spout or landry box where the water pumped from the pit was discharged and tried to direct water down the shaft. Their efforts were hampered by the volumes of dense smoke that were coming out. The fire spread very rapidly and in a very short time flames were coming out of the shaft and the pumping rods and spears were burnt making the pumping engine inoperative.

Mr. Johnson, the viewer of the colliery and the Inspector, Mr. John Atkinson arrived at the colliery a little after 10 o'clock. Flames had stopped coming from the shaft but there was a lot of dense smoke. A small fire engine was being used to pump water from a pipe from the colliery pond into the shaft but the quantity of water was very small and orders were given to cut a channel from the pond to the shaft so that water could flow directly into the shaft. Several carts were pressed into service to carry water from the River Weir which was about a quarter of a mile away to put water directly into the channel.

Word was sent by message and telegram to the surrounding collieries and towns for as many fire engines as possible to come and pump water from the river into the shaft and carts sent for brattice cloth to clear the smoke from the shaft, restore the ventilation and rescue the men and boys who were trapped below.

Mr. Armstrong of Wingate Grange, who was viewer to the lessor of the Page Bank Royalty, Mr. Johnson, Mr. Nicholas Wood, Mr. Thomas Emerson Forster and the Government Inspector directed the work. The attempt to get air into the shaft by brattice cloth had to be abandoned because the men could not work in the and smoke and heat in the shaft but they persevered and just after ten a.m. the following morning, which was twenty six hours after the discovery of the fire, all the men and boys in the pit were brought out. There were seventy six alive and ten dead which included Kellett's body which was recovered from the bottom of the shaft by Thomas Hall, the under-viewer at the colliery.

John Mould told the inquiry of the recovery of the bodies-

“After Nicholson brought up the first boy on Friday 1st. October and about ten o'clock I went down. The first dead I saw were three in the levels by the shaft siding, which was near the shaft. They were all on their knees and elbows with their faces downwards. There was some water there about five or six inches deep. Their faces were in the water. They were lying one before another. I cannot say which was first. They were cold as if they had been dead for some time. We had lights. In the first

North-West way I found William Coates and Denis Haley, two men James Stobart and Simpson Burns, two boys. There was a number of men living there. There was above a dozen. One of the boys was on his back, the other three were lying on their faces. I had previously found Robinson Wray. he was the first I found. I found him at the back of the furnace lying on his back. There was no water over his face.”

The workings extended over about eighty acres and all the victims were found under the township of Stockley on the Page Bank side of the river. Mr. Henry George Hardy, surgeon of Byers Green told the inquest that the bodies that had been brought out of the pit had died from asphyxia produced by the inhalation of smoke. Mr. Allen, surgeon of Willington, examined Kellett’s body and found that he had met death instantaneously by the fall down the shaft.

Those who died were-

Thomas Atty aged 14 years driver,

Robinson Wray aged 13 years station boy,

George Sheraton onsetter,

Simpson Burns aged 11 switchkeeper,

George Robinson aged 50 years hewer,

James Coates a hewer,

Thomas Lishman aged 16 years waterleader,

James Stobart aged 14 years waterleader,

Denis Haley aged 22 years waterleader and

Thomas Kellett, overman aged 39 years. Knocked off the cage and fell down.

The inquest was opened on the 2nd. and adjourned until the 13th. October and Mr. R.S. Johnson of West Hetton, the viewer of the Page Bank Colliery was the first witness. He produced a plan of the colliery and gave a detailed description to the court of the workings and practices that were in operation at the colliery.

On the 11th. July, he had a meeting at the colliery with Mr. John Atkinson to discuss the general arrangements and management of the mine. Mr. Johnson outlined plans to the Inspector to make a new drift about a hundred yards horizontal from the shaft to the bottom of the staple. This would make a separate outlet for the air from the seam to the surface and there were plans to make a permanent furnace. Mr. Atkinson approved of the proposed changes and the work commenced at once. It was being carried on at the time of the accident.

John Mould, the overman told the court that just before Kellet sent for him, he had been at the furnace drift where he saw a stone man, John Rivers cleaning bricks in the drift and he could not have done this if they were hot. He had no idea as to the cause of the disaster but he was sure that he had not heard an explosion when Kellett was knocked off the cage.

David Bolam was a deputy at the pit and lived at Page Bank told that after the men and boys had been at their work for a short time, they met him and said they could not get near the shaft for the reek of smoke and that the smoke was going into the workings. He then gave an account of the events in the pit while the smoke was entering the workings.

“I told them we would have to go through the broken doors into the return. We went into the return at the back side of the furnace about 30 yards from the shaft. There were a good many other men there. There was no reek there there was none coming from the furnace. The smoke went through the shaft doors and returned over the furnace back to the shaft again. We had a consultation. Thomas Horsley, George Pattison, George Robson and myself consulted among ourselves. Horsley and Pattison were stonemen, Robson and myself deputies. We thought it would be best to put the furnace out. It would give us a better chance of putting out the fire. We put the furnace out. About an hour after some of the lads grumbled a bit about it. About one o’clock on the Thursday afternoon, about an hour after the furnace was

put out, something fell down the shaft and threw the smoke back upon us. George Robson then shouted us to pray. He was very frightened and said we had all only a quarter of an hour to live. He frightened some of the boys very much by shouting and praying. We retreated then from the furnace about 50 yards. About five minutes afterwards she took a suck, and the smoke went back, and most of us went to the furnace. Some went too near the furnace and some went in-bye. The last lamps went out about nine or ten o'clock on Thursday night. Then there was no light left in the pit. Some of the men then got scattered away from us. Some of them got back into the broken way and some into the north way, Most of us stayed behind the furnace. I slept behind the stopping a good bit on the Friday. we remained there till we heard the men going about the shaft on the Friday. I was the last one who was got out. I did not know that any of them was dead. Where I was none of them suffered anything but from fear. In my opinion the case of death of Robson and the boys was chiefly fear, and nothing else."

He had no idea what had caused the fire and was sure that he had not heard an explosion.

The brakesman, Thomas Brown of Brancepath Row, received the signal to draw the cage up the shaft and while it was running he heard something fall and shortly afterwards saw smoke coming from the shaft. he heard a shout of, '*Fetch her up*' and brought Mould to the surface.

The enginewright at the colliery, Thomas Bird, examined the ropes and machinery connected with the shaft almost everyday but he did not do so on the day of the accident. He had been previously employed at the Wingate, Seaham and Castle Eden collieries. On the Saturday before the accident he went down with John Waller and Charles McGlosty to change the lower clack on the pump. They worked with a torch made of a long tin spout with a thick cotton wick. The wick often burned down into the tin and they had to knock it to get it out. When they did this, there were often sparks.

A sinker from Spennymore, John Mackey said he had inspected the shaft after the fire and had found that all the brattice was burnt away to the staple drift and that there were portions that were left hanging. The fire seemed to have been the strongest just above the place where the blower was and the gas from this blower was still burning when he went down but he could not say how it had become ignited.

William Armstrong, the check viewer at the colliery was the next to appear before the inquiry. he gave a detailed account of how the water was sent down the pit to try to put out the fire-

"We decided to get down to the drift, if possible, and insert a dam, with a view to extinguishing the fire. To enable us to get down to that point, as well as to get more air into the men the pit, we conducted the water in two or three channels to one side of the pit after this we prepared a cradle and got some air boxes knocked together to assist the sinkers in getting down to the drift end whilst doing this we began to put canvas brattice in. We succeeded in getting four and a half fathoms of brattice in, when the men declared they could not stand the smoke and heat any longer."

He thought that the fire had started in the shaft by a spark from the torch used by the enginewright and the coroner commented that the use of such torches should be discontinued. At this point in the proceedings a juror commented on the fact that there was only one shaft at the colliery. He said-

"Two shafts would be better than one, but they are not absolutely necessary. the pit is a shallow one and there was less necessity for two shafts. I know of no law to compel the sinking of two shafts. There is no law to prevent torches being used in these pits, but the practice could be forbidden in colliery regulations."

Mr. Nichols Wood thought the fire had started from the sparks of the torch and that it was a piece of burning brattice that fell down the shaft and killed Kellett. Mr. Thomas Emerson Forster also concurred with this.

The coroner summed up and the jury took half an hour to come to their verdict-

“The jury are of the opinion that the brattice in the shaft was ignited by a spark but from what source the spark came there is no positive evidence to show they are further of the opinion that the whole of the men, save Kellett, died from fear and suffocation, arising from the fire in the shaft, Kellett being killed by falling down the shaft and, further, they are of the opinion no blame can be attached to any person whatever they therefore find a verdict of accidental death.”

It was not until the Sunday evening after the fire that it was finally extinguished. This was accomplished by exploding five and a quarter barrels of gunpowder in the shaft by lowering them down. previous attempts had been made to put the fire out with a cannon. When the shaft was being repaired there was so much gas given off that there was an explosive atmosphere some distance from the pit top. The upcast staple of the Page Bank colliery was so damaged by the accident that it had to be abandoned and filled and a second shaft was sunk at the colliery.

PRIMROSE. Swansea, Glamorganshire.13th. October, 1858.

The colliery was the property of Messrs Morgan and Lewis and the Primrose Coal Company. and was at Pontadrawe, about 9 miles from Swansea and, at the time, was the most extensive colliery in the Swansea Valley Ten men and boys were suffocated by vapours from the engine boiler.

At about 6 a.m. some men came from the pit saying, “*The whole place is full of sulphur and the men and boys are being killed.*” Within half an hour there was a crowd of anxious women at the pit head waiting for news. there was no shortage of volunteers to go into the pit and William Lewis aged 60 years, who was married with several children and Griffiths Gibbs age 18 years went into the mine with David Thomas, the overman. Lewis and Gibbs were overcome by fumes and Thomas was recovered but unconscious.

Thomas Morgan rushed for his life out of the pit with his young son who he retied to carry under his arm but had to leave him due to the fumes. When the air cleared, men went into the pit to recover the bodies.

The men who died were-

David Evans aged 38 years, married with five children,
John Gibb aged 36 years married with two children,
David Hogging aged 32 years, married with one child,
Griffith Jones aged 19 years, single,
John Llewellyn Rees aged 25 years, single,
W, Thomas aged 18 years, single,
John Davies aged 17 years, single,
Isaac Davies aged 11 or 12 years, door boy,
Morgan Gibbs and William Lewis aged 60 years, widower with several married children.
David Evans and
Thomas Morgan were recovered near to death but recovered.
Seven horses that were in the mine were also lost.

The inquest took place before Mr. Alexander Cuthbertson, Coroner for Neath. John Evans, collier described that he had to leave his son in the mine and William Williams, the fireman said that about a week before the accident, an engine had been taken underground to raise coal. The air to the engine’s boiler was the return air and the smoke went up the upcast shaft. a door had been fixed there to prevent the smoke going into the workings.

It emerged that there were breaches of the rules at the colliery when the Inspector questioned the witnesses. The jury considered the evidence and returned the following verdict-

“Accidental death through the door being left open by person unknown,” and expressed the opinion that some or one of the colliers opened the door out of curiosity and let in the deadly gas.”

CAE. Llanlley, Glamorganshire. 3rd. November, 1858

The colliery was owned by Francis Davis and Company and ten men and boys were killed in the accident. On Wednesday at 4 p.m., when there were fifteen men working in the mine. when one man struck an old working and the pit started to fill with water. In a short time it had reached eighteen feet.

It took some time to recover the bodies and a large engine was set to work to pump out the water. There was a rumour that the manager thought that there were old workings close at hand. On the Saturday before the disaster, the manager and part owner Mr. Francis, had a conversation with the Inspector and when he was asked about the presence of old workings, he said. *“Oh there is work for twelve months before we get some water from the California old workings.”*

Those who lost their lives were-

David Francis manager and part owner,
John Thomas,
John Lloyd,
Daniel Samuel,
Joseph Williams,
William Treherne,
David John,
Benjamin Samuel,
Thomas Johns and
William Harry.

Work went on pumping the water out of the pit for several weeks before the bodies were recovered. The inquest was held at the Ship and Castle Inn, Llanlley before Mr. W. Bonville, Coroner.

John Bowen was working at the colliery at the time of the disaster. He told the court:-

“I was on the pit top when the accident happened repairing carts which are used to convey coal underground. The accident happened at four o'clock. When the accident happened I ran as fast as I could to the air-pit. I saw nothing but water. The water was choke up the air-way on the west side. I came back to the shaft and found two boys, John Samuel and David Thomas who had been working in the colliery that morning. I then came out and brought the two boys with me. John Samuel is partially blind. Then I went to Mr. Williams for some barrels to draw the water out of the pit. The pumping engine was working as much as it could. There were seven or eight yards of water in the shaft that evening.

We kept both engines and some of the barrels raising water, one engine was working the pumps and one lifting the barrels. The pumps failed and another box was put to them and subsequently a new set of pumps altogether. The first box was six inches and the last eight and a quarter inches. With new pumps we got the water out. This was done on the 16th at six or seven o'clock in the evening.

I then went through the air road to repair the 'stoppages' but we could not get to the bodies for consequence of foul air. We went down again the next morning and then found the bodies, , six of whom were found on the west side. Two others were found an hour and a half later on the same side of the pit. Two of the six were found on the main level and another lying across these two bodies. this was near the fourth top hole. Another body was found with his head in a basket, lying on his chest. Two more were found at the end of the stage and another was found near the air way.”

Mr. Thomas Evans, H.M. Inspector of Mines then gave his conclusions:-

“The Cae colliery is one of those numerous little works carried on to supply the immediate neighbourhood. It is about twenty eight and a quarter fathoms deep ad works about eleven tons per day. On each side of the shaft levels extend to the east and in a westward direction and upon the levels the coal is worked almost to the outcrop.

Some few years since, the owners of the colliery had worked a small colliery to the east of their present pit and in the course of time it filled with water. The eastern level of the present works was supposed to be about the same line of level as the western level of the old works and in extending the level,, the owner or person who was a supposed to manager the underground works, must have known that to approach these old workings was a dangerous operation without proper boreholes. The near working of the level had actually worked within eight inches of the water!”

Mr. Evans added that the rules seemed to have been totally disregarded and there were no plans whatever by which the colliery had to work and so it was impossible for any man to say where he was working.

The Coroner summed up the jury brought in the verdict of-

“Accidental Death caused by the ignorance of Daniel Francis, one of the deceased for not practising means of boring and keeping plans of the workings.”

The jury gave their fees to the relief of the widows and children and Mr. Evans donated £1 1s.

YEW TREE. Tyldesley, Lancashire. 11th. December, 1858.

The explosion took place in the Crombuke mine at the Yew Tree pit of the colliery killed 25 men and boys and was the property of Green Holland and Company. On the day before the explosion, the fireman for the part of the workings where the disaster took place, had, in the words of the Inspector, *‘having the night before been celebrating an advance of wages’* failed to arrive at the pit in time to make his examination and the men were allowed down the pit. A few hours afterwards firedamp was detected coming from the goaves by one of the workmen who went for the assistant underlooker. They and the fireman, who had then arrived at work, went to the place and had almost got there when the gas ignited.

Several of the bodies were found without the slightest burn on them indicating that not much gas had fired but they died from suffocation.

The assistant underlooker, the fireman and 23 colliers and drawers.

TYRER James 11/12/1858 35. Of Common Lane Burial: 15 Dec 1858 St George's, Tyldesley,

BESWICK Thomas. Of Well Street. Burial: 15 Dec 1858 St George's, Tyldesley

STOTT Thomas 23. Of Parr Brow. Died from wounds received in explosion Burial: 18 Dec 1858 St George's, Tyldesley,

ASPINALL Hugh 30. Of Shuttle Street. Burial: 15/12/858 St George's, Tyldesley.

LEE John 18. Of Moss Lane Burial: 15 Dec 1858 St George's, Tyldesley.

BARLOW James 31. Of Bridge Street. Burial: 15 Dec 1858 St George's, Tyldesley.

GRUNDY Lawrence 32. Of Common Lane. Burial: 15 Dec 1858 St George's, Tyldesley.

FOULDS Benjamin 16. Of Common Lane. Burial: 15 Dec 1858 St George's, Tyldesley.

COOP William 35. Of Fray Lane. Burial: 15 Dec 1858 St George's, Tyldesley.

ECKERSLEY John 26. Of Common Lane. Burial: 15 Dec 1858 St George's, Tyldesley.

HINDLEY Thomas 18. Of Common Lane. Burial: 15 Dec 1858 St George's, Tyldesley.

HOPE Henry. Of 24. Of Elliott Street. Burial: 15 Dec 1858 St George's, Tyldesley.

LOMAX William 33. Of Lemon Street. Burial: 15 Dec 1858 St George's, Tyldesley.

BESWICK William 11. Of Well Street. Burial: 15 Dec 1858 St George's, Tyldesley.

BESWICK Michael 13. Of Well Street. Burial: 15 Dec 1858 St George's, Tyldesley.

Mr. Dickinson, in his report on the explosion, commented that-

“The intake air was unskilfully through some goaves before it entered the narrow works although these goaves might readily have been ventilated into the return air. The main air way, which ventilated the whole of the workings, was allowed to fall until at places it was only six feet in area. One of the two doors separating the intake from the return air was damaged and removed and this was not replaced.”

The safety lamps used in the mine were all unlocked and due to neglect, the screws to keep them closed were worn and the pricker holes were too large for safety in the opinion of the Inspector. It was not known what had fired the gas. There were no shots fired but the state of the lamps point to it being ignited by a defective safety lamp. The mine gave out large quantities of gas after the explosion.

AGECROFT. Pendlebury, Lancashire. 4th. January, 1859.

The colliery was owned by Andrew Knowles and Son and seven, colliers and drawers were killed when they fell down the pit from the cage when it was drawn into the headgear. A leather band indicator had been installed about an hour and a half before the accident and it had become loose. The engineman trusted solely on the bell.

BYCARS. Burslem Staffordshire. 29th. January, 1859.

The colliery was the property of Mr. J. Wedgwood and the explosion took place when a large accumulation of gas in some old workings was ignited by the men using lamps that were defective with loose fitting rings and the gauze not being of the standard mesh. The furnace was not kept in all the time.

On Saturday morning two men, Isaac Tavern and John Brereton were making a stopping on the north side of the pit to improve the ventilation. There were about five others in the workings and all had gone to the stopping for their dinner when there was an explosion. Daniel Rigby was working 160 yards from the bottom of the shaft which was 33 yards deep and about 70 yards away from the blast. He was blown over but managed to get to the pit eye uninjured. He and others tried to get into the workings but were beaten back by the afterdamp on several occasions. Eventually they succeeded and found Joseph Howls and Ralph Malpas severely burnt and their companions dead.

Those who died were:-

John Leigh aged 52 years, married with a grown up family,

John Brereton aged 21 years, single,

Edward Hawthorne aged 14 years and

Isaac Tavern aged 40 years, married with a family.

Joseph Howls and Ralph Malpas probably died from their injuries.

The inquest into the disaster was held at the Red Lion Inn, Burslem before Coroner Harding. Daniel Rigby told the court that he was a miner at the colliery and when he went down the pit on that Saturday morning, Francis Amos, the butty and Thomas Cooly the hooker-on were the only people he saw in the pit. Amos was supposed to inspect the lamps but there was evidence that he did not do this diligently.

In summing up, the Coroner referred to the highly responsible position in which Amos had been placed and strongly censured him for his gross inattention to his duties. The jury returned a verdict of 'Accidental Death' and asked for Amos to be called into the room where they censured him for not ensuring that the lamps were locked which was required by the state of the mine.

SOUTH KELLOE. Kelloe, Durham. 20th. March, 1859.

The colliery was owned by Mr. R.W. Jackson and there had been another boiler explosion at the Kelloe Colliery which was about half a mile from the South Kelloe Colliery and owned by someone else, about six months previously. This boiler explosion claimed the lives of six people.

The colliery had eight cylindrical boilers with four at high pressure and four at low pressure which were all connect together by two distinct set of pipes. Each of the boilers had two safety valves and two water gauges and there was also a gauge connected to them to show the pressure. The engine had been working for two hours before the disaster and had been at rest for a very short time and the floats and safety valves had been examined only a short time before when they showed that there was enough water in the boilers and the valves were functioning and blowing off steam. The pressure gauges read 32 or 33 lbs. per square inch. The boiler that exploded had been fed about half an hour before the explosion. The boiler had been examined by the colliery blacksmith three days before and he considered it to be in good working order. The boiler was working under it's normal working conditions at the time of the accident. After the calamity the fragments of the boiler was examined and were seen to be in good condition and not far off their original thickness. One of the plates of the boiler was found to be laminated as if made from two plates of metal. The edge of this laminating terminated at the inside of one of the rivet holes which further weakened the structure. The lamination extended over twenty inches of the plate and it was impossible to discover the flaw on inspection and could only have been seen by the removal of the inner plate.

Those who lost their lives were-

M. Brunskill, aged 37 years a trimmer,
Thomas Froud aged 20 years a fireman,
Joseph Welsh aged 16 years a fireman,
Thomas Jackson, a fireman and
Joseph Rees aged 35 years and not employed at the colliery.

MAIN. Neath, Glamorganshire. 6th. April, 1859.

The colliery was the property of the Neath Abbey Coal Company and the twenty six men and boys were killed when the mine was flooded by a sudden inundation. The manager of the colliery was Mr. John Graham and John Dorman was the overman. Years before there had been an inundation at the same colliery and it was known that coal had been worked all around and that the old workings were full of water.

On the 6th. April the colliers and others were engaged at their jobs throughout the mine. After a few hours water from a large acreage of old workings broke into the mine and in a very short time filled the shaft for many yards. Most of the men had enough warning to get to the shaft bottom and leave the pit safely but twenty six others did not get out of the pit. It was thought that the pressure of the water prevented them from opening doors. On the night before the accident, the foreman, James Edwards, received instructions from Mr. Dorman to see that there was no gas in the workings before the men went down and to look at the borings to see that they had gone the full distance.

The manager, Mr. John Graham, heard of the accident at 11 a.m. and went to the colliery to find that there was already water in the shaft to a depth of seven feet. This was about half an hour after the water first entered the mine. He ordered water to be drawn form the shaft as he thought that the men were on the rise side of the workings but the found that the water continued to rise up the shaft despite these efforts, it reached 96 feet in the shaft at 4 p.m.

John Dorman, the overman was down the pit at the time. On hearing the onrush of the water, he ran round the pit to get the men out but before he could get to the shaft the

water had risen to the roof and he made several attempts to get through and he was washed away and was not seen alive again. The Inspector, Mr. Evans commented-

“The courageous and manly conduct of this poor man cannot be spoken of in too high terms he preferred risking (indeed I may almost say sacrificing) his own life in attempting to save those of his unfortunate workmen, although opportunity was offered him of getting out uninjured.”

Some of the men and boys who were saved had lucky escapes. One boy saved himself by clinging to a horse's tail. One horse reached shaft and instinctively jumped into a tub as it reached the bottom. Another horse did the same and a boy saved himself by clinging onto its tail. A man named William Taylor saved three boys while they were plunging about at the bottom of shaft and another man was seized just as he was about to sink below the water.

It was many months before the water was drained from the pit. Large and powerful pumps worked day and night and a water tank was fitted in the shaft and did good service. For many weeks the water remained at the same height and a stoppage was necessary to mend the boilers since due to dry weather the water from the shafts had to be used and this damaged the boilers. It took six months to clear the water from the shafts and when the pit was entered it was found the roads at the pit bottom were filled with rubbish which took a long time to clear before the bodies could be retrieved.

The first body was recovered from the mine on the 23rd. September and they all were recovered except four. They were found close to the shaft on the east side about 800 yards from the point where the water was supposed to have entered.

There is a discrepancy between two lists of victims. The first is from the Gwent Family History publication *'and they worked us to death'* and the second was published in *'The Cambrian'* 13th. January, 1860.

Those who lost their lives were:-

William Abraham, left a wife and 7 children.

Joseph Batting, left a wife.

William David, left a wife and 9 children.

Benjamin Davies, left a wife and 7 children.

David Davies, single.

John Dorman, overman who left a wife and 9 children.

Llewellyn Evans, a boy.

David Griffiths, of Neath, left a wife and 4 children.

Rosser Hopkin, of Llansanlett, left a wife and 7 children.

David Jenkins, left a wife and 6 children.

Thomas Jenkins, left a wife and 6 children.

David John, left a wife.

John Jones, left a wife and child.

Thomas Jones, left a wife and 10 children.

James Lewis, left a wife and 3 children.

Timothy Lloyd, left a wife and 4 children.

Thomas Maddocks, left a wife.

David Morgan, left a wife.

David Morgan, single.

John Morgan, left a wife.

David Morris, single.

David Rees, single.

William Rees, left a wife and 4 children.

S. Reynolds, single.

Jospeh Wales, left a wife and 5 children.

Henry Williams of Melyncriddan, left a wife and 4 children.

List of victims from 'The Cambrian' 13th. January, 1860.

Benjamin Davies aged 53 years of Bryncock, married. Found 23rd. September.

John Lewis aged 21 years of Bryncock, single. Found 25th. September.

David Morgan aged 19 years of Killybebill, single. Found 25th. September.

John John aged 21 years of Rhyding, married. Found 26th. September.

Rosser Hopkins aged 43 years of Llansamlet, married. Found 26th. September.

John Morgan aged 23 years of Sgullewydd, married. Found 28th. September.

David Jenkins aged 47 years of Penypound, married. Found 30th. September.

James Lewis aged 34 years of Tyllwyd, married. Found 30th. September.

David Griffiths aged 57 years of Pawlpenwern, married. Found 1st. October.

Joseph Batting aged 31 years of Mile-end-row, married. Found 1st. October.

Timothy Lloyd aged 56 years of Tyllwyd, married. Found 5th. October.

Robert Dorman aged 45 years of Bryncoch, married. Found 31st. October.

Llewellyn Evans aged 13 years of Pawlpenwern. Found 31st. October.

Thomas Jenkins aged 36 years of Mile-end-row, married. Found 31st. October.

William Rees aged 53 years of Pawlpenwern, married. Found 31st. October.

David John aged 24 years of Pawlpenwern, married. Found 31st. October.

Joseph Wales aged 42 years of Skewen, married. Found 1st. November.

David Davies aged 25 years of Skewen, single. Found 1st. November.

David Rees aged 22 years of Banwen, single. Found 1st. November.

Thomas Maddock aged 23 years of Neath Abbey, married. Found 1st. November.

Thomas Lewis aged 34 years of Neath, married. Found 11th. November.

Henry Williams aged 44 years of Mile-end-row, married. Found 11th. November.

Those who were not found were:-

William Abraham aged 47 years of Bryncoch, married.

William Davies aged 72 years of Bryncoch, married.

Thomas Reynolds aged 25 years of Pentwyn, single.

David Morris aged 28 years of Pentwyn, single.

The inquest was held by Mr. Alexander Cuthbertson, coroner at the Town Hall, Neath. John Graham (jnr) produced plans of the colliery and said he was aware that there were old workings nearby and he had instructed John Dorman to report to him daily when the drifts in the area were being driven. The two men had met the night before the inundation and Dorman told him that the borehole were satisfactory. The leading borehole was bored for 8 yards, the right hand one for 7 yards and the left one bored for 9 yards. Dorman had been ordered by the fireman, James Edwards, to bore the usual distance but they were bored at night and if a problem was encountered, there was no one in the pit to deal with the situation. From the information he received he thought that the right hand borehole had come into contact with a fault that made the coal 'tender' but no water showed for many hours afterwards. The 'tender' state of the coal meant that the borers could not plug it and water started to come through followed by the inundation.. The manager did not know the position of the old workings and had not seen a plan of them but he knew that they had been worked by his predecessor, Mr. Parsons.

The fireman at the colliery, James Edwards, in his evidence said that, following instructions from Mr. Dorman to see how the borings were going-

"I went to the place in the morning and asked them how they had got on. They said 'middling'. I asked them if they had bored the holes and they said the left hole was eight yards. I found the front hole was six yards and the right hand hole was only three and a half yards. They told me they had struck up against a stone on the in the right hole. I took off my coat and helped Thomas Jones. I bored for half an hour until he broke the 'tool'. As there was no drill to bore further, and the holes were not the proper distance, I sent the men out and went round the works and was out myself at half past five. I saw Dorman at six a.m. and explained to him how I had left everything and the left had hole was only three and a half yards in he said we would

go and see it directly. There were 'plugs' at hand in case they were wanted. The water was coming from the holes about one gallon per minute from each that is more than the ordinary quantity made in this coal."

Thomas Jones who had been a colliery at the colliery for eighteen years, told much the same story as did Francis Rodgers and Thomas Davies.

The Inspector concluded his report-

"Nothing more is known of the terrible catastrophe than appears in the evidence of the witnesses. It is much regretted that proper 'plans' of collieries, and especially of this one are not kept they would have known the exact position of the old works, and approached them safely."

FAR GREEN. Hanley, Staffordshire. 5th. November, 1858.

The colliery was the property of Lord Granville and was also known as the Deep Pit. Ten people were killed when the cage was pulled over the pulley of the headgear. The pit was sixty three feet from the handle of the engine and the height of the axle wheel was 39 feet off the ground. The last stroke of the engine raised the cage 50 feet.

Sixteen men and boys were coming up the pit at 2 p.m. and the engineman was at his post. The door of the engine house was fastened but the window which looked out onto the pit bank was open. At the time it was raining and the overlooker, Tellett called Williams who was a timekeeper to come to the window and give him his time. They had just sat down when one of them said to Gallon the engineman, "*Are we in your way?*" Gallon leaned forward and said "*What did you say?*". He said this twice and during that time his attention moved from the indicators and the cage went over the pulley.

Some of the men went down the shaft and some fell onto the pit bank. The engine was at once stopped and there was no damage to it or the rope. There were two indicators at the pit and the Inspector Mr. Wynne, considered it safe to ascend and descend.

Those who died were-

E. Knowles and 9 others. OTHERS REQUIRED.

In previous visits to the pit Mr. Wynne had seen the enginenter, Peter Griffiths, operate the engine and he was satisfied that he had full control over it. The Inspector thought that no person could go into the engine house through the door unless he had a key. Gallon was convicted at Stafford Assizes and sentenced to six weeks imprisonment. The Inspector commented-

"I trust this case will be a warning to all enginemen not to allow their attention to be drawn from their work they are employed upon."

He continued-

"Since this accident numerous inventions are about to be proposed and submitted, to endeavour to prevent over winding, which I am about to bring under the notice of mining engineers, and which I trust will result in the adoption of some plan to prevent the recurrence of such calamities."