

APEDALE. Sladderhill No. 3 Pit. Newcastle, Staffordshire. 2nd. April, 1891.

The Apedale Colliery, which comprised several coal and ironstone pits, were about three miles N.W. of Newcastle-under-Lyme which was owned by the Midland Coal, Coke and Iron Company, Limited who took possession of the colliery on the 4th. January 1890. They were also the owners of the adjoining Podmore Colliery. Mr. W.Y. Craig was the managing director of the Company, Mr. W.H. Wain was the general manager of the collieries with Mr. S. Lawton the certificated manager of the pit and for it's daily supervision. There was no undermanager and Thomas Holland was the overman of the pit and under him, in the explosion district, were two fireman Ralph Taylor and John Warburton. There were usually three firemen but at the time there was vacancy.

There were three seams of coal worked at the colliery, the Seven Foot Banbury, the Eight Foot Banbury and the Bullhurst seams, all of which were entered by the same crut or stone drift. The pit was worked by one shift except in one area and this was where the explosion occurred. This district was worked in three shifts, the morning shift going down at 5.30 a.m. and made up of 15 men, an afternoon shift of 12 going down at 2 p.m. and a night shift of 9 going down at 9.30 p.m. Coal was drawn between 6 a.m. and 2.30 p.m. only and it was during the afternoon shift that the disaster took place.

The Sladderhill No.3 pit was the downcast and winding pit and was 9 feet in diameter and 200 yards deep. It pierced the strata at an angle of about 30 degrees and dipped to the south east. From the bottom of the pit a horizontal crut crossed the measures to the rise and cut the deep seams. After crossing the Seven Foot and Eight Foot Banbury seams, it cut the Bullhurst seam at 420 yards from the shaft. From the end of the crut and approximately at right angles to it, a pair of levels are driven into the Bullhurst for 560 yards. Near the inner end of these levels two pairs of upbrows or dips were driven to the full rise of the seam. Before this the Bullhurst had been worked to the rise of the present workings.

The ventilation was produced by a Waddle Fan, 35 feet in diameter at the top of the upcast shaft which was 500 yards from the downcast shaft. The fan was driven at between 50 and 60 revolutions per minute and produced a water gauge of 2.5 inches and ventilated several other districts in the mine. The amount of air allotted to the Bullhurst seam averaged about 10,000 cubic feet per minute according to the colliery record book. The current reached the end of the crut and passed along the lower level to the bottom of the No.4 jig dip where it divided, about half going straight on the levels and No.5 dips and returned along the upper levels and then to the upcast shaft. The other half ventilated the No.4 dips and took the same route to the upcast shaft. The air was sent to the working faces by iron pipes 12 inches in diameter or by canvas brattice. The Inspector thought there was sufficient air to ventilate the workings sufficiently. the workings were all driven under the top coal and averaged 5 feet in height. The main levels and dips were about 9 feet wide and the upper level was 4 to 5 feet wide with thirlings 3 to 4 feet wide.

The coal was got down by blasting after being holed over the top and cut at the side. In the main level it was filled into tubs taken to the face. In the upper level the coal was drawn from the face by a 'dan', or small iron box without wheels, to the last completed thirling and 'riddled' or raked down the thirling to the lower level and there filled into tubs. In the dips the coal was riddled down to the last thirling, filled into tubs and 'jigged' down to the main level. On reaching the main level the tubs were drawn to the shaft by horses.

Marsaut safety lamps were used in the pit. They were examined and locked at the surface. In the Bullhurst seam lamps were allowed to be opened for relighting at the bottom of the No.4 dip. The firemen were provided with shielded Davy lamps for shot lighting in addition to the Marsaut. The mine released a fair amount of firedamp and it

was known to accumulate in rise places if they were left unventilated. The levels beyond the last thirling were left unventilated for 10 days after the explosion and firedamp did not accumulate in them. There were no records of gas in the fireman's report book.

The intake airway and haulage road was wet or damp from the downcast shaft to thirling No.7. Water drained under the coal and down the thirlings from the old workings above and on reaching the lower level, it ran along the deep side to the crut and then to the shaft. The workings were generally damp as they were approaching old workings above from which the water came. The upper level was dry and dusty and there was considerable dust from the 'riddling' operations that were carried on.

Two colliers, Samuel Rowley and Samuel Horton, had come from the upper part of the No.4 workings a few minutes before the explosion and were in the crut on their way to the shaft at the time. They had felt no sense of danger when they left their work a little early but at about 200 yards from the shaft they felt a change in the air. They were old colliers and knew that there a either an explosion or that there had been a very heavy fall of roof but they did not consider the situation serious and they went took no steps to find out what had happened except to tell the engineman that if anyone signalled from the bottom of the shaft he was to let the cage down. They waited at the pit top until some other men went down and they returned with the news was that there had been an explosion so an hour was lost before anyone tried to enter the workings. In evidence from these two men at the inquest the Inspector commented-

"They appear either wilfully stupid or very unintelligent and they were censured by the Coroner for their conduct."

The fan attendant said that the fan was running at it's normal speed and he had observed a smell and found that he could not stay in the fan drift because of the afterdamp but he sent no message to the manager. The Inspector further commented-

"It is not probable that the loss of life was increased by the delay in entering the pit, as there was little doubt that all the victims were dead a few minutes after the explosion. Had the conditions been different the stupid conduct of these men might have prevented the person alive after the explosion."

The explosion was not observed at the top of the downcast shaft and there was no one at the bottom of the shaft. When the night shift were going to work shortly after 9 p.m. they found the first traces of an explosion in the Bullhurst level about 150 yards from the crut. Here a stopping was disturbed and a short distance beyond, a door blown out. They returned to give the information and the officials were informed and the exploration commenced. The Inspector reached the pit at 2 a.m. and made an examination of the district.

Richard Parsons, a horse driver was found besides a journey of full tubs to which the horse had been attached near the bottom of the no.4 jig. He lay on his back, burnt and at his pace of work. George Wetrall, the taker-off, was found at the bottom of the No.4 jig, with four lamps that had taken the force of the explosion near the place. Two of these lamps were said to have belonged to Parsons and Wetrall and one was the fireman's shot firing lamp. Frederick Webb, who had worked in the thirling near the face of the main level was found 40 yards from his place and he looked as though he ad fallen while he was running out. His lamp was found at his place of work. Sampson Knight was found in the level near the last thirling and had probably been coming down the thirling at the time. James Holland was in the upper level about 18 yards from the face with his arm round a displaced air pipe and John Warburton was found two or three yards further in with a coil fuse in his hand. His lamp was near him but was screwed up. Joseph Birch was found the No.5 jig dip but his lamp could not be found. Arnold Allen was found at his place of work and William Oakley away from his place of work and it was thought he died while trying to escape as had George Hall. All the lamps that were found wee locked and there was no reason to suppose that they had anything to do with the explosion.

Those who died were-

John Warburton aged 43 years, fireman who died from the violence of the explosion,
Frederick Webb aged 21 years, collier who was killed by the afterdamp,
Samson Knight aged 41 years, collier who died from severe injuries,
Richard Parsons aged 13 years, a horse driver, who was found dead with a scorched head and clothes,
William Oakley aged 19 years, a loader who was killed by afterdamp,
George Wetnall aged 19 years, a taker-off who died from severe injuries and burns,
George Hall aged 34 years, a loader who died from the effects of afterdamp,
Joseph Birch aged 19 years, a loader who died from head injuries and other severe injuries,
Arnold Allen aged 14 years, a riddler who died from injuries,
James Holland aged 33 years, a riddler who was burnt, William Rhodes, collier and Thomas Roberts, collier.

The inquest was opened by Mr. John Booth, Coroner for North Staffordshire of the 4th. April and continued on the 16th. and the 23rd. The jury heard the evidence from Mr. Atkinson who said-

"All indications observed pointed to the far end of the upper level as the starting point for the explosion. Here in the thirling there appeared to have been a blown out shot. The coal was side cut and holed over the top. the position of Warburton, the fireman, which was such as he might take immediately after lighting a shot in the thirling. He had a roll of fuse in his hand, and such fuse was used for lighting the shot a shot box, containing two cartridges of gelignite was also found near him. His Marsaut lamp was unlocked but screwed together from which it would appear that he had lit the shot by opening the lamp. This was breach of the rules as the firemen were supplied with a shielded Davy lamp for the purpose of lighting shots by means of a hot wire. His shot firing lamp was found afterwards near the bottom of the No.4 jig."

There was no doubt that the coal dust had a part in extending the explosion throughout the mine and there was criticism of the materials that were used to stem the shots.

The jury returned the following verdict-

"That the explosion was caused by a blown out shot and we are strongly of the opinion that the management of the colliery had been most lax and negligent leading, in the opinion of the jury, to the gross carelessness shown on the part of their subordinates."

The Inspector recommended that clay should be sent down the pits and used to stem shots and pointed out that the relighting station was too near the face. He was also critical of the system whereby the firemen had two lamps and recommended that this should be restricted as much as possible. He was also critical of the use of air pipes for ventilation and recommended that a stoke counter be placed on the ventilating fan.

The Coroner entered the verdict and the foreman called his attention to the fact that the jury had sat for two days besides the preliminary hearing at the pit head and he said that he felt that they should have some remuneration. The Coroner said that the matter had been before the County Council who refused to make any allowances to juries and he thought that they should all be on an equal footing either all being paid or not.

MALGO VALE. Bristol, Somerset. 31st. August, 1891.

The colliery was owned by the Bristol Collieries Company Limited which was based in Bristol and the colliery was near Bedminster in the boundaries of the county of Bristol

on the north side of the Bristol and Exeter Railway, about one and a half miles west of the Bristol joint station.

The consulting mining engineer to the Company was Mr. John Batey which was also the agent under the terms of the Coal Mines Regulation Act 1887. There were two shafts 66 yards apart. The Downcast called the Malgo or Old Pit was 500 yards deep and 14 feet in diameter and the upcast, the Argus, New Pit or furnace shaft was 580 yards deep and 15 feet in diameter. Both shafts were walled throughout and were used to raise and lower both men and minerals. The colliery was managed by a certificated Manager, Mr. Ralph Hope who had held the position from 1873 and was previously a colliery overman for many years. Mr. Hope had an overman, John Button, and a staff of district overmen or examiners under him. There were 290 persons employed underground at the colliery with 224 on the day shift and 66 on the night shift. Two seams were being exploited at the colliery, the Top Vein which was three feet three inches thick and included two dirt bands about five inches thick and the Bedminster Great Vein which was three feet six inches thick of clean coal. They both belonged to the Bedminster series and had a dip to the south of about 18 to 25 degrees.

From the bottom of the Malgo shaft there was short cross measure drift about 50 yards long which driven to the south to cut the seam and from that point a haulage road or Dukeway was driven down in a line with the full dip of the seam to about 1,200 yards from the bottom of the Argus shaft a cross measure drift was driven 220 yards to the south west to cut the seam from which ran a Dukeway in the same line but not on the full dip for about 1,000 yards where the depth from the surface was about 3,000 feet. as the Dukeways diverged from each other and at their extreme pits were 500 yards apart, they were driven out at certain distances and the coal between them worked to the boundaries.

The ventilation amounted to 48,000 cubic feet per minute and was by means of the steam waste from the underground haulage engine, the boiler furnace and a 8 feet ventilating furnace all of which were 55 yards from the bottom of the Argus upcast shaft. The ventilation was split, one part being carried to the Top Vein working which was regulated by the small requirements of the seam and the other split passed in the Bedminster Great Vein workings which were ventilated from the Malgo shaft with the Dukeway as the intake and the Argus Dukeway as the return. The ventilation was forced and directed by sheets and doors. The Inspector pointed out that there were disadvantages to this system as the whole of the working were in the current of air.

Of the 224 on the day shift, 34 worked in the Top Vein coal and 190 worked in the Bedminster Great Vein coal with 120 in the Argus workings and 88 in the Malgo workings and this included those who worked at the bottom of the shafts and the top of the 'Dukeways' or engine planes. The explosion occurred on a Sunday night Monday morning shift when only 28 men were underground, 12 in the Malgo and 12 in the Argus Bedminster Great Vein workings, 2 in the Top Vein workings and 2 near the bottom of the shaft, the furnaceman and the stoker.

Firedamp was entirely unknown in the Top Vein but the Bedminster Great Vein was known to give off gas but only in small quantities. There had been some slight explosions previous to the disaster. These occurred in 1887, 1890 and 1891 when one life was lost in each of the first two. The effects of these explosions did not extend above a few yards from the point of ignition which occurred at the naked lights of the men. In the adjoining Dean Lane Colliery the seam appeared to give off more gas and there had been several fatal accidents at that colliery between 1872 and the early part of 1889 during which period naked lights were in use. This danger was removed in 1889 when safety lamps were introduced.

For years previous to the explosion naked lights had been used at the colliery with the exception of the workings in the disturbed coal at the bottom of the Argus Dukeway.

It was here that the explosion took place and there had been an explosion there the previous year.

The general introduction of safety lamps had been strenuously opposed by the manager, the officials and the workmen but since the explosion in the previous year they had been used in these workings on the distinct instructions of Mr. Batey who did so in accordance with the views of the Coroner expressed in August 1890. It was Mr. Batey's intention to extend the use of lamps gradually from these workings to meet the requirements of the 8th. General Rule and at the same time overcome the prejudice of the men.

A connection between the Argus and the Malgo workings was completed on Friday at 3 p.m. on the 28th. August. Work ceased at 3 p.m. on Friday and the mine was left idle until Sunday night. It was then William Button's duty to examine the pit before sending two men, Burgess and Chambers to work. Later the explosion occurred. Immediately after the event, the explosion Mr. R. Hope and Mr. Joseph Button, the chief overman quickly went down the pit and found the bodies of nine men and Fred Chambers who was unconscious and talked to them but died soon afterwards. They found Charles Poultney lying unconscious with his Davy lamp in his hands and burning them. Ten men lost their lives in the explosion.

The men who lost their lives were-

Thomas Boulton aged 55 years, coal miner. He was identified by his brother, Thomas. He had five unmarried and three married children,

William Henry Clarke aged 16 years, a youth assisting. He was identified by his father and lived at 11, King William Street,

George Burgess aged 62 years, coal miner. He was identified by his daughter Ann Webber of 10 Fairfield Terrace,

Henry Foot aged 33 years coal miner of 15, Cromwell Street who was identified by his Sister Ellen,

Samuel Durbin aged 51 years, boiler stoker. He was identified by his son who lived with him at Bennett's Buildings,

George Taylor aged 39 years, furnaceman. He was identified by his wife Theresa Taylor,

William Button aged 42 years, examiner or fireman,

Henry Vernon aged 20 years, assistant to Button and

Frederick Chambers aged 22 years, repairer.

The inquest into the deaths of the men was held on the 7th, 8th, and 14th. September 1891 before Mr. H.S. Wasbrough, Coroner for Bedfordshire. All interested parties were represented.

There was no doubt as to the seat of the explosion. It was in the No.8 Argus Level where Frederick Chambers and George Burgess were found. Chambers was alive and said that Burgess had caused it without explaining any more. There had been a weighting of the roof and the Inspector thought that first gas was suddenly given off at the weighted roof and accumulated on the high side of the Argus workings which was ignited at Burgess's naked light.

After considering all the evidence the jury brought in the following verdict-

"That the deaths resulted from an explosion of gas liberated by a fall of roof and fired in contact with a naked light carried by a workman contrary to the regulations of the mine."

Mr. Prideaux stated that-

"I went on the 16th. September to Bristol General Hospital where, with the house surgeon, Mr. Carter and with the nurse who received Frederick Chambers, I searched the clothing which Chambers had worn and which they had kept tied in a

parcel the last 16 days. a pocket of the waistcoat contained a matchbox apparently half full and containing 14 matches not struck and a metal box, holding in opinion of the surgeon, an ounce of tobacco. I believe that he may have had the tobacco for chewing, but that this possession of matches was a breach of the law. I venture to suggest that the law should give power for search of colliers descending mines, a power, I believe, not existing, and from which, in my judgement, considerable good might result.”

BLAENGWYNFI. Garw Valley, Glamorganshire. 30th. Spetember, 1891.

The colliery was the property of the Glyncoerrwg Colliery Company, Limited, and eight sinkers lost their lives in an overwinding accident.

The Inspector commented-

“My opinion was and still is, that the engineman had his attention taken off his work for amount by the entrance of his mate to relieve him, whole raising the bowk with the men in it that he hallowed the bowk to ascend too far before attempting to shut off the steam and apply the brake, and nod on discovering his mistake he lost his head and overwound the bowk. I believe that the machinery was in perfect order.

It is of course, possible that, had a detaching hook had been in use, the lives might have been saved. But their uses is not compulsory, and, moreover, their effectiveness in the prevention of accidents is in question. For these reasons I have not suggested their adoption, thinking it better to leave it to the owners and managers to adopt them if they have confidence in them, or trust to the machinery and the engineman if they have not such confidence.”

The men who died were all sinkers-

Thomas Thomas aged 28 years,
James O'Connor aged 35 years,
Humphrey Jenkins aged 28 years,
Richard Skinner aged 28 years,
William Evans aged 51 years,
William Thomas aged 35 years,
Dan Thomas aged 32 years and
William Carpenter aged 45 years.

The inquest was held before Mr. Cuthbertson, Coroner when the jury returned a verdict of 'Accidental Death.'

WHELDALE. Castleford, Yorkshire. 8th. December, 1891.

The colliery was the property of the Wheldale Coal Company and five men lost their lives when there was a fire in the engine plane.

Flames were seen where the east and west bord intersected the engine plane at right angles. About 460 yards from the shaft there was cabin at the corner of this junction where the boys were in the habit of sheltering from the air current. Glass paraffin lamps were hung at the junction but the mine was worked by safety lamps but certain stations in the main intakes, open lights were allowed and no naked lights could be taken beyond these stations.

At 4.30 p.m., a boy named Starbuck, who worked at the wheel on the engine plane below the junction and who had a safety lamp observed fire in the cabin. He warned two other boys at once who were nearby and went to tell the deputy who, unfortunately was

at the bottom of the shaft 500 yards away at the time. He came at once and tried to put out the fire with tubs of water but it had become too large to deal with in this way.

The seam was dry and dusty and there was a lot of timber and brattice cloth near the cabin. Goodall, the deputy, finding that the attempts to extinguish the fire were useless and knowing that there were 20 men in the workings below this point, most courageously and without a moments hesitation, crept below the flames and went on to warn the workmen of the danger. All the men were told but it seemed that some of them did not realise the peril that they were in which increased with every moments delay. All but the five men reached safety by travelling the return air way with the deputy. The five men seemed to have travelled up the engine plane and met the fire and smoke and fumes which became denser and denser the near they got to the fire. They were overcome and suffocated.

All the victims were listed as colliers.

G Goodwin aged 32 years,
Joe Milner aged 36 years,
John Milner aged 31 years,
W. Tilley aged 22 years and
W. Oakley aged 30 years.

Every effort was made to get the fire under control and to recover the bodies of the five men. The manager Mr. J.E. Mammatt, the undermanager, Mr. W. Arundel, backed at every point by the chairman of the Company, Mr. M. Olroyd, M.P., along with the workmen did everything that was humanly possible. The efforts in the recovery work were helped by Mr. Wardell who testified to the heroic efforts that were made.

The fire was raging like a terrible furnace and no one could say if gas was accumulation. It was realised that any sudden derangement of the ventilation, cause for example by a fall, might precipitate an explosion at any time. Nevertheless, the men worked on in the danger and the terribly hot conditions. After several days there was no progress and it was decided to flood the district which was in a dip and could be done without flooding the rest of the mine.

Pipes were laid and the tubbing in the shaft was tapped and the water turned on. When the work of opening the mine was going on the remains of the five men were found close together and within a short distance of the junction. This confirmed that they had tried to escape down the intake.

The reason the fire started could not be found. A boy named Gelder was near the cabin a short time before the fire was discovered. He had been out of the pit to get a water bottle and had returned with a flaming lamp which he took out with him. It was shortly after this that Starbuck noticed the flames and it appeared from the evidence that Gelder was the last past the place with a naked lamp.

The evidence was most exhaustive and the Coroner, Major Arundel and the jury came to the verdict that-

“That the deceased lost their lives in the Silkstone Pit of the Wheldale Colliery on the 8th. December but there was no evidence to show how the fire originated, and that no blame was attached to anyone.”

WHEAL OWLES. St. Just, Cornwall. 10th. January, 1893.

The mine was owned by Thomas Bolitho, Sons, and others and twenty lives were lost through an interruption of water from the Old Wheal Drea workings which belonged to the same mine. Captain Richard Boynes was the manager of the mine and Thomas Tregear the underground agent at Wheal Owles but Captain Boynes had been ill for the previous two or three years and had been unable to visit the mine. Thomas

Tregeare had surveyed and dialled the plans and plotted the Cargodna workings, which were those in use at the time, on a small rough plan which he used for working purposes. The workings were laid down by Mr. Boynes on the large plan of the mine. The working plan did not show the position of the old workings but the large plan showed the workings of the Cargodna (which was part of the Wheal Owles workings at the time of the disaster), The Buzza, Flat Work, Wheal Boys, Wheal Grouse, Corpus Christi, Wheal Edward, Wheal Drea and Wheal Gendal. All these workings had been abandoned and full of water to the adit level for many years. The Wheal Drea and Wheal Owles workings were the nearest to the Cargodna workings and the nearest part of the lay respectively to the west and east. The course of the lodes in the Cargodna working ran approximately north-south. The Cargodna workings ran to the south about 50 to 80 fathoms, the deeper levels being the longer where they intersected a vein which ran about south-west and north-west and on which the level had been extended towards Wheal Owles.

Mr. Tregeare surveyed the workings every four months and, as he was aware of the presence of water in the old workings, he took what he considered to be the necessary precautions. He talked the matter over with Captain Boynes and he always cautioned him to be careful when drivings were made. He went through all the working places on Thursday 5th. January and the other agent, John Laggna, went through them on the Friday before the disaster. Neither of them noticed anything that indicated that they were approaching water and they took the plan of the old workings to be correct and directed their actions accordingly. He also took the workings of the Cargodna to be correct as laid down on the plan by the manager. Thomas Tregeare stated-

“In making my surveys and plotting them I have not made much allowance for the variation of the needle (magnetic meridian). I have not checked my surveys by tying from an upper level in the shaft, down through the far in workings to the lower levels, back along them, and up the shaft to the starting point. When plotting my surveys I make allowance for the measurements on the underlay in accordance with the angles taken by means of a quadrant. This was my practice in the Old Wheal Drea workings also. I cannot say what the practice of my predecessors was. I know two or three of my predecessors they were all practical men, who rose from being miners. Their experience was, I believe, local, and only at this mine in some instances, while in others they had experience as Agents at other mines. I have myself been dialling at this mine more or less for 15 years. I produced my working plan and there is a longitudinal section but there is no transverse section.”

On the morning of the accident, Thomas Tregeare and Captain Laggna were underground to measure up the men's work. Captain Laggna changed his clothes in the engine-house and left him at the count-house while Tregeare was changing his. They met at the shaft and went underground together. On the way to the shaft they met the shaftsman Newton, who told them that there was pump split in the West Wheal Owles Shaft. This delayed Tregeare about fifteen to twenty minutes. He went on and was about 20 yards from the shaft when Captain Laggna called him and told him to hurry up. He ran to meet him and was told that they had holed water at the 75. He had been told by men who had come up while he was at the top of the shaft.

They went down the shaft with the pitman and met others coming out. They got to two or three fathoms below the 30, and found that the water was up to that point. They then went to the surface and Tregeare sent a pitman down Wheal Owles Shaft to see if anyone had escaped that way but he found no one.

It was felt that anyone working below the 30 fathom level who had not already escaped had lost their lives. Steps were taken to find the names of those who were in the mine and it was found that twenty had perished. On the morning of the accident

forty men went underground about 7 a.m., and had been at work about two hours when the accident occurred. All the men employed in the 55 Fathom Level came out safely but none of the eight men employed in the 65 Level came out. Of the eight men employed in the in the 75, four, two trammers and two fillers, came out alive after having been close to the shaft when the inrush occurred. None of the men employed in the 85 came out alive.

The men who died were-

Thomas Allen aged 23 years, miner,
Lewis Wilkins Blewett aged 20 years, trammer,
Peter Dale aged 24 years, miner,
William Eddy aged 20 years, miner,
Thomas Ellis aged 36 years, miner,
John Edwards aged 37 years, miner,
John Grose aged 54 years, miner,
Thomas Grose aged 22 years, miner,
John Olds aged 25 years, miner,
William Roberts aged 24 years, miner,
James Rowe aged 22 years, miner,
John Taylor aged 30 years, miner,
Mark Taylor aged 22 years, miner,
Charles Thomas aged 38 years, assistant trammer,
James Thomas aged 38 years, miner,
William John Thomas aged 15 years, wheeler,
Edward White aged 44 years, miner,
James Williams aged 25 years, miner and
Richard Williams aged 27 years, miner.

There were several survivors who gave their accounts of the disaster. James Hall, a miner who had worked at the Wheal Owles for the last seventeen years told the Mines Inspector the day after the accident-

“I was at work in the mine yesterday at the ‘55’ fathom level. I went down the Cargodna shaft, leaving the surface about 7.30 a.m. It took me about a quarter of an hour to reach the ‘55’ fathom level. I had started work about half an hour in my working place (a stop on the back of the ‘55’ fathom level, in the Cargodna lode) when I hear a noise, which I first thought arose from a sollar giving way. I had two boys with me and I called them to jump down to the level from the sollar on which they were working, and I did so myself also. I then recognised that it was water which was rushing down through the stopes, &c. to the levels below. I saw no water as it was at a lower level it came in, but I can say at which, of my own knowledge. Out lights were extinguished by the air current. I got the boys into the wagon and pushed it out to the shaft. It thus being on rails acted as a guide for me. The boys then took the ladders and climbed safely to grass. I went down three ladder lengths below the 55 fathom level to see if I could assist anyone and remained down about 20 minutes, after which I climbed to grass. There was water falling down the shaft. The other men and trammers working near the end of the 55 came out with us safely. I saw no person below the 55. Those who were saved from the 75 had come up to the 55 before I got to the shaft. I did not actually see water in the mine, but I know it was water because I dropped a stone down the shaft and heard the splash. The water at that time was perhaps about 13 fathoms below the 55. I climbed leisurely, and dropped a stone about every 10 fathoms to see where the water was, and I think it

was about 15 fathoms below me. It seemed for some time to rise nearly as fast as I climbed. At the adit level I met captain Tom Tregear on his own way down. I asked him what the water was and he said he did not know. I told him that it was rising quickly. he then went down to see where it was, and I went up to grass. I had no knowledge nor idea of any danger from water. There was no rumour of any such thing among the men. Had there been we would have ceased work long since.”

William Charles Granville stated-

“I am a filler working at Wheal Owles. I was in the mine yesterday when the water burst in. I was engaged, along with Richard Blewett, in the Platt close to the shaft and under the 75 fathom level. About nine o'clock I heard a roar like thunder. Our candles were extinguished. We made for the level (the 75), on reaching which I followed Blewett to the shaft, and we climbed to the 65 fathom level. Blewett there tried to light his candle, but his matches were extinguished by the wind. We made our way up to grass in the dark. No water reached where I was. We made our way out as quickly as we could, thinking our lives were in danger. I know nothing further with regard to the accident.”

Richard Lutay was also in the mine and said:-

“I am a trammer working at Wheal Owles. I was at work there yesterday in the 75 fathom level. I happened to be close to the shaft about 9 o'clock, when I heard a noise as if caused by a wagon in the 55 level. I then heard a rush like water into our level. I then heard a louder sound, and rush of wind put out our lights. We (my comrade and I) were going along the level at the time, and we got about 10 fathoms in. We both turned back, and by the time we reached the Platt at the shaft the water caught us up. I shouted to Granville and Blewett, who were down in the Platt filling our stuff into a skip, and they came up. We were all in the dark. We got to the ladders as soon as we could and came up to grass, but before I reached the ladders the water was pouring down the shaft from this level. I saw water coming on to the level before I lost my light. It seemed to gradually increase, but did not reach us in a big body. I could hear it pouring down through the gunnisses further in. This level was quite dry previously, and we had only been out with a full wagon about five minutes from the end of the level. A strong rush of wind accompanied the water.”

Benjamin Hoskin was a miner at work at Wheal Owles and said:-

“I have worked there about 33 years out of the last 36. I was at work at the 55 fathom level of the Cargodna shaft, having entered the shaft about 7.30 a.m. My companion and I were about to repair a tram-hole, 'shoot' or 'mill' as they are called, having removed a couple of wagons of stuff out of the way, when I heard a noise like an explosion. I thought at once that it was water breaking in. I called to my comrades to come on. They, however, went inwards along the level, whereas I went outwards and made my way to the ladders in the shaft. Then (my comrades) afterwards came out with the others. They went inwards in consequence of getting confused, as we all were in the dark owing to the rush of wind caused by the water extinguishing out lights. I made my way up to the 45 where I saw three men, one of who, had a light. I then called to them to come on quickly, and went straight up to grass myself. I thought the water was closer to me than proved to be the case. I did not actually see the water. I knew it to be water from the rush of wind and hearing it pouring down the workings. I did not know that any of the workings were near dead water. Had I known it I would not have worked there. The water

came from below the 45 level. I cannot say at what point it broke in, but I think it came from the 65 fathom level.”

Thomas Tregear stated that he thought it was the Wheal Drea workings that had been holed and the water came from these. These were connected with the Boscean Old Workings, so that, in order to pump out the water from the Cardona workings, it would be necessary to provide an inflow of water from the Old workings. The pumps at Weal Drea when they were working, had 8 inch plungers with an eight and half foot stroke which worked at three strokes per minute. At Boscean there were nine inch plungers with a ten foot stroke which worked at seven strokes per minute. The water rose about 6 feet between 11 a.m. on the day of the disaster and 11 a.m the following day after and the water appeared to have found its level in both sets of workings.

Mr. Martin, the Inspector stated-

“Having learned during my inquiry, when plotting the surveys, no allowance had been made for the variation of the magnetic meridian, and that they were laid down from the meridian originally marked on the plan when prepared in 1841, it at once appeared to me that the accident was to be accounted for in this way, and I consequently requested that a corrected plan should be prepared which was done by Messrs. Henderson and Son, of Truro. This resulted as anticipated and demonstrated satisfactory how and where the mistake arose. I called at the mine when passing through St. Just on the 28th. September, previous to the accident, being accompanied by Mr. E.E.V. Stokes, and saw Mr. Thomas Tregear, the chief Agent, in the absence of the manager Mr. Boynes, who had been invalided and confined to his room for some time back. having had the position of the workings pointed out to me and explained on the plan in the Court House, I drew attention to the fact that they appeared to be working between two ranges of old workings containing water, and in no very great width of ground, and I mentioned that they would need to be very careful. I also asked if they were quite sure of the accuracy of their plans, and was answered in the affirmative, Captain Tregear saying that he was quite so, and that the manager was most particular about the plan, which he allowed no person but himself to interfere with, as he was rather ‘plan-proud’. Captain Tregear showed us a rough working plan of the Cargodna workings, which he kept up by himself, for his own guidance, but this did not include the old workings from Wheal Drea. Not feeling satisfied that I had altogether grasped the exact positions of the relative levels in the two sets of workings, owing to the two different datum lives from which they were reckoned, I requested Mr. E.E.V. Stokes to again visit the mine and go into the plans thoroughly, to see exactly how they stood. He accordingly visited the mine on the 1st. November, and does not appear to have had any doubt raised in his mind to their accuracy. He had also been underground and made a general inspection of the mine on the 18th. July.

Having, in accordance with the instructions, reported to you, in view of the general demand from the neighbourhood for a public inquiry, directed that proceedings should be instituted against the persons responsible for the inaccuracy of the plans. The manager was consequently, on the 5th. April, charged before the justices, Messrs, the Rev. John Tonkin, J.P., and C.C. Rose, J.P., at the West Penwith Petty Sessions (Penzance), with having contravened the 19th. Section of the Metalliferous Mines Regulation Act, 1872, by not having an accurate plan of the underground workings of the mine.

The defendant being confined to his bed by continued illness was represented very ably by Mr. Bodilly, solicitor, of Penzance, who set up a somewhat peculiar defence that he (the defendant) was ignorant of the effect

of the magnetic meridian, and that consequently under the exemption which is expressed in the section he was not liable. Except as a technical and legal defence, I very much question the defendant admitting such to be the case, as it is too fundamental a principle for a person of his apparent ability and experience in planning to be ignorant of, and I think it is due to the manager to state that the plan which was prepared by him in 1841, when the mine was first commenced, 130 years before it was required by legal enactment, was well got up, neatly drawn, and apparently highly credible in all respects other than the unaccountable oversight of omitting to allow for the variation of the magnetic meridian."

The Bench took time to consider their decision which was reported at length in the 'Western Morning News' of Monday 17th. April.

MAGISTERIAL DECISION.

At a special sitting of the West Penwith magistrates, at Penzance, on Saturday, Rev. John Tomkin and Mr. C.C. Rose gave their decision in the case heard of the 5th. inst. against Mr. Richard Boyns, purser and manager of the Wheal Owles Mines. The charge was of having kept inaccurate plans of the mine. Mr. A. Archer, of Truro, prosecuted on behalf of the Treasury Mr. G.L. Bodilly, of Penzance defended.

The Chairman said in this case the facts were very simple, and indeed were practically admitted. The defendant was not only one of the principle owners of, or shareholders in, but was also the Purser and principle agent of the mine. He had himself kept the plan of the workings of the mine and such a plan it was admitted to have proved seriously inaccurate. The defence raised was that defendant had been ignorant of the inaccuracy and that under the section such ignorance was a good defence. The section on question (after providing that the Owner or Agent shall keep an accurate plan and that he shall on request produce such plan to the inspector) continues thus:-

"If he (1) fails to keep such a plan as is prescribed by this section or (2) wilfully refuses to produce it or (3) wilfully withholds any portion of such plan or (4) conceals any part of the workings of the mine, or produces an imperfect or inaccurate plan, unless he shows he was ignorant of such concealment, imperfection or inaccuracy, he shall be guilty of an offence against the Act."

The defence was very ably to contend that the exception (i.e. the words 'unless he shows he was ignorant', &c.) applies not only to the fourth or last division, but also to the first and other preceding divisions of the offences under the same section, and that, therefore, ignorance in this case constituted a good defence. As to the facts relating to such ignorance, it was not for one moment suggested, even by the prosecution, that there was any wilful intentional inaccuracy the inaccuracy in question seems to have arisen from the defendant having left the plan without making allowance for the continuous magnetic variations, the result being that the plan was wrong to the serious extent of being out of 100 feet in the distance shown by it in the present and older set of workings. We have no hesitation in saying that we do not believe, and indeed the prosecution did not allege, that the defendant was aware of to what great extent the omission to make the necessary allowance had rendered his plan inaccurate but his attention had been called on more than one occasion to the existence of magnetic variations and the fact of their affecting plans, and if it were necessary for

uds to decide the point, we should feel some difficulty in finding that we were satisfied that the defence had shown 'ignorance' within the meaning of the section. In arriving at a decision as to whether any offence against the Act has been committed at all, a distinguished form the question of the degree of, or the punishment for, the offence, if any, we have endeavoured not to allow ourselves to be influenced, on the one hand by the fact of the very terrible accident referred to by the prosecution, or, on the other hand, by the facts as to the defendant's integrity, his well-known interest in the mine and miners, the deep pain occasioned on him by the accident, and the present state of his health, which were mentioned by the solicitor, and which are well known to us, and cannot but call forth sympathy with him at this time. After a careful consideration of the whole scheme and spirit of the Act, and the wording of the Section (which it must be admitted is obscurely drawn), and of the other Sections (particularly Section 32, which throws some light on it, and the distinctions made in places between 'offences' and 'wilful offences'.) we are of opinion that as a matter of law words 'unless he shows he was ignorant,' &c., do not Apply to the first offence under the section, and that ignorance, even if proved up to the hilt, would not in this cases be a good defence, and that, therefore, an offence had been committed against the Act by the defendant in his character of Agent of the mine, and we inflict a penalty of £15.

There was no appeal and no inquest held on this disaster.

RAVENSLODGE. Dewsbury, Yorkshire. 4th. August, 1892.

The colliery was owned by Messrs. G. and J. Haigh and the accident occurred at about 10 p.m. when there were seven people in the pit. The seam that was worked was the Black Bed at 268 yards. The upcast shaft was sunk to the Better Bed which was about 40 below. The shafts were at the lowest part of the workings.

At the time of the accident there were six persons underground, Richard Swallow and his two sons, John Swallow, F. Beaumont and J. Hurst. All lost their lives when the tubbing in the shaft gave way at a point 220 yards above the Better Bed and 11 yards above the 'Blocking Bed'. Nine segments of tubbing gave way, four in one ring, three in the next above it and two in the next. Water rushed into the mine and rose to the top of the porches at the bottom of each shaft within a few minutes and continued to rise for 200 yards. Only the furnaceman, William Lund, was able to escape. The men were at work heightening the main road and had descended at about 9 p.m. Lund and Richard Swallow remained at the furnace and the rest went to work. At about 10.10 p.m., Lund noticed the air and smoke begin to come down the upcast shaft. he told Swallow about it and Swallow said that he must go and tell the men who were working and started along the main road. Lund reached the bottom of the downcast shaft and signalled to the top and was taken up. He reported that something was wrong and shortly afterwards a loud noise was heard in the shaft. The noise was caused by the falling sections of tubbing. The signal bell at the bottom was rung but there was no answer.

The manager, Mr. Doctor Ashton, descended the pit for about 30 yards but had to return because of foul air. The water was rising fast in both shafts and continued to do so until it had risen 200 yards.

The work of recovering the bodies and reopening the mine was very slow, laborious and had considerable risk. As the water lowered the roof fell and the whole of this debris had to be searched to recover the bodies. The air was choked and the ventilation defective and large quantities of gas that had accumulated had to be removed inch by inch. It was not until the 12th. October that the first body was found and the remaining five were not found until the beginning of December. Mr. Wardell commented that it was

fortunate that the accident happened at night and not during the day when there would have been 200 men and boys in the mine.

All the dead were working as contractors.

R. Swallow aged 49 years,
James Swallow aged 21 years,
John Swallow aged 17 years,
John Swallow aged 23 years,
J. Beaumont aged 17 years and
J.W. Hurst aged 18 years.

Owing to the great difficulty in recovering the bodies, the inquest into their deaths was not held until 10th. January, 1893

An inspection was made after the disaster and the rest of the tubbing in the shaft was found to be secure. When the segments that gave way were recovered it was found that there was a flaw in the boss right across the plate and this caused it to break. The segment was sound on the outside and would not have been visible when it was put in and it was not detected when it was tested by a hammer and chisel when it was installed.

The jury brought in a verdict to the effect that the lives were lost through the giving way of this defective section of tubbing and that the cause of death was purely accidental with no blame being attached to the owners or the workmen.

YNISCEDWIN. Swansea Valley, Breconshire. 24th. August, 1892.

The colliery was owned by the Yniscedwin Colliery Company and the upcast shaft was fitted with cages which were mainly used for lifting water in tanks. The coal was raised from a slant or drift which dipped at 1 in 3 and was 300 yards long. The men also use the slant to go and to come from their work. There was only one winding engine placed between the shaft and the slant and this worked the haulage in the slant and the cages in the shaft by means of separate drums which could be thrown out of gear by clutches as required.

Water was raised after the day shift finished and during the night when the slant was not working. The miners were raised and lowered in the slant by a 'bridle', three carriages nine and half feet long, doubly coupled together and attached to the haulage rope. Stop blocks were provided for safety at the bank head and there was a level landing place. No coal was drawn during the night but a dozen men were employed in repairing. There was no banks man at night and it was the custom for the night overman to attend at the top of the slant and take charge of the descent of the night men. No other person was authorised to interfere with the bridle on the stop blocks.

About 6 p.m. thirteen men assembled at the mouth of the slant and the overman was in attendance. The bridle was attached to the rope and ready on the landing above the stop blocks which were properly closed. The engineman, who had been winding water in the shaft for about half an hour, had at this moment left the handles and was outside the enginehouse on the side next to the shaft. The overman came to tell him that they were ready to descend as was the usual practice.

The engine intended to resume the winding of water in a minute or two and had not changed the gearing on the drums and so the drum that wound the slant rope was out of gear but the brake was on.

Before the overman found the engineman, the men on the slant interfered with the bridle blocks and the bridle with nine men in it ran wild down the incline. Three of them jumped off and escaped but six were killed by the shock or the fall of roof caused by the bridle knocking out timbers about 170 yards from the surface.

Those who lost their lives were-

Thomas Sims aged 70 years, pumpman,
William Jones aged 30 years, labourer,
Thomas Phillips aged 42 years, labourer,
Rees Pippin aged 27 years, repairer,
Edward Anthony aged 35 years, labourer,
William Lewis aged 17 years, labourer and
Thomas Jeffreys aged 18 years, collier.

The incident was carefully investigated. The machinery was found to be good and the management could not be blamed for what had happened which was caused by the culpable carelessness of one of the deceased. The jury returned a verdict of 'Accidental Death.'

PARK SLIP. Tondy, Glamorganshire. 26th. August, 1892.

The colliery was the property of Colonel Norton's, North's Navigation Collieries (1899) Limited and was near Tondy on the Llynfi and Ogmere Railway where it passed over the south outcrop of the South Wales coalfield. The line of the outcrop is from Llantrissant on the east to Port Talbot on the west where the coal basin entered the Bristol Channel. Few collieries had been established along this outcrop but small scale workings had been worked along this line for more than 100 years before this disaster. In 1770 a colliery was started at Cefn, about a mile to the west and in 1834 another was opened at Bryndu about 2 miles to the west of Park Slip. Morfa colliery when there was an explosion in 1890 with the loss of 87 lives lay about seven miles to the west. Some shafts had been sunk to the east of Tondy but the seam there are practically untouched. Park Slip was on the edge of practically virgin coal and was commenced in 1864 and has been worked since then to the explosion.

The seams at the colliery dipped sharply to the north at an average inclination of 1 in 2.13. The main seams worked were the North Fawr, ten feet thick, the South Fawr, five feet thick, the Four Feet four and a half feet thick, the Six Feet, the Nine Feet, the Five Quarter five and a half feet thick, the Cribbwr of the same thickness as the Cribbwr Fawr, two and a half feet thick. all the seams, with the exception of the Four Feet and the Cribbwr Fawr, had been worked to some extent and at the time of the disaster only the North Fawr and Cribbwr seams were being worked.

Mr. James Tamblyn was the certificated colliery manger who acted for the agents and the owners and had the general supervision of all the Company's collieries including Park Slip. Mr. James Willis Davison was the certificated manager of the colliery and had held the position for about two years. He lived near the pit. Griffith Roberts, who held a second class certificate, was his undermanager and the day shift overman. Messrs. Forster Brown and Rees, mining engineers of Cardiff, acted as consulting engineers for the owners at their collieries.

The seams were won by two parallel drifts, fifteen yards apart in the Five Quarter Seam which appeared that at the start of the colliery were chosen since they would have a better roof. One of these drifts was known as the 'slip' and was used as the main haulage road and the main air intake. The other was known as the 'horseway' and was the main return and contained the pumps used for the drainage of the workings. At intervals of 100 yards or upwards on the slip, were stages where communication by cross-measure drifts had been made with the other seams at different points where these had been worked. These were situated as follows. From surface to No.1 stage 277 yards but this was not working from the surface to No.2 stage, 385 (not working), from the surface to No. 3 stage, 508 yards, (not working) No. 4 at 623 yards, No. 5 at

742 yards (not working), No. 6 at 863 yards, No. 7 at 1,030 yards and No. 8 at 1,166 yards.

The North Fawr Seam had been worked from stage No.2 but at the date of the explosion it was being worked from stages Nos 2 and 4. The South Fawr Seam had been partially worked from No. 2 and 4 stages but abandoned and the Six Feet had also been abandoned after being worked from No.2 stage. A little of the Five Quarter had been worked from Nos. 2 and 3 stages and abandoned. In the Cribbwr Seam there were extensive workings from the Nos. 1, 2 3, 4, and 5 stages and at the time of the explosion it was being worked from the Nos. 6, 7, and 8 stages.

The haulage in the main slip of the Cribbwr Seam was done by an engine at the surface by two wire ropes which was double for half it's distance and a empty train was lowered while a full one was raised. Ten trams each containing 9 to 10 cwts. of coal were drawn at a time. The trams that were used were of the type that were common in the Welsh steam coal collieries and were similar to the box trams used in the north of England where the inclines were very steep. The haulage done on the level headings was done by horses of which there were 16 in the colliery. The trams were raised and lowered between the two level headings and the working places by means of short self-acting inclines known as 'jigs'.

In 1889, the longwall method was started in the Cribbwr Seam on the west side in the No.7 range which was then the lowest working stage but the old method was still in use in the seam in the Nos. 6 and 7 east where pillars were in the course of removal and in the North Fawr Seam worked from No.4 stage where pillars were being formed. In both systems the coal was won by narrow, narrow with pillars between. In No.7 west, the longwall had been commenced 80 yards above the level heading. At the time of the explosion only a small are of coal was left in this heading. In the longwall system the whole of the seam is removed in one operation, the necessary roads being maintained through the goafs by means of pack walls. The roof immediately behind the face is supported by props and the goaf filled with rubbish packing that was brought for this purpose.

In 1890 the main sip was extended from No.7 to No.8 range and the Cribbwr Seam was won in this range at a total distance on the slope of 1,166 yards from the mouth of the drift. The surface above No.8 range was 160 feet higher than the mouth and the total vertical depth from the surface here was 584 yards. Owing to water getting into the upper ranges, the main slip was for a time, under water below No.7 stage and this was opened at the start of 1892.

No.8 range was opened by the usual narrow work and two weeks before the disaster it was decided by the agent and manager to start a longwall on the west side. The pair of headings had been driven about 200 yards and some stalls some distance to the rise of the upper headings had been completed. It was also decided to start the longwall from the upper heading, 20 yards above the main level heading instead of 40 yards above as had first been projected. At this time no communication had been made with No.7 heading. This stall was intended to be used to bring down rubbish to stow in the walls. This was just beginning at the time of the explosion.

All the workings produced firedamp but there was no reason to suspect that the ventilation was other than adequate or that accumulations of gas were a frequent occurrence. From the examination of the firemen's books for the three months before the explosion showed that gas had been found on several occasions during July and August. The colliery was dry and dusty in some parts and wet and damp in others. All parts of the colliery were swept by the flame of the explosion which contained coal dust and ceased in places where there was no coal dust.

The ventilation was provided by a Schiele fan, 11 feet in diameter which was placed near the top of the main return and ran at 23 revolutions per minute. The current passed down the main slip and split at different stages. Each split was conducted along

the lower of main heading from the furthest point in the respective ranges and then to the rise, ventilating the working places and returning by separate return air ways to the main return. On August 19th. 1892 28,649 cubic feet per minute were passing through the mine at a water gauge of 2.9 inches.

Both the North Fawr and the Cribbwr Seams were worked with safety lamps the majority of which were 'Cambrian' or bonnetted Clanny lamps and the remainder were ordinary Clannys with movable tin shields placed round the gauze. They were locked by an ordinary screw lock. The lamps were the property of the workmen, each of whom took home the case, the top portion including the gauze, to be cleaned and the oil vessel was left at the colliery lamp room to be supplied with the necessary wick and oil. In the morning two fireman in the lamp room examined the cases as they were handed in by the workmen and the lamp man and his assistant screwed in the oil vessels and recorded in a book the mark opposite the name and number as each lamp was handed back to their owners. The statutory examination and locking of lamps for the day shift took place in the mine by the firemen at appointed stations near the entrance to Nos. 4, 6 and 7 districts and there were re-lighting stations at various places in the mine during the shift. The 'competent' persons appointed to attend these stations and locking of lamps at the stations were hitchers employed in looking after the trams at the stages. A lamp key attached to a small chain to a prop was used for opening and closing the lamps at each station. Open lamps, 'Comet' oil lamps, were used at nos. 4, 6, 7 and 8 stages.

Blasting in the coal had been discontinued for some years but at one time it was done regularly in the Cribbwr seam to get coal. Shot firing was allowed for driving the cross-measure drifts to the different seams and for taking the hard bottom stone in the Cribbwr seam headings. The only heading advancing in these conditions was the No.8 range and some blasting had taken place there some weeks before the disaster. Two additional stalls for the horses were being constructed in the No.8 west heading and blasting was necessary to do this to remove the bottom stone. The shots were fired on the night shift and the last shot had been fired at 11.30 p.m. on 25th. August.

The persons authorised to fire the shots were the overmen and firemen and the leading man in each of the two main headings in No.8 range. according to the instructions of the agents and the manager all shot firing was done between shifts. These instructions were not carried out on the night shift but there was no evidence to show that shots had been fired on the day shift. The explosives used were cartridges of dynamite and gunpowder. shots were fired by fuse which was lit from an open lamp. Water could be obtained from 'slip' in this range and there were casks of water which could be used under General Rule 12 but this seemed to have been done in a perfunctory manner, if at all.

There was one principle shift of colliers during the day and a repairing shift with a few colliers during the night. The day shift, comprising about 165 men, began to descend at 6 a.m. and ascended about 5 p.m. The night shift of 45 men went down at 5.30 p.m. and came up at 3 a.m. The output of coal was about 280 tons per day.

There were five firemen during the day shift. Three of these went down at 3.30 a.m. and examined the working places and roadways before the shift commenced as required by the 4th. General Rule of the Coal Regulation Mines Act 1887. The other two firemen went down with the last of the men at about 7 a.m. and remained until all the men were up. Written reports were made by the firemen down the pit and sent up to the colliery office every morning. Every working place was inspected twice a day and this was in addition to an inspection made by the undermanager every morning. During the night shift there was an overman who performed or as intended to perform the duties of the firemen during the shift. The night overman also took the duties of the 'competent' person to lock the lamps at No.4 stage. The examination before the night shift commenced was made by the day firemen.

The explosion took place at 8.30 a.m. on Friday 26th. August within two hours of the start of the shift when 151 men and boys were underground. Work appeared to have been going on as usual without any known obstruction or derangement when those at work on the surface were startled by the explosion. A large cloud of dust, followed by flames shot out of the mouth of the slip or the intake airway, closely followed by dark smoke. A loud report was heard within a second or two according to the engineman's testimony. Stones debris and burning material were thrown from the mouth of the slip. The blast broke nearly all the panes of glass in the fan house, the office windows and other buildings nearby. A disused fan house was damaged and the roof of the pumping engine-house, which was 38 yards from the mouth of the slip, was set on fire by the burning material that came from the mouth of the slip.

The manger was in the office at the time and steps were immediately taken to recover the mine and the men who were in it. Fortunately the fan was not damaged and the means to restore the ventilation was available. There were soon large numbers of men willing to help with the work of exploration and this was carded on as long as there was a possibility of saving life.

Telegrams for help were sent to Maesteg and colliers assembled at the pit top and volunteered to go down as soon as parties of explorers could be organised. Mr. Robson, Inspector was on leave but went to the colliery when he received a telegram informing him of the disaster and he arrived at 10 p.m., three Assistant Inspectors in the South Wales District, Messrs. F.A. Gray, J. Mancel Sims and J. Dyer Lewis were all soon at the colliery. During the whole of the time the explorations were going on at least one of the Inspectors remained at the colliery day and night and made frequent visits underground and after the mine had been secured they were able to make a detailed inspection of the workings with the exception of the North Fawr which was not re-opened but was inspected.

Soon after the disaster two pumpmen, who had been working in the main return, 60 yards from the surface, were rescued alive and uninjured although they had encountered the afterdamp. As the exploration continued, it was found that very many heavy falls had taken place in the main slip. One of these falls blocked the way completely and had to be cleared. This was partially done so that the explorers could go into the workings. The Inspector commented that-

"This block in the intake led to some well-meant by terribly risky efforts to reach the stages by way of the main return, which contained a large amount of afterdamp."

It was soon found that the doors separating the main intake and return were blown to pieces. These 19 openings between the top and the bottom, had to be closed temporarily to get the air current downwards. This work caused a considerable delay as getting materials to the various places was most laborious as they had to be dragged over the huge falls.

During the day No.4 stage was reached and the bodies of fourteen men and boys found within 50 yards of the stage. It was then impossible to penetrate into the drifts leading to the North Fawr as it was entirely blocked by a fall about 90 yards from the entrance and the return as so full of afterdamp that no one could pass through. With six exceptions, all the bodies that were found there were those of men who had run out from the workings on the North Fawr but the return airway and it was feared that there could be no one left alive in these workings.

Before 6 a.m. the following morning, the bodies of several others had been reached at or near the Nos. 6 and 7 stages and on the heading leading from these points. No sign of life had been discovered. The efforts of the explorers to restore the ventilation was rewarded after a few hours and before noon 18 men and lads, many of them little the worse for their long imprisonment, came out from the North Fawr workings by way of the return. A little later 25 others were found alive in No.7 West heading but two of these died almost immediately afterwards. At least seven of the others were

unconscious and had to be carried up the steep incline over 1,000 yards and over rugged falls. Four of them never rallied and died within a day or two. Some of the doctors were reported to have gone down the mine and they did all that could be done for the stricken men.

By Saturday evening the Cribbwr Seam had been explored except for a few places which were found to be filled with firedamp so that none could have survived in that atmosphere. The North Fawr workings had not been examined but it was known that all those who were working there had been accounted for. By the 5th. September all the bodies had been recovered with the exception of two and the recovery of these was delayed by the flooding of the No.8 range due to the stoppage of the pumps. After the water was pumped out the body of John Curtain was found under a large fall at the face of the east level heading and that of George Dunster on the slip between Nos. 7 and 8 ranges on the 20th. September.

Of the 151 people in the mine at the time of the disaster, 39 were saved and 108 killed in the initial blast. Four were rescued alive but later died, making the total death toll 112. Of the sixteen horses in the pit, all were killed.

Names of the persons who were in the mine when the explosion occurred are recorded in the Official Report.

In the Main intake and Return.

Henry John aged 44 years, pumpman. Came out alive,
Henry Belcher aged 22 years, pumpman. Came out alive,
George Edwards aged 42 years, roadman. Found dead,
David Major aged 45 years, pumpman. Found dead,
George Lowman aged 38 years, repairer. Found dead,
John Lovell aged 43 years, repairer. Found dead,
David Powell aged 42 years, repairer. Found dead,
James Davies aged 52 years repairer. Found dead,
John Harry aged 28 years, repairer. Found dead,
George Dunster aged 29 years, roadman.
Found dead and
Charles Nicholl aged 18 years, switchman. Found dead.

In the No.6 District. All were found dead.

Thomas Cockram aged 37 years, collier,
John Cockram aged 35 years, collier,
Eli Howell aged 22 years, haulier,
Lewis Cockram aged 28 years, collier and
Johnathan Harry aged 26 years, fireman.

From the No.7 District the following came out alive-

Thomas Rees aged 25 years, collier,
Jenkin Rees aged 31 years collier,
Evan Richard aged 38 years, collier,
Frank John aged 30 years, hitcher,
William Nicholls aged 20 years, hitcher,
David Howells aged 24 years, collier,
David Potter aged 38 years, collier,
Edward Mordecai aged 36 years, collier,
Thomas Watkins aged 24 years, collier,
John Davies jnr. aged 17 years, filler,
William Richards, contractor,

James Lyddon aged 23 years, collier,
Roberts Williams aged 46 years, collier,
William David (Noah) aged 24 years, collier,
George Rees aged 57 years, repairer,
Thomas Thomas jnr. aged 18, filler,
David Phillips aged 34 years, collier,
John Thomas aged 14 years, haulier,
John Granville aged 32 years, collier,
Thomas Thomas snr. aged 41 years, collier. Died August 31st. 1892,
Evan Hopkin aged 15 years, hitcher. Died August 29th. 1892,
Henry Strike aged 32 years, collier. Came out alive. Died 28th. August 1892 and
David Daniels aged 18 years, trammer. Came out alive. Died 28th. August 1892.

Those found dead in the No. 7 District.

David Hopkin aged 15 years, haulier.
Harry Lyddon aged 20 years, slip hitcher.
Griffith Roberts aged 41 years, overman.
William J. Painter aged 16 years, haulier.
Henry Mitchell aged 49 years, labourer.
Arthur Martin aged 42 years, collier.
Jenkin Jenkins aged 35 years, collier.
Fred Roberts aged 22 years, collier.
John Berwick aged 21 years, collier.
Morgan Morgan aged 16 years, jig hitcher.
George Davies aged 14 years, haulier.
D. Davies aged 23 years, collier.
Richard Davies aged 21 years, collier.
John Thomas aged 57 years, repairer.
Thomas Carter aged 18 years, collier.
James Lyddon aged 30 years, collier.
George Henson aged 22 years, hitcher.
Thomas Lukins aged 46 years, collier.
R.H. Webster snr. aged 41 years, collier.
Elijah Driscoll aged 15 years, haulier.
Phillip David snr. aged 54 years, collier.
James Painter aged 19 years, jig hitcher.
Alf Burrows aged 20 years, collier.
Evan David aged 27 years, collier.
John Orchard aged 43 years, collier.
George Cockram aged 40 years, roadman.

Those found dead in the No.8 District-

James Richards aged 17 years, trammer.
George Takle aged 28 years, collier.
John Roberts aged 16 years, trammer.
Thomas Baker aged 40 years, collier.
Thomas Jacobs aged 18 years, jig hitcher.
Henry Hurley aged 25 years, collier.
Charles Stenner aged 39 years, collier.
David Jones aged 14 years, trammer.
William Lyddon aged 22 years, collier.
Thomas Taylor aged 39 years, collier.
Thomas Rees aged 35 years, collier.

Evan Morgan aged 18 years, slip hitcher.
Thomas Williams aged 17 years jig hitcher.
Thomas Stenner aged 37 years, fireman.
John Osborne aged 63 years, labourer.
Rees Thomas aged 17 years, collier.
John John aged 57 years, repairer.
William Williams aged 38 years, collier.
Elias Howells aged 28 years, collier.
John Gibbon aged 31 years, collier.
Lewis Davies aged 22 years, collier.
William Davies aged 48 years, collier.
George Jacob aged 40 years, collier.
Herbert Lyddon aged 18 years, collier.
Ben Davies aged 24 years, collier.
William Stenner aged 45 years, collier.
John Driscoll aged 21 years, collier.
John Curtain aged 31 years, collier.

Those who came out alive from the No.4 District were-

Dan Fitzgerald aged 18 years, trammer.
George Mynet aged 23 years, trammer.
John Mynet aged 20 years, hitcher.
John Lyddon aged 17 years, trammer.
Thomas Jones aged 31 years, jigger.
Thomas Bennett aged 31 years, jigger.
Donald Strandling aged 58 years, repairer.
James Berwick jnr. aged 16 years, filler.
John David aged 28 years, collier.
Edward Thomas aged 37 years, collier.
Donald Davies jnr. aged 24 years, collier.
Levi Bowen aged 19 years, collier.
William John (Tyn-pwnt) aged 18 years, labourer.
Thomas Smith aged 17 years, jigger.
Donald Halliday aged 16 years, filler and trammer.
James Barnett aged 24 years, collier.
John John (Tyn-pwnt) aged 19 years, jigger.
Donald John (Tyn-pwnt) aged 21 years, trammer and filler.

Those who were found dead in the No.4 District were-

D.R. Jones aged 15 years, haulier.
Donald Thomas aged 15 years, haulier.
Thomas Hopkin aged 36 years, fireman.
William Williams aged 50 years, contractor.
Herbert Sanders aged 25 years, collier.
Thomas Webster aged 23 years, slip-hitcher.
Thomas Daniel aged 21 years, trammer.
James Berwick sen. aged years, collier contracator.
Gwilym Williams aged 45 years, fireman.
Edward Humphries aged 21 years, trammer.
Thomas Williams aged 27 years, collier.
E.R. Jones aged 17 years, trammer.
James Bowen aged 46 years, contractor.
David Harry aged 30 years, collier.

John Rosser aged 22 years, collier.
Thomas H. Henderson aged 18 years, hitcher.
Edward Down aged 38 years, collier.
James Gibbs aged 19 years, collier.
James Evans aged 23 years, collier.
George Lyddon aged 21 years years, collier.
Enoch Davies agd 22 years, collier.
Thomas Williams aged 20 years, collier.
David Bowen aged 13 years, trammer.
Richard Davies aged 28 years, collier.
David Jones aged 18 years, collier.
William Rosser aged 18 years, collier.
Ivor Thomas aged 18 years, collier.
Thomas Hopkin aged 16 years, haulier.
David Davies sen. aged 51 years, contractor.
Albert Lyddon aged 26 years, collier.
David Powell aged 22 years, collier.
Thomas Jones aged 25 years, collier.
R.H. Webster jnr. aged 19 years, hitcher.
Henry Barnett aged 28 years, collier.
Christopher Warren aged 19 years, collier.
John Chappell aged 26 years, collier.
Lewis Morgan aged 58 years, roadman.

The Queen telegraphed a message of sympathy to Her Inspector and the Lord Mayor of London opened a subscription fund to relive the dependents of the victims.

The inquest into the deaths of the men was held before Mr. Howell Cuthbertson, Coroner and a jury at Aberkenfig from the 4th. October to the 9th. November. All interested parties were represented. The inquiry was searching and exhaustive and many points of the working of and the discipline in, the colliery prior to the explosion were raised. After hearing all the evidence the jury retired and returned the following verdict-

“We find that the loss of life at the Park Slip Colliery on August 26th, 1892 was caused by an explosion of gas and it's after effects. That the explosion took place in the longwall top of No.2 jig, west of No.8 district but by what means the gas was ignited, there is no evidence to show.

The ventilation according to the evidence was fairly good. The arrangement for leaving keys at the lamps stations is not commendable, but the practice being in force before the present manager's time, and also at other collieries, we attach no blame to anyone.

We also recommend that the Mines Regulation Act be so altered as to make compulsory the watering of the sides roof and floors wherever that are dry or dusty and that no short firing should be allowed in any circumstance, except between the shifts, Further that all lamps should be the property of the employers and never taken from the colliery by the workmen, so as to allow proper supervision at the lamp room.

We also recommend that all workmen should be searched for matches, keys, etc., before they enter the workings on ever occasion.”

In the official report the Inspector commented that he was pleased to see that the jury recognised coal dust a a serious factor in this disaster. He was of the opinion that the pit of ignition had taken place on the east side and not the west and that the quantity of air to the working could have been more and proceeded to offer recommendations which included that no torch light whatsoever should be allowed in the mine, that the

use of gunpowder and dynamite should be prohibited, that in the night shift, there should be a fireman as well as an overman and that a system of watering the roadways similar to that employed in neighbouring collieries should be adopted.

BAMFURLONG. Ashton-in-Makerfield, Lancashire. 14th. January, 1892. On Wednesday the 14th. December 1892 between 7.15 and 7.30 a.m., a fire broke out in the engine house in the Pemberton Four Foot Mine, south side of the Bamfurlong Colliery. The position of the engine house was situated at what is known as the south tunnel or jig brow and it was the intake airway of the mine. The result was that the current of air carried the smoke and fumes caused by the fire down the south tunnel into the workings.

The only means by which the men working in that portion of the mine towards which the smoke was being driven could escape suffocation was to obtain access to the return airway either directly, if they were working in or near it, or through one or other of the doors that lead from the intake to the return and to make their way along the return airway to the pit eye or shaft.

The doors connecting the intake and the return served as a means of escape to many as will be seen. A number of the men and boys were endeavouring to escape by way of the intake passed these doors and tried to save themselves by going up the brow of the south tunnel down which the smoke was being driven. Fifteen of these men and boys were suffocated.

One other man, James Towey, who was saved on the day of the fire complained afterwards on the same day of difficulty in breathing and was seen by Dr. Foreman at 12.45 p.m. Towey died at about 10 p.m. on the night of Thursday December 15th. but the Doctor was not prepared to say whether he died from carbonic acid poisoning or inflammation of the lungs. This brought the total number of deaths to sixteen.

The engine in the engine house in which the fire broke out was driven not by steam, but by compressed air and is used for haulage purposes. It works an endless rope by means of which full tubs of coal were drawn up to a landing and the empty ones were let down into the mine.

There was a tendency in an engine of this particular construction for the vapour at the exhaust pipe to freeze. This is caused by the compressed air expanding. The consequence was that when the engine was brought to a stand still and was spoken of as 'frozen', a torch of burning paraffin oil was, until the time of the accident consequently placed with the naked flame close to the cylinder either to prevent the freezing or to thaw the engine when frozen. This lamp served a double purpose of keeping the engine from freezing and as a light for the person whose duty it was to attend to the engine who is known as the engine tender to see by. The lamp contained between a quart and half a quart of paraffin and it was positioned close to the engine. It was usually placed upon the iron bed of the cylinder with the flame against it. The distance of this torch from the floor when in position was about a foot.

Occasionally the lamp would be suspended from a wire from the exhaust and hung on the side of the cylinder the flame toward it. The former method was perhaps the safer at least in the opinion of Mr. Foster, the undermanager, and it appears from the evidence of Mr. Ashcroft, the engine tender, for about eighteen months but was absent on the day of the fire through illness. His evidence stated that the usual position for the torch was on the bed plate of the cylinder. This was confirmed by Peter Winstanley, Fairclough and Rowley whereas Gregory and James Winstanley say that it was suspended by a piece of wire. Probably Foster's explanation is correct and the lamp was sometimes suspended and sometimes on the bed plate.

The floor of the engine house was of wood with a covering of zinc about a yard under the portion of the cylinder where the lamp was placed. The engine stood on square

baulks of timber about a foot thick and these were covered with boards on the top of which was the zinc. There was also a wooden fence on that side of the cylinder remote from the torch.

On the morning of the 14th. December, John Ashcroft, aged sixteen years, who had been the engine tender for the last eighteen months was unable to come to work through illness. This was known to John James Rowley aged 13 years, a lasher-on who told Foster, the underground manager, at about 6 a.m. and asked for leave to attend to the engine house in place of Ashcroft. Foster allowed him to do so. James Winstanley the fireman, knowing of Ashcroft's illness, sent James Knowles aged 15 years, a door tender, to attend to the engine house but when Knowles came he found Rowley there.

From this point the evidence became contradictory. In the first place it came out in the examination of Ashcroft that he was in the habit of pouring paraffin oil upon the cylinder and lighting it in order to warm the engine when it was frozen and this was not in place of but in addition to the torch and if the wick in the torch went out he light the new wick from the light on the cylinder.

Ashcroft confirmed by Rowley and Knowles. The evidence of Rowley was not fully accepted by the Inspector but at the inquiry both Knowles and Ashcroft were recalled and closely questioned upon the point of the practice of pouring oil on the cylinder from which it would inevitably trickle down and lighting it and they stuck to their stories with some modifications.

Ashcroft said that he used to pour oil upon the cylinder once an hour and light it and that it burnt for five minutes. Ogden, the former engine tender, taught him this. He did not know if Foster, the underground manager, knew of the practice. Judging from his manner and the way in which he gave his evidence, the Inspector was of the opinion that Ashcroft spoke the truth. His version was also confirmed by Fairclough. Knowles went further. He said that he has seen Foster in the engine house 'many a time' when there was a light burning on the cylinder. Afterwards he altered his statement to 'about two or three times' and that the last occasion was three months ago.

Foster contradicted Knowle's statement regarding himself. He said the he had never knew or heard of this practice until after the accident. Had he know he would have stopped it at once. Foster, according to the Inspector's judgement was a truthful witness. Moreover the practice was unknown to Peter Winstanley the pusher-on whose duty it was to attend to the lamp in the morning and see that it was put out at night. Matthew Gregory, the rope inspector, who shared the duty with P. Winstanley to Hutchinson the manager and as already stated to Foster and also to James Winstanley the fireman.

The Inspector came to the conclusion was that this careless practice of pouring oil on to the cylinder and igniting it existed, but that it was concealed from, and unknown, to those in authority. He thought that Foster gave the true explanation when he said that it would cause the boy less work not having to attend to the lamp so often and it was merely 'mischief' on the part of the boys for which they would have been sacked if it had been known.

The five witnesses last named all said that the torch alone was sufficient to prevent the engine from freezing but this statement may not be correct as none of the five (the two Winstanley's, Huthchinson, Foster and Gregory) were actually in the engine house for any length of time during the day so that it might have been due to the oil burning on the cylinder and not to the torch that the engine was kept from freezing.

As to the boy Rowley, his object in asking Foster to attend to the engine was to earn a little more pay. Ashcroft was paid 2/4d. a day Rowley as a lasher-on 2/- a day. Foster justifies his sending so young a boy to the engine house on several grounds. Upon Hutchinson's instructions Foster had appointed Peter Winstanley, a certificated person (i.e. one with the authority to light lamps and to lock and unlock safety lamps) to light the torch in the morning and see it put out at night (the hours being 6.15 a.m. and 3.55

p.m.). Mathew Gregory had the authority to relight the lamp in the course of the day if necessary. Gregory was also 'certificated'. It was P. Winstanley's duty in the morning before lighting the torch to see if the wick in it would last all day and if not to put in a new wick.

Foster stated that on several occasions, Rowley had asked him to go to the engine house where the pay was better. Rowley told him that he could manager the job having 'stretched out' the engine for Ashcroft. Foster went on to say ' I told him to go to the engine and be careful and mind what he was doing and in the course of an hour or two I should be at him - have a look at him' (This was about 6 a.m. on the day of the accident).

He then described the duties of the boy both with regard to the engine and the torch. As to the former, 'It is perhaps put to one and is going for hours together and does not require any attention what ever'. With regard to the torch if the wick should go down, Rowley would be expected ' to draw out the wick with a nail or wire.' He had nothing to do with refilling the lamp, puting in new wick, or relighting it, these duties being P. Winstanley's and Gregory's.

Rowley then came to the engine house. The torch was not yet light, and it was now about 6.15 a.m. Peter Winstanley lit it with his safety lamp, which he unlocked. From this point the evidence is again contradictory. Rowley's version is as follows-

"Knowles filled the tock with oil, and Peter Winstanley, having lit it gave it to Fairclough, the lasher-on, who placed it under the cylinder to keep it warm. The wick lasted 'Not quite an hour and a half' it was but a small piece of wick, 6 inches, put in that morning. Rowley then inserted a new wick, Fairclough having 'reached ot off' for him, as he did not know where it was kept. Rowley had never inserted a new wick before. Oil had at that time been burning on the cylinder for half an hour, poured on by Rowley. Fairclough added some oil to this, and lit the new wick from the flame on the cylinder. Ten minutes afterwards, while Rowley's back was turned, the torch burst and there was a big noise and blaze. He tried to put it out with his jacket which caught fire and the whole place was in flames. He ran out, and Fairclugh and Sixsmith came to him. He met Foster 20 yards from the engine house."

Rowley admits that the oil poured on the cylinder by Fairclough 'ran all round' it and some on the floor. In the engine house was an oil can, kept in a box, and containing four quarts of paraffin. Rowley denied that the torch caught fire while he was putting in a new wick, or that he had said so to Fairclough, whose story differs considerably.

Fairclough's lashing-on was done two or three yards from the engine house. Rowley shouted to him that the wick in the torch was too thin and Fairclough could see, from where he was working, that it would not burn. This was about 6.45 a.m. He then told Rowley where the torch-wick was kept, and left him to get it and put in the torch, and was not present when the new wick was inserted and lit. Fairclough did notlight the new wick. When he came to the engine house he saw oil burning on the cylinder and poured more oil on for Rowley to light the wick from the plane, but he was not in the engine house for more than two minutes.

Five to ten minutes afterwards came the alarm of fire from Rowley, who shouted to him tewnty six yards off. Faiclough, Sixsmith and Pennington rushed to the engine house and tried to quench the fire by throwing dust and dirt on the flames but the heat and fumes were unendurable. Rowley said to him that he was putting a new wick into the torch and it caught fire and he tried to quench the fire with his jacket. He said nothing about the lamp bursting.

This is the whole of the evidence as to what occurred in the engine house at about 6.45 or 7 a.m. and shortly before the fire. The only witness who were on or close to the spot being Rowley and Fairclough.

Sixsmith, a gang-rider, was twenty yards from the engine house on the pit eye side when he heard of the fire from Knowles and was present when Fairclough asked Rowley what he had been doing. This was immediately after the alarm of fire. Rowley answered that he had been 'agate' with the torch wick that it caught fire and he threw it down. By 'agate' Sixsmith understood 'playing with' and that Rowley must have been pulling the wick out of the torch and set it on fire meaning that the torch lid was off and the oil inside the plame caught fire. Sixsmith added that the timber was on fire when they got to the engine house. There remained, the question of the wick, from the evidence of Peter Winstanley and James Knowles. The former says he filled the lamp with paraffin that morning after Knowles.

16 killed

Henry Edwards 49 Collier
Joshua Mann 42 Collier
John Morrison 31 Collier
James Towey 26 Collier
Joseph Mills 24 Collier
William Evans 22 Drawer
John Ovington 19 Drawer
John Colebeck 18 Drawer
George Cleary 17 Lasher on
Richard Fairclough 14 Lasher on
Charles Mann 14 Lasher on
William Owen 14 Pony boy
William Banche 14 Pony boy
Simeon Ashcroft 13 Pony boy
Michael Cave 16 Spare boy
John Dolan 13 Spare boy

If the deaths in question have been occasioned by the negligence of several, they would all be guilty of manslaughter and it would be no defence for one who was negligent 'to say that another was negligent also and tus to try and divide the negligence among them'.

It thus becomes necessary to consider the conduct of Hutchinson, Foster, Rowley and James Winstanley. The only suggestion of negligence against Hutchinson arises in my opinion from the evidence of Mr Hall Already reffered to when he states that the manager should have seen that the engine was properly fitted and that the air receiver be constructed close to the engine. The Inspector did not consider that this is sufficient to disclose any duty in Hutchinson which he has neglected to perform and in consequence of the fire and it's fatal results can be said to have been caused.

In the case of Foster it might be argued that sending a boy of 13 to attend an engine as so far as it was necessary to the lamp was a neglect of duty but after carefully examining Foster's evidence, Mr. Hall came to the conclusion that his explanation was satisfactory. The duties which Rowley was told to undertake at the engine house were eally simple. It was no part ofthe work to touch or move a lamp or wick except perhaps once in two hours slightly to draw the wick with a piece of wire or to 'Teem' oil on to the cylinder and light it and Foster had never known of an accident to be caused by the torch lamp of this description.

The authourites did not materially assist except perhaps by distinguishing the facts the Foster's case from those where the circumstances were held such as to amount to manslaughter. This is the case of Reg.v.Lowe (1850), an engineer, who was was

employed to manager a steam engine to draw up miners from a coal pit. He left the engine in the charge of an ignorant boy who told him that he was unable to manage it and in the absence of the engineer a man was drawn up and killed from the want of skill in the boy to manager the engine. This was held to be manslaughter by the engineer.

The facts of Foster's case are very different and Mr. hall was of the opinion that he would not be found guilty. With regard to James Winstanley and his leaving his post at the doors in consequence of which it is very probable that the men and boys passed into the south tunnel and were suffocated I do not think that this would be held in the amount to such negligence that the deaths could be said to have been caused by this action. Winstanley's position when he left the doors was a terrible one indeed on the one hand there were frantic appeals of the 30 or 40 men that he should show them the way and the other his duty to obey Foster and remain at his post. Winstanley thought he would be able to get back to the doors and tried to do so after directing the men. He got back 40 yards and then became unconcious and was ragged out by the other men. The Inspector did not think that any jury would convict in this case.

Rowley's case was very different. In all probability the fire was caused by his neglect and from the evidence by Mr. Hall that he had known lamps of this description to burst I should have advised a prosecution but having regard to the doubt caused in my mind by this statement and the possibility that the lamp in question burst it is by no means certain that this boy would be found guilty.

Having considered all the facts in the case a disclosed by the evidence taken at the adjourned inquest I cannot advise that a prosecution should be instituted.

J Roskill.

Temple 20th. Jan. 1893.

From THE REPORT OF THE MINES INSPECTOR. 1893.

Rainhill Prescot

January 10th 1893

Sir,

I have the honour to forward a newspaper report of the proceedings at the inquest held upon the victims of the Bamfurlong Colliery fire and to submit some observations on the circumstances of the accident.

At the inquest held by Mr. Brighouse, the County Coroner, and extended over two days I was present and acted in concert with Mr. Roskill, barrister. The various parties interested were all present and everyone was satisfied that a full and searching inquiry was made. Mr. Woods, M.P. and Mr. Aspinwall represented the miners.

The jury verdict was:-

"We consider that the 16 men and boys came to their deaths accidentally.

We find that the boy Rowley was not competent enough to take charge of the engine with an open paraffin torch.

We consider it is not safe to use any open paraffin torch lamps whether the engine is bedded on wood and there is a wooden floor."

We also recommend that the staple pit be done away with and that a ladder be placed in it until a better road is provided."

Being asked by the coroner if they attached any negligence to any official, the foreman answered 'No'.

The No.1 pit where the accident occurred was one of a group of pits owned by Cross Tetley & Co. Ltd. They employ something like 1,500 hands and had a considerable output.

The accident occurred in the Pemberton Four Foot Seam in which the underground haulage is done by compressed air machines. Safety lamps were used in the underground workings that is, what is called a 'safety lamp colliery' but there are as is not usual certain open lights in the shafts and sidings and at other points in the intake airway all of these lamps being on the outbye or shaft side of the 'lamp stations' and consequently not illegal.

Up to a week or two before the accident these open lights were what were called open torches and burning paraffin or petroleum but a change was made at that time by the present manager who had only been recently appointed and paraffin lamps fitted with proper 'burners' were substituted, but there was one exception, a torch being left in the engine house marked on the accompanying plan some 500 yards from the shaft and it was here that the fire originated.

This engine which was used for hauling coal from the deep side workings was driven by compressed air and it appears that the outlet of the exhaust was liable to freeze from time to time so interfering with the proper action of the engine. To meet this difficulty the torch lamp already referred to was used for thawing the ice and finding the heat from the torch was not always sufficient for this purpose the boy in charge (16 years of age) was in the habit of pouring an uncertain quantity of paraffin on to the frozen parts of the engine and setting it alight. This practice was resorted to several times during the day and would have the effect of partly surrounding the woodwork with paraffin.

The officials of the mine in their evidence denied any knowledge of a fire being lighted on the engine in this way but the boy who attended to the engine and other boys working near by bore out the facts as stated.

On the day of the accident the regular engine attendant was absent and in his place was taken by the direction of the under manager by a boy Rowley not quite 14 years of age who had only worked underground for a few months. This boy had only been in charge of the engine house a little over an hour when by some means his torch lamp containing three gills of paraffin caught fire and to save himself he no doubt threw out down and the woodwork of the engine house was soon alight. Efforts were at once made to extinguish the fire by those nearby but without avail and in a few minutes it was unimpeachable whilst large volumes of smoke were being carried forward by the ventilation into the inner workings. Warning was sent to the men in the workings and a large number of them escaped (73) by the return airway but unfortunately 16 men and boys elected to try and pass through the smoke coming to meet them along the intake road and these were suffocated falling into twos and threes at intervals on the main intake road facing the engine some of them reaching 30 yards of safety.

The jury in their verdict drew the attention to the incompetency of the boy Rowley who was at the engine at the time of the accident, to the kind of lamp that was there and also to a chain in the staple pit in the return airway and through which the miners had to pass to effect their escape.

With regard to the age or competency of the boy there is nothing in the Act of Parliament or the Special Rules fixing any definite age at which boys may be entrusted with such a duty this being a matter which is usually left to the discretion of the officials and the duties of boys underground are so various that it would be very difficult to form rules to be effective in such matters. An equal amount of caution might fairly be expected to be used underground in dealing with paraffin lamps as is the case on the surface. When the boy Rowley was asked by Mr Roskill "Had he ever handled paraffin lamps before?" his answer was "No" and then the question "Have you ever lighted a lamp at home?"

"No Mother won't let me mess with it".

The use of such a dangerous form of light in such young and inexperienced hands ought never to have been allowed and more especially at such a distance (500 yards) from the pit shaft.

The general practice with respect to the use of paraffin lamps in collieries is that it is frequently used to light up the bottom of the shaft and the sidings near being burnt in lamps provided with proper burners and in a few exceptional cases I have seen it used in such positions in torch lamps similar to the one in question and have not been sparing in condemnation of the parasite. Many managers at larger mines do not allow paraffin to be burnt underground in any form.

I would suggest that a new special rule should be established under the powers confided by section 52 (2) Coal Mines Regulation Act as follows-

“Every lamp burning petroleum paraffin or mineral oil and used underground in a mine or in any shaft of a mine shall be provided with a proper safety burner.”

The establishment of such a rule would not likely to be opposed either by the colliery owners or the workpeople.

To forbid petroleum altogether might be attended by some difficulties. It affords a excellent light and possibly lessens the danger in other directions and it is very generally used in certain proportions to mix with and improve the lighting power of rape oil used in the miners safety lamps.

The hanging chain lamp in the staple pit in the return airway to which the jury referred was a very objectionable and dangerous appliance for it's purpose and one which most colliery managers would not have tolerated.

Mr Woods one of the Miners Representatives at the inquest laid stress on the importance of having some method of making known to the workmen generally the position and whereabouts of the return roads so that in the necessity arise they might be able more speedily to avail themselves of such roads for escape.

This is no doubt very desirable and it is perhaps a matter which had not received the attention it ought. I would suggest with this object in view that batches of the workmen should from time to time be compelled to return from their work by way of the return air roads and thus become familiar with them.

The loss of life amounted to 16 persons of whom 8 were boys under 18 years of age. All I believe were members of the Lancashire and Cheshire Miners Pertinency Fund which makes a substantial provision for widows and children. The members of this fund contract them selves out of the Employers Liability Act on consideration of their employers adding 25% to the Society Funds.

The date of the accident was 14th dec 1892 at 7.30 am.

I am Sir.

Your obedient servant,

Henry Hall

To Right Honourable H.H.Asquith MP Secretary of State.

GREAT WESTERN. Rhondda, Glamorganshire. 11th. April, 1893.

The colliery was at Gyfeillon in the Rhondda Valley about two miles from Pontypridd in the heart of the South Wales Steam Coal Field. It was one of the largest collieries in the district and was owned by the Great Western Colliery Company, Limited with Messrs. Forster Brown and Rees, mining engineers of Cardiff as the consulting engineers for the company.

The managing staff consisted as Mr. Hugh Bramwell, agent, Mr. William James, certificated manager, Mr. David Rees, certificated undermanager, Mr. Evan S. Richards, holder of a First Class Certificate but acting as assistant manager. Mr. W.M. John was the surveyor and Mr. R.L. Molyneaux the mechanical engineer. There were also three

overmen and seventeen firemen. Mr. Bramwell was a mining engineer and certificated manager and had succeeded Mr. H.T. Wales of the 1st. January.

There were three shafts at the colliery. The Hetty was the downcast and was sunk to the Six Feet Seam and was 398 yards deep. The No.2 Pit was the upcast to the Five Feet Seam at a depth of about 472 yards and the Tymawr Pit was an upcast was also sunk to the Five Feet Seam at 472 yards. Coal was raised at all the shafts.

At the Hetty the Four Feet and Six feet Seams were worked. The Four Feet Seam lay 25 yards above the Six Feet and was passed through in the shaft but for greater safety and convenience in winding, all the coal was raised from the Six Feet Seam, the lowest landing in the shaft. At the No.2 Pit only the Five Feet Seam was worked and raised from the Five Feet landing. The Tymawr Pit the Five Feet Seam was being worked and raised for, the Five Feet landing.

The ventilation of the colliery was produced by two Schiele fans each of fifteen feet three inches diameter. One was place at the top of the No.2 Pit which was elliptical in section measuring 14 feet 4 inches and 10 feet 9 inches. the other was placed near the top of the Tymawr Pit which was also an elliptical shaft 16 feet by 10 feet. The downcast shaft, the Hetty Pit, was circular and 16 feet in diameter. About 270,000 cubic feet of air per minute circulated through the workings which were recognised as amongst the fiery in the South Wales District.

The whole of the colliery was equipped with modern machinery and appliances geared to a large output of steam coal and both the Hetty and the No. Pits had been safely worked since 1877 when the shafts were first sunk to the steam coal measures. Before this house coal had been worked. The Tymawr Pit had only been recently acquired by the Company and sunk by them to the lower steam coals. Previous to this the east workings in the Four Feet from the Hetty Pit had been extended beyond the Tymawr Pit and since the latter was the upcast shaft, it was more convenient to connect these workings to it for the purposes of ventilation, so that the large district of the Four Feet Seam at the Hetty Pit had a direct connection with the Tymawr upcast in that seam. The explosion affected the workings in the Four Feet Seam to the east of the Hetty Pit and their connections with the landing in the Six Feet Seam.

The total number of men working in the three pits was about 1,460 of whom 950 were at work on the day shift on the day of the accident. Of this number 212 were in the east workings of the Four Feet Seam all of which were put in danger from the resulting fire. Of the 212 persons, 78 were in the East main Dip and 134 in the East Main Level. Those in other parts of the mine, although never in danger from the fire, were all quickly withdrawn and sent to the surface.

Haulage by machinery was largely used and in common with many of the larger collieries, compressed air was used for the transmission of power for the underground machinery from the compressing plant at the surface. There were 15 haulage engines in the whole of the seams and it was at one of these engines that the disastrous fire originated.

On the East Level in the Six Feet workings, about 120 yards from the Hetty Pit, a main road, the 'East Hard Heading', branched off at right angles and this road rising 1 in 6, cut the Four Feet at 156 yards. It was here where the engine in question was situated. From this point the East Main Dip continued in a straight line for 270 yards and then turned to the right where it was called Sam Cull's Dip and continued a further 400 yards. at 176 yards down Sam Cull's Dip a pair of headings branched off at right angles to the right and 160 yards further down two headings branched off to the left. The headings to the right extended 396 yards to the rise and those to the left 114 yards to the dip. These headings and the 29 stalls at work in them formed one ventilating district, which was termed the East Main Dip and which was ventilated from the No.2 upcast shaft.

From the top of the Easy Hard Heading just inside the engine, another road called the 'Four Feet East Level' branched off to the right for a distance of 463 yards to the top of 'Thompson's Dip'. Witt's Level was reached from Thompson's Dip by branching off to the right and this extended 548 yards to the working headings to the rise. Thompson's Dip continued in a straight line for a further 363 yards. On the east side there was a level 143 yards long to the working heading and on the west side another level which reached the last of the three headings for 288 yards.

The three divisions formed one large district ventilated to the Tymawr upcast shaft. These roadways were the haulage roads and the intake airways and all had a minimum square section of 50 square feet. and beyond the engine for a few yards where it was split. About 72,000 cubic feet of air per minute passed up the East Hard Heading. About 57,000 cubic feet went to the East level and 15,000 to the East Main Dip, passing the engine at about 20 feet per second.

The mine was very dry and there were provisions for damping the roadways and a system of spray jets which were fixed at intervals of about 40 yards in the principle intakes. The water came from the surface by pipes some two and some one and a quarter inches in diameter, down the shaft and along the haulage roads. There were 5 miles of piping laid for this purpose.

The engine was fixed immediately over the roadway on pitch pine beams resting on the side walls of masonry. the engine had two cylinders with a twelve inch stroke which worked two loose drums by spur gearing, geared 4 to 1. The drums were three and a half feet in diameter and each had a brake fitted consisting of an iron strap to which were bolted elm curb blocks. The brake extended for half the circumference on the drum and was four inches wide. The brake leverage on the drum working the main rope was 15 to 1 and that of that working the tail rope was 45 to 1. The engine worked the haulage on the East Hard Heading, the East Main Dip and the East Level as far as the top of Thompson's Dip.

Six trams at a time were hauled up the East Main Dip by the main rope drum and lowered down the East Hard Heading by the tail rope drum. twelve trams at a time were hauled along the East Main Level by the main rope and lowered down the East Hard Heading by the tail rope drum. While a journey was being hauled from the East Level, the tail rope was attached behind and drawn out, so that the next empty journey could be hauled in by this rope. The rope passed round a sheaf at the inner end of the East Level. When a journey of twelve trams weighing 19.2 tons., was being lowered by the tail rope drum down the Hard Heading there would have been a strain of 3.2 tons on the drum and the breaking would have been very severe.

The woodwork holding the engine consisted of two wooden cross beams 12 inches square and, 13 feet long, one cross beam 12 by 10 inches and 13 feet long, one cross beam 8 inches square and 10.5 feet long, two longitudinal beams 14.5 by 8 inches and 16 feet long, a platform of one and half inch deal, 10 feet by 4 feet and the blocks that formed the brakes. The engine was in the main intake and the engineman had placed a canvas brattice cloth at the ends and below the drums to give shelter from the strong air current and the dust that was blown off the passing trams. Except for a small quantity of cylinder oil, olive oil for the bearings and some cotton waste for cleaning the engine, there was no inflammable material about other than the woodwork and the canvas. There would have been a considerable amount of oily and greasy material on the wood work below the drums. The place was lit by an electric lamp which was the last of a series from the shaft bottom.

Fire had not been anticipated here and there was no provision to deal with it. There was an upright water pipe which supplied water to spray jets which had a few feet of hose attached. The pipe had a tap so that water was readily available. One bucket was kept near the engine. The engineman who normally worked the engine had been absent for some days owing to ill health. This man appeared to have been in the habit

of keeping the bucket full of water and occasionally using the water to cool the brake blocks. The engineman on duty at the time of the accident did not provide himself with any water.

The fire appeared to have been discovered by a boy, Edwin Matthews, who went down the Hetty Pit at about 1.30 p.m. to work with a collier on the afternoon shift in the Four Feet Seam. When he was passing up the East Hard Heading, he noticed something on fire below the engine, called to the engineman and ran back towards the Hetty Pit. A journey of trams was being hauled up the East Main Dip and George James, the engineman, stopped the engine, came down the roadway and saw one of the beams on the fire. He and the rider of the journey, John H. Thomas, who had run out to see what was the matter, tried to put out the fire by beating it but they failed to do so. They then tried to get water from the tap but there was not water in the pipe. In a few minutes they were joined by some men who came from the shaft and directly afterwards by David Reeds, the undermanager who happened to be near the Hetty Pit bottom when the alarm was raised. The pipe carrying water to the spray had been broken by the engineman's top try to get some water but the pipe was empty. Some of the men were carrying buckets from the cistern in the stables in the Six Feet Level at the bottom of the East Heading. The fire was now being spread inwards and caught the timbers supporting the roadway at the top of the East Main Dip and the entrance to the Four Feet East Level.

The first intimation that there was something wrong reached the Tymawr Pit a little before 2 p.m. when John Cannon, the hitcher in the Five Feet Seam, heard someone crying from the Four Feet Seam above, "*Let's have the carriage, quick.*" He went up with the next cage and sent three cage loads of men to the surface. He went up with the fourth cage load. Three or four more cage loads were raised from the Four Feet and the last one brought up one man, William Fletcher. While these men were being raised, one man, Jesse Titley, probably owing to his exhausted condition, or the difficulty of seeing the cage in the smoke, fell down the shaft and was killed.

Four other men had managed to reach the landing at Tymawr Shaft but were too exhausted to get through the wooden fence protecting the entrance. Several attempts were made by some of those who escaped and others but the state of the atmosphere was such that they could not be rescued alive.

The speed of the ventilation fan at the Tymawr Pit had unfortunately been increased soon after it became known at the surface that something was wrong. This was done in the excitement of the moment and in the belief that an explosion had occurred. The greater quantity of air fanned the flames and carried the smoke more quickly into the Four Feet East workings. Mr. James, the manager, arrived at the scene of the fire and soon decided that the proper course was to reduce the speed of the fan. He was of the state of affairs at the Four Foot Landing in the Tymawr Pit and he thought that all the men in East District had been able to reach the landing, he sanctioned the stopping of the fan there and the lifting of the top covers off the pit with the object of turning the shaft into a downcast and getting fresh air to the landing to help with the rescue of the men who were there.

The fan was stopped between 3.15 and 4 p.m. and during this time the bodies of four men who had died at the landing were brought up but no more came out alive by that road nor could any sign of life be seen for about 100 yards inwards which was the distance which Mr. Jones, the surveyor was able to explore. The fan was then run at half speed.

The manager then attempted to reach the East Main Dip working by way of the return airway. This proved impossible due to thick smoke. About 4.15 p.m. Mr. Bramwell arrived and descended the pit and joined Mr. James, the manager. Soon after steps were taken to increase the supply of water from the shaft to the fire and supplement the supply of water from the stables and the sump which was being used to fight the fire.

On the day of the accident Mr. Robson, the Inspector was at a colliery near Merthyr and went to the Great Western Colliery when he returned home at 9 p.m. and heard that he was required. Mr. J. Mancel Sims, the assistant Inspector arrived at the colliery at 8.45 p.m. and another Assistant Inspector, Mr. J.D. Lewis arrived at 12 p.m.. both Mr. Sims and Mr. Lewis went underground and remained at the colliery until Mr. Robson arrived at 10.45 a.m. the following day.

Fortunately the brick arch which formed the air crossing over the Main East Dip, 15 yards beyond the engine helped to stop the spread of the fire down this road and about 6 p.m. the fire had been sufficiently subdued to allow an attempt to reach the workings of the East Main Dip. William Prosser, a fireman and the brother of a fireman in this district, got down as far as the first door, 210 yards down. They opened the door to help the smoke clear away from the dip and stop it from going into the working headings. His light went out and he returned to the engine. Getting another lamp and this time accompanied by Morgan Thomas, overman and Lewis James, fireman, he again went down the dip passing the second door near the top of Sam Cull's Dip and the third door beyond the first working in the heading. Both doors were found to be open and they reached 78 men including Thomas Rosser, all were gathered together and uninjured about 100 yards up Holbrook's Heading. They all walked out by the intake and reached the surface about 6.30 a.m.

Mr. Robson commented in his report-

"Great credit is due to Thomas Rosser, the fireman for this district, for his coolness and prompt action on discovering that smoke was entering the workings by the intake. It appears that he smelt smoke about 1.45 p.m. while standing near the double parting on Holbrook's Heading, and at once went down the dip, meeting David Richards, master haulier, who told him that there was a lot of smoke coming down the dip behind him. Thomas Rosser immediately sent some men into the working places with instructions to withdraw all men and boys and bring them to the double parting. Rosser, Richards and another man, William Deveraux, went up the dip, through the smoke, and realising the gravity of the situation, made an effort to reach the outermost of the two doors with the intention of opening it and so short circuiting the air current. They, however, failed in this, and returning, opened the second door near the top of Sam Cull's dip, and then reached the double parting again where the men were beginning to gather. Although most of the men reached. Although most of the men wanted to make an attempt to get out by the main intake, Rosser was able to dissuade them from this course.

Bye and bye the atmosphere, notwithstanding the opening of the door above mentioned, became by diffusion so impregnated with smoke that he had to move the men further up the heading. He then opened a door between Holbrook's and Ostler's Headings and afterwards another on the first crossing 73 yards up these headings, finally erecting a brattice across Holbrook's Heading inside of this crossing and retreating with the men to the inbye side of it. They waited there about 280 yards from the face of Holbrook's Heading. Gas had by this time accumulated in the heading and stalls and before they left Rosser had ascertained that it showed in the lamp 120 yards from the face."

In the meantime some unsuccessful attempts had been made by those on the surface to enter the Four Feet Seam by the Tymawr return but it was not until 8 am. on Wednesday when Mr. Bramwell, Mr. William Stewart of Harris' Navigation, and Ivor John, a fireman, made the attempt, that this was accomplished. They reached by way of Bidman's Old Dip and Osbourne's Cross Heading, James Holbrook's Level, where they found the body of a haulier and two horses, but the air was too heavily charged with smoke to remain many minutes and they returned to the surface. Mr. Stewart was affected by the smoke but recovered in a day or two.

Efforts were made to overcome the fire in the Four Feet East Level were continued during the night and the following day but the work of getting the water to the fire became more and more difficult owing to falls of roof and the smoke and steam of the burning mass behind which was more or less buried by falls. By midday on Wednesday it was possible to reach the engine about 70 yards outside Thompson's Dip, and the body of the engineman was seen in the enginehouse.

The condition of the air in this level, however, was such that no one could remain in it for long, and it was deemed unwise to make any more attempts until the fire had been reduced and the roadway cooled. Compressed air pipes had been considered by the management and Mr. Treherne Rees, one of the consulting engineers, but the water pipes would not take the pressure. This plan was eventually carried out with the precaution of tapping the column about 70 yards from the bottom of the shaft to relieve the pressure. The work was completed by 11 p.m. on Wednesday and the extra water delivered by these pipes was delivered and enabled the falls to be cooled down sufficiently for the east district and Thompson's Dip to be explored. This work was completed by 2 a.m. on Thursday but no signs of life were discovered.

Those who died were-

Lewis Thomas aged 25 years, haulier.
William Thomas Cole or Vole, aged 16 years, collier.
Richard Edmunds aged 25 years, collier.
Morris Potter aged 28 years, collier.
George C. Lewis aged 15 years, collier.
William James Bond aged 16 years, collier.
George Bartlett aged 23 years, collier.
William Bowers aged 22 years, collier.
Ivor Lloyd aged 22 years, collier.
Gwilym Howells aged 17 years, collier.
John Williams aged 31 years, collier.
William C. Balling aged 21 years, collier.
John Thomas aged 27 years, collier.
Daniel David aged 17 years, collier.
William Thomas aged 18 years, collier.
John Roberts aged 21 years, collier.
Albert Pearce aged 16 years, collier.
William John aged 42 years, collier.
David Jenkins aged 31 years, collier.
Ernest Thomas Prosser aged 18 years, collier.
Thomas Henry Williams aged 17 years, collier.
Coleman Williams aged 17 years, haulier.
Morgan Williams aged 57 years, collier.
John Williams aged 61 years, labourer.
Joseph Williams aged 37 years, collier.
Arthur Thorne aged 16 years, collier.
William Edmunds aged 52 years, roadman.
William Lewis aged 44 years, collier.
Amazia Jones aged 15 years, collier.
Arthur Davies aged 33 years, collier.
Job Miller aged 18 years, collier.
Daniel O'Shea aged 16 years, collier.
Adolphus Dodge aged 14 years, doorboy.
James Holbrook aged 25 years, collier.
David John aged 17 years, collier.

Lewis Jacob aged 20 years, collier.
David W. Prosser aged 17 years, collier.
John Llewelyn aged 45 years, collier.
Frederick Nurse aged 16 years, collier.
George Thorne aged 31 years, collier.
William Wheeler aged 16 years, collier.
Jesse Titley aged 19 years, collier.
Lewis Williams aged 26 years, collier.
William Williams aged 20 years, collier.
Charles Coville aged 50 years, collier.
Phillip Jones aged 42 years, collier.
Cornelius Hayes aged 18 years, oiler.
Thomas Lambert aged 27 years, rider.
Daniel Spooner aged 35 years, haulier.
John Nichols aged 26 years, engineman.
Frank Grainger aged 28 years, inclineman.
Thomas Price aged 15 years, doorboy.
George Roderick aged 14 years, collier.
David John Powell aged 13 years, collier.
Charles Godfrey aged 28 years, collier.
William Davies aged 17 years, collier.
John Maddox aged 33 years, collier.
William Hughes aged 17 years, collier.
Thomas Davies aged 29 years, bratticeman.
David Davies aged 29 years, fireman.
Mark Osborne aged 26 years, collier.
James Devereux aged 39 years, lampman.
Patsey Sullivan, rider

Of the 134 men and boys in the East Level district, 37 out of 52 in the East far end 14 out of the 23 in the East side of Thompson's Dip, 19 out of 48 in the West side of Thompson's Dip and 1 out of 11 on the roads inbye of the engine were saved.

The inquest into the disaster was held before Mr. .B. Reece, Coroner for Cardiff and Mr. R.J. Rhys, Coroner for Aberdare and a jury at the New Inn, Pontypridd from the 27th. to the 29th. April. All interested parties were represented and the jury returned the following verdict-

"We find that the accident the Great Western Colliery on 11th. April, 1893 caused by a spark or sparks emitted from the brake of the hauling engine at the hard heading, which came in contact with some inflammable substance in the neighbourhood and we do not attribute any negligence to any of the officials either before or after the accident, and that 61 men lost their lives by suffocation from smoke arising from the fire and that Jesse Titley lost his life by falling from the 4-foot landing to the bottom of the seam at Tymawr Shaft."

The jury also recommended-

"1) That the code of regulations drawn up by Hugh Bramwell be sent to the Home Secretary with the object that those or similar ones should be adopted in other collieries.

2) That sufficient width or surface for brake power be provided at all haulage engine, so as to prevent undue friction.

3) That every care should be exercised in letting down full journeys upon the east hard heading at the Great Western Collier at a uniform rate and speed."

Mr. Robson concluded his report by saying that the loss of life would have been much greater if the Tymawr upcast shaft had not been a winding pit.

THORNHILL. Dewsbury, Yorkshire. 4th. July, 1893.

The pit formed a part of the Thornhill Colliery and was the property of Mr. T.E. Ingham who lived at Blake Hall, near Mirfield. The Combs pit was worked by a downcast shaft called the 'Drawing Pit' which was driven through the New Hards Seam and the Wheatley Seam to a bed of coal known as the Blocking Bed. The distance from the surface to the New Hards was about 115 yards, from the New Hards to the Wheatley, 265 yards and from the Wheatley to the Blocking Bed, 25 yards. The ventilation was produced by a Guibal fan, 30 feet in diameter at the top of the Ingham Pit. It ran at 48 r.p.m at a water gauge of 1.70 inches

There was another pit known as the Water Pit which was driven from the surface to the New Hards Seam. A short distance from the bottom of this shaft there was a staple pit driven through the Wheatley Seam to the Blocking Bed. The only seam that had been worked over the few years before the explosion was the Wheatley Seam and it was in this seam that the explosion occurred claiming one hundred and thirty nine lives.

At the time of the explosion the Combs Pit was being worked by a single shift. The men went down at 6 a.m. and returned to the surface at 2 p.m. each day. On the day of the explosion there were 146 people in the mine including the undermanager and two deputies and fifty seven boys. The explosion took place a few minutes after midday during the men's dinner hour. The men in Combs pit used safety lamps but there were five or six paraffin lamps burning during each shift in porches leading to the Wheatley workings. Naked lamps were also used at various lamp stations in the pit.

On the 4th. May the manager Jesse Taylor had retired and William Scott took his place. On the evidence, Mr. Scott did not know of the existence of the fault or the fact that gas came from it. The explosion ignited some wood on the landing or staging and the conductors from the Wheatley Seam to the Blocking bed, 25 yards below. In the opinion of Mr. Wardell, all the lives were lost by suffocation. Nine men got out of the pit alive on the evening of the day after the explosion. Three of these died and one was well enough to be called as witness at the inquiry. He was Joseph Mallinson. On the 4th. July he was working with ten or eleven others in Smith's ending for about two hours after the explosion not knowing that something had happened. On making for the pit he met 'a white mist' which extinguished all their lights. All the men seemed to have returned to Smith's ending and six were brought out alive 30 hours after the explosion. Mallinson said that he never lost consciousness but amused himself riding backwards and forwards on a tram until he was rescued. Ten bodies were found in Smith's ending.

The Thornhill Parish Magazine gave an account of the disaster-

"We will tell the sad tale as correctly as we can, and quite simply, without attempting to stir again the agonies of those awful days. Just after noon on Tuesday those who were near the Combs Pit were aware of an unusual sound below, which was followed by the issue of smoke and flame from the pit mouth. James Scargill had just gone down in the cage to work. The signal to the pit bottom was at once rung, but no answer came. A message was sent instantly to Mr. Scott, the manager. Before his arrival a fresh burst of smoke and foul air from the pit mouth brought decisive proof of the terrible explosion.

Already the news of an accident had begun to spread and people in agonies of alarm were running to the place. Upon his arrival, Mr. Scott and three others entered the cage and were lowered, but were quickly drawn up again having almost immediately encountered the fumes of afterdamp. A second attempt to descend was quickly made and a lower depth was reached, but a second time the party were obliged to give order to pull up again, and as they came up to the top they were overtaken by an immense cloud of smoke. The lookers on, now being numerous, shrieked in terror. The brave men, baffled in their attempts to descend

the shaft by the pumping shaft, and succeeded in reaching the pit only to discover that an explosion had undoubtedly taken place and a fire was raging not far off. Almost immediately the lifeless bodies of James Scargill, Samuel Croft, Rowland Garthfitt and Walter Field were found and at once brought to the surface.

By this time fears had become almost certainties and it was realised that the lives of all in the pit were in serious danger. The hope that some of the miners might find their way out of the pit at the Ings end was destroyed when the news was brought that firedamp was issuing from the opening there. Further attempts to penetrate the mine were all fruitless and about three o'clock were for a time suspended. Messages meantime had been sent to the mining engineers in the neighbourhood who began to arrive in the course of the afternoon. Several times these gentlemen accompanied one of our men descended the pit, but they found it was full of suffocating fumes attempts to explore were abandoned. The mouth of the pit was closed and water was turned into the old bed below the present workings to extinguish the fire.

Then began a night of sickening suspense. Nothing could be done. Poor women who had been standing near the pit for hours during the afternoon retired home, while some could not be induced to leave the place. All hope of saving any alive from the pit seemed to have been given up. The crowds of strangers who had been assembling in hundreds and thousands during the afternoon began to melt away leaving the few behind whose painful interest in the fate of the imprisoned miners would not let them go. Among the earliest to arrive in the afternoon was Archdeacon Brooke and he and Mr. Wheelhouse spent any hours at the pit amongst the agonised wives and mothers who were assembled there. The Rector was in London. a telegram was dispatched to him summoning him back at once. He received it about 6 o'clock and started home by the next train arriving at Thornhill about five o'clock on the following morning.

The mining engineers and Mr. Scott were in consultation and decided that it was impossible to resume the exploration for the present but at 11 o'clock after the ventilation of the pit had been restored a party of explorers descended. Among the men were some sub-inspectors of Mines, some mining engineers including Mr. John Nevin, Mr. T.R. Maddison, Mr. H. Child, Mr. Scott and others. The explorers found the pit free of firedamp and made arrangements for a thorough examination. They spent some hours in their work and returned to the top about three o'clock. They had found eighty six bodies including Amos Hawksworth and three others who had been seen the evening before. They were in groups, some of them looking as if calmly asleep, some on their knees, one with a piece of chalk in his hand, with which he had written on a corve a message to his wife. The men and boys seem to have come back from the workings when they were aware of something amiss and met the fatal fumes which suffocated them.

A second party of explorers followed at about half past three to complete the examination of the pit and it was not long after this that with the news that thrilled the hearts of the crowds around the pit as soon as the purport was known. A man had been found still breathing. The doctor descended with restoratives and all with anxious expectation. Everything was made ready for the reception of any who might be brought alive to the pit top and medical men were to hand to render service.

Soon, Henry Wraithmell, of Thornhill Edge, was brought up alive, the John Mallison of Middlestown, then John Garthfitt, of Thornhill Edge and afterwards Friend Senior, of Thornhill Squire Shires, of Middlestown, Richard Wood, and Willie Lightowler of Thornhill and John Heywood of Middlestown. This was the whole number brought out alive from the pit out of the hundred and forty six who went down to their work on Tuesday morning.

Of the nine above mentioned Joshua Ashton died two hours later and John Heywood, though most assiduously and carefully nursed, died on Thursday night. the others received every care and attention and are now doing well. Mr. Ingham had arrived at the pit early in the afternoon and superintended the proceedings we have described. a message of sympathy and enquiry from Her Majesty the Queen, which was received from the Home Secretary, was posted up in a prominent place.

There was nothing to hinder the removal of the dead from the pit, but the sad task was deferred till nightfall, and the Parochial Hall was fitted up for the reception of the bodies. All night through the dead being brought on stretchers to the Hall and prepared for identification and burial. We pass hastily over this stage of the story. All was done with as much care and reverence as so difficult and arduous a task permitted, and nothing could exceed the self-devotion which many whose hearts were aching with sorrow exhibited in their untiring labours.

A crowd besieged the entrance to the Parochial Hall throughout the following day, and some we are told failed to get admission to see the remains of their dead. But it will be understood that such mistakes were almost inevitable at a time when it was necessary to exclude as far as possible all but those who had a good reason for being admitted. We may say here that the self-restraint and consideration shown by all the sorrowing mourners was very remarkable when there was so much to try their patience and fortitude. the tedious protraction of the inquest which kept many waiting for hours, and the natural desire to have their own dead restored to them for a short time before interment must have told heavily on them, but in spite of it all the showed wonderful forbearance.

Those who lost their lives were-

Buried at Thornhill on the 6th. July-

James Scargill aged 50 years of Thornhill,

Rowland Blakeley Garthwaitt aged 22 years of Thornhill Edge.

Buried at Thornhill on the 7th. July-

Walter Field aged 15 years of Thornhill.

Arthur Oates aged 18 years, of Millbank.

Fred Oates aged 15 years of Millbank.

Samuel Croft aged 28 years of Thornhill.

Herbert Asquith aged 32 years, of Thornhill.

William Henry Swallow aged 25 years of Thornhill.

Lambert Thornes aged 15 years of Thornhill.

Walter Hardcastle aged 24 years of Thornhill.

William Goldthorpe aged 70 years of Thornhill Edge.

Herbert Wraithmell aged 18 years of Thornhill Edge.

Willie Wraithmell aged 13 years of Thornhill Edge.

William Hampshire aged 36 years of Thornhill.

Charles Brook aged 33 years of Thornhill Edge.

Edward Mort aged 36 years of Thornhill Edge.

George Chapman aged 18 years of Thornhill Edge.

Alexander Andrews aged 15 years of Thornhill Edge.

James Sheard aged 54 years of Breastfield.

Buried 8th. July-

Isaac Lightowler aged 36 years of Thornhill Edge.

Tom Dyson aged 33 years of Thornhill Edge.

Willie Coates aged 12 years of Thornhill Edge.

James Joseph Steadman aged 24 years of Thornhill Edge.
Joseph Nobel aged 44 years of Middlestown.
James Nobel aged 16 years of Middlestown.
David Ramsden aged 44 years of Partridge Row.
Thomas Stanley Hills aged 14 years of Overton.
Herbert Speight aged 28 years of Thornhill.
Aquila Brook aged 33 years of Lees Moor.
Charles Brook aged 14 years of Thornhill.
Robert Scargill aged 40 years of Thornhill.
Rufus Scargill aged 16 years of Thornhill.
Matthew Ramsden aged 59 years of Middlestown.
Alfred Alonzo Ramsden aged 17 years of Middlestown.
Benjamin Ramsden aged 31 years of Middlestown.
George Wilkinson aged 52 years of Thornhill.
William Stevenson aged 15 years of Middlestown.
Ernest Sheard aged 13 years of Thornhill.
Fransord Milnes aged 12 years of Partridge Row.
John William Smith aged 42 years of Batley Carr.
George Milnes aged 51 years of Thornhill Edge.
Benjamin Milnes aged 22 years of Thornhill Edge.
James Milnes aged 17 years of Thornhill Edge.
John Tindale aged 34 years of Thornhill Edge.
George Fenton aged 36 years of Thornhill.
Josiah Roberts aged 40 years of Thornhill.
Joseph Little aged 22 years of Thornhill.
Abraham Ramsden aged 39 years of Middlestown.
Willie Ransden aged 16 years of Middlestown.
Richard Pickard aged 49 years of Lees Moor.
Thomas Watkins aged 15 years of Edge Top.
John Ellis aged 36 years of Edge Top.
William Ellis aged 60 years of Thornhill.
Thomas Ellis aged 321 years of Thornhill.
Sykes Lee aged 18 years of Thornhill.
Lewis Lee aged 26 years of Thornhill.
Sam Wood aged 40 years of Thornhill.
William Wood aged 12 years of Thornhill.
Joshua Ashton aged 23 years of Thornhill.
George Wood aged 39 years of Thornhill.
Joseph Wood aged 15 years of Thornhill.
John Croft aged 33 years of Thornhill.
Lot Senior aged 62 years of Thornhill.
John Fox aged 15 years of Middlestown.
Thomas Fox aged 13 years of Middlestown.
Joseph Scarfe aged 16 years of Lees Moor.
Joseph Coates aged 28 years of Thornhill Edge.
William Jackson aged 27 years of Thornhill Edge.
Henry Burton (Halstead) aged 30 years of Lees Moor.
George Fisher aged 25 years of Lees Moor.
Harry Jessop aged 17 years of Edge Top.
Mark Smith aged 29 years of Thornhill.
Stephen Drake aged 40 years of Thornhill.
Henry Summerscales aged 59 years of Thornhill Edge.
James Hill aged 25 years of Lees Moor.

William Goldthorpe aged 41 years of Thornhill.
Charles Rusby aged 40 years of Middlestown.
Fred Rusby aged 17 years of Middlestown.
John William Beaumont aged 16 years of Middlestown.
Ephraim Beaumont aged 12 years of Middlestown.
Eli Frith aged 17 years of Thornhill.
George Frith aged 15 years of Thornhill.
John Longbottom aged 40 years of Thornhill Lees.
Smith Longbottom aged 15 years of Thornhill Lees.
Arthur Grimsdale aged 15 years of Middlestown.
William Cole aged 16 years of Middlestown.
George Wilcock aged 30 years of Lees Moor.
John Ashton aged 35 years of Thornhill Edge.
Oliver Ashton aged 15 years of Thornhill Edge.
John Hardcastle aged 49 years of Thornhill Edge.
Henry Halstead aged 57 years of Thornhill Edge.
Walter Henry Oxley Wilcock aged 51 years of Thornhill.
Jonathan Hinchcliffe aged 46 years of Thornhill Edge.
Harry Hinchcliffe aged 20 years of Thornhill Edge.
William Varley Wroe aged 42 years of Thornhill Edge.
John B. Netherwood aged 15 years of Thornhill Edge.
Samuel Crossley aged 65 years of Thornhill Edge.
George Crossley aged 23 years of Thornhill Edge.
Herbert Dunford aged 18 years of Thornhill Edge.
Matthew Jessop aged 26 years of Smithy Brook.
Lot Scargill aged 28 years of Thornhill.
Edward Fearnley aged 55 years of Thornhill Edge.
Edward Fearnley aged 16 years of Thornhill Edge.
Henry Lightowler aged 31 years of Thornhill Edge.
Charles Firth aged 46 years of Thornhill Edge.
Alfred Firth aged 19 years of Thornhill Edge.

Of the remaining twenty nine, one, Mr. Hawksworth, was buried at Outwood, three in the Baptist Burial ground, six at Thornhill Lees, sixteen at Whitley, one at Dewsbury and two the following day at Flockton.

The *'Thornhill Parish Magazine'* again-

"The first funerals were those of James Scargill and Rowland Garthfitt which took place on Thursday afternoon and these were followed by sixteen on Friday. The task of preparing the graves for so many was a serious one and we cannot speak too highly of the way this was carried out by our sexton with a large number of Mr. Ingham's workmen and others engaged for the purpose.

The Churchyard was so densely crowded on the Friday afternoon that the work of grave digging became impossible. In view of the necessity of getting on with this work and of ensuring order and reverence in the Churchyard during the great number of funerals which would take place on Saturday it was decided to allow only the funeral parties to enter the Churchyard the following day.

For more than eight hours on Saturday the sad duty of solemnly and religiously committing the dead to their graves was performed. the Bishop of the diocese was present and took part in the services for a considerable time.

The expenses were borne by Mr. Ingham. By a quarter past eight the burial service had been said for the last time and the bodies of one hundred and ten of those who perished in the explosion were consigned to their quiet resting places in our Churchyard. Of the remaining twenty nine, one Mr. Hawksworth, was buried at

Outwood, three in the Baptist Burial ground, six at Thornhill Lees, sixteen at Whiteley, one at Dewsbury and two the following day at Flockton.”

The inquiry was held in the Local Board Offices, Thornhill on the 11th. and 12th. July. After an inspection of the pit after the explosion it was thought that only a small quantity of gas had ignited near the landing in the downcast shaft at the Wheatley seam. The inquiry thought it very likely that the gas had been ignited by one of the naked lights hanging at the landing. as the shaft was driven through a fault gas did issue from it and Jesse Taylor, the former manager, had tried to use the gas by the insertion of a pipe for lighting the porches leading to the Wheatley seam in the downcast shaft.

About twelve months before the explosion, masons were called in to make apertures through the brick lining of the downcast shaft just under the landing in the shaft at the Wheatley seam. The masons worked with naked lights and one of these ignited the gas but with no fatal results or injury to anyone. It was thought that the gas had come from a feeder behind the brick walling of the shaft and had collected under and about the scaffold.

The door of the undermanager’s cabin, a few yards from the shaft was found closed after the explosion and the paint on the outside blistered by heat. There were three bodies in the cabin and an oil lamp on the wall had not had its glass broken.

After hearing the evidence, the jury delivered the following verdict:-

“We find that James Scargill and the 138 other persons whose bodies we have viewed were accidentally killed as the result of an explosion in Comb’s Pit of the 4th. July, 1883. The jury further desire to record their opinion that great praise is due to the gentlemen which formed the rescue parties for their action in this matter. They are also of the opinion that this pit ought not to be worked in future with naked lights at the bottom of the shaft.”

Mr. Wardell concluded his report by saying-

“We think it is important to draw attention to the fact that open lights were used at the mouthing of the Wheatley seam after gas had made its appearance there on more than one occasion and it was one of these naked lights which brought about the explosion.

We are also of the opinion that so far as possible, all wooden fittings should be avoided in colliery shafts and that the maintenance of efficient appliances for extinguishing fires should be made compulsory in all mines.”

DOWLAIS. Cardiff, Glamorganshire, 23rd. January, 1893.

The colliery was the property of the Dowalis Iron Company and was at Aberdare Junction. There was a large fall of rock when sinking operations were going on at the colliery. On the morning of the disaster twenty seven sinkers descended 265 yards and worked normally until 6 p.m. when a huge boulder in the side of the shaft weighing 7 to 8 tons, suddenly fell down the shaft. Six of the men died and one died later from his injuries.

The men who lost their lives were all sinkers-

William Tudor aged 34 years,
Henry Caddy aged 38 years,
Richard Davies aged 54 years,
Robert Roberts aged 32 years,
Cad. Williams aged 25 years,
John Williams aged 37 years,
Godfrey Jones aged 20 years and
David Jones aged 46 years.

Mr. Robson reported-

"Swansea, 11th. February, 1893.

Sir,

With further reference to the accident at the Dowlais Iron Company's new sinking, I have the honour to report that I attended the adjourned inquest of the 9th. inst. and from my examination of the shaft on the day following the occurrence, and the evidence given, I came to the conclusion that this sad fatal accident was the result of misplaced confidence in the security of the natural strata sunk through on the part of the agent, Mr. H.W. Martin, Mr. Daniel Lewis, the certificated manager and Mr. William Jones, the master sinker, especially the latter two, as they both had been in the shaft of the day of the accident, and were more directly responsible for the safety of the sinkers employed.

It may be noted here that the master sinker was an experienced man in such operations, but the manager had had no experience in actual making prior to his taking charge of this sinking about 24th. December, 1891. The work was being done on shift wages, paid directly by the company, there being no contractor.

The shaft is being sunk fully 22 feet diameter, which leaves it 20 feet diameter where it is walled, the walling being a foot thick. The large diameter exposes a surface of 70 feet round the shaft. The practice is to sink so many yards, then stop sinking and put in as walling curb within a few yards of the bottom, and the wall up to the last curb put in when sinking is resumed. The distance sunk before a length of walling is put in is decided from time to time by those in authority, and varies according to the kind of strata passed through, the sides being examined daily by the leader of the shift, and a special examination being made once a week. As many as 35 yards have been sunk before a length of walling was put in. The total depth on the day of the accident was about 268 yards, 249 of which had been walled, and sinking was being proceeded with at a depth of fully 19 yards below the last walling, the strata passed through being as follows- 19 feet 6 inches of rock, 3 feet of clift then 36 feet of rock.

It was a portion of rock immediately above the clift which fell and probably the fall was caused by the clift having softened and fallen out previously, although this was not admitted by witnesses at the inquest. Clift is a kind of shale which is liable to soften with exposure, and especially where wet, as in sinking. In my opinion, it would have been a wise precaution to have secured this bed of clift by cribs round the whole circumference, whereas all that had been done was to secure it in two places where undoubtedly portions of the clift had fallen off or had been pulled off previous to the accident. The, as soon as the rock below the clift was sunk into, say three or four yards, it would have been a proper course to put in a length of walling instead of continuing so far below the clift.

I beg to say no provision of the Mines Act or special rules appears to have been violated.

Signed, J.T. Robson,
Inspector of Mines."

DOLCOATH. Camborne, Cornwall. 20th. September, 1893.

At about 1 o'clock in the afternoon and in the words of the Inspector, Joseph Martin, "*was the most disastrous fall or run of ground of which (so far as loss of life is concerned), I have experienced either under this Act or the Coal Mines Regulation Acts.*" The fall occurred at the 412 level of the Mine, east of the 'New East Shaft'. There were sixteen men engaged in strengthening the 'stull' on the back of the level. Eight men lost their lives, the other eight, although uninjured, very narrowly escaped the fate of their

comrades, especially one man named Davis who was entombed for 36 to 40 hours before he was released.

The 412 fathom level was the deepest that had been opened in this mine, although the shaft is down far enough for the 425 fathom levels. The lode at the site of the accident was 30 feet wide and in consequence of being very rich in tin ore, the whole width is 'stoped' or worked away and sent to the surface, which left a large cavity above the level 35 to 40 yards long, 10 yards wide and at the highest point within 2 or 3 yards of the 400 fathom level.

The 'stull' consisted of 21 baulks of pitch pine 18 to 20 inches square and 30 feet long, set at distances of about 3 feet apart. Over these 'stull pieces' there was sheeting planks or slabs upon which 2 or 3 fathoms of 'deads' of rubbish was piled. A certain portion of the stull pieces were strengthened with 'struddles' and 'legs'.

The underground agent having noticed that some of the 'stull piece' were bending, gave the chief timbermen, John Pollard, one of the deceased, instructions to strengthen 'stull'. He got the necessary timber sent down on the day before the accident and on the day of the accident and took two or three experienced timbermen with him to the place as well as a dozen labourers to assist in putting up the heavy baulks. When the accident occurred they were engaged with one of these long pieces which they had hanging on blocks at the time, trying to set it between some of those which were bent.

It was at first thought that, in preparing the foot of the bed for those piece, one of the others had been undermined and loosened, but the witnesses at the inquest gave evidence that clearly showed that this was not the case. They stated that they heard a noise above the 'stull' as if a heavy fall or run of ground had occurred, and again a second one, followed immediately by the collapse. The view as to the cause of the accident is corroborated by the fact that a large portion of the lode or ground under the roadway of the 400 fathom level fell away at the same time, causing the collapse of the roadway at that level.

Information about the accident was sent to the surface as soon as possible when search parties were organised and sent down. Two of the men, Osborne and Davies were found to be alive but Osborne died that evening. Davies was rescued 36 to 40 hours later. Shifts of men continued working day and night in search of the others, but the difficulties met with in dealing with the huge timbers and rubbish were such that the last body was not recovered until 11th. October, twenty one days after the accident.

Those who died were-

John Pollard,
Adams,
James,
John Henry
Jennings,
Harvey,
Osborne and
Charles White.

The inquest into the disaster was opened at Tyack's Hotel, Camborne, before Mr. G.P. Grenfell County Coroner. Captain Josiah Thomas, the manager of the mine made the following written statement-

"I am Manager and Purser of Dolcoath Mine, having been appointed manager in 1868 and Purser in 1883. The mine has worked continuously since 1799. The deepest level is the 425 under adit, or 453 from the surface. The lode becomes larger as depth is attained, and in the deeper workings east of the engine shaft it is 20 to 390 feet wide, with an underlie of 49 degrees south, or a little over four feet to the fathom. The country rock on both sides is granite. In stoping away the lode

we sometimes leave arches standing, and where arches are not left we put in large timbers across the workings at about right angles to the underlie of the rock. The timber used for this purpose is principally pitch pine or large pieces of Norway timber 12 to 16 inches in diameter. Captain James Johns, our chief Underground Agent, has the principle direction of the timber work, together with three underground agents. Pollard, the Chief Timberman, was directing the men who were working with him at a point in the 412 fathom level, 40 fathoms east of the New Shaft, when the accident occurred. No expense has been spared in securing the ground throughout the mine. I was in the very place where the accident occurred the day previous, and considered the stull to be perfectly safe. I was in the immediate neighbourhood of it for about one hour.

I first heard of the accident about three o'clock in the afternoon and going underground found the pace in the 412 collapsed up to 5 or 6 feet of the eastern end. It was about 14 fathoms from one end to the other. After the accident I was informed that certain persons were missing who had been working there. Men were immediately put to work at the both ends to clear the stuff and put in timber. They got to work instantly, in fact it took several men down with them to begin work at once. There were many difficulties to contend with in clearing the huge rock and the large pieces of timber which were all mixed up together. The rocks were blasted very cautiously and the timbers had to cut out bit by bit so it was an extremely slow process. In the first place we tried to ascertain if anyone was alive. They called as loudly as possible but there was no response. I presume Davies must have been asleep at the time because he said he heard men working afterwards. Davies was rescued after 37 hours. The 400 fathom level has collapsed for about the same length as the 412. The extreme right of the stull was equal to more than three times the amount of stuff that was on it."

Captain Thomas continued that the distance usually allowed for setting the baulks into the footwall was about a foot. He did not think that rock would be liable to splinter off. The distance allowed depended on the nature of the work. He had never observed the rock to splinter off from the edges by blasting, because the foot was always placed in firm ground.

James Johns, the underground agent said that the stall that collapsed consisted of 21 or 22 pieces of timber, 18 inches square pitch pine and an average length of 33 to 34 feet, fixed at an incline of 45 to 48 degrees and from 2 to 3 feet apart. A second stall was being fixed similar to the first. When questioned by Mr. Martin, Johns went on to say-

"I think some of the ground had given way after having been given vent to the bottom. Two days before the accident I noticed a weakness on the western side. I saw Pollard and told him that one of the pieces was bending. Pollard said that he had noticed it, and as he knew the length of the piece, he would cut it down at once. I told him that I would go down with him the next morning and see it. I went down with Pollard and the timber did not seem any worse. We were looking at the timber together and agreed as to what should be done. He thought the bending in the piece was due to the pressure of the hanging wall. I saw no other piece bending and did not see any danger whatever. I said to Pollard, "If you ever see anything in this stall wrong mind you do it when the timber is good, because the timbers are liable to decay," and Pollard said he would. The pressure from the hanging wall varied very much in places. The bending in the piece would, of course, indicate movement somewhere, and show that something was very heavy somewhere. Pollard was an experienced man and he had been at Dolecath for about five or six years. Previous to that he had experience timbering in other mines."

The witness went on to explain in detail how the timber was set but he could not account for the stall at 400 coming away. He supposed that the ground at the back of the stope had given way because the stall-piece had broken. They found the stall-piece that they were repairing broken in pieces.

A juror put it to him that if this one piece only had gone down more men would have been saved and Captain Johns replied-

“I believe the men had a chance to escape, but that they thought they were safe enough under this stall. I do not see that any of them had any difficulty to escape except Charles White. I was told that Pollard was on the tram road holding a candle for one of the men to drive a nail and that could be only three fathoms from the end of the stall. I believe that Pollard and the other men had such confidence in that stall that they went there for safety.”

John Williams, one of the working party at the spot where the accident happened said that they were at work putting in new timber to make the place secure when the run occurred. He, with some others ran away when he heard a big noise overhead. He and the others managed to get away but there was no hope for the others.

When he got a light, he went back and found that the run had taken place and filled the place with stuff. They had got the timber in ready to set, but there was a delay to get in the foot. Pollard had been with him and just before. When they found that they could not get the piece in Pollard ordered White to make a little more room at the foot by working it away with a pick. before there was time make the room, the accident happened. There was no one using a pick on either side that he noticed. He could not tell where the weight came, all he heard was a roar and saw the rock falling.

Albert George Roberts, was also working at the place said that some men were told to cut off the props. He was sitting down having his lunch when he heard some ground falling away and he asked his companions what it was and was told that a little ground had fallen away above. About two minutes afterwards he heard a further heavy fall.

David Jones, a mining student who was working with Pollard said that after they tried to get a piece of timber in, it jammed at the top and the bottom. This occurred twice and it was decided to leave it until the next day. he heard the alarm given and ran out of the western end with six others

. When the rush of air caused by the fall had subsided, they went back and shouted but could not hear or see anything. When they got to the top of the shaft they found a relief party ready to go down. He had heard it said that the stoping was rather high and that the timber hardly strong enough for it.

William Brown who was trapped for about thirty six hours said that he found Jennings' mangled body on the day after the accident and on the Thursday night he discovered a crevice into which he crawled. He heard someone moaning which continued for some time but after a few hours it stopped. he believed it to be Osborne. He also got near Davies of Troon and spoke to him.

After hearing all the evidence the jury brought in a verdict of 'Accidental Death' without retiring and passed a vote of sympathy with the relatives of the deceased and the Agents of the mine.