



The National Archives

Education Service



Mining Disaster

What happened at the Trimdon Grange Mining Disaster?

This resource was produced using documents from the collections of The National Archives. It can be freely modified and reproduced for use in the classroom only.

Introduction

For three days between 19 and 21 February 1882, the people of Trimdon Grange and Kelloe buried 74 people. Some were buried in mass graves. Others were laid to rest in a cemetery a few miles away. Most people in Trimdon Grange buried someone in their family. Many of the dead left behind young families. What caused so many people to die? Was it disease, famine, illness or murder?

You are a reporter for The Trimdon Herald. You have to write an accurate story about these deaths for your newspaper. You must study the evidence carefully, putting all the pieces together like a jigsaw. When you have finished looking at the evidence you can write the story.

Tasks

Look at Source 1

1. These are some of the burial registers for Trimdon Grange in 1882

- a) What things do all the victims have in common?
- b) Can you find any families?
- c) Who was the youngest victim?
- d) Who was the oldest victim?
- e) Discuss in pairs what you think could have caused these people to die.

Look at Source 2

2. This is an extract from the Durham Advertiser showing those who were killed and those who were rescued.

- a) What clue is given here about how these people died?
- b) How many boys were killed?
- c) How many children lost their fathers?
- d) How would the lives of these children change now that their fathers were dead?
- e) How many people survived?

Look at Source 3

3. This is the account of Ralph Wynn, a survivor of the Trimdon Grange disaster.

- a) What did Ralph see when he reached the shaft?
- b) Why could he not get out of the mine?
- c) After Ralph had waited for about an hour what did he see?
- d) How well were these men?
- e) What news did these men bring?
- f) How did Ralph and the other men get out of the mine in the end?
- g) Ralph was there at the time. Does this mean that we should believe everything he has to say about the explosion?

- h) Can you now say why 74 men were killed?

Look at Source 4

4. This is part of the official report into the Trimdon Colliery disaster.

- a) What was the date of the explosion?
- b) What was the time of the explosion?
- c) Where was the place of the explosion?
- d) What types of lamps were used?
- e) How 'gassy' was the mine?
- f) How strong were the roofs of the mine?

Look at Source 5

5. This is a photograph taken inside a mine. The inside of Trimdon Grange colliery would have looked much the same.

- a) What kind of lamp is the miner holding?
- b) How is the roof of the mine being held up?
- c) Can you see any special safety equipment in the mine?
- d) What else can you see in the photo??

6. Why was there an explosion at Trimdon Grange colliery? Try to work out what happened.

You are now ready to write your newspaper report.

Background

Coal was one of the most important things in Victorian life. It provided heat for homes and fuel for cooking. It was also the fuel that ran the country's factories and railways. Britain was rich in coal. It could be found right across Scotland, Wales and England.

Few pieces of machinery were used to dig the coal out of the ground. The work was done mainly by hand. Special names were given to the different kinds of work in the mines. For example:

Hurrier : someone who moves carts of coal from the coal face to the shaft.

Hewer : a workman who cuts the coal from the seam.

Trapper : usually a child who opened and closed trap doors inside a mine to allow carts to pass through and to regulate ventilation.

In some mines ponies were used to move carts of coal to the shafts where they would be winched to the surface.

The new mines that grew up in the 19th Century depended on men and children to work long hours in often dangerous conditions. Accidents were common. As mines became bigger and deeper new problems emerged. The most frequent dangers were those

caused by flooding, dangerous gases and the roof falling down. Firedamp (a build-up of gases) was even more dangerous. It could cause massive explosions.

The problem of lighting was also a serious one. Candles could set off explosions. It was not until 1815 when the Davy lamp was invented that this danger was removed. The Davy lamp had a piece of gauze around it which stopped the flame from setting gases on fire.

Throughout the 19th Century the government had passed laws which prevented young children and women from working in mines and reduced the number of hours they were allowed to work. By the 1880s only boys who were over 12 could work in mines. However, some mine owners ignored these laws.

Teachers Notes

Students may find some of the vocabulary and language difficult, especially in the Inspector's Report. However, the background and the transcripts for all written sources provide short glossaries.

The lesson has an inquiry led approach. Students will need to be observant and it is worth encouraging them to use their knowledge of Victorian Britain to think about the possible causes of the death.

Try to impart some of the tragedy of the unfolding events to the pupils. Our lesson on Trimdon shows part of the census return for the town before the disaster, and some of the victims who can be seen in the death registers in source 1 are shown in its sources. The death of a breadwinner could have dire consequences in the 19th Century. The workhouse loomed for mothers who could not find alternative means of supporting their families. Besides, what work could they find in places like Trimdon Grange where mining was the main, if not only, industry?

The survivor's account finally confirms some of the gruesome details of the disaster. Names are mentioned here and can be cross-referenced with the burial registers and newspaper lists. Although Ralph Winns provides crucial information, as a man caught up in the centre of dramatic events, his account may be less than reliable. Students should try and evaluate Ralph's account. What parts might have been exaggerated? What might be the impact of the editor of the newspaper?

The Inspector's Report provides factual information to help support their final piece of written work - a newspaper report.

We would like to thank Durham Record Office for their assistance in the production of this lesson.

Sources

Durham Record Office Ref: Source 1 - EP/Tr9 and EP/Ke22, Source 2 - Durham Advertiser 24 Feb. 1882, Source 3 - Durham Advertiser 17 Feb. 1882
Source 4 - POWE 7/8
Source 5 - COAL 13/111

Schemes of Work

How did life change in our locality in Victorian times?

Key Stage 1 & 2 Unit 12

Industrial changes action and reaction

Key Stage 3 unit 11

Source 1 : Burial Registers 1882 (EP/Tr9 and EP/Ke22)

Page 145

BURIALS in the Parish of Trimdon in the County of Durham in the Year 1882				
Name.	Abode.	When Buried.	Age.	By whom the Ceremony was performed.
Joseph Burnet	Trimdon Colliery	Feb 19	23 years	John Sayer off him
No. 1153				
George Burnet	Trimdon Colliery	Feb 19	19 years	John Sayer off him
No. 1154				
James White Burnet	Trimdon Colliery	Feb 19	17 years	John Sayer off him
No. 1155				

Page 148

BURIALS in the Parish of Trimdon in the County of Durham in the Year 1882				
Name.	Abode.	When buried.	Age.	By whom the Ceremony was performed.
Davis Griffiths	Trimdon	Feb 19 29	years	Gottold
No. 1177				
Mary Miller	Trimdon	Feb 24 29	years	Gottold
No. 1178				
William William	Trimdon	Feb 20	32 years	Gottold
No. 1179				

BURIALS in the Parish of Wallasey in the County of Durham in the year One thousand eight hundred and 82				
Name.	Abode.	When buried.	Age.	By whom the Ceremony was performed.
Thomas Sharp	Trimdon Grange	Feb 20	44	John Lawson
No. 145				
John Douglas	Trimdon Grange	Feb 20	14	John Lawson
No. 146				
William Madrell	Trimdon Grange	Feb 20	40	George Peafield
No. 147				
Henry Joyce	Trimdon Grange	Feb 21	17	George Peafield
No. 149				
Thomas Hunter	Trimdon Grange	Feb 21	37	George Peafield
No. 150				
William James Hyde	Trimdon Grange	Feb 21	26	George Peafield
No. 151				
Enoch Sayer	Trimdon Grange	Feb 21	18	George Peafield
No. 152				

Source 1 : Transcript of Burial Registers 1882 (EP/Tr9 and EP/Ke22)

Page 145

BURIALS in the Parish of Trimdon in the County of Durham in the Year 1882

Name	Abode	When Buried	Age	By whom the Ceremony was performed
Joseph Burnet	Trimdon Colliery	Feb 19	23 Years	Oates Sagar Off[iciating] Minister
George Burnet	Trimdon Colliery	Feb 19	19 Years	Oates Sagar Off[iciating] Minister
James White Burnet	Timdon Colliery	Feb 19	17 years	Oates Sagar Off[iciating] Minister

Page 148

BURIALS in the Parish of Trimdon in the County of Durham in the Year 1882

Name	Abode	When Buried	Age	By whom the Ceremony was performed
David Griffiths	Trimdon	Feb 20	19 years	Geo[rge] Lloyd
Clancy Miller	Trimdon	Feb 20	24 years	Geo[rge] Lloyd
William Williams	Trimdon	Feb 20	32 years	Geo[rge] Lloyd

BURIALS in the Parish of Kellors in the County of Durham in the year One thousand eight hundred and 82

Name	Abode	When Buried	Age	By whom the Ceremony was performed
Thomas Sharp	Trimdon Grange	Feb 20	44	Tho[mas] Lawson
John Douglas	Trimdon Grange	Feb 20	14	Tho[mas] Lawson
William Madrell	Trimdon Grange	Feb 20	40	George Padfield
Henry Joyce	Trimdon Grange	Feb 21	17	George Padfield
Thomas Hunter	Trimdon Grange	Feb 21	37	George Padfield
William James Hyde	Trimdon Grange	Feb 21	26	George Padfield
Enoch Sayer	Trimdon Grange	Feb 21	18	George Padfield

Source 2 : Durham Advertiser 24 Feb. 1882

LIST OF THE KILLED.

The following is a full list of the names, addresses, and particulars as to family or otherwise, of the men killed by the explosion :

TRIMDON GRANGE.

Wm. Robinson (deputy), widow and 1 child.
 John Errington, widow and 3 children.
 Samuel Richardson, single.
 James Stobb, widow and 3 children.
 Thomas Priestley, widow and 1 child.
 John Douglass, boy.
 Thomas Sharp, single.
 John Hughes, single.
 Thomas Hunter, widow and 6 children.
 Andrew Smith, single.
 Cornelius Jones, boy.
 Robert Soulsby, widow.
 Joseph Hyde, single.
 John Ramsay, single.
 Joseph Dornigaud, boy.
 Thomas Downard, boy.
 William Jefferson, boy.
 George Jefferson, single.
 John Allison, single.
 Henry Butke, widow and 4 children.
 Edward Spenser, single.
 George Wigham, widow and 3 children.
 Fred. Bowar, widow and 2 children.
 Wm. Mandally, widow.
 John Williams, widow and 1 child.
 Thomas Peate, single.
 George Richardson, widow and 2 children.
 Michael Hart, widow and 7 children.
 Thos. Gordon (back overman), widow and up-grown family.
 George Lishman, single.
 William Bowen, boy.
 John Wilson, widow and 3 children.
 Ralph Robinson, single.
 Robert Edwards, single.
 David Edwards, single.
 Jacob Soulsby, widow.
 John Wilson (Beaton), single.
 Matthew Day, boy.
 Henry Joles, boy.
 Richard Thwaites (deputy) single (widower).
 George Dobson, single.
 R. Myers, boy.
 Richard Dow, single.
 David Griffith, single.
 John Edmund, boy.
 William Parker, boy.

TRIMDON COLLIERY.

Wm. Hyde, widow and 1 ch'd.
 Wm. Williams, widow and 3 children.
 Henry Miller, single.
 John Smith, widow and 2 children.
 Thomas Prior, single.
 Thomas Clark, widow and 2 children.
 Wm. Walker, widow and 2 children.
 Michael Duxbury, single.
 Joseph Barnett, 22, single,
 George Barnett, 19, single, } brothers.
 James Barnett, 17, single.
 Robert Hallam, widow and 3 children.
 Matthew French, boy.

OLD TRIMDON.

James Boyd, boy.
 Michael McCall, 22, single,
 John McCall, 17, single, } brothers.
 Thomas McCall, 17, single,
 William Jeanninge, boy.
 Patrick Dorking, boy.

KELLOG (EAST HETTON).

Herman Schler, Under Viewer.
 George Slack, single.
 Thos. Blenkinsopp, widow and 4 children.
 Jacob Barryman, widow and 3 children.
 Christopher Prest, widow and 3 children.
 Frank Ramshaw, single.

This will cost the fund about £1,000 in legacies, and a total expenditure of over £7,000.

LIST OF THE RESCUED.

The following are the men who were in the Harvey seam at the time of the explosion, and were rescued :—

H. Ramshaw.	John Storey.
Ralph Wynne.	Richard Edwards.
William Taylor.	Samuel Jones.
John Priestley.	J. Roach.
Matthew Hunter.	M. McCabe.
E. Spencer.	W. Moore.
Thomas Thompson.	P. Roberts.
H. Mercier.	Jacob Soulsby (deputy).
Geo. Robson.	— Heaton.
John Collier.	Mat. Scott.
William Young.	Joseph Roach.
M. E. Mallony.	Wm. Leighton.
Peter Brown.	James Robson.
John Wynne.	H. Nessham.
Jos. Hepnell.	Mark Bulmer.

FURTHER RECOVERY OF BODIES.

TRIMDON GRANGE. 11 p.m.—During the night

Source 2 : Transcript of Durham Advertiser 24 Feb. 1882

LIST OF THE KILLED

The following is a full list of the names, addresses and particulars as to family or otherwise, of the men killed by the explosion :-

TRIMDON GRANGE

Wm Robinson (deputy), widow and 1 child
John Errington, widow and 3 children
Samuel Richardson, single
James Stobb, widow and 3 children
Thomas Priestley, widow and 1 child
John Douglas, boy
Thomas Sharp, single
John Hughes, single
Thomas Hunter, widow and 6 children
Andrew Smith, single
Cornelius Jones, boy
Robert Soulsby, widow
Joseph Hyde, single
John Ramsay, single
Joseph Dormand, boy
Thomas Dormand, boy
William Jefferson, boy
George Jefferson, single
John Allison, single
Henry Burke, widow and 4 children
Edward Spencer, single
George Wigham, widow and 3 children
Fred. Bower, widow and 2 children
Wm Mandally, widow
John Williams, widow and 1 child
Thomas Peate, single
George Richardson, widow and 2 children
Michael Hart, widow and 7 children
Thos Horden (back overman) widow and up-grown family
George Clasmith, single
William Bowen, boy
John Wilsop, widow and 3 children
Ralph Robertson, single
Robert Edwards, single
David Edwards, single
Jacob Soalsbym widow
John Wilson (Beaton), single
Matthew Day, boy
Henry Joles, boy
Richard Thwaites (deputy) single (widower)

George Dobson, single
 R. Mercer, boy

Richard Dove, single
 David Griffith, single
 John Edmund, boy
 William Parker, boy

TRIMDON COLLIERY

Wm Hyde, widow and 1 child
 Wm Williams, widow and 3 children
 Henry Miller, single
 John Smith, widow and 2 children
 Thomas Prior, single
 Thomas Clark, widow and 2 children
 Wm Walker, widow and 2 children
 Michael Docherty, single
 Joseph Burnett, 22, single }
 George Burnett, 19, single } brothers
 James Burnett, 17, single }
 Robert Maitland, widow and 3 children
 Matthew French, boy

OLD TRIMDON

James Boyd, boy
 Michael McCall, 22, single }
 John McCall, 17, single } brothers
 Thomas McCall, 17, single }
 William Jennings, boy
 Patrick Dorking, boy

KELLOR (EAST HETTON)

Herman Schler, Under Viewer
 George Slack, single
 Thos. Blenkinsopp, widow and 4 children
 Jacob Barryman, widow and 3 children
 Christopher Prest, widow and 3 children
 Frank Ramshaw, single

LIST OF THE RESCUED

The following are the men who were in the Harvey seam at the time of the explosion and were rescued:-

H. Ramshaw	John Storey
Ralph Wynne	Richard Edwards
William Taylor	Samuel Jones

John Priestley	J Roach
Matthew Hunter	M McCabe
E Spencer	Wm Moore
Thomas Thompson	P Roberts
H Mercier	Jacob Soulaby (deputy)
Geo Rolson	--- Heaton
John Collier	Mat. Scott
William Young	Joseph Roach
M.E. Mallony	Wm. Leighton
Peter Brown	James Robson
John Wynne	H. Nessham
Jos. Hepnell	Mark Bilmer

Source 3 : Durham Advertiser 17 Feb. 1882 A survivors account

Croxdale.

NARRATIVE OF A SURVIVOR.

The following is the narrative of Mr Ralph Winn, one of the rescued, who is landlord of the Station Hotel, and worked as a hewer in the Harvey Seam :— I heard a report which appeared to come right to us from the direction of the shaft. I said to my marrow, "What's that?" to which he replied, "I think it'll be a shot." I said, "That's no shot," and as I spoke a boy came running up and shouted "Be sharp-out-bye; there's something happened. All the 'overcast' is blown out." We went off as hard as we could towards the shaft, other men and lads joining us. As we ran, the dust was so dense that it was like to smother us. We reached the shaft, however, and there we found the tubs all blown about, and the "way" torn up, and the timbering and brattice piled up in a heap. The first thing we saw was the dead body of a young man, which we recognised as that of William Jefferson. We lifted him up and placed him by the side of the way. We then tried to get round to the other side of the shaft, but on our way we came upon the body of a man whose head had been blown off, a terribly mutilated body. One of our party succeeded in getting round, and saw a young boy's foot peeping out from beneath a tub. We all cowered about the shaft, and wondered if we should get out; it was then evident that no one but those about us could be saved. When we had waited from between half-an-hour and an hour, we saw the light of lamps coming towards us from the direction of the Cross-cut Flat. There were about nine men in this party, and one of them, just as they came up to us, dropped down. The men got him and brought him safely to the shaft where we were. The other eight men were all very bad from after-damp, and asked for something to drink, but of course we could give them nothing. We stood about the pit for someone to come to us. No one else was found there whilst I was at the shaft bottom. These nine men told us that in the Cross-cut Flat, from which they came, all the boys were killed. When the explosion took place Jacob Soulsby, the deputy-overman in charge of that district, said, "Tell them (the boys) to wait at the 'Rest' a bit." They delivered this message, but the boys did not do so, and they were all killed by the choke-damp. The cage was broken in the shaft, but at length the slings were let down, and we were drawn to bank by them and the "kibble." The engineman underground and I got into the slings together. He told me that when the explosion occurred he was blown away from his engine, but he did not appear to be seriously hurt. There were about thirty men and boys drawn up at the bottom of the shaft—gathered up from the various parts of the workings. None of them appeared to be much the worse, although they had all suffered more or less from choke-damp. The engineman and I came to bank in the slings, but the kibble was afterwards let down, and brought the remainder of the men to bank.

THE INQUEST AT TRIMDON.

Source 3 : Transcript of Durham Advertiser 17 Feb. 1882 A survivors account

NARRATIVE OF A SURVIVOR

The following is the narrative of Mr Ralph Winn, one of the rescued who is landlord of the Station Hotel, and worked as a hewer in the Harvey Sea :- I heard a report which appeared to come right to me from the direction of the shaft. I said to my marrow, "What's that?" to which he replied, "I think it'll be a shot." I said, "That's no shot," and as I spoke a boy came running up and shouted "Be sharp out-bye; there's a something happened. All the 'overcast' is blown out". We went off as hard as we could towards the shaft, other men and lads joining us. As we ran, the dust was so dense that it was like to smother us. We reached the shaft, however, and there we found the tubs all blown about, and the "way" torn up, and the timbering and brattice piled up in a heap. The first thing we saw was the dead body of a young man which we recognised as that of William Jefferson, We lifted him up and placed him by the side of the way. We then tried to get round to the other side of the shaft, but on our way we came upon the body of a man whose head had been blown off, a terribly mutilated body. One of our party succeeded in getting round, and saw a young boy's foot peeping out from beneath a tub. We all cowered about the shaft, and wondered if we should get out; it was then evident that no one but those about us could be saved. When we had waited from between half-an-hour and an hour, we saw the lights of lamps coming towards us from the direction of the Cross-cut Flat. There were about nine men in this party, and one of them, just as they came up to us, dropped down. The men got him and brought him safely to the shaft where we were. The other eight men were all very bad from after-damp, and asked for something to drink, but of course we could give them nothing. We stood about the pit for someone to come to us. No one else was found there whilst I was at the shaft bottom. These nine men told us that in the Cross-cut Flat, from which they came, all the boys were killed. When the explosion took place Jacob Soulsby, the deputy-overman in charge of that district, said, "Tell them (the boys) to wait at the 'Rest' a bit." They delivered this message, but the boys did not do so, and they were all killed by the choke-damp. The cage was broken in the shaft, but at length the slings were let down, and we were drawn to bank by them and the "kibble." The engineman underground and I got into the slings together. He told me that when the explosion occurred he was blown away from his engine, but he did not appear to be seriously hurt. There were about thirty men and boys drawn up at the bottom of the shaft - gathered up from the various parts of the workings. None of them appeared to be much the worse, although they had all suffered more or less from choke-damp. The engineman and I came to bank in the sidings, but the kibble was afterwards let down and brought the remainder of the men to bank.

Glossary

Hewer - Coal Cutter

Outbye – towards the shaft

Shot - explosion

Marrow – mate or friend

Overcast – roof of the mine

Cowered – crouch down nervously

After damp / Choke Damp – carbonic acid gas which made breathing difficult. It can kill.

Kibble – wooden tub

Source 4 : The Official Report into the disaster 1833 (POWE 7/8)

TRIMDON GRANGE COLLERY EXPLOSION.

Report of T. W. Snagge, Esq., Barrister-at-Law, on the Explosion which occurred at Trimdon Grange Colliery on the 16th February 1882.

1. On the 16th February 1882, at about half-past two o'clock in the afternoon, an explosion took place in the Trimdon Grange Colliery, 11 miles from Durham, causing the death of 74 persons. A coroner's inquest on two of the bodies was formerly opened on the following day by Mr. Crofton Maynard, the coroner for the district in which the accident occurred, and was continued on the 29th, 30th, and 31st March, and 1st April following. The inquest was attended throughout by

10. The Trimdon Grange mine is admittedly "a dusty mine." The rolley ways were stated to have been "watered every day," but this appears to have been "not in all places, but where it was absolutely necessary."

11. The mine does not appear to be more than ordinarily "gassy."

12. The only lamp in use in the mine was the old Davy pattern with a sliding shield. Naked lights called "midgies" were used by the driver boys, and were permitted as far as the caution boards, placed at safe distances from the working places. There was no evidence to show, or reason to suppose that improper advantage had been taken of this permission, or that the explosion was caused by the use of naked lights.

19. At mid-day on the 16th February, therefore, the conditions of atmosphere and temperature may be taken to have reached a dangerous point, while the condition of the strata forming the roof of the long-wall workings, as well as of the goaf behind, was likewise dangerous, and a fall of a considerable portion of its surface might be expected to force into the working places any accumulation of gas which might hover in the hollows of the roof.

20. The explosion took place at 2.40 p.m. on the afternoon of the 16th, during the "after" or "back" shift. At that time there were in the Harvey Seam 64 hewers, 5 deputies, and 25 boys, making a total of 94 persons. Every man and boy at work at the time in the Pit Narrow Board and Headways Districts was killed. The men in the Cross-cut District felt a sudden shock and compression of the air, and they, as well as the men working on the south side of the shaft, made their way successfully through the advancing after-damp to the bottom of the shaft, when they were rescued. No time appears to have been lost in the work of rescue, and, as speedily as arrangements could be made to restore ventilation, exploring parties were at work. The result of their observations and investigation

26. There is no room for doubt that the explosion had its origin in the Pit Narrow Board District, and that it was caused by the diffusion of a sudden "squeeze" or outburst of gas forced, with accompanying dust, towards the working face by a heavy fall of roof over the northern edge of the Pit Narrow Board goaf, and driven out with a velocity which sent the flame through a miner's lamp.

Source 4 : Transcript of The Official Report into the disaster 1833 (POWE 7/8)

TRIMDON GRANGE COLLIERY EXPLOSION

Report of T.W.Snagge, Esq., Barrister-at-Law on the Explosion which occurred at Trimdon Grange Colliery on the 16th February 1882.

1. On the 16th February 1992 at about half-past two o'clock in the afternoon, an explosion took place in the Trimdon Grange Colliery, 11 miles from Durham, causing the death of 74 persons. A coroner's inquest on two of the bodies was formerly opened on the following day by Mr Crofton Maynard, the coroner for the district in which the accident occurrd, and was continued on the 29th, 30th, and 31st March, and 1st April following. The inquest was attended throughout by...
10. The Trimdon Grange mine is admittedly "a dusty mine." The trolley ways were stated to have been "watered every day," but this appears to have been "not in all places, but where it was absolutely necessary."
11. The mine does not appear to be more than ordinarily "gasey".
12. The only lamp in use in the mine was the old Davy pattern with a sliding shield. Naked lights called "midgies" were used by the friver boys, and were permitted as far as the caution boards, placed at safe distances from the working places. There was no evidence to show, or reason to suppose that improper advantage had been taken of this permission or that the explosion was caused by the use of naked lights.
19. At mid-day on the 16th February, therefore, the conditions of atmosphere and temperature may be taken to hve reached a dangerous point, while the condition of the strata forming the roof of the long-wall workings, as well as of the goaf behind, was likewise dangerous, and a fall of a considerable portion of its surface might be expected to force into the working places any accumulation of gas which might hover in the hollows of the roof.
20. The explosion took place at 2.40pm on the afternoon of the 16th, during the "after" or "back" shift. At that time there were in the Harvey Seam 64 hewers, 5 deputies and 25 boys making a total of 94 persons. Every man and boy at work at the time in the Pit Narrow Board and Headways districts were killed. The men in the Cross-cut District felt a sudden shock and compression of the air, and they, as well as the men working on the south side of the shaft, made their way successfully through the advancing after-damp to the bottom of the shaft when they were rescued. No time appears to have been lost in the work of rescue, and as speedily as arrangements could be made to restore ventilation, exploring parties were at work. The result of their observations and investigation...

26. There is no room for doubt that the explosion had its origin in the Pit Narrow Board Districts and that it was caused by the diffusion of a sudden "squeeze" or outburst of gas forced, with accompanying dust, towards the working face by a heavy fall of roof over the northern edge of the Pit Narrow Board goaf, and driven out with a velocity which sent the flame through a miners lamp.

Source 5 : Photo taken inside a mine (COAL 13/111)

