

North of England Institute of Mining and Mechanical Engineers  
Nicholas Wood Memorial Library

# Mining accidents and safety

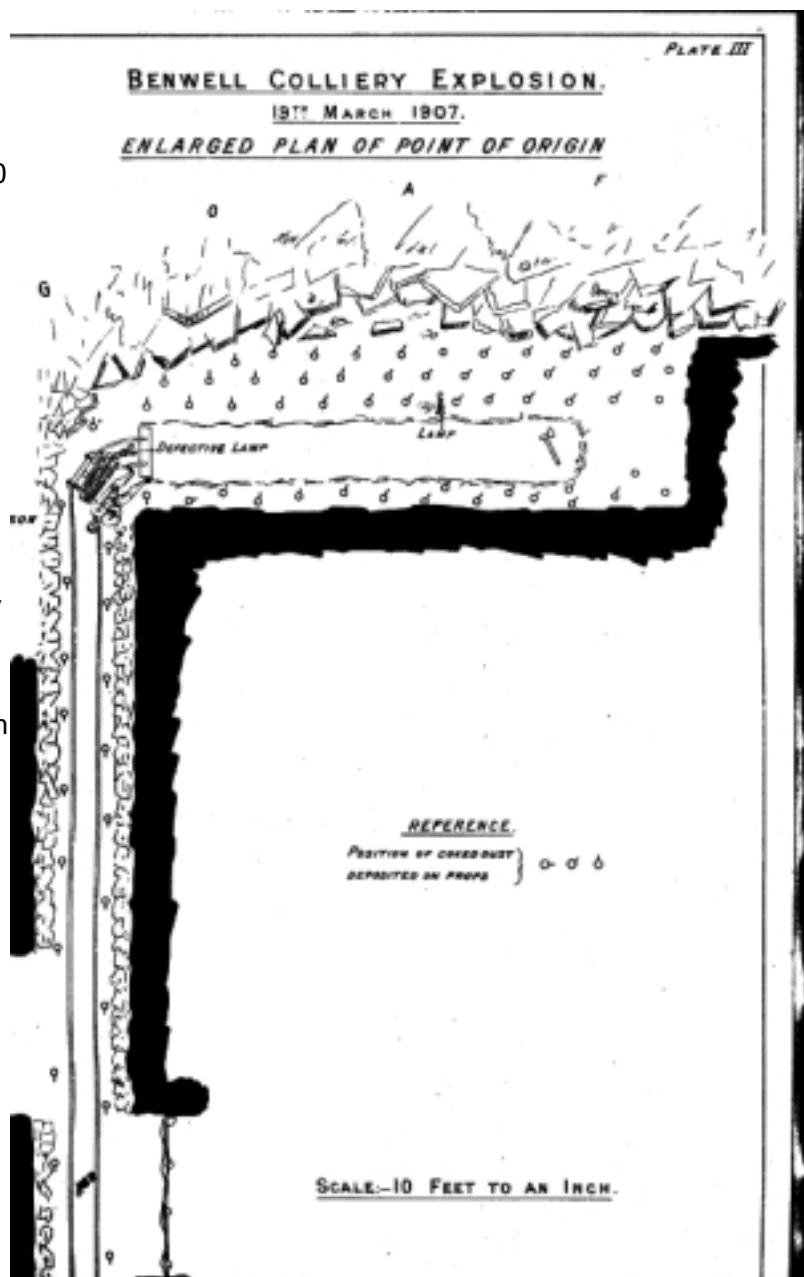
## a guide to resources

### Introduction

Mining has always been a dangerous occupation, with 85000 deaths between 1873 and 1953 and as many as 1800 in a single year. Thus much was done to learn from accidents and to develop safer processes and methods of working.

This guide considers the information sources in the Mining Institute Library and on some websites that can aid researchers, whether concerned with a particular accident or disaster or with safety developments in general. Some resources deal with all types of mine; some just with coal mines.

Other libraries and archives will have further material, including journals on economic, social and technological history with useful articles.



## Lists of accidents

There is no list of all accidents, but there are various lists of accidents - none complete; some are limited to coal mining or particular regions.

*Disasters* - Durham Mining Museum website

[http://www.dmm.org.uk/names/index\\_17.htm](http://www.dmm.org.uk/names/index_17.htm)

Browse a list of disasters - mainly in Cumberland, Westmorland, Northumberland, Durham, North Yorkshire - by decade.

*Coalmining accidents and deaths* - Coalmining History Resource Centre

<http://www.cmhrc.co.uk/site/disasters/index.html>

Browsable lists of disasters.

*Accidents and disasters* - Scottish Mining website

<http://www.scottishmining.co.uk/5.html>

*Welsh mining disasters* - Welsh Coal Mines website

<http://welshcoalmines.co.uk/Photo.htm>

Description and names

The book by Boyd noted in the next section has a list of accidents before 1850.

Galloway, R.L. *Annals of coal mining and the coal trade* has brief details of explosions. v1 for c1800-1834 spread throughout the book; v2 for 1836-50 in chapters by region.

## Some general accounts of accidents/disasters and their prevention

Some are recent histories - others are more contemporary accounts .

Abel, F.A. *Mining accidents and their prevention*. 1889.

Not in the Institute Library. Available online at Open Library:

<http://tinyurl.com/Abel1889>

Bagot, A . *Accidents in mines: their causes and prevention*. 1878.

Boyd, R.N. *Coal pits and pitmen: a short history of the coal trade and legislation affecting it*. 1895.

Bryan, A.M. *The evolution of health and safety in mines*. 1975. (Coal mines only)

Duckham, H and Duckham, B *Great pit disasters*. 1973. (Barnsley, Blantyre, Hartley, Senghenydd)

Dunn, M. *How to prevent accidents in collieries*. 1862.

Higson, J. *Explosions in coal mines*. 1860.

Hoyle, G. The coal mine explosion hazard - the past and the future *Proceedings - National Association of Colliery Managers* **63** 1966, 49-74

Jevons, H.S. *The British coal trade*. 1920.

Oughton, F. *Pitfall*. 1958.

Richardson, J. *On the prevention of accidents in mines*. 1848.

Not in the Institute Library. Available online at Google Books:

<http://tinyurl.com/Richardson1848>

Stuart, D.M.D. *Origin and rationale of colliery explosions*. 1895.

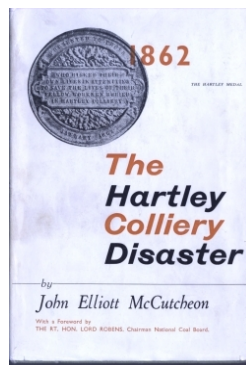
Thompson, R. *Thunder underground: Northumberland mine disasters 1815-1865*. 2004.

## Specific disasters

For some major disasters there is more extensive published material, for example:

Forster, E. *The death pit : the untold story of mass death in a mine*. 1969. (West Stanley 1909)

Forster, T. E. *Memoir of the Hartley colliery accident and relief fund*. 1912.



McCutcheon, J.E. *The Hartley colliery disaster, 1862*. 1974  
 Purdon, G. J *The Sacriston Mine Disaster*. 1979

*Aberfan disaster*

<http://www.nuff.ox.ac.uk/politics/aberfan/home.htm>

List of archives and other records; reports transcribed from eye-witnesses; information about the tribunal that followed the disaster, and other material.

**Inspectors Reports**

The main source of information about accidents is the annual Report of His Majesty's Inspector of Mines.

No. 6 SUMMARY.—Separate FATAL ACCIDENTS in and about the MINES of GREAT BRITAIN and IRELAND

No. of Inspection District.	DISTRICTS.	Explosions of Fire-damp.	Falls in Mine.			In Shafts.							Miscellaneous Under-						
			Falls of Sides.	Falls of Roof.	Total Falls.	Overwinding.	Ropes and Chains breaking.	Whirls ascending or descending by Machinery.	Falling into Shaft from Surfaces.	Things falling from Surface.	Falling from part way down.	Things falling from part way down.	Miscellaneous in Shafts.	Total in Shafts.	Explosions of Gun-powder, &c.	Suffocation by Gases.	Irruptions of Water.	Falling into Water.	On Inclined and Engine Planes.
1	Eastern District of Scotland	2	17	21	38	-	-	4	2	-	7	-	2	15	2	-	-	-	2
2	Western District of Scotland Do. (ironstone, &c.)	1	11	22	33	-	-	1	-	3	-	4	5	5	-	-	-	-	4
3	Northumberland, Cumberland, and North Durham	4	5	26	31	-	-	-	1	-	-	1	2	4	2	-	-	-	8
4	South Durham, Westmoreland, and Yorkshire, North Riding	-	3	33	36	-	-	1	-	1	1	-	3	6	-	-	-	-	8
	Yorkshire, Cleveland ironstone	-	3	6	9	-	-	-	-	-	-	-	-	2	-	-	-	-	1
5	Yorkshire Do. (ironstone)	1	10	31	41	1	-	4	-	4	-	4	14	4	-	-	-	-	8

These began in 1851 – though some of the first ones, including Northumberland, Durham for Jun 1851- Jun 1852 were not published – and initially did not cover all types of mine. Ironstone mines were included from 1872, metalliferous from 1873 and quarries from 1894. They have reports for different regions of the UK, and a general overview and give statistical material on accidents, with a breakdown by type of accident, eg explosion, rock falls, in shafts, suffocation, trams and tubs, on the surface. For each accident up to 1914 there are lists of those who died. More extensive description and illustrations are given where necessary. These may draw upon inquests into deaths. The Library has the Inspectors reports for 1850-1923, 1925-38, [none published for 1939-46], 1947-77.

From the 1880s there were specific inquiries into major incidents and separate reports were produced.

[There is a separate Library guide – *Mines Inspectors reports* – that has more details on the structure and content of the reports.]

There is also the *Annual Report of Her Majesty's Inspector of Explosives* [NEIMME: 1880-1910, 1924-46 (one vol)]

Includes mines. Brief reports of explosions up to 1910 similar – but not identical – to those in the Mine Inspectors reports. Also details of explosives used.

Some websites have material taken from the Inspectors reports:

*Disaster lists and reports* - Coalmining History Resource Centre

<http://www.cmhrc.co.uk/site/disasters/index.html>

Transcribed reports.

*Disaster reports, with index of names* - Durham Mining Museum website

<http://www.dmm.org.uk/reports/index.htm>

Transcribed reports, mainly for Cumberland, Westmorland, Northumberland, Durham, North Yorkshire.

*Accidents and disasters* – Scottish Mining website

<http://www.scottishmining.co.uk/5.html>

Summary and basic details from Inspectors' reports and newspapers

[Researchers in universities may have free access to the online Proquest *House of Commons Parliamentary Papers (1715-2004)* full text collection which includes these reports]

## Journals

### News

Contain news, meeting reports, government activity, letters, illustrations. Much material on accidents.

*Colliery guardian*. 1858-1988. Weekly

*Mining journal*. 1835-1985. Weekly

These have indexes only by volume, so for specific accidents you need a good idea of the date.

### Institutional, including regional journals

These have the text and the – often extensive – discussion of papers presented to meetings of the particular institution. They deal more with safety and accident prevention in general than discussing specific incidents.

There are subject indexes covering various periods for some of these.

*Institution of Civil Engineers, Proceedings*. 1837-1935.

Example article: West, W. A comparative view of the recorded explosions in coal mine. **10** 1850-51

*Institution of Mechanical Engineers, Proceedings*. 1847-1971.

Example article: Hawksley, C. Mechanical appliances for meeting the requirements of certain classes of mine accidents. 1877

*North of England Institute of Mining and Mechanical Engineers, Transactions*. 1852-1920.

Example article: Wood, N. An account of the explosion of fire-damp at Lundhill Colliery. **5** 1856

*Federated Institute of Mining Engineers, Transactions.* 1889-1898  
(Proceedings from regional mining institutes)

*Institution of Mining Engineers, Transactions.* 1899-1960.

Example article: Wilson, H.F. & Perrins, H.J. Historical review of accidents from falls of ground, with particular reference to the north of England. **113** 1953-54

*Chesterfield and Derbyshire Institute of Mining, Civil and Mechanical Engineers, Transactions* 1871-1889

Example article: Seley, A. Spontaneous combustion in coal mines and its treatment **5** 1877-78

*Manchester Geological Society, Transactions* **1** 1841 - **33** 1914

Example article: Ashworth, J. Notes on recent accidents from blasting in coal mines **21** 1892, 339-352

*North Staffordshire Institute of Mining and Mechanical Engineers. Transactions.* **3** 1878-79 – **14** 1899

Example article: Bakewell, J.G. Explosions in mines and the Mines Regulation Act 1872 **5** 1880-1, 31-41

*Mining Institute of Scotland, Transactions.* **1** 1880/81 – **42** 1922-23; **48** 1927-28 – **49** 1928/29

Example article: Gemmell, J. The work of the Royal Commission on Accidents in Mines **8** 1886-7, 75-126

*South Wales Institute of Engineers, Transactions.* **1** 1857-59 – **96** 1981

Example article: Wilkinson, G. Personal experiences in colliery explosions and with standing fires **10** 1876-77, 53-66

*National Association of Colliery Managers – Minutes of Proceedings* 1889-1967

Example article: Gibson, J. Pertaining to safety. **24** 1927

[Researchers in universities, or who are members of an engineering institution, may have free access to online versions of the Civil and Mechanical Engineers proceedings.]

## Newspapers

These can give contemporary reports of accidents, with illustrations.

The Library has various cuttings, mostly in the miscellaneous Tracts collection and the Bell archive.

*Newspaper articles* - Durham Mining Museum

<http://www.dmm.org.uk/articles/index.htm>

Transcribed material. Search by date, colliery or person's name

*British Newspaper Archive*

<http://www.britishnewspaperarchive.co.uk>

A developing online collection of newspapers initially with 19<sup>th</sup> Century regional papers.

Searching is free, but you have to pay to retrieve articles. Newcastle Libraries have regional newspapers either in print or online.

## People killed

The Inspectors of Mines Reports list fatalities by name, and in some cases also those injured but not killed, up to 1914.

28	100	South Skelton	Guibro'	Thos. Vaughan & Co.	John Ellis	Driver	---	Crushed by tub	-	-	-	1	-	1			
Nov. 2	101	Upleatham	Marske	J. W. Pease & Partners	George Cook	Ditto	21	Ditto	-	-	-	1	-	1			
"	9	102	Chilton	Ferry Hill	Chilton Coal Co.	Edward Lewis	32	Fall of coal	-	-	1	-	-	1			
"	10	103	West Stanley	Chester-le-Street	J. H. Barn	Andrew Elliot	19	Ditto	-	-	1	-	-	1			
Dec. 20	104	Eston	Middlesbro'	Balclow, Vaughan, & Co., Limited.	Job Burt	Incline man	61	Run over by waggons	-	-	-	1	-	1			
									Total	-	-	1	48	13	29	14	105

LIST of the FATAL ACCIDENTS in METALLIFEROUS MINES, and LOSS of LIFE arising therefrom, in MR. BELL'S DISTRICT, comprising SOUTH DURHAM, WESTMORELAND, and the NORTH RIDING OF YORKSHIRE, during the Year 1875.

1875.	1	Whitfield Brow	Prosterley	London Lead Co.	Joseph Dodds	Miner	29	Fall of stone while adjusting timber in mine.	-	1	-	-	-	1			
									Total	-	-	-	1	-	-	-	1

There are various collections of names online:

*Coalmining accidents and deaths* - Coalmining History Resource Centre

<http://www.cmhrc.co.uk/site/disasters/index.html>

A searchable database of over 160 000 names of people killed or injured in mines and quarries 1700-2000. It is not complete and may have inaccuracies.

*Index of names* - Durham Mining Museum web site

<http://www.dmm.org.uk/names/index.htm>

Searchable database of those killed in mines - mainly in Cumberland, Westmorland, Northumberland, Durham, North Yorkshire.

*Welsh mining disasters* - Welsh Coal Mines site

<http://welshcoalmines.co.uk/Photo.htm>

Has names.

*Accidents and disasters* - Scottish Mining website

<http://www.scottishmining.co.uk/5.html>

Names, including some for people injured.

## Inquest/coroners reports

In relation to mining accidents inquest details may be part of the report of a specific accident - either as a separate report or in the Inspectors annual report. County record offices may have some reports.

Durham Mining Museum has some transcribed texts at <http://www.dmm.org.uk/inquests/> and some of their newspaper articles and accident reports refer to inquests.

## Compensation

Compensation for fatal and non-fatal accidents and sickness was provided by relief funds, trade unions, employers insurance schemes and, in the case of major disasters, disaster funds often from public subscription.

NEIMME has Annual Reports from the Northumberland & Durham Miners Permanent Relief Fund Friendly Society for 1878-1887 and a separate report for the 1880 Seaham explosion that give details of payments made to individuals. Otherwise information may be found in

the records of the various societies and of individual mines in local county archives.

## Archives in the Institute Library with material on accidents

Bell Papers - 18<sup>th</sup> and 19<sup>th</sup> centuries – newspapers cuttings, pamphlets, plans, etc. Includes accident material.

Buddle Papers – working papers, diaries, notebooks, etc from John Buddle, colliery viewer (died 1843), his father, John Buddle, colliery viewer (died 1806) and some other viewers and engineers.

There is currently no online list of archive contents, so you need to ask in the Library about what is available.

## Government enquiries, reports

There have been many government enquiries into mining in general or particular aspects like accidents. Usually these take evidence from those concerned and then produce a report with recommendations. They contain great detail on contemporary working practices. The list is of the main enquiries, including note of one – indicated by \* - that is not in the Institute Library.

The reports may be bound in more than one volume, comprise more than one report over a year or two and include various volumes of evidence. Brief titles are given here – search the Library catalogue by keywords to check what is available: the Institute Library may not always have the complete volumes.

1835 *Select Committee on Accidents in Mines.*

1843 South Shields Committee for the Investigation of Accidents in Mines. *Report of the South Shields Committee appointed to investigate the causes of accidents in coal mines : containing an examination of-safety lamps; ventilation; scientific instruments; infant labour in the mines; plans and sections; scientific education of officers of mines; government inspection; and medical treatment after explosion. With plans and appendix.* (Tracts **216**, 5-107)

1846, 1847 *Report on the gases and explosions in collieries* by De la Beche, Henry T. (Sir)

1849 *Select Committee of the House of Lords ...dangerous accidents in coal mines*

\*1852 *Select Committee on Coal Mines.* (Explosions)

Not in the Institute Library. Available online at Google Books: <http://tinyurl.com/SC1852>

1854 *Select Committee on Accidents in Coal Mines.*

1864 *Report of the commissioners appointed to inquire into the condition of all mines in Great Britain to which ...* [Health and safety in mines other than coal] Appendix B only in stock

1866/67 *Select Committee on [regulation and inspection of] Mines*

1881, 1886 *Royal Commission on Accidents in Mines.*

The preliminary report of 1881 is also in *Tracts* **107**, 537-555. A summary of the final report of 1886 is in Pameley, C. *Colliery managers handbook*. 4<sup>th</sup> ed 1898

1891-2 *Royal Commission of Labour.* Group A: Mining, iron, engineering, hardware, shipbuilding and cognate trades. Evidence volumes only. Some material on accidents.

1891-4 *Royal Commission on Explosions from Coal Dust in Mines.*

1907-11 *Royal Commission on Mines.* Accidents.

1909 *Royal Commission on Mines.* Report of a committee ... into the causes of and means of preventing accidents from falls of ground, underground haulage, and in shafts: in *Tracts* **233**

1911 *Departmental committee on the organisation of rescue and aid in case of accidents in mines.*

1914 *Royal Commission on Metalliferous Mines.*

1914, 1916, 1921. *Departmental committee on spontaneous combustion of coal in mines.*

1926 *Royal Commission on Mining Subsidence.*

1938 *Royal Commission on Safety in Coal Mines* See also Sinclair, J. *Coal mining law*. 1958, 98-110

1991 *Energy Committee*. First report. Safety in coal mines.

*The Royal Commission reports on children in the mines, 1842* - Coalmining History Resource Centre

<http://www.cmhrc.co.uk/site/literature/royalcommissionreports/index.html>

Transcribed reports by geographic area.

[Researchers in universities may have free access to the online Proquest *House of Commons Parliamentary Papers (1715-2004)* full text collection which includes most of these reports.]

## Statistics

Statistics for accidents and deaths are primarily from the Inspectors' reports as noted in **Official reports** above.

Government enquiries listed in the previous section may include figures.

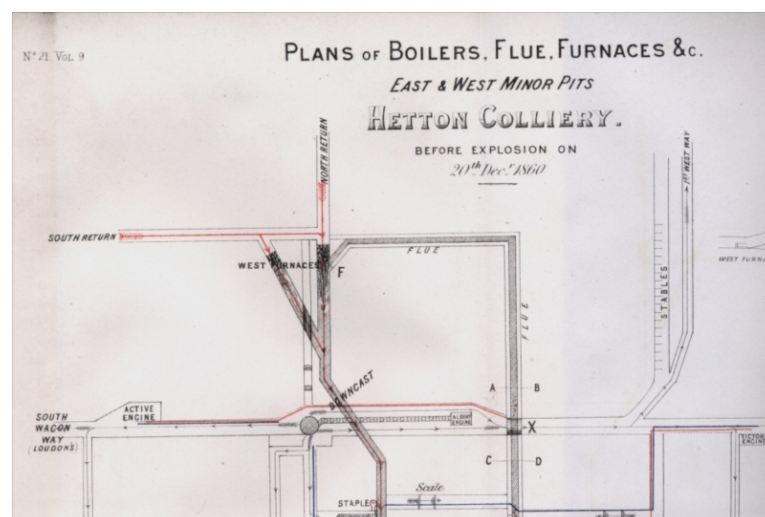
Occasional publications summarise statistics over a number of years, eg

*Return of the number of accidents in coal mines during the years 1850, 1851, and 1852, specifying each particular accident; the number of lives lost in each case; the cause of the accident; whether the mine was inspected by the proper government inspector before the accident took place, and the coroner's jury's verdict.* 1853

*Copies of report ... furnished by Mr Dickinson ... showing for each year during the past twenty years the number of deaths and other accidents in coal mines, also the number of persons employed therein.* 1872

## Maps/plans/illustrations

The Library has an extensive collection of Ordnance Survey and Geological maps; many other local maps and plans; and photographs.



The Durham Mining Museum has a selection of OS and other maps from different periods showing the location of collieries in the North

<http://www.dmm-gallery.org.uk/maps/index.htm>



There are similar maps for the whole country at the Coalmining History Resource Centre <http://www.cmhrc.co.uk/site/maps/scotland/index.html>

Drawings, plans and other illustrations related to accidents will be found in accident reports and journal and newspaper articles.

## Mine information

Background information on a mine, eg. the name, owners, manager, number of employees, minerals worked, output, etc. can be found from various lists and directories, such as the official *List of mines*, *Colliery year book*, *Mining and mineral statistics*, etc.

Full details of sources are in the the Library resource guide: *Individual mines*.

## Legislation

Improvements in safety will often result from legislation.

A specialist history of safety legislation in coal mines is Bryan, A.M. *The evolution of health and safety in mines*. 1975  
A useful general outline of legislation affecting coal mining is in Mining Association of Great Britain *Historical review of coal mining*. 1924, 301-320

Other accounts are:

*Royal Commission on Safety in Coal Mines* 1938, 11-33 Development of safety legislation in coal mines

Sinclair, J. *Coal mining law*. 1958, 79-97 History of safety legislation

Useful publications with the text of relevant laws are  
Home Office *Regulations and orders relating to safety and health under the Coal Mines Act, 1911* published regularly in the first half of the 20th Century.  
*Halsbury's laws of England: Mines*. 1980

There are various text books on mining law, eg  
Bainbridge, W. *Law of mines and minerals* various editions from 1856 to 1900  
Fowler, J.C. *Collieries and colliers: a handbook of the law and leading cases relating thereto* editions from 1861 to 1884  
Francis-Williams, B and Pitt-Lewis, G. *The Coal Mines Regulations Acts 1887-96*. 1896  
MacSwinney, R.F. *The law of mines, quarries & minerals*, editions from 1884 to 1922  
Sinclair, J. *Coal mining law*. 1958

Newspapers and mining journals will report and discuss the introduction of new laws.

Further sources on legislation are covered in the Library resource guide: *Government and mining: legislation, inspection, enquiries*.

## Other material - Tracts

The Tracts are collections of pamphlets, reports, newspaper articles, journal articles, etc bound together. Items are mainly, but not totally from the 19<sup>th</sup> Century. The contents are included in the Library catalogue, so searching by keywords will find such material.