THE MIDLAND INSTITUTE OF MINING ENGINEERS

YEAR BOOK

2003/2004
&
2004/2005

CONTENTS

Foreword

This year book is published by The Midland Institute of Mining Engineers for distribution to its members. The contents outline the activities of the Institute over the past two years.

In this edition the new revised rules for the Institute, which were revised on 7th October 2004 at the Annual General Meeting have been published.

In addition to this publication it is planned to make the Year Book available on our web site, **www.themime.org.uk**

The year book is funded by The Midland Institute Of Mining Engineers "Main Trust Fund", and I would like to take this opportunity of thanking the trustees for their continued support of the Institute.

Charles Rhodes, FIMMM, IEng.
Honorary Secretary

ALTERATIONS IN TITLE

South Yorkshire Viewers' Association, founded 9th June, 1857
South Yorkshire Viewers' Association, amalgamated with the Midland Institute of Mining Engineers, 6th July 1869

Rules revised and Title amended to The Midland Institute of Mining, Civil and Mechanical Engineers, July 1875

Rules revised and Title amended to The Midland Institute of Mining Engineers, 20th November 1923

Rules revised, 17th March 1933 - 6th December 1945 - 3rd February 1949 - 4th January 1951 - 1st May 1952 - 5th November 1953 - 6th March 1958 - 3rd January 1963 - 30th April 1964 - 6th October 1966 - 4th May 1967 - 9th April 1968.

Rules revised and Title amended to The Midland Institute of Mining Engineers (A Branch of the Institution of Mining Engineers) 1st August 1971.

The Midland Institute of Mining Engineers (a Branch of the Institution of Mining Engineers) amalgamated with the Institute of Mining Electrical and Mining Mechanical Engineers (Yorkshire Branch). Rules revised and Title amended to the Institution of Mining Engineers (Yorkshire Branch) 7th April, 1995.

Rules revised and Title amended to The Institution of Mining and Metallurgy (Yorkshire Branch), 31st July 1998.

Title amended to The Midland Institute of Mining Engineers, December 2002.

Rules Revised and adopted at the Annual General Meeting 7th October, 2004.

RULES OF THE MIDLAND INSTITUTE OF MINING ENGINEERS

1 NAME

The organisation shall be called The Midland Institute of Mining Engineers for which the abbreviation MIMinE may be used.
This organisation is affiliated to the Institute of Materials, Minerals and Mining (IMMM) and as such supports its aims in consideration for which financial grants will be made available as appropriate.

2 OBJECTS

2.1 To promote the science and practice of engineering in mining and its associated disciplines by fostering understanding, experience, interest and research.

2.2 To promote membership of IMMM with its appropriate professional qualifications through active membership to MIMinE

2.3 To encourage and monitor the development of quality skills in engineers in mining through the provision of support and training for members, particularly the younger members and to achieve and maintain professional qualification status.

2.4 To provide a forum for discussions on problems and techniques of engineering in mining.

2.5 To arrange for the publication of papers and collect and disseminate information related to engineering in mining and its associated disciplines.

2.6 To promote the continuous use of safe working practices within the mining and minerals engineering environment.

2.7 To enhance the members appreciation and understanding of important new methods and technologies.

2.8 To administer the Peake Fund, the Webster Travelling Prize and the Amco Bursary as set out in accordance with the respective governing documents.

3. INTERPRETATIONS

In these Rules, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them:

"the Institute" means The Midland Institute of Mining Engineers

"Council" means the Council of the Institute.

"Rules" means the Rules of the Midland Institute of Mining Engineers

"The IMMM means the Institute of Materials, Minerals and Mining being the merger of the Institution of Mining and Metallurgy and the Institute of Materials, Royal Charter dated 26th June, 2002.

"member" with a small "m" means all persons referred to in Clause 4 (Membership).

"President", "Past President", "Vice President", "Honorary Secretary" and "Honorary Treasurer" refer to officers of the Institute.

"he" in the text shall be taken to mean either he or she as required.

4. MEMBERSHIP

4.1 All members of the IMMM are eligible to become members of the Institute. Members of The Institute of Mining & Metallurgy (Yorkshire Branch) at December 2002 shall be deemed to be members of the Institute.

4.2 Persons who are not members of the IMMM and who wish to take advantage of the services of the Institute and to support its aims shall be enrolled under terms to be agreed by the Institute.

5. SUBSCRIPTIONS

No subscription shall be required from any member of the Institute who is a member of the IMMM beyond that payable to the IMMM as prescribed in its Bye-Laws. Persons who are not members of the IMMM and are enrolled under Clause 4.2 shall be required to subscribe to the organisation of the Institute at rates as agreed by Institute Council.

6. MANAGEMENT OF INSTITUTE AFFAIRS

The direction and management of the affairs of the Institute shall be vested in the Council and be in accordance with the Rules and with the resolutions of the General Meetings or Special General Meetings of the Institute that have been summoned and held in accordance with the Rules as properly recorded in the Minutes.
The Council shall manage the finances of the Institute and from time to time shall establish Rules to manage these and other aspects of the affairs of the Institute.
The Council may from time to time establish subgroups which may allow representation on Council either ex-officio, or by co-option.

7. GENERAL MEETINGS

7.1 Ordinary General Meetings of the Institute shall be held at such intervals and at such times as the Council may decide, except where otherwise required in these Rules.

7.2 An Annual General Meeting shall be held in each calendar year within 6 months of the end of the financial year (see Clause 10.2).

7.3 A Special General Meeting of the Institute can be called whenever the Council may think fit or on requisition to the Council signed by twenty or more members, who are also corporate members of the IMMM.
The business of a Special General Meeting shall be confined to that specified in the Notice convening it and such meetings shall take place within 28 days of the

receipt of the requisition and at least 14 days notice of such meetings shall be given.

7.4 The President shall take the Chair at every General Meeting at which he is present. If at any such meeting he is not present at the time appointed for holding the meeting, the Past-President in attendance at the meeting who has most recently held office as President shall take the Chair.
If being thus required no Past-President is available a Vice-President, if present, shall take the Chair. If being thus required no Vice-President is present then the corporate members present may appoint any elected member of the Council, being a corporate member, who is in attendance to take the Chair such that in the absence of any such elected member the corporate members present may appoint a Chairman from within their number.

7.5 Voting at a General Meeting shall be by show of hands and shall be by members of the Institute. A simple majority of members present and voting is required unless expressly required otherwise (see Clause 15). In the case of an equality of votes the Chairman of the meeting shall have a casting vote in addition to the vote to which he is ordinarily entitled. The declaration by the Chairman on the result of voting on a issue shall be final.

7.6 Each member of the Institute may introduce visitors who are not members of the Institute to any General Meeting and their names shall be recorded in a book kept for that purpose. Such visitors may be permitted to speak at the invitation of the Chairman of the meeting.

8. COMPOSITION OF COUNCIL

8.1 The Council shall consist of Honorary Fellows, Fellows and Members, Associate Members, a Technician Member and non-corporate members of the Branch as defined below:

8.2 Institute Council shall consist of:

8.2.1 The President, ex-officio
8.2.2 The Honorary Secretary, ex-officio
8.2.3 The Honorary Treasurer, ex-officio

8.2.4 Vice-Presidents, up to two in number, ex-officio
8.2.5 Past-Presidents of the Institute who are still members of the Institute (other than those who are still members of the Institute Council in any other capacity and those who are not willing to serve as Councillors) and who individually have been most recently elected to the office of President, ex-officio, up to four in number.

8.2.6 The representative of any Younger Members'/Student Section existing within the Institute, ex-officio.
8.2.7 No fewer than six and not more than nine members of which a majority shall be corporate members. These councillors shall be elected by and from the members of the Institute.
8.2.8 Such additional members of the Institute, as the Council may decide, not exceeding eight in number, co-opted until the next Annual

General Meeting. At least 75% of the co-opted places available must be available to Corporate Members.

9. ELECTION OF COUNCIL

9.1 The Council shall nominate annually to the Annual General Meeting one of their number to be President for the ensuing year. Whenever a casual vacancy occurs the Council shall elect one of their number, being a corporate member, to serve for the remainder of the year.

9.2 The Council shall nominate annually to the Annual General Meeting up to two of their number to be Vice-Presidents of the Institute for the ensuing year.

9.3 (i) No member shall be eligible for the office of President of the Institute who is not a corporate member and who is not a Vice-President or an elected member of Council.

(ii) No member shall be eligible for the office of Vice-President of the Institute who is not a corporate member and who is not an ex-officio or elected member of Council.

9.4 At the date of each Annual General Meeting places on the Council, equivalent to one third of the total of the places available under Clause 8.2.7 shall be vacated for election at the Annual General Meeting. Vacancies shall be created firstly by elevation to the post of an Officer of the Institute and secondly by retirement. The order of retirement of the Councillors shall be settled by ballot in the Council or by such other method as the Council may decide.

9.5 The Council shall issue to the members, within the Institute, at least two months prior to the date of the Annual General Meeting, a notice inviting nominations for election to the Council where vacancies exist.

9.6 The Council shall receive for inclusion in any ballot list the name of any member submitted in writing by two members followed by an acknowledgement of willingness to stand and received by the Honorary Secretary by the due date.

9.7 The administration of elections to Council shall be governed by Regulations prepared by Council.

9.8 The Councillors and officers shall assume office immediately after the Annual General Meeting at which they are elected.

9.9 The place of a member of the Council shall be vacated upon his ceasing to be a member of the Institute, or on his election as a Vice-President or other Officer appointed from amongst the elected Councillors. The Council may fill such a vacancy until the next Annual General Meeting.

10. DUTIES OF THE COUNCIL

10.1 The Council shall ensure that the Institute fulfils its function as set out in Clause 2.

10.2 The Council shall agree the dates of its financial year. Following the end of the financial year the Council shall prepare an Annual Report and Statement of Account for that year. This Report and Statement of Account shall be considered for approval at the next following Annual General Meeting. The Annual General Meeting shall be held within 6 months of the end of the financial year.

10.3 The Honorary Treasurer shall submit to the Council within 3 months of the start of each financial year an estimate in an agreed form of the proposed expenditure for that year.

10.4 The Council may appoint committees consisting of members of the Institute for the purpose of transacting any particular business, or for investigating any specific subject connected with the Objects of the Institute. The President shall have the right to be a member of all committees. Any committee completing the task for which it was established shall be terminated.

10.5 As and when they deem it necessary the Council may invite non-members of the Institute to take part in specialist committee activities.

10.6 The Council may allocate funds for the use of its Younger Members/Students' Section in furthering the objects of the Institute.

10.7 The Council shall require reports from the Younger Members/Students' Section on its activities.

10.8 Where necessary, the Council shall approve in an agreed manner, all papers and contributions submitted to the Institute for presentation or publication.

10.9 On behalf of the Council the Honorary Secretary shall acquaint a prospective author with the requirements of the Institute as to copyright and publication.

10.10 The members of the Council shall choose representatives from the Institute, not necessarily members of the Council, to serve on local outside bodies.

10.11 The Council shall take appropriate action to ensure appropriate consideration is given to applications for membership of the Institute.

10.12 The Council shall ensure proper records of all Institute activities are made published and kept as appropriate.

11. COUNCIL PROCEDURE

11.1 The President shall take the Chair at every meeting of the Council at which he is present. If at any such meeting he is not present at the time appointed for holding the meeting, the Past-President in attendance at the meeting who has most recently held office, as President shall take the Chair. If no Past-President is available a Vice-President shall take the Chair and if no Vice-President is there the elected members present shall elect one of their number, being a corporate member, to take the Chair.

11.2. The Council shall meet as often as the business of the Institute may require and not less than twice in each year, and at every meeting five members, of whom two shall be elected members of the Council, shall constitute a quorum.

11.3. The decision of the Council on all matters dealt with by them in accordance with the Rules as aforesaid shall be final and binding on all members of the Institute.

11.4 Except as herein otherwise mentioned, all issues shall be decided in the Council by a simple majority of those members of the Council present. In the case of an equality of votes the Chairman shall have a second or casting vote.

12. FINANCES

12.1 An Honorary Treasurer shall be appointed annually at the Annual General Meeting on a proposition from the Council.

12.2. The funds of the Institute shall be deposited in a manner approved by the Council. Any bank accounts held by the Institute containing monies of the Institute shall be held in the full name of the Institute as detailed in Clause1 of these Rules.

12.3 Funds provided by the IMMM Council or from any other source approved by the IMMM Council shall be used to pay for the affairs of the Institute and the Institute shall not be deemed for any purpose the agent of the IMMM or have the power to incur any obligation on behalf of the IMMM unless specifically authorised by resolution of the IMMM Council or by these Rules.

12.4. The Honorary Treasurer shall make all payments on behalf of the Institute by cheques signed by any two of the following officers; President, Secretary, Honorary Treasurer, a Vice-President, the immediate Past-President and any two Councillors (being corporate members) authorised so to do, subject to a maximum of four signatories.

12.5 No sum of money exceeding £1500 payable on account of the Institute, or such other sum as the Council may from time to time decide, shall be paid except either by order of the Council or against an estimate previously approved by Council.

12.6 The Council shall appoint scrutineers to whom the Annual Accounts shall be submitted for approval before submission to the Annual General Meeting. They shall be given access at all reasonable times to the accounts and other financial records of the Institute.

12.7 Honorary Treasurer should submit to the Council at each Council meeting a report of its financial transactions.

13. HONORARY SECRETARY

13.1 An Honorary Secretary shall be appointed by and be accountable to the Council in carrying out duties prescribed by the Council and by the Rules applicable.

13.2 Under the direction of the Council the Honorary Secretary shall:-

(i) Be responsible for the correspondence of the Institute.

(ii) Send to the IMMM material for inclusion in appropriate publications, particulars of meetings, other arrangements of the Institute and as appropriate Institute personnel information.

(iii) Arrange for the issue of a notice of General Meetings to each member of the Institute and notices of Council and Committee meetings to each appropriate member.

(iv) Prepare the agenda for meetings and arrange for the business transacted thereat to be recorded.

14. PROPERTY

Under no pretence whatsoever shall the property and effects or the income or revenue of the Institute be applied in making any dividend, gift, and division of bonus into or between any members. No proposition in contravention thereof shall be entertained by the Council or by any meeting, General or Special, of the members of the Institute. Provided that nothing in these Rules contained shall prevent the payment of wages and expenses to staff, the making of awards to members under the Rules laid down by the Council for these or other similar works by members, or for meritorious work on behalf of the Institute.

15. ALTERATIONS TO THE RULES AND/OR REGULATIONS

Suggestions for additions to, or alteration or suspension of, any part of these Rules or other Regulations by any member of the Institute shall be made to the Honorary Secretary of the Institute for consideration by the Council. If the Council consider any such suggestion worthy of submission the Honorary Secretary shall propose it at the next Annual General Meeting.
To succeed, such a suggestion shall require the support of 60% of corporate members present and there being a minimum of 10 corporate members present.

16. SUB-GROUPS

A Sub-Group may be formed within the Institute, in accordance with such Rules as may be prescribed by the Council.

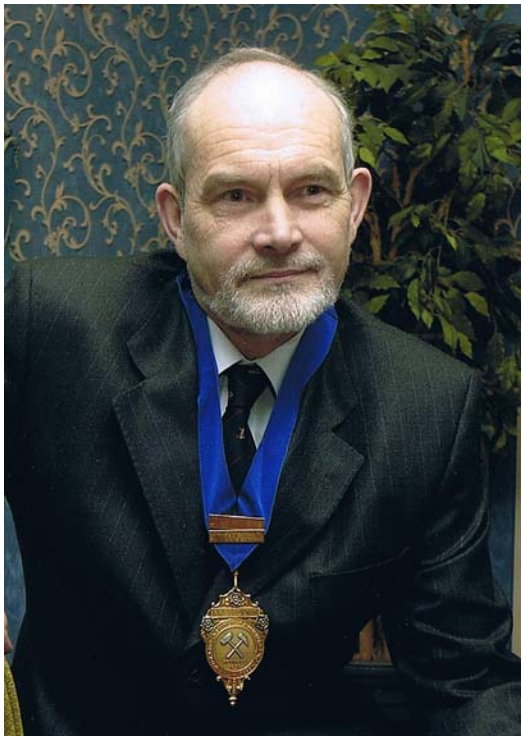
17. YOUNGER MEMBERS'/STUDENT SECTION

17.1 The membership of the Younger Members'/Student Section Committee shall be confined to those under 35 years of age except that any person may remain a member for the session in which they reach the age of 35.

17.2 The duties of the Younger Members'/Student Section is to -

- Arrange meetings of members for the reading of papers relating to the science and practice of engineering (including Economic and Engineering Geology, Mining and its Associated Technologies, Mineral and Petroleum Engineering and Extraction Metallurgy), and all Engineering related thereto and also arrange joint meetings with members of other professional bodies having like interests.

- To arrange visits to works and places of relevant interest.
- To encourage recruitment of younger members and their participation in Institution activities.
- To undertake such other activities incidental to the achievement of the objects of the Institute.
- To co-operate at the request of the Younger Members'/Student Section Committee of the Institute of Materials, Minerals and Mining.
- To nominate a representative to attend Council meetings and report on activities.



Dr. R. J. Fowell, BSc, MEng, PhD, CEng, FIMMM

Robert Fowell graduated in engineering from the University of Leicester in 1966. He followed this with two years of mining education at the University of Sheffield. In 1971 he joined the staff of the Department of Mining Engineering, University of Newcastle upon Tyne, completing his PhD studies in 1973. He was appointed Reader in Excavation Engineering in 1984. In 1990 he moved to the University of Leeds as Reader in Mining Engineering, a position he has held up to the present. He has teaching and research interests in tunnelling, mechanical rock excavation, rock mechanics and mine engineering. He was President of the North of England Institute of Mining and Mechanical Engineers in 1984-85 and has been UK representative on the Council of the International Society for Rock Mechanics. He serves on the membership committee of the Institute of Materials, Minerals and Mining.

Presidential Address to the The Midland Institute of Mining Engineers at the Parkside Hotel, Pontefract on 9th October, 2003

Past Present and Future
Is Merger or Collaboration the Way Forward?

It is an honour to elected by this Institute to be your President for the coming year. I will do my best to uphold the traditions that are this Institute and guide it forward in a period of change.

Addresses of this nature are personal to the holder of the office of President, unlike technical papers on a specific topic. In this address I will be dealing with changes that I have experienced in mining education, the engineering profession and describe what I understand to be the structures of our newly formed national institute, the Institute of Materials, Minerals and Mining. Hereafter referred to as the I triple M. I will conclude with some brief comments on our Midland Institute of Mining Engineers and the way forward.

Mining Education

I gained my initial mining education at the University of Sheffield and I was one of the last students before the department closed. The National Coal board had withdrawn its support for the undergraduate degree in mining and the postgraduate school was not viable and closed in 1968. During its time it had produced graduates who had risen to top positions in mining and other industries as well as eminent academics and consultants.

Leeds at that time did not enjoy NCB support but continued producing mining graduates in the main for the metalliferous mining industry. Mining schools in those days produced graduates for either the coal industry or the metalliferous industry. This was the perception though many crossed the divide. The Institution of Mining Engineers was the institution for the coal industry and the

Institution of Mining and Metallurgy was for the metalliferous industry mainly based overseas. From my position in academe it appeared each viewed each other with suspicion when the question of a merger was raised.

From north to south the university mining schools in the seventies and eighties were Strathclyde, Newcastle upon Tyne, Nottingham, who were coal orientated. Leeds, the Royal School of Mines in London and Camborne School of Mines in Cornwall, were metalliferous mining orientated.

In the late eighties mining education provision in the UK was again reviewed. Strathclyde closed with some staff transferred to Heriot Watt University in Edinburgh, which had developed petroleum courses and a research centre to service the needs of the North Sea oilfields. Newcastle where I had been on the staff since 1971 amalgamated with the Leeds Mining and Mineral Engineering Department at Leeds, after a long period of protracted negotiations. Economic considerations played a part in the final decision. Cardiff also closed

leaving only four university mining schools, Leeds, Nottingham, Royal School of Mines and Camborne.

The millennium saw changes again. Universities had expanded in the nineties without funding following the greatly increased numbers of students. The reason being that universities had absorbed the increased number of students by 'efficiency gains'. Cost centres were introduced, research activity was subjected to Research Assessment Exercises, RAE's and teaching subject to quality assessments.
At the same time the UK mining industry had reduced in terms of the number of mines both coal and other mines due to cheaper imports of coal and minerals. University authorities looked at the number of students on courses and reviewed their positions. The result to date is that only Leeds and Camborne offer BEng and MEng courses in Mining Engineering in the UK.

University structures have undergone a number of changes. Departments are considered to be too small a unit, leading to duplication of teaching, so schools have been formed where staff are members of a research institute. My institute is the Energy and Resources Research Institute, ERRI for short. Staff only come together as a department to deliver courses or degree programmes. Small courses are under constant threat in the present climate.

At Leeds, if the school where mining resides had not gained a grade 5 in the last research assessment exercise, only 5* is higher, mining provision would have come under minute scrutiny from the university authorities.

MSc courses are also under threat, the world famous MSc in rock mechanics at the Royal School of Mines has not run for several years due to the numbers of students not meeting college guidelines as to numbers on each course.

I have only covered university courses as these I know about, but college courses have met the same fate. Mining schools in western Europe have followed a similar trend and the Mining Universities in eastern Europe have suffered greatly along with their indigenous mining industries.

The future of mining education in the United Kingdom will be decided in the next few years. As professors retire and other staff move on, university authorities will take the oportunity to review whether courses are required in their university. The national provision is rarely taken into account. These days decisions are taken on economic as well as academic grounds.

Graduates from our courses at Leeds are no different from other university mining courses. They go into the minerals industry at home or abroad, quarrying or tunnelling. There are good careers out there. Around 50% take up another profession, teaching, the city and accountancy have been popular in recent years.

In the future, international teaching and delivery of university courses in mining will change, with distance learning being adopted to serve the industry in remote locations through the

use of the internet and video links. Students will only attend their home university for their final year and summer schools.
University mining courses require the industry's help, Leeds has and does enjoy this support, but I would disappointed to find that the industry turns up one day requiring mining graduates and discovers that they are not there. I would remind those in industry that it takes 3 to 4 years to produce a mining engineering graduate.

The civil engineering industry is going through a skills shortage at the present time and has to relax their traditional entrance requirements for university courses that included A level mathematics as an essential requirement. This caused much adverse comment in the letters column of the New Civil Engineer in January 2003. The Engineering Council has much to do with this situation by prescribing entrance requirements in terms of A level scores to accredited BEng and MEng courses.

Mining Institutes and Kindred Bodies

I first found myself on the Council of the North of England Junior section in 1970, now it would be called the Younger Members Section. I received a letter asking me to turn up at Neville Hall, in Newcastle upon Tyne. The home of the North of England Institute of Mining and Mechanical Engineers and North of England Branch of the Institution of Mining Engineers. The letter did not say why I should turn up but I did and thus started a long and enjoyable association with mining institutes. I had been elected to council in my absence.

In those days each branch had a thriving Junior Section with an age limit as today of 35.
It was while I was on this council that the issue of the merger of the IMinE and IMM was first raised. As I recall I was one of the few in favour at that time. After several aborted attempts, merger was finally achieved in 1998 preceded by the merger of the IMinE with the Institute of Mining Electrical and Mining Mechanical Engineers, IMEME in 1995.
The Institute of Materials shows a similar pattern of mergers leading up to the formation of the IMMM. I feel this position is only temporary. More mergers will take place to obtain the numbers of members required for influence and position within the engineering profession and society at large. It is up to the mining membership to achieve a high mining profile. Economics of scale also have a bearing on formation of new combined Institutes and Institutions. The number of mining members is falling and is only maintained by increases in petroleum engineers and geotechnical engineers wishing to gain Chartered Engineer status within the mining sections.

As a relatively small institute mergers are the obvious way forward, but it is not only the smaller institutes considering merger. The Institutions of Mechanical Engineers and Electrical Engineers are planning to join together. The Institution of Civil Engineers was also contemplating joining.

With the merger of the two largest institutions or three if the Civils join, this will change the balance between this new and the remaining Institutions. Big is beautiful in getting your own way. The new combined Institution would have great influence with the Engineering Council and Government in relation to running the Engineering Profession.

The concept is to create an inclusive and natural home for professional engineers in the 21st Century with some 300 thousand members! The new institution would separate membership from qualification.

The benefits claimed would be :
Stronger influence with government and policy makers.
Higher profile for engineers and engineering,

A modern, united and forward looking image.
Enhanced services to members and better value for money.
Common professional standards.
Multi-disciplinary learned society activity.

Integrated membership structure with equal opportunities for all professionals.
Global reach and international reputation.
Streamlined administration.
A decision is awaited shortly on whether a super institution will be formed. [This has not progressed to implementation so far.]

It is my view that there are many organisations, societies, institutes and associations that we could benefit from sharing in their activities and also not to be forgotten the cost benefits. Examples are : The Yorkshire Geotechnical Group, we have combined meetings in past few years. Others are The Institute of Quarrying and The Mineral Engineering Society.

The British Geotechnical Association, BGA which covers soil and rock mechanics has recently changed from being the British Geotechnical Society on taking over the activities of the Institution of Civil Engineer's Ground Board. From my interests in rock mechanics it hosts the national group of the International Society of Rock Mechanics, ISRM. Where I have represented UK interests on their Council for the last four years.
The BGA also supports conferences for young geotechnical engineers as well as conferences mainly concerned with soils, regrettably rather than rock. The BGA does not award CEng or IEng, but is a very active learned society, holding most monthly meeting in London at the ICE headquarters.

Another new grouping that will grow in importance is The Ground Forum. Made up of the chairmen of societies with an interest in ground engineering. The IMMM is represented along with The Association of Geotechnical Specialists, The British Drilling Association, The British Geotechnical Association, The British Tunnelling Society, Federation of Piling Specialists, Engineering Geology Group of the Geological Society of London, Pipe Jacking Association, Society for Underwater Technology and the UK Chapter of the International Geosynthetic Society. So it is a mix of learned societies and trade associations.
Though it has someway to go Licensing or accreditation of Ground Engineers is on the agenda.
The Ground Forums aims include:
To provide a central forum for communication between all Members and enhance the profile of the ground engineering industry and promotes amongst other things: The value of geotechnics and engineering geology in building, civil engineering works, **mining, quarrying** and managing contaminated land.

The British Tunnelling Society BTS holds very well attended London based meetings and provides very well regarded 3 day residential courses in hard and soft rock tunnelling with a common element of safety in tunnelling. The lectures and course materials are provided by BTS members. Again the BTS does not award CEng and along with the BGA is an associated society of the Institution of Civil Engineers where it ended up on being rejected by the IMinE during its formation in the late sixties. This I consider to have been a lost oportunity.

Institute of Materials, Minerals and Mining.IMMM.

The structures for the newly formed IMMM are taking shape. Representation of mining interests on Council and the committee structures is greatly diluted compared to the former IMM.

The IMMM's related divisions are mining, applied earth sciences, mineral processing and petroleum and drilling engineering.

The Mining Division forms one division of the sixteen divisions of the IMMM. The Midland Institute of Mining Engineers has members on this divisional board, though they are there as individuals. The committees have been chosen to give a wide spread of representation. What the mining division is planning I hope will be covered in a contribution to a general meeting during my year as your president.

I am better qualified to say more about the Membership Committee, as I am presently a member. There are twelve members. Eight representing materials interests and four representing mining related interests. Within the twelve CEng and IEng are covered along with a geographical representation and age range. The membership committee reports to the Professional Policy Board.

The Professional Policy Board is made up of the Chairmen of the six committees reporting to the Board. These are: membership committee, younger members committee, legislation committee, accreditation committee, education committee and regional affairs committee.

The Communications Board represents the income generating activities of the new Institute which includes: information and library services, conferences, and a Careers Development Service. This is intended not only to help members find new positions but also to provide career development advice and resources. According to a survey in 2002, at any given time around 47% of

employees are passively looking for another job. More details can be found on :www.iom3.org.The IMMM's web site.

Engineering Council (EC)

The Engineering Council replaced the former Council of Engineering Institutions in the early eighties, primarily in my view, to get away from common denominator type of decision making, which hampered progress.

It was claimed that the EC would be improving the status of engineers. Perhaps the most valuable benefit of membership of our Institute are the titles Charter Engineer, CEng and Incorporated Engineer, IEng. Some measure of its success is that other bodies have introduced similar titles. For example Chartered Geologist awarded by the Geological Society of London, but this is limited and not as valuable, in my view, as CEng. The science based Institutes are introducing Chartered Scientist which may well be a title that some members of our institute may prefer.

In these changing times CEng once gained should be retained at all costs. Having to reapply means that far more rigorous requirements have to be met, with reports covering your whole career development prepared and submitted.

At one time the educational requirement was based on obtaining a three year accredited degree. Later this requirement was increased to an honours degree. For current students for the fast track route Chartered Engineer status is based on an accredited four year Master of Engineering degree with defined entry standards for each cohort of students. This is one reason, in my view, why the numbers of students taking engineering degrees has fallen dramatically over the last few years. This not only applies to mining and mineral courses but also electrical, mechanical and civil engineering courses.

Future Developments from the Engineering Council.

The Engineering Council is shortly to release a new version of SARTOR, Standards and Routes to Registration. Not SARTOR FOUR but the revised UK standards for Professional Engineering Competence, (UK Spec) which will replace SARTOR 97 as the basis for recognising chartered and incorporated engineers.

This is expected to maintain the 4 year MEng as the fast track route to satisfying the educational requirement of CEng but will do away with entry standards and base acceptability on exit standards from degree courses. Guidance on acceptable additional qualifications, skills and experience will be given for BEng students, but they will be equivalent to one year's full time

study at university. These are known as Bridging Sections. This will allow a package of qualifications to be submitted for holders of BEng qualifications to obtain the Chartered status. This is similar to the route for CEng followed by holders of cognate degrees at present. These are science degrees including physics, chemistry and geology.

In the future Continuous Professional Development, CPD, will become more important, and there are mutterings that CEng should be renewed after a period of time, say 10 years and licensing of engineers performing certain tasks or holding certain positions will become more common. But we are all familiar with the certificates of competency to manage mines. Although mentioned I am not sure that any Institute or Institution has the infrastructure to undertake the renewal process, so this will be in the far future.

In my opinion, the Engineering Council has failed the engineering profession. One way forward is to adopt the Australian model with an Institute for all engineers to bring about uniformity across the profession for all and we should enjoy the status accorded to lawyers and the medical profession. A situation that engineers on the continent and the United States

enjoy with salaries to match. Learned society functions would be maintained by subject specific societies.

Our Midland Institute of Mining Engineers

A short history of the former MIMIN.E was written by Jack Blunt, assisted by Dick Wastell and Professor John Tunnicliffe and was published at the time of the merger of the IMinE with IMEME . I understand our secretary has a few copies remaining for those interested in our mining heritage.

With the merger of the IMM with the Institute of Materials to form the IMMM, Branches as we had known them are no longer. We are on our own and our future is in our hands.

A strategy committee of this institute has been meeting for the last 12 months under the Chairmanship of Kevin Irving. Progress has been hampered by not knowing important details relating to the operation of the new Institute's structure.

We are operating under the former branch rules and we enjoy an enviable position relative to other former branches. Behind the scenes the Trustees of the Midland Institute of Mining Engineers do excellent work to provide funding for our activities as can be seen from the Annual Accounts published in The Year Book. For this I thank them.

The future as I have already stated is in our hands. I will be proposing to your new Council, that our membership will be circulated with a questionnaire to determine what they wish to see in terms of activities and events. It should be pointed out here that this Institute cannot offer personal services in the form of job searches, but our role is in offering learned society activities, along with certain well established social events, the annual dinner and dance, 'Duck' dinner, the formal dinner and golf competition. Others could be added if the demand is there, but recent experience has shown that these are becoming harder to organize. This has led us joining with the Nottingham Branch for the annual dinner and dance and the formal dinner. Those that attend these events have a good time.

Publications

Mergers are not only confined to Institutions. The transactions of the former Institution of Mining and Metallurgy Section A Mining Technology has now merged as equal partners with the Proceedings of the Australian Institution of Mining and Metallurgy. Other mergers could follow under the editorship of Professor Dowd to make these combined transactions, a publication of worldwide note.

In the 19th century, when individual institutes operated alone before federation to form the Institution of Mining Engineers in 1889, they each produced their own transactions. They make fascinating reading with many interesting papers.

You have all heard of the Channel Tunnel and many will have used it. But how many will have heard of the Irish Channel Tunnel? In the Transactions of the Institute of Scotland 1897-8 a paper was read that showed proposed routes complete with geological long sections. The paper also contains an estimate of the costs for the time. There are many such treasures to be found in our old proceedings.

The strategy committee of this Institute is looking at the possibility of expanding and revising the format of the year book to include papers other than presidential addresses. This would allow more timely publication of our papers and symposia. This could take many forms and again association with other well established

journals could be of financial advantage as well as benefiting from a world wide distribution.

World wide web based publication is another consideration but this must follow the establishment of the MIMIN.E's web pages linked to the IMMM's website.

The World Wide Web,www, is a very valuable source of mining information. Whole books can be downloaded free of charge. An example is the Hard Rock Miners Handbook at: www. mcintoshengineering.com. This book also contains Useful Rules of Thumb to check more complex calculations for mining equipment and activities.

Communication with membership

Electronic communication is the way forward. It is free and I would urge members to let the secretary have your e-mail addresses for communication purposes only. This will save costs and allow expansion in to other areas.

Conclusions

I have shown that there are many other societies with which we have common interests. I am sure there are more. With the pace of life today it is increasingly difficult to obtain the size of audience that speakers deserve. It is my view joint meetings are the way forward.

The benefits of membership are great. The obvious ones are: Chartered or Incorporated engineer status. This is something to hold on to as getting it a second time around is far more onerous with the increasing standards required. These titles are now recognized outside this profession as something of worth.

Networking at meetings is of value with the industry becoming more diverse and fragmented and was one of the reasons that the forerunner of the Midland Institute of Mining Engineers, the South Yorkshire Viewers Association was formed in 1857 to pool knowledge on matters of mine safety.

We are in a period of change, forming alliances with kindred bodies is one way forward. That is the way I would prefer. Merger leads to dilution of our interests.

Annual Report 1st July, 2002 to 30th June, 2003

INTRODUCTION

This is the Annual Report of the Midland Institute of Mining Engineers, Section of The Institute of Materials, Minerals and Mining, and will be presented to the Annual General Meeting to be held at the Parkside Hotel, Pontefract on 9th October, 2003. The report covers the period from 1st July, 2002 to 30th June, 2003.

During the year the merger having been completed between the Institution of Mining & Metallurgy and the Institute of Materials, Minerals and Mining the Branch name was changed in December 2002 to the Midland Institute of Mining Engineers. The structure of the new Institute is such that the Branch is a Section of the new Institute and its affairs are conducted independently of the new Institute. This change has been addressed by the Council and is in the process of a review of all aspects of our funding and activities.

At the Annual General Meeting held on 10th October, 2002 the new President, Mr. K. Irving was inaugurated and the Council from that date to the end of the period of this report was as listed below.

President - Mr. K. Irving
Vice President - Dr. R. Fowell
Vice President - Mr. P. Scott
Treasurer - Mr. N.E. Riley
Secretary - Mr. C. Rhodes

Immediate Past Presidents

Dr. F. A. Auld
Mr. N. Hardie
Mr. W. J. Tinsley
Mr. R. Stevenson

Elected Councillors

Mr. P. I. Allsop
Mr. P. A. Lowery
Mr. R. G. Siddall
Mr. J. Savage
Mr. K. Sabin
Mr. P. Garner
Mr. A. Kirk
Mr. P. Hetherington
Professor J.F.Tunnicliffe

Co-opted Members of Council

Mr. M. Holyoak
Dr. D.Dixon-Hardy
Mr. J. Hewitson
Mr. M. Kirke
Professor P. Dowd
Mr. P. Baines
Mr. P. Lewis

Ex-Officio Member of Council
Mr. P. Andrews (Chairman) Younger Members

COUNCIL MEETINGS

The Council met on eight occasions during the year:

10th October, 2002	14th November, 2002
12th December, 2002	9th January. 2003
13th February, 2003	13th March, 2003
10th April, 2003	8th May, 2003

MEMBERSHIP

As at 30th June, 2002		As at 30th June, 2003	
Honorary Fellows	12	Honorary Fellows	12
Fellows	287	Fellows	266
Members	243	Members	237
Total Corporate Members	**542**		**515**
Associate Members	33	Associate Members	28
Technician Members	34	Technician Members	35
Affiliates	72	Affiliates	74
Graduate(Employed)	12	Graduate(Employed)	13
Graduate (Student)	14	Graduate (Student)	12
Student	59	Student	36
Total Non Corporate Members	**224**		**198**
TOTAL	**766**		**713**

MEETINGS

The Annual General Meeting was held on 10th October, 2002 when Mr. K. Irving was elected President for the year 2002/2003.
Nine General and Technical Meetings were held during the year when the following papers were presented.

Presidential Address: Creative Change Culture	Dr. A. Auld
Beauty and the Beast	Mr. D.Vint
Changes in the Coal Market	Mr. N. Yaxley
Creative Development of Longwall Equipment	Mr.P. Crossland Mr.T.Scrutton & Mr. J. Day
Optimal Filling of Trucks, Hull & Conveyors- A New Approach	Professor R. Williams and Dr. X. Jia

Formal Presentation evening at Doncaster –Joint with Nottinghamshire Branch

Changes in Health & Safety Manager	Mr. P. Scott
Back To The Future	Mr. A. Norman

The total numbers of members and visitors attending the General and Technical meetings for 2002/2003 was 297.

PEAKE & WEBSTER TRAVELLING SCHOLARSHIP FUNDS

The Peake & Webster Scholarship Funds contributed to students and younger members for a visit to sites in Ireland as part of their development in education, knowledge and experience of mining techniques. The visit was organized by Dr. Darron Dixon-Hardy, Student Liaison and Mr. Jon Engels, Younger Members/Student Section Secretary. The visit took place from 7th April, 2003 to 13th April, 2003. A brief presentation will be presented to the Midland Institute of Mining Engineers in the near future.
Two applications were received from Peake & Webster Travelling Scholarship Funds by Dr. Darron Dixon-Hardy, a lecturer at the Department of Mining & Minerals Engineering and Mr. John Engels, a Research Assistant, Department of Mining & Minerals Engineering, University of Leeds to visit Canada from 18th July, 2003 to 4th August, 2003. The visit to examine Canadian tailings management facilities, the ventilation at underground mines and contaminants at surface mines and to gain experience in environmental constraints.
The above scholarships are being offered for the year 2003/4. Any member of the Midland Institute of Mining Engineers, subject to the proposed new Conditions outlined in the current year book, may apply for an application form.

THE MIDLAND INSTITUTE OF MINING ENGINEERS TRUST FUND

Trustees:

Professor J.F. Tunnicliffe, Chairman	Mr. A. W. Tuke, OBE
Dr. P. D. Binns	Mr. R. Stevenson
Mr. G. C. Thorpe	Mr. W. J. Tinsley
Mr. J.T. Pearey JP (Secretary/Treasurer)	

During the year under review the Trustees appointed Mr. W. J. Tinsley as the eighth Trustee who replaced Mr. Jack Blunt who died last year, legal documentation and witnessing being completed at the 9th April, 2003 Trustees meeting, Mr. Tinsley was President of the Branch in 1999/2000.
The Trustees continued to meet regularly throughout the period and have administered the Fund in accordance with the Trust Deed. Specific detailed information required by the Inland Revenue authorities and the Charity Commissioners has also been supplied during the scheduled sequence of meetings.

THE AMCO BURSARY FUND

The AMCO Bursary is constituted by Declaration of Trust dated 11 November 1999 as amended by Supplemental Deed dated 30 March 2000 and is a registered Charity, No 1080526.
The Charity Trustees are the elected Officers of the Branch Council of the Midland Institute of Mining Engineers, the trustees during the year to 12th October 2003 were
Branch President Mr Kevin Irving Chair
Branch Secretary Mr Charles Rhodes Secretary/Treasurer
Branch Treasurer Mr Norman Riley
Past President Dr Alan Auld
Vice President Dr Robert Fowell

This is the the fourth year of the Charity and the above Trustees were elected to office on the 10th October, 2002. Mr. Nick Hardie (Past President) stepped down as a trustee and Dr. Robert Fowell (Vice President) was appointed a trustee in line with the Trust Deed.

The object of the charity is for the charitable purpose in the advancement of education in the science and practice of mining and or such other subject areas as may be defined by The Institution of Mining and Metallurgy. In particular to provide short-term work related training for students who may have difficulties in obtaining practical instruction and work participation.

The Trustees awarded the AMCO Bursary to two applicants – Mr. Peter Warren Andrews and Mr. Matthew Kirke, students at the University of Leeds. The Bursary assisted Peter Andrews to experience a wide range of mining activities at Riccall Mine (UK Coal), Cleveland Potash Mine at Boulby and tunnel work at Tytherington Tunnel, Bristol and St. Anne's Rail Tunnel. Experience at these sites included practical breaking out, descaling and shotcreting, various mining methods, rock bolting and roof/strata control.
The Bursary assisted Matthew Kirke to experience obtained in conducting underground temperature surveys, mine pressure surveys, diesel engine gas exhaust analysis, collection of mine air samples and monitoring a new mine refrigeration system in the Ventilation Department at Cleveland Potash Mine, Boulby.

Rules and Conditions for the Bursary have been published and distributed, particularly to the University of Leeds. Any student member wishing for support from the Bursary should contact the Secretary for an application form.

NOEL E. WEBSTER MEDAL

Owing to the criteria being changed and the time scale, no presentation was made of the Webster Medal at the Annual Dinner (Members Dinner) on 7th March, 2003.

J.F. TUNNICLIFFE PAPER COMPETITION AND C.S. LITTLEWOOD MEMORIAL AWARD.

The competition was held at the Department of Mining & Minerals Engineering, University of Leeds on 12th March, 2003. The judges were Professor J. Tunnicliffe, Dr. R. Fowell and Mr. P. Allsop, Council Members of the Midland Institute of Mining Engineers. Three papers were submitted by members of the Younger Members/Student Section of the Midland Institute of Mining Engineers at the University of Leeds.
First prize was awarded to Mr. John Engels for a paper entitled "Environmental Feasibility Study on an alternative transport network at the Winsford Rock Salt Mine" and joint second awarded to Mr. Nishanth Gopinathan for a paper entitled "Modelling of packing and segregation of particulates and fluid flow through Porous Media" and Mr. Peter Andrews for a paper entitled "What's in a Colour".
At a General Meeting on 13th March, 2003 a cheque in the sum of £100 and shield was presented to Mr. John Engels and a cheque for £50 to Mr. Peter Andrews and £50 to Mr. Nishanth Gopinathan by Mr. Kevin Irving, President of the Midland Institute of Mining Engineers.
The above competition is an annual event and entries should be made to the Younger Members Section as per the competition rules and conditions in the current year book.

NATIONAL LECTURE COMPETITION

Information had been received from the Institute of Materials, Minerals and Mining regarding a National Lecture Competition for 2003 which was held in April at the Armourers and Brasiers Hall in London. The J.F. Tunnicliffe Paper Competition and C.S. Littlewood Memorial Award qualified as a regional event for this and the three participants went forward for the Lecture Competition. Certificates were awarded to Mr. J. Engels, Mr. P. Andrews and Mr. N. Gopinathan for participating in the regional competition but not successful in gaining a place at the National Lecture Competition. In attendance at the paper competition was Regional judge, Mrs. Jackie Butterfield
The National Lecture Competition is an annual event with prizes – Local Events: A prize of £50 for each class winner. Certificates awarded to all participants. Regional events: The regional winners selected for the final will receive a £100 prize donated by the Worshipful Company of Armourers and Brasiers'. National Final: 1st - £750 plus Armourers & Brasiers' Company Medal. 2nd - £400, 3rd - £200.

YOUNGER MEMBERS/STUDENT SECTION

Mr. Peter Andrews was elected as President of the Younger Members/Student Section of the Midland Institute of Mining Engineers. Vice President, Mr. Alan Tordoir, Secretary Mr. John Engels and Treasurer Mr. Gavin Longley.
The students are supported directly by The Midland Institute of Mining Engineers paying student registration fees for the Institute of Materials, Minerals and Mining.
Students visited Ireland which took in site visits to Tara Mines, Galmoy Mines, Silver Mine and the Dublin Port Tunnel.
On 12th March, 2003 the C.S. Littlewood Memorial Award/J.F. Tunnicliffe Paper Competition was held at Department of Mining & Minerals Engineering, University of Leeds. These presentations included competing for Regional representation at the National Lecture Competition.

SOCIAL
ANNUAL DINNER AND DANCE

The Annual Dinner and Dance was held on 23rd November, 2002 at the Cedar Court Hotel, Harrogate when 162 members and guests attended. Dr. W. Hatton, President of the Nottinghamshire Branch was a guest at this occasion. Other guests were Mr. A. Galloway, Managing Director, UK Coal Mining Ltd., and Mr. W. Hibbs, Managing Director, Amco Construction. Mr. Kevin Irving, President of the Midland Institute of Mining Engineers welcomed the guests.

ANNUAL MEMBERS DINNER

On Friday, 7th March, 2003 the Annual Members Dinner in conjunction with the Nottinghamshire Branch was held at the Earl of Doncaster Hotel, Doncaster when 74 members and guests attended. The principal guest was Dr. W. Hatton, President of Nottinghamshire Branch who was welcomed by Dr. Robert Fowell, Vice President of the Midland Institute of Mining Engineers. Other guests at the Dinner included Trustees of the Midland Institute of Mining Engineers Trust Fund, Younger Members and Student Members from the University of Leeds. Mr. Peter Greenhalgh was presented with the Younger Members Past Chairman's Medal at this occasion.
This was a successful occasion and the event concluded with a 'race night' making this a social and relaxing event.

Charles Rhodes Honorary Secretary

Financial Statement 1st July 2002 to 30th June 2003

INCOME

	2003	2002
S. Littlewood Fund	123.00	245.81
Trust Fund	12,000.00	14,600.00
Peake, Webster & Amco Bursary(Admin.)	900.00	600.00
No. 2 Account	650.00	650.00
Capitation	3,986.00	3,760.00
Miscellaneous	29.00	10.00
Bank Interest	2.00	5.22
	17,690.00	19,871.81
Excess Expenditure/Income	524	
Excess Income/Expenditure		
	18,214.00	19,871.81

EXPENDITURE

	2003	2002
Printing and Stationery	1,600.00	1,354.31
Secretarial Expenses	2,100.00	2,100.00
Meeting Expenses	1,075.00	1,338.50
Younger Members	0.00	520.00
Petty Cash	400.00	400.00
Assistant Secretary	9,478.00	9,646.00
Jewels	600.00	809.38
Dinner Guests	350.00	350.00
Office Equipment	138.00	211.71
VAT	1773.00	2,028.86
S.Littlewood Fund	250.00	150.00,
Membership Initiative Leeds)	450.00	800.00
	18,214.00	19,708.76
		163.00
	18,214.00	19,871.81

COUNCIL AND OFFICERS 2003/2004

President 2003/2004

Dr. R. J. Fowell, BSc, MEng, PhD, CEng, FIMMM

Vice-Presidents

P. Scott, CEng, FIMMM
K. Sabin, MBA, IEng, MIMMM

Immediate Past Presidents
K. Irving, CEng
Dr. A. Auld, CEng
N. Hardie, CEng
W.J. Tinsley, CEng

Elected Councillors 2003-2004

P. Allsop, CEng.
P. A. Lowery, IEng.
R.G. Siddall, FR.Eng.CEng.
J. Savage, IEng.
P. Hetherington, CEng.
R. Stevenson, CEng
Professor J.F.Tunnicliffe FREng C Eng
FEng, CEng.
A. Kirk, CEng.
Professor P. Dowd, FREng CEng

Co-opted Members of Council

P. Lewis, CEng
J. Hewitson, IEng,
Dr. D. Dixon-Hardy C Eng
M. Holyoak C Eng
M. Weston CEng
J. Engels
A. KirkC Eng

Ex-Officio Members of Council
M. Kirke (President) Younger Members

Honorary Treasurer

N. E. Riley I Eng

Honorary Secretary

C. Rhodes I Eng

Assistant to Honorary Secretary

Mrs. Janet Holland

Branch Committees 2003/2004
Finance & Awards Committee

Dr. R. Fowell
(Chairman)

Dr. A. Auld
K. Irving
Professor J. Tunnicliffe
N.E. Riley
C. Rhodes

Co-opted
W. J. Tinsley

NOTE - The Honorary Secretary and Treasurer
are ex-officio members of all Standing Committees.

YOUNG MEMBERS/STUDENT SECTION 2003/2004

President:
M. Kirke. Department of Mining & Minerals Engineering, University of Leeds, Leeds. LS2 9JT.
Vice-President:
Miss E. Parkin, (HJ Banks Opencast)

Secretary:
J. Engels, Department of Mining & MineralsEngineering, University of Leeds.

Treasurer:
P. Greenhalgh (DCT Civil Engineering Ltd.)

PRESIDENTIAL ADDRESS BY MR. P. SCOTT

EUR ING, P B Scott CEng FIMMM

Peter Scott started his mining career during 1964 in the Worksop No. 1 Area of the NCB, this Area becoming part of the South Yorkshire Area during a subsequent reorganisation. Mining education was undertaken at Doncaster College of Technology before working at a number of mines in the South Yorkshire Area. Joined the Mines Inspectorate in 1986 and took up post in the South Western District based in Cardiff. Transferred to the Scotland and East England Distrtict of Mines Inspectorate during March 1995.

Presidential address to the Midland Institute of Mining Engineers
7 October 2004.

Efficiency, Health and Safety – A conflict of interest?

Synopsis
It is intended during this presidential address to consider whether there are conflicts or synergies between efficiency and health and safety.

Organisations and individuals may or may not recognise a connection between efficiency, health and safety but there appears to be difficulty in integrating these issues in a meaningful and constructive manner. Health and safety issues appear to be reliant on annual initiatives and do not generally appear to be self-sustaining.

Introduction

In common with previous occupants of this post I am honoured to represent the Midlands Institute of Mining Engineers as President for the year 2004 to 2005. However, I must admit that choosing a subject for my presidential address and trying to make it worthy to follow previous addresses has proved thought provoking.

In reading "A History Of The Midland Institute Of Mining Engineers 1857 – 1995" by J Blunt I become even more conscious of the privilege that being President of such a historic and prestigious organisation bestows on the individual holding office. The Midland Institute Of Mining Engineers was formed toward the end of 1868 and amalgamated with the South Yorkshire Viewers Association (1857) during 1869. The inaugural address of the President, Mr T W Embleton of Methley, was reported to have dealt almost entirely with the problems of safety in the Yorkshire Coalfield and he was quoted as saying;

" We must try to decide calmly and deliberately under what conditions will it be possible to work the Barnsley coal – the great staple of this district, and on which the prosperity of the neighbourhood mainly depends – with safety and comfort of the men."

In this simple phrase Embleton identifies two issues, namely, the economic advantages of working the Barnsley coal together with the need to consider the health and safety of the workforce whilst doing so. Perhaps he did not view these as two separate issues but in practice there does appear to be a separation of the issues of commercial viability and health & safety.

In Budget 2004, the Chancellor announced that he had asked Philip Hampton, former finance director of Lloyds TSB, BT and British Gas, to consider with business, regulators, and in consultation with the Better Regulation Task Force, the scope for promoting more efficient approaches to regulatory inspection and

enforcement while continuing to deliver excellent regulatory outcomes. The Budget document noted that:

'The enforcement activity of regulatory bodies is a significant driver of business compliance costs. As the Better Regulation Task Force recognised in their 2003 report, *Independent Regulators,* well targeted inspection programmes are vital, not only to deliver the outcomes society demands, but also to minimise the costs borne by compliant firms.'

The House of Commons Work and Pensions Committee fourth report of the 2003 - 2004 session into "The work of the Health and Safety Commission and Executive" as one of many recommendations (35) advises that: -

The Committee recommends that the Government reconsiders its decision not to legislate on directors duties and brings forward proposals for prelegislative scrutiny in the next session of Parliament.

It was the view of the committee that the weight of evidence suggests that the imposition of legally binding duties on directors would increase the likelihood of directors taking ownership of health and safety problems, positively impact on the current levels of preventable work-place death and injury and create more of a level playing field between those directors who take their health and safety responsibilities seriously and those who do not. The committee also noted that the CBI supported the idea that there should be a director for health and safety who is 'a champion, a reporting person, a motivator and a facilitator for good health and safety performance'.

In the mining industry, because of our particular legislation, we already have duties placed on post holders. Our Legislation identifies Owners, Managers, Engineers, Supervisors, Surveyors and workers as having identified responsibilities for health and safety and legislation for Directors duties would not be something new in concept.

However the fact that the chancellor in his budget speech refers to the costs borne by compliant firms and the idea of a Director legally required to have health and safety responsibilities suggests that the economic viability of an undertaking is somehow different from, or, compromised by its efforts to ensure health and safety. Embleton in 1869 separately identified commercial viability and safety and comfort of the worker. In 2004 current thinking, indicated in the chancellors speech and in a recommendation from the review of the health and safety commission and executive, on commercial viability and health and safety again appears to separate the two. I recognise that these two references in themselves perhaps do not include all the currently available information but at these elevated policy making levels it would appear that there is still the conception that on the one hand there is commercial viability and on the other there is health and safety, a non-contributing cost for a business to bear.

The commercial viability of an undertaking is greatly influenced by its efficiency. It is perhaps easier to understand the relationship between commercial viability and health and safety if for commercial viability we substitute the term efficiency.

I intend to direct my remarks on the relationship between health and safety and efficiency. Even expressing it in this manner appears to suggest that they are separate issues. Perhaps it would be more appropriate to say Safety, Efficiency and Health with the suggestion that they are inextricably linked; an explanation with which I feel totally at ease and one that I hope I can espounce during the course of this address. I can also say that it matters not the order in which the words are expressed, what is important is recognition of the features that bind them together.

LOOK BACK TO GO FORWARD

I have, during the course of my working life, been involved in the investigation of accidents, sometimes fatal, and, dangerous occurrences where the only damage was to equipment. In both situations the underlying root causes can be, and often are, the same. It is this commonality that I wish to consider and will discuss accident data and how the evaluation of this has set a course of action that we in the mining industry have been following for several years. I also intend to review the current position and where, in my opinion, future progress could be made.

Most organisations or industries are in a constant state of change, sometimes for good reason and sometimes not. My experience is that for the mining industry change has been constant and only the rate of change has altered.

The mining industry has had to deal with a continual decline of output. Recorded information (**Fig 1**) indicates that annual tonnage for coal peaked circa 1913 at approximately 300m tonnes per year and that approximately 73% of the total coal mined was achieved pre 1947 – vesting day for Nationalisation of the coal mines (Green 1992). This data was accurate to 1990 but having regard to the tonnages produced post 1990 they are not of an amount that would significantly alter the relativity of the data.

G E Green (1992) Fig 1

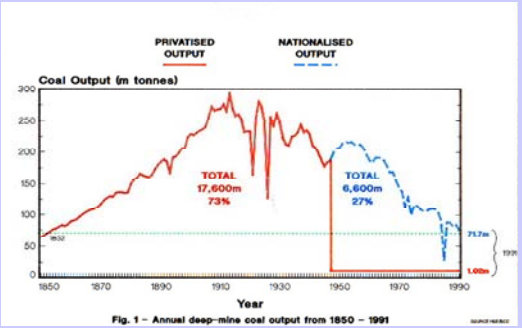


Fig. 1 – Annual deep-mine coal output from 1850 – 1991

With regard to safety, efficiency and health I think that the mining industry has reached a stage where to make significant improvement requires recognition, by all involved, that a composite approach carries the majority of the benefits. The change that I foresee is, I hope, evolutionary and not revolutionary.

I would be surprised if any of my remarks will be seen as being new, they are not. Nothing I express here is “rocket science” and I feel sure that many will leave with

something and applying it and the restriction in the application sometimes lies in a full understanding of how these factors/issues truly interface.

Impact of mechanisation

Historically, within the UK mining industry, there has been a trend of continuous improvement in Health and Safety. This has been largely as a result of investment in mechanisation and technological innovation such as remote control and environmental monitoring leading to improvements in systems of work with legislative changes encouraging these improvements. We have, over a number of years seen a progression from basic, labour intensive, mining methods to highly mechanised operations which have significantly reduced the exposure of personnel to high hazard situations.

In essence the improvements to equipment and systems have had the effect of minimising the exposure of workmen in the higher hazard activities that have traditionally been the causes of death, amputation, or crippling injury. The driver for change, however, was a desire to be more productive and at that time of industrial development productivity was more readily achieved by replacing men with machines. The benefits to health and safety were therefore consequential to those other aims.

A pictorial example of the changes technology has brought to the mining industry is illustrated in **Fig 2**. Considering these pictures of mining past and present I would defy anyone to suggest that the twin ideals of efficiency and health and safety were not served by the transition illustrated.

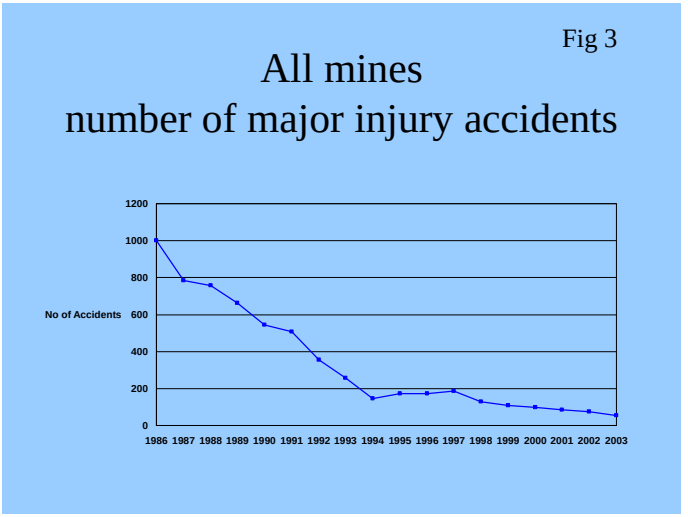
An example of efficiency and safety achieved with increased mechanisation

Fig 2

Health and safety Initiatives

Since the early 1990's there has been a drive within the mining industry to deal with human factors in accident causation and this arose from a consideration of primary accident causes from the period 1986. The graph (**fig3)** indicates the number of major injury accidents and the decline up to 1994 could be, in large part, attributed to a significant reduction in the size of the UK mining industry.

Fig 3



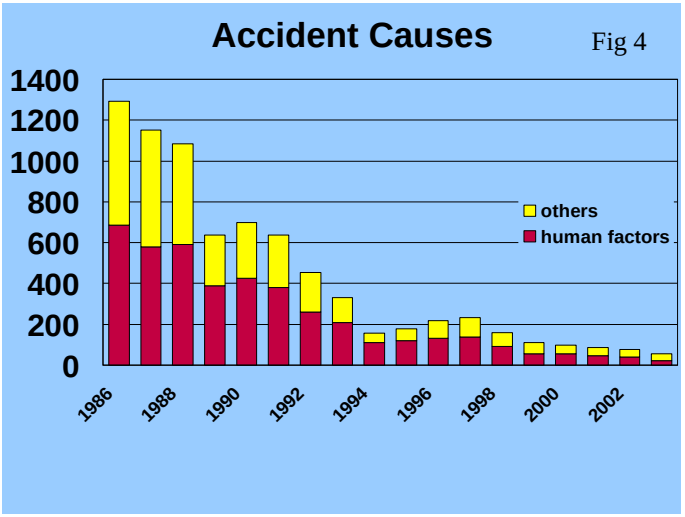
What is noteworthy over the period reviewed (updated to present day) is that 4 primary causes were contributory in some 60 % of the accidents. These primary causes (**fig 4**) were: -

Non-compliance with recognized good practice

Non-Compliance with Codes and Rules

Lack of caution

Use of inappropriate equipment.

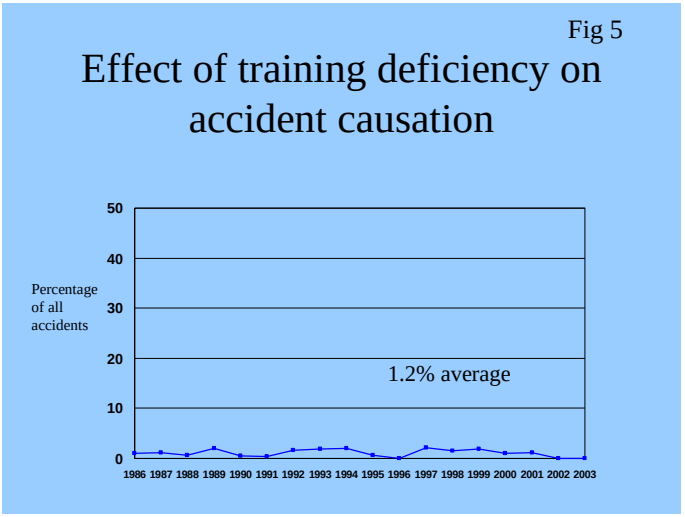


The above primary causes could be described as slips, lapses and violations. However, in using that terminology, the way forward to using the information appears to me to be unclear. I would prefer to describe the elements as occasions where individuals have made choices. It is therefore a simple step to suggest that to prevent the accident the organisation has to control, limit or advise the choice that an individual would make in any given situation.

I must also make it clear that in the use of the word choice it should not be interpreted as suggesting that only the injured man is at fault. Individuals make these choices for a number of reasons and in some circumstances the organisation may not recognise the choice being made, may tacitly accept it, or may actively encourage the choice.

Over the same period the lack of training was considered to be the primary cause in less than 1.25% of the accidents investigated. Suggesting that a lack of knowledge was not an issue but maybe indicating that application of the knowledge was incomplete (**Fig 5**).

Fig 5



HUMAN FACTORS

I consider part of the problem in truly integrating safety, efficiency and health arises out of a confusion of language and a lack of understanding of what is really meant. In most sciences there is usually a plethora of definitions to enable people to have a common understanding. The phrase "human factors" is much bandied about and

In my experience I have come across several complex and lengthy definitions of Human factors, one of which is reproduced below.

"The study of those variables that influence the efficiency with which the human performer can interact with the inanimate components of a system to accomplish the system goals" (Proctor & van Zandt, 1994)

All definitions are laudable in their attempt to circumscribe a subject that covers a whole range of interacting issues. My difficulty with some of the definitions is that I don't readily see how I could progress from the definition to easily understand how account could be taken of it in an organisation.

My view is that human factors, in an industrial sense, is basically about "… how an organisation provides for the employee to do the job.." Some may see this as over simplistic but I hold the view that the more effective the organisation is at providing for the employee to do the task, the more efficiently and safer the task would be completed.

HSE CLIMATE Survey Tool

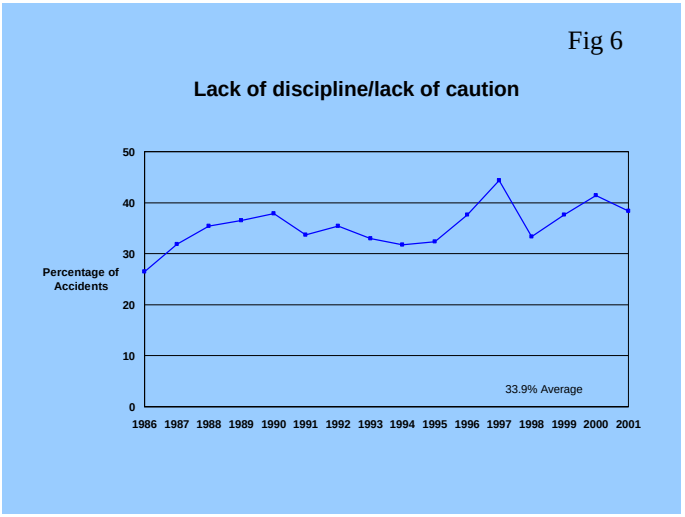
To address the impact of human factors on accident causation the mining industry embarked on a number of initiatives during the 1990's. These included wide spread use of the HSE CLIMATE survey tool, a health and safety questionnaire. The use of

this questionnaire was directed at involving as broad a range of employees as possible and was used to provide an agenda for action in a subject area that would otherwise lose direction. Over a period of several years, 1995 – 2000, the questionnaire was applied at 19 large coal mines, 3 mining contracting companies and 7 miscellaneous mines. Several companies ran the survey several times and over 17000 questionnaires were completed and evaluated. The lowest response rate to the questionnaire, at any of the individual participating sites was a 67% return of completed questionnaires.

On-site Risk Assessment

Concurrent with the use of the questionnaire the major coal mining employer chose to promote “on site risk assessment” as a means of improving health and safety and controlling the choices made by employees. The application of on-site risk assessment was accompanied by training of supervisors and workmen. The decision to select on-site risk assessment was based on the information contained in (**Fig 6)** where it can be seen that a primary cause in 33.9% of the accidents (1986 – 2003, updated for reference) was a lack of caution/lack of discipline. Probably where individuals were motivated to get on with the job and really only stopping to think after something had gone wrong. On-site risk assessment was aimed at encouraging supervisors and workers to think before they started and this approach spawned a number of local initiatives.

Fig 6



The detail of this approach to extending the use and validity of risk assessment is worthy of more detailed discussion than is possible in this address. However it is worth noting that one planned outcome of this approach was to target the "good man syndrome". Anecdotally, when discussing this with others, there appears to be a general recognition of this feature.

Let me explain what I mean by the good man syndrome. It has been my experience when investigating accidents that at some point during the investigation someone will express the following view, "… I can't understand why it happened to him, he was one of our best men ..." When exploring the issue further it becomes evident that the recognition of a good man is of a person who got the job done, although others were probably less sure of the methods by which "the good man" had achieved it. Part of the philosophy for on-site risk assessment was to make the process by which the task was achieved the important evaluant.

Risk assessment is an important feature for controlling outcomes. It applies not only for health and safety, and is a legal requirement, but also applies to efficiency if applied to business risk. Although in practice these two types of risk assessment are separated I can think of no good reason why they should be because they will be based on similar and complimentary information. Probably this is a good example of safety, efficiency and health being best served by a composite approach.

Planning for health and safety

In my introduction I indicated that there was an apparent separation of efficiency and health and safety. This is also reflected in what we say and how organisations are structured and operate. It is noteworthy that we plan and set targets for efficiency and profitability –target being a result or objective to be aimed at and the plan is a detailed method by which a thing is to be done. On the other hand we have health and safety initiatives – an initiative is variously described as the lead, first step, the right or power of beginning. In general there were therefore specifics for

efficiency and profitability but with health and safety there were always new beginnings. Anecdotally I have had conversations with many people involved in

health and safety and they would say that when a specific initiative had stopped then the benefits would soon be lost. In other words because of our approaches health and safety was not self-sustaining.

For this reason planning for health and safety was also revisited during the late 1990's. This involved the detailed recording of planned health and safety meetings, strategies and initiatives complemented by accurate recording of the events as they took place. This provided for the opportunity to measure progress against plan, determine which interventions were successful, which should continue, which should be amended and which should be abandoned. Again the detail of this approach would merit discussion in its own right.

In summary, there had been, during the 20th century, developments in the basic engineering of equipment and systems of work, which impacted on efficiency and had consequential benefits in health and safety. There has been little or no significant change in the basic systems of mining since the mid 1980's, although the science of support by rock bolting has advanced from that period onwards. During the 1990's significant efforts were made to intervene in accident causation by considering the human elements. The efforts to date would therefore seem to be either efficiency driven or health and safety driven, with the other benefiting as a consequence.

The Way Forward

It was earlier propounded that human factors in industry was the manner by which the organisation provided for the employee to do the task.
Fig 7 is a simplistic model that indicates only some of the features that would be taken into account. For example, an individual when asked to do a task requires some basic issues to be taken into account, namely: -

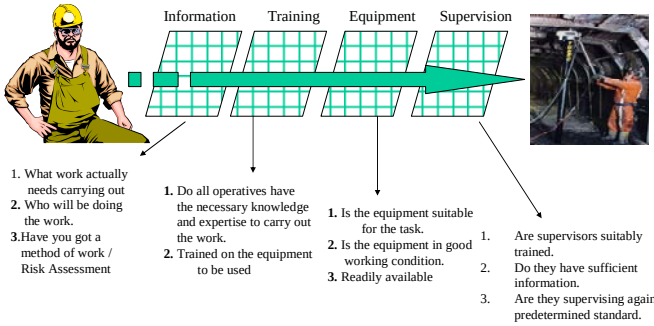
1. Information – the individual needs to understand exactly what is expected of him, what he has to do, with what equipment.

2. Equipment – the task needs to be resourced with appropriate, suitably maintained equipment that is readily available.

3. Training – needs to be relevant to the task to be carried out, the equipment to be used, the location of the work place

4. Supervision – needs to be suitably trained, provided with information relative to the task, sufficient in numbers and monitoring against a predetermined standard.

Efficiency and Safety Analysis Fig 7



This list is not exhaustive and is simply used to illustrate the point under discussion. The grids would represent the completeness of the information in each category and the illustration should be seen as a dynamic situation with each of the factors linked together.

This model representation is beneficial when considering the synergies between safety, efficiency and health. If for example someone was called upon to investigate an accident it is likely that the investigation would start to break down the sequence of events, considering how each individual component was satisfied. How was the person trained, competent, informed, equipped and supervised? Investigation would invariably identify the feature not sufficiently addressed by the organisation and which had contributed significantly to the accident.

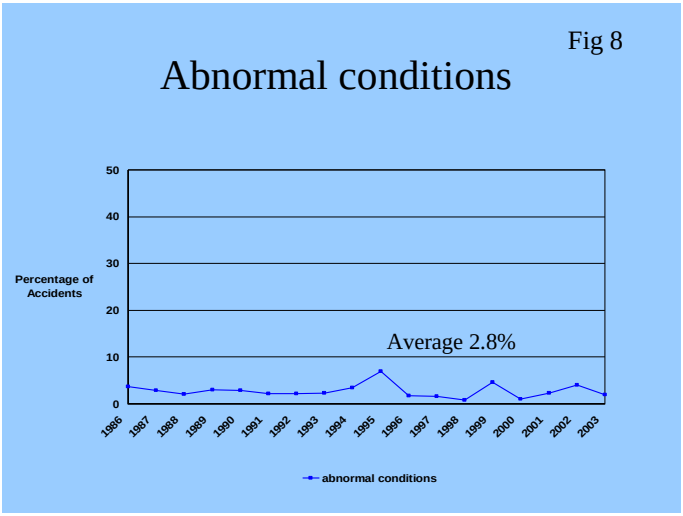
Similarly, that feature (or weakness) which had occasioned the accident may have occurred many times before but the consequence had been a delay in completing the planned work. As for example individuals being given incomplete information resulting in the wrong task being carried out necessitating the work being scheduled for a second time. Incomplete information may also lead to a failure to coordinate separate activities giving rise to the chance outcome of success or failure.

In many organisations there will be elements that are not as comprehensively dealt with as they should be, possibly because of a lack of corporate knowledge, memory, experience or intention. Individually these weaknesses in the system may have no effect until combined with other events at which point the outcome is a matter of chance. The possible outcomes range from a small delay in the process, damage to equipment, near miss or fatal injury.

There is some supporting accident data that I would use to confirm this thought process. Abnormal conditions frequently occur in the mining industry but it is

interesting to note that over the period reviewed (1986 – 2003) this primary cause has been a factor in only 2.8% of major injury accidents (**Fig 8**). I would suggest this accident data demonstrates that when the organisation recognises a significant problem then the detail of planning, communicating, instruction, supervision and selection of suitably trained workers contributes to the success of the operation and the minimising of accidents. In simple terms, everyone involved does what he or she know they should.

Fig 8

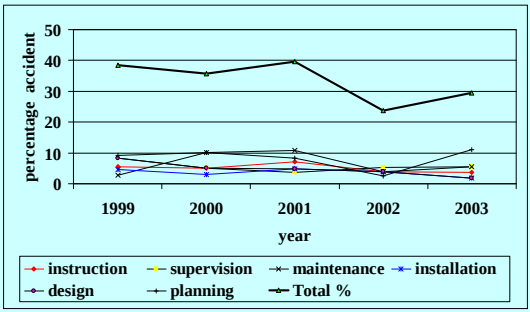


Similarly, but anecdotally this time, I cannot recall that technically involved tasks which carry a high business risk if not completed, have played a significant part in accident causes. Again I am of the opinion that this occurs because the organisation provided in detail for that activity to be completed, and addressed the appropriate issues thus ensuring that the task was completed efficiently and as a consequence minimising the probability of an accident.

Organisations may consider that accidents are caused by issues other than those affecting efficiency. However most would agree that failures in planning, supervising, instructing employees, maintenance of equipment and primary installation standards could adversely affect the desired production outcome. **Fig 9** illustrates the effect of failures in those basic matters as a primary cause in the number of major injury accidents reported within the mining activity. The total effect of failures in these matters have, since 1999, contributed variously between 23.7% and 39.7% of the total number of major injury accidents and at 2003 were 29.6 % of the reportable major injury accidents.

Fig 9

Accident causes leading to inefficiency



It would be unreasonable to expect that for every failure to plan, supervise, instruct, install and maintain equipment appropriately that there would be a consequential accident. A reportable accident is a failure of one of these elements at a predetermined level of severity and it is likely that the effect on the business far exceeds the effect illustrated by the accident data. I would suggest that the effect of organisational failure in these matters not only causes delays in the process but also affects an organisation's ability to maximise its potential.

It is interesting to note that the Health and Safety at Work etc Act 1974, an enabling piece of legislation, places a general duty on employers to ensure the health, safety and welfare of their employees, to maintain plant and systems of work whilst providing information, instruction, training and supervision. Not a lot different to the issues an organisation would need to secure to ensure efficiency and predictability of process outcome.

Conclusion

Mining the remaining mineral reserves, which were not as attractive to our predecessors, and in competition with international mining that may have different parameters, the industry needs to make the best use of resources, both personnel and equipment. This best use of resource is more easily attained if safety, efficiency

and health are combined at the decision making process. By taking account of the many variable and interacting components in a structured cognitive manner when considering each task to be completed it is easier to eliminate an unforeseen outcome. A failure to address these issues leaves many organisations hostages to fortune and does not contribute to efficiency or health and safety.

During the 2003 –2004 series of papers presented to the Midland Institute of Mining Engineers I attended a paper titled “Structural Analysis & Mining of Earth Resources” presented by Professor R Knipe wherein the authors used a phrase “..surprise free mining..” in their synopsis, possibly indicating that with the application of their techniques uncertainty in the mining operation is reduced and certainly describing utopia to mining engineers world wide. I consider that the composite approach of managing safety, efficiency and health will assist in providing for surprise free mining by eliminating or reducing the possibility for unplanned, unforeseen, uncontrolled events, the consequences of which can vary widely.

If I could leave you with one thought to take from this address it would be this. The twin goals of increasing efficiency and improving health and safety are achieved by addressing the basic features and ensuring that they are fit for purpose. The devil is in the detail

I would take this opportunity of pointing out that a number of the papers for this presidential year have been selected for the purpose of demonstrating the achievement of commercial viability and health and safety. I would also expect them to contain information that would be immediately applicable by the audience and for this reason would encourage members to attend the sessions and take advantage of the experience of their colleagues.

INTRODUCTION

This is the Annual Report of the Midland Institute of Mining Engineers, Section of The Institute of Materials, Minerals and Mining and will be presented to the Annual General Meeting to be held at the Parkside Hotel, Pontefract on 7th October, 2004. The report covers the period from 1st July, 2003 to 30th June, 2004.

During the year the Council set up a Strategy Committee under the Chairmanship of Kevin Irving, Immediate Past President. The Committee met on a regular basis with the view of looking to the future of the Midland Institute of Mining Engineers. From the recommendations of the Strategy Committee, the Council has set the objectives as below:

1. To promote the science and practice of engineering in mining and its associated disciplines by fostering understanding, experience, interest and research.
2. To promote membership of the Institute of Materials, Minerals and Mining with its appropriate professional qualifications through active membership to the Midland Institute of Mining Engineers.
3. To encourage and monitor the development of quality skills in engineers in mining through the provision of support and training for members, particularly younger members and to achieve and maintain professional qualification status.
4. To provide a forum for discussions on problems and techniques of engineering in mining.
5. To arrange for publication of papers and collect and disseminate information related to engineering in mining and its associated disciplines.
6. To promote the continuous use of safe working practices within the mining and minerals engineering environment.
7. To enhance the members appreciation and understanding of important new methods and technologies.

One of the objects was to improve communication with the membership which has included the setting up of the web site - www.themine.org.uk - informing members of meetings and activities of the Institute via the internet.

The Rules of the Institute have been re-drafted to bring them in line with the independent status that the Institute holds whilst being a section of the Institute of Materials, Minerals and Mining. The revision to the Rules, subject to Council approval, will be adopted at the next Annual General Meeting on 7th October, 2004.

At the Annual General Meeting held on 9th October, 2003 the new President, Dr. R. J. Fowell was inaugurated and the Council from that date to the end of the period of this report was as listed below.

President - Dr. R. J. Fowell
Vice President - Mr. P. Scott
Vice President - Mr. K. Sabin
Treasurer - Mr. N.E. Riley
Secretary - Mr. C. Rhodes

Immediate Past Presidents

Mr. K. Irving
Dr. F. A. Auld
Mr. N. Hardie
Mr. W. J. Tinsley

Elected Councillors

Mr. P. I. Allsop
Mr. P. A. Lowery
Mr. R. G. Siddall
Mr. J. Savage
Professor P. Dowd
Professor J.F.Tunnicliffe
Mr.P.Hetherington
Mr. P. Garner
Mr. R. Stevenson

Co-opted Members of Council

Mr. M. Holyoake
Dr. D. Dixon-Hardy
Mr. P. Lewis
Mr. M. Weston
Mr. A. Kirk
Mr. J. Hewitson

Ex-Officio Member of Council

Mr. M. Kirke (Chairman) Younger Members

COUNCIL MEETINGS

The Council met on eight occasions during the year:

9th October, 2003
11th December, 2003
12th February, 2004
22nd April, 2004
13th November, 2003
8th January, 2004
11th March, 2004
13th May, 2004

MEMBERSHIP

	30th June, 2003	30th June, 2004
Honorary Fellows	12	11
Fellows	266	235
Members	237	226
Corporate Members	**515**	**472**
Associate Members	28	30
Technician Members	35	33
Affiliates	74	65
Graduate(Employed)	13	10
Graduate(Student)	12	8
Student	36	48
Non Corporate Members	**198**	**194**
TOTAL	**713**	**666**

MEETINGS

The Annual General Meeting was held on 9th October, 2003 when Dr. R. J. Fowell was elected President for the year 2003/2004.
Nine General and Technical Meetings were held during the year.

Presidential Address:	Dr. R. J. Fowell
Report on Visits to Irish and Canadian Mines	Younger Members/Student Section
Geotechnical & Hydro Geological Influence on Longwall Workings at Riccall Mine	Mr. W. J. Tinsley
Structural Analysis & Mining of Earth Resources	Professor R. Knipe
Landslides	Dr. B. Murphy
Formal Presentation evening at Rennaisance Hotel, Nottingham	Joint with Notts.& South Mids. Branch
Explosives	Dr. R. Farnfield

Fire and Explosions	Mr. S. Denton
Clean Coal Technology	Professor A. Williams

The total numbers of members and visitors attending the General & Technical meetings for 2003/2004 was 275.

PEAKE & WEBSTER TRAVELLING SCHOLARSHIP FUNDS

Two applications were received for the Peake & Webster Travelling Scholarship Funds from Dr. Darron Dixon-Hardy, a lecturer at the Department of Mining & Minerals Engineering and Mr. John Engels, a Research Assistant, Department of Mining & Minerals Engineering, at the University of Leeds who subsequently on receiving the award visited Canada from 18th July to 4th August, 2003. The visit was to examine Canadian tailings management facilities, the ventilation at underground mines and contaminants at surface mines and to gain experience in environmental constraints. A presentation was given of the visit in the form of slides and a video to younger members and student members at the Department of Mining & Minerals Engineering at a General Meeting held on 13th November, 2003. A full report of the visit was published in Materials World.

The Peake & Webster Scholarship Funds also contributed to additional awards for students and younger members to visit Turkey. The visit was organised by Dr. Darron Dixon-Hardy and took place on 28th March-4th April, 2004 A full report was published in the July issue of Materials World.

Two applications for 2003/2004 have been received from Mr. John Engels and Mr. Mark Pegden, Department of Mining & Minerals Engineering, University of Leeds on a proposed visit to Australia in the summer of 2004.

The above Scholarships are being offered for the Year 2004/5. Any member of the Midland Institute of Mining Engineers, subject to the proposed new conditions outlined in the current year book, may apply for an application form.

THE MIDLAND INSTITUTE OF MINING ENGINEERS TRUST FUND

Trustees:

Professor J.F. Tunnicliffe, Chairman	Mr. A. W. Tuke, OBE
Dr. P. D. Binns	Mr. R. Stevenson
Mr. G. C. Thorpe	Mr. W. J. Tinsley
Mr. J.T. Pearey, JP (Secretary/Treasurer)	

During the year under review the Trustees appointed Mr. W. J. Tinsley as the eighth Trustee who replaced Mr. Jack Blunt who died last year, legal documentation and witnessing being completed at the 9th April, 2003 Trustees meeting.

Mr. Tinsley was President of the Branch in 1999/2000.

During the year one of our long serving Trustees, Mr. Peter Turner died on 17th June, 2004. His funeral took place in Wakefield and was attended by several of the Trustees. Peter Turner joined the Midland Institute of Mining Engineers on 20th March, 1948 acting in several capacities of the Branch and was President in 1984/85. His valuable attendance and contribution over a period of two decades to the Trustees will be sadly missed.

The Trustees continued to meet regularly throughout the period and have administered the Fund in accordance with the Trust Deed. Specific detailed information required by the Inland Revenue authorities and the Charity Commission has also been supplied during the scheduled sequence of meetings.

The Trustees were grateful for the generous offer of holding one of the meetings of the Trustees at Gascoigne Wood mine, especially as the majority of Trustees have had working professional association with the Selby project.

THE AMCO BURSARY FUND

The AMCO Bursary is constituted by Declaration of Trust dated 11 November 1999 as amended by Supplemental Deed dated 30 March 2000 and is a registered Charity, No 1080526.
The Charity Trustees are the elected Officers of the Midland Institute of Mining Engineers.

Branch President Dr. Robert Fowell	Chair
Branch Secretary Mr Charles Rhodes	Secretary/Treasurer
Branch Treasurer Mr Norman Riley	
Past President Mr. Kevin Irving	
Vice President Mr. Peter Scott	

The above trustees were elected to office on the 9th October, 2003.

The object of the charity is for the charitable purpose in the advancement of education in the science and practice of mining and or such other subject areas as may be defined by The Institution of Mining and Metallurgy. In particular to provide short-term work related training for students who may have difficulties in obtaining practical instruction and work participation.

The Trustees awarded funds from the AMCO Bursary to Mr G Speakman a student at the University of Leeds.
The Bursary assisted Gary Speakman in his eight week placement at the Julius Krutschnitt Mineral Research Centre, part of the University of Queensland in Brisbane Australia. The placement involved working with Dr Randolph Pax and Dr Marco Vera to begin research into the little-examined froth phase of Froth Flotation. More specifically the effects of acoustic emissions on the product-transporting bubbles that form the stable froth at the apex of the Froth Flotation column.

Rules and Conditions for the Bursary have been published and distributed, particularly to the University of Leeds. Any student member wishing for support from the Bursary should contact the Secretary for an application form.

O. H. SCHMILL MEDAL

It is with regret that we record the death of Henry Schmill who died on Sunday, 14th September, 2003 in his native Germany at the age of 77 years.
His association with the UK covered a period of some 47 years during which time his excellent innovative engineering capability, coupled with an astute business sense had a major impact on the mining and related engineering disciplines, both in the UK and internationally. It was, however, in Yorkshire that he particularly became an adoptive son of the mining and engineering fraternity.
Henry was born in 1925 in Germany and began his working life as a collier in the Ruhr coalfield in 1945. During the next three years he saved sufficient money to take up a course to read Mining Engineering at the Technical University of Aachen where he became a favoured student of Professor Fritzsche who along with Professor Ted Potts at Newcastle was responsible for the leading internationally renowned text book of the time on “Horizon Mining”. He graduated as Diploma Ingenieur in 1952 and joined Thyssen Schachtbau GmbH.
It was in 1956 that he transferred to Britain as Senior Shaft Engineer with Thyssen Shaft Sinking Ltd. He was quickly promoted in 1959 to Chief Mining Engineer with Thyssen (GB) Ltd., and in 1961 became Director and Board Member of this company. In these roles he played a significant part in the design sinking and commissioning of mine shafts in the

expanding coal industry and also the major tunnel drivages that were being undertaken at that time.
It was in 1970 that Henry was encouraged to leave Thyssen and he founded Amalgamated Construction Company Ltd. It was under his leadership and close direction that the company quickly grew and in addition to its mining interests expanded into civil, construction, structural steelwork, manufacturing, contracting and consultancy. The expansion reached out beyond the UK with particular interests in Africa, continental Europe and Turkey.
The company, was in 1989, eventually listed on the London Stock Exchange and renamed AMCO Corporation plc with Henry as Managing Director and Chief Executive. In 1999 AMCO acquired Tolent plc, a company engaged in building and construction, Henry being involved as Executive Director. In 2002 AMCO and Tolent had a combined turnover of approximately £217 million and employed 1675 people.
Throughout his years in this country Henry Schmill has played a significant part in supporting his professional body, in particular what is now a Yorkshire section of the Institute of Materials, Minerals and Mining, namely the Midland Institute of Mining Engineers. In 1993 and 2001 this body respectively awarded him the Thomas Adam and Peake Medals, both of which relate to the conspicuous service rendered to the section.
On his part, in 1999, he personally donated funds to create the O.H. Schmill Medal, an award to be made to any individual who makes significant contribution to the affairs of the Midland Institute of Mining Engineers.
In addition, in the same year he was greatly responsible in promoting through his company a £100k endowment to the Midland Institute of Mining Engineers to establish a Bursary, namely the AMCO Bursary which has been accepted by the Charity Commission as a registered charity. The purpose of the Bursary being to provide short term work related training for students who may have difficulties in obtaining practical instruction and work participation.
He has furthermore been a major benefactor to Leeds University with the recent provision of bursaries for students reading mining and mineral engineering and also the endowment of a Readership in Mining Engineering.
From all of this it will be recognised that it will be inevitable that Henry will be sadly missed. His contribution to the mining, civil engineering and construction industries has played a major part in enhancing the economy of the UK. Coupled with this has been the philanthropic support of the engineering profession and engineering education through which so many of the practising and potential engineers of all ages have benefited.
Henry made his home in Yorkshire and here we shall miss him greatly.

The second recipient of the O.H. Schmill Medal is Mr. Charles Rhodes, Honorary Secretary who was presented with the Medal by Mr. Richard Instone, Divisional Director of AMCO Construction at the Joint Annual Dinner held at the Renaissance Hotel, South Normanton on 19th March, 2004.

NOEL E. WEBSTER MEDAL

Webster Medals were presented at the Joint Annual Dinner held on 19th March, 2004 at the Renaissance Hotel, South Normanton to Mr.Kevin Sabin and co-author Mr. Neil Battison for the paper entitled "Engineering Techniques-Integration to become World Class" at a General Meeting held on 13th December, 2001 at the Parkside Hotel, Pontefract. Also to Mr. David Vint for his paper entitled "Daw Mill" presented at a General Meeting on 14th November, 2002 at the Parkside Hotel, Pontefract.

J.F. TUNNICLIFFE PAPER COMPETITION AND C.S. LITTLEWOOD MEMORIAL AWARD

The competition was held at the Department of Mining & Minerals Engineering, University of Leeds on 9th March, 2004. The judges were Mr. P. Allsop, Dr. R. J. Fowell and Mr. C. Rhodes, Council Members of the Midland Institute of Mining Engineers. Five papers were submitted by members of the Younger Members/ Student Section of the Midland Institute of Mining Engineers at University of Leeds.

First prize was awarded to Mr. Gary Speakman for a paper entitled "Production and Utilisation of Cobalt Metal" and there were four runners-up.

At a General Meeting held at the Parkside Hotel, Pontefract on 11th March, 2004 the President, Dr. R. J. Fowell presented a cheque in the sum of £100 and a shield to Mr. Gary Speakman and the four runners-up - Mr. J. Engels, Mr. M. Kirke, Mr. E. Mosarwe and Mr. L. Sebopeng were each sent a cheque for £50.

The above competition is an annual event and entries should be made to the Younger Members Section as per the competition rules and conditions in the current year book.

NATIONAL LECTURE COMPETITION

Information had been received from the Institute of Materials, Minerals and Mining regarding a National Lecture Competition for 2004 which was held on 28th April at the Armourers and Brasiers Hall in London. The J.F. Tunnicliffe Paper Competition and C. S. Littlewood Memorial Award qualified as a regional event for this and three participants went forward for the Lecture Competition. Certificates were awarded to Mr. J. Engels, Mr. G. Speakman and Mr. M. Kirke for participating in the regional competition but not successful in gaining a place at the National Lecture Competition.

The National Lecture Competition is an annual event with prizes - Local Events: A prize of £50 for each class winner. Certificates awarded to all participants. Regional Events: The regional winners selected for the final will receive a £100 prize donated by the Worshipful Company of Armourers & Brasiers'. National Final: 1st - £750 plus Armourers & Brasiers' Company Medal, 2nd £400, 3rd £200.

ANNUAL DINNER (MEMBERS DINNER)

On Friday, 19th March, 2004 the Annual Dinner in conjunction with the Nottinghamshire Branch and South Midlands Branch was held at the Renaissance Hotel, South Normanton when 108 members and guests attended. The guests at this event were Mr. A. J. Smith, President elect, Institute of Materials, Minerals and Mining, Mr. T. Colman, President, Nottinghamshire Branch, Mr. D. A. Hedley, President, South Midlands Branch, Mr. D. Redmond, President, Minerals Engineering Society, Dr. R. J. Fowell, President, Midland Institute of Mining Engineers and Dr. W. Hatton, Immediate Past President of Nottinghamshire Branch. Other guests were Dr. G. Woodrow, Deputy Chief Executive of The Institute of Materials, Minerals and Mining, Mr. R. Siddall, Chairman of the Mining Technology Division,Trustees of the Midland Institute of Mining Engineers Trust Fund, Younger Members and Student Members from the University of Leeds. Mr. Bob Siddall as Chairman of the Mining Technology Division gave a presentation on the Role of Mining Engineers in the Institute of Materials, Minerals and Mining. Mr. Matthew Kirk was presented with the Younger Members Past Chairman's Medal at this occasion.

This was a successful occasion and the evening concluded with a "race night" making this a sociable and relaxing event.

YOUNGER MEMBERS/STUDENT SECTION

Mr. Matthew Kirke was elected as President of the Younger Members/Student Section of the Midland Institute of Mining Engineers and Mr. John Engels as Secretary.
The students are supported directly by the Midland Institute of Mining Engineers paying student registration fees to the Institute of Materials, Minerals and Mining.
Students visited Turkey which took in a field trip to the region, incorporating a tour of the Kutahya mines.
On 19th March, 2004 the J.F. Tunnicliffe Paper Competition and C.S. Littlewood Memorial Award was held at the Department of Mining & Mineral Engineering, University of Leeds. These presentations included competing for Regional representation at the National Lecture Competition.

SOCIAL

The Joint Annual Dinner and Dance was held on 15th November, 2003 at the Royal Moat House, Nottingham when 219 members and guests attended. Dr. G. Woodrow, Deputy Chief Executive of the Institute of Materials, Minerals and Mining was a guest at this occasion. Other guests were Mr. T. Colman, President, Nottinghamshire Branch, Mr. D. Hedley, President, South Midlands Branch, Mr. D. Redmond, President, Minerals Engineering Society and Dr. R. Fowell, President, Midland Institute of Mining Engineers.

LEEDS DUCK DINNER

From 1984 to 1998 the former North of England Section of the Institution of Mining and Metallurgy held an annual dinner at Bodington Hall, Leeds. The dinner has always been an informal occasion for members and guests and, over the years, it became somewhat of a tradition that the main course was roast duck. On many occasions members of the former Institute of Mining Engineers were guests at the dinner and following the merger of the two Institutions there was general recognition that the Leeds dinner had become a tradition worth preserving and is supported by Branch. This year's dinner was held on 23rd April, 2004 at Bodington Hall, Leeds. Twenty members and partners attended the event which was organised by Professor Dowd.
This was the last occasion that Professor Dowd organised this event before taking up a post as Executive Dean of the Faculty of Engineering, Computer and Mathematical Sciences at The University of Adelaide, Australia.

C. Rhodes
Honorary Secretary

Financial Statement 1st July 2003 to 30th June 2004

INCOME	2004	2003	**EXPENDITURE**	2004	2003
S. Littlewood Fund	218	123	Printing and Stationery	1,584	1,600
Trust Fund	14,500	12,000	Secretarial Expenses	2,220	2,100
Peake, Webster & Amco Bursary(Admin.)	1,200	900	Meeting Expenses	1,113	1,075
No. 2 Account	1,300	650	Younger Members	778	0
Capitation	3,698	3,986	Petty Cash	400	400
Miscellaneous		29	Assistant Secretary	10,214	9,478
Bank Interest	3	2	Jewels	600	600
			Dinner Guests	496	350
			Office Equipment	270	138
			VAT	2,088	1,773
			S.Littlewood Fund	300	250
			Membership Initiative Leeds)	679	450
	20,919	17,690		20,742	18,214
Excess Expenditure/Income		524			
Excess Income/Expenditure				177	
	20,919	18,214		20,919	18,214

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THE PEAKE MEDAL

CONDITIONS OF AWARD

The 'Peake' Medal originated in 1917, when Major G. Herbert Peake made a gift to the Midland Institute of Mining Engineers of £1,000, in recognition of the services rendered by the Institute to the Coal Trade of Yorkshire.

The Council and members were very grateful to Major Peake for his generosity and decided to memorialise it by the institution of a medal to be called The 'Peake' Medal, to be presented from time to time to members who have rendered conspicuous services to the Yorkshire Branch of the Institution of Mining and Metallurgy.

Awards of the 'Peake' Medal.

1917 *C. Blake Walker, M.Inst.C.E.*
1918 *Sir William Garforth*
1921 *C. E. Rhodes, M.Inst.C.E., F.C.S.*
1934 *John Bass, M.Inst.C.E.*
1954 *Thos W. Adam, M.C., A.M.I.C.E.*
1958 *Prof: I. C. F. Statham, M.Eng.(Min.), F.C.S., F.R.I.C.S.*
1959 *Major N. E. Humphrys, C.B.E., D.S.O., M C.*
1961 *R. C. Baker, C.B.E., B.Eng.*
1965 *Major N. E. Webster, O.B.E., M.C., D.Eng.*
1972 *G. M. H. Glover, B.A. (Oxon), Hon.F.I.Min.E.*
1977 *C. A. Corden, B.S., C.Eng., F.I.Min.E.*
1980 *J. Brass, C.B.E.,B.Sc.(Hons.),FR..Eng.,Hon.F.I.Min.E.*
1982 *J.Blunt, C.Eng., F.I.Min.E.*
1995 **Prof. J. F. Tunnicliffe, B.Sc.(Hons.), FR.Eng.CEng, F.I.Min.E.**
P. I. Allsop, B. Eng., C.Eng., F.I.Min.E.
Dr. W. Forrest, O.B.E., T.D., B.Sc., Ph.D., FR.Eng.C Eng, F.I.Min.E.
2001 *O. H. Schmill, Dipl-Ing,CEng.FIMM,FIMgt.*

THE 'THOS.W.ADAM' MEDAL

CONDITIONS OF AWARD

The 'Thos. W. Adam' Medal shall be awarded from time to time for long and meritorious service in the furtherance of the objects and enhancement of the prestige of the Yorkshire Branch of the Institution of Mining and Metallurgy.

Awards of the 'Thos. W. Adam' Medal

1957	*Major N. E. Webster, O.B.E., M.C., D.Eng.*
1958	*H. A. Longden, B.Sc.(Hons.), F.I.C.E.*
1959	*W. H. Wilcockson, M.A.*
1962	*G. C. Payne, B.Sc.*
1963	*F. S. Atkinson, M.Eng., F.I.C.E.*
1964	*F. V. Tideswell, O.B.E., Ph.D.*
1968	*G. A. Corden, B.Sc., C.Eng.*
1969	*C. Machin, J.P.*
1970	*A. Wright, M.Eng., F.I.Min.E.*
1975	*J. Blunt, C.Eng., F.I.Min.E.*
1983	**Professor J. F. Tunnicliffe, B.Sc.(Hons.), FR.Eng.C Eng F.I.Min.E.**
1989	**G. C. Thorpe, B.Eng.(Min), C.Eng., F.I.Min.E.**
1992	*J.Brass,C.B.E.,B.Sc.(Hons.),FR.Eng. Hon. F.I.Min.E.*
1993	*O. H. Schmill, C.Eng., F.I.Min.E.*
1995	**P. Hinchliffe, B.Sc., C.Eng., F.I.Min.E.**

O.H.SCHMILL MEDAL

The award originated in 1999 through the generosity of Mr. Henry Schmill. It is in the form of a double sided medal suitably inscribed.

CONDITIONS OF AWARD

The O. H. Schmill Medal shall be awarded from time to time at the discretion of the Council of the Yorkshire Branch of the Institution of Mining and Metallurgy, as recommended by its Finance and Awards Committee (or any successor Committee). The Medal shall be awarded to any person whether or not a member of the Institution who in the opinion of Council has made a significant and worthy contribution to the affairs of the Yorkshire Branch.

Awards of the O.H.Schmill Medal

2000	**B. Dickinson, T Eng FIMMM**
2004	**C. Rhodes, IEng, FIMMM**

THE NOEL E WEBSTER MEDAL

CONDITIONS OF AWARD

Awarded to the Author(s) for what in the opinion of Council was the best paper presented to the Midland Institute of Mining Engineers or Branch meeting during the previous year and the manuscript of which has been accepted by the Editor for publication in "International Mining and Minerals" or any successor title before the time of the Award adjudication. The Award may be withheld in any year at the discretion of Council.

RULES AND DEFINITIONS

1 The Award shall be made by the Council of the Midland Institute of Mining Engineers.
2 A Council Committee shall be empowered to give advice to Council.
3 Adjudication of the Award shall be made at such time in each year as Council deems to be appropriate.
4 "Paper" is defined as a paper that meets the criteria for the time being in force for a paper suitable for publication.
5 A Presidential Address is not eligible for this Award.
6 The Award is not conditional upon the Author(s) being a member(s) of the Midland Institute of Mining Engineers.
7 "Year" is defined as the period between successive Annual General Meetings of the Midland Institute of Mining Engineers.
8 Where in the opinion of the adjudicators, papers are deemed to be of equal, or near equal merit, the adjudicators shall take into account the relative qualities of the respective presentations
9 Where in the opinion of the adjudicators, there are no papers presented which are worthy of such recognition in any year, the Award shall be withheld.

Awards of the 'Noel E. Webster' Medal.

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1980 *E. Mitchell, C.Eng.,F.I.Min.E.*
1981 *G. M Jackson, B.Sc., C.Eng., F.I.Min.E.*
1982 R. G. Watt, B.Sc., F.M.S., F.I.Min.E.
1983 A. W. Tuke, O.B.E., C.Eng., F.I.Min.E., M.B.I.M.
and C. L. Templeman, O.B.E., F.C.A., F.I.P.S., M.B.I.M.
1984 E. R. Wastell, B.Sc., C.Eng., F.I.Min.E.
and G. Walker, B.Sc., C.Eng., F.I.Min.E.
1985 B. F. Rason, T.Eng., A.M.I.Min.E.
1986 P. Simpson, C.Eng., F.I.Min.E.

1986 A.W. Standen, T.Eng.,A.M.I.Min.E.
1988 ***T. F. Mottram, T.D., A.M.I.Min.E., F.B.I.M.***
1989 B. Fee, I.Eng., A.M.I.Min.E.
1990 G. Sykes, C.Eng., F.I.Min.E.
1991 Dr. Winton J. Gale
1992 M. K. Tucker and M. C. Clark.

1993	M. R. Longman, C.Eng., F.I.Min.E.
1994	Dr. T. John Parker
1995	H. Hoy and P. Lowery
1996	P. T. Burgin and M. J. Thomson
1997	P. W. Goodier, B.Sc., C.Eng., F.I.Min.E.
1998	R. Stevenson, CEng, FIMM
1999	P. S. Lewis, BSc,CEng,FIMM
2000	Professor R. Williams, FREng,C Eng, FIChemE, FIMM,DIC.
2001	Dr. F.A. Auld, BSc,PhD,CEng,FICE,FIMM and A. Williams, BEng(Hons),ACSM
2002	K. Sabin, MBA,IEng,MIMMM and N. Battison
2003	D. Vint, CEng, MIMMM
2004	W. J. Tinsley, BSc, CEng. FIMMM

Paper presented by Mr. W. Tinsley on 11th December, 2003 at Parkside Hotel, Pontefract.

Geotechnical & Hydrogeological Influences on Longwall Workings at Riccall Mine

W.J.Tinsley, Bsc (Hons). C. Eng MBA. FIMMM Business Manager, Selby Complex

I.Gibson Surveyor, Riccall Mine

G.A. Watson, Geotechnical Engineer, Riccall Mine

1. Introduction

Production ended on 26th October 2004 at the Selby Coalfield in North Yorkshire when the last of over 260 faces to be worked during the past 21 years ran out of coal. The Selby Complex was one of the largest deep mining projects undertaken in the world. It covered an area of 300 square kilometres and at that time had an estimated 600 million tonnes of workable reserves in the Barnsley Seam. It took 20 years to plan and bring the complex into production at a cost of £1.4 billion.

Shaft sinking began in 1977 at Wistow – one of the five mine sites – and followed at the remaining four sites; Riccall, Stillingfleet, North Selby and Whitemoor, over the next three years. A sixth drift mine, Gascoigne Wood, was sunk to process and despatch the estimated 10 million tonnes of coal per year. Sinking was difficult as shafts and drifts passed through heavily watered strata, in many cases involving freezing of the surrounding strata to gain progress.

Wistow was the first of the five mines to begin production in 1983. At its peak (1993-1994) the Selby Complex produced 12 million tonnes of coal a year, the majority going to Drax power station. Over the 21 years of production the complex has employed more than 3000 direct and over 1000 contract people.

Over the years in the face of increasing geological disturbances, some reserves had to be discounted and production began to tail off in the mid/late 90's. Whitemoor and North Selby mines merged with neighbours Riccall and Stillingfleet to concentrate mining activities in areas with more favourable geology and less uncertainty.

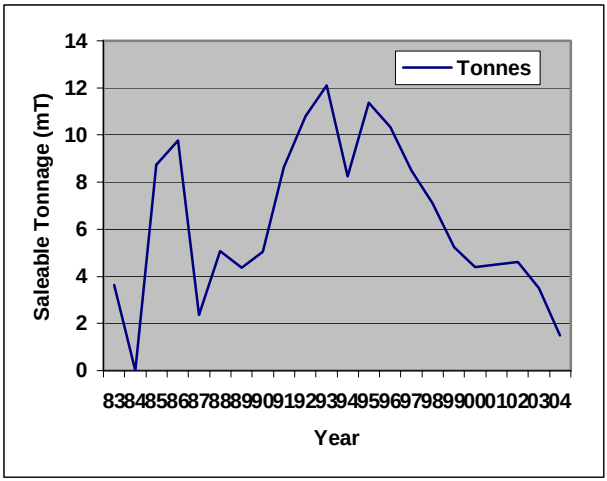

Fig1. Annual Production from the Selby Complex

By 1995 at Riccall the best of the Barnsley Seam had already been taken. Insuperable technical problems mainly as a result of poor geology and excessive faulting meant substantial areas of coal area could not be worked. Further workable reserves outside the planning area were investigated to prolong the life of the mine and ultimately the complex. At this time output from Selby accounted for 30% of the company's total output. The performance of the complex would be crucial to the company in achieving maximum efficiency in the face of strong competition from cheap imports.

A planning application to drive exploratory roadways into an area beyond the River Derwent at Whitemoor was submitted in August 1995. Initial feedback made it clear that there were strong environmental objections against the plan. Therefore the possibility of working panels of coal in this area was unlikely.

Of the remaining reserves, within the current planning area large proportions were either unproven or known to be of very poor geology. The likelihood was that these reserves would be affected by similar conditions to those elsewhere and prove unworkable. Furthermore financial resources were too scarce to be wasted on expensive drivages accessing areas where there may be little hope of providing a return on the investment. Efforts had to be concentrated on developing area where there was some certainty of continuity of production.

Based on the information available many of the remaining Barnsley reserves at Riccall and Whitemoor were particularly speculative. Possible faces to the South of the take would require the main access roads driving through large faults making them very slow and expensive. The capital expenditure could not be justified. The only viable alternative was to explore the possibility of working the Stanley Main at Riccall.

Accessing these reserves posed problems none the least to get a return on the expected £14m investment. To achieve an adequate return over the 4½ year life of the project, required annual output levels from a one face operation of 1.8 million tonnes. These facts alone would challenge engineers over their design of equipment and roadways.

To put it into the context of the Selby Coalfield if the project did not go ahead the Colliery would have closed in 2001. The resulting two-mine operation, Wistow and Stillingfleet would not be economically viable. However, the relatively low risk reserves in the Stanley Main would enable a plan to be constructed and not prematurely close all operations This paper will briefly outline the geological exploration required to prove the Stanley Main reserves, from which initial information was gathered to prove the extent of reserves and those geotechnical considerations to be taken into account on roadway design. Also, uniquely to the Selby Coalfield for the first time, workings were proposed directly over the old Barnsley faces. All the information obtained had in the past has been based on single seam working. Prior to accessing these reserves it would be vital to model those faces that will interact on the roadways as mining progressed. Initial ideas would be challenged as new information was gained. Once mining had commenced major disruptions occurred when large inflows of water affected the longwalls shortly after start of production. Investigatory work was carried out to try and find the source and mechanism of these inflows. New thinking on face layouts may be needed based on this information. The paper will give an overview of this work and a possible explanation as to the mechanisms behind these inflows. As well as those design factors that need consideration for multi-seam working.

Geological Exploration

A series of underground boreholes from the Barnsley seam were drilled to assess the workability of the seam and its associated near roof and floor geology. A total of ten upholes were drilled which delineated the mineable area. Much was already known about the higher roof and floor geology from nearby surface boreholes, workings in the Barnsley seam at both Riccall and Wistow mines and the sinking of the Riccall Shafts.

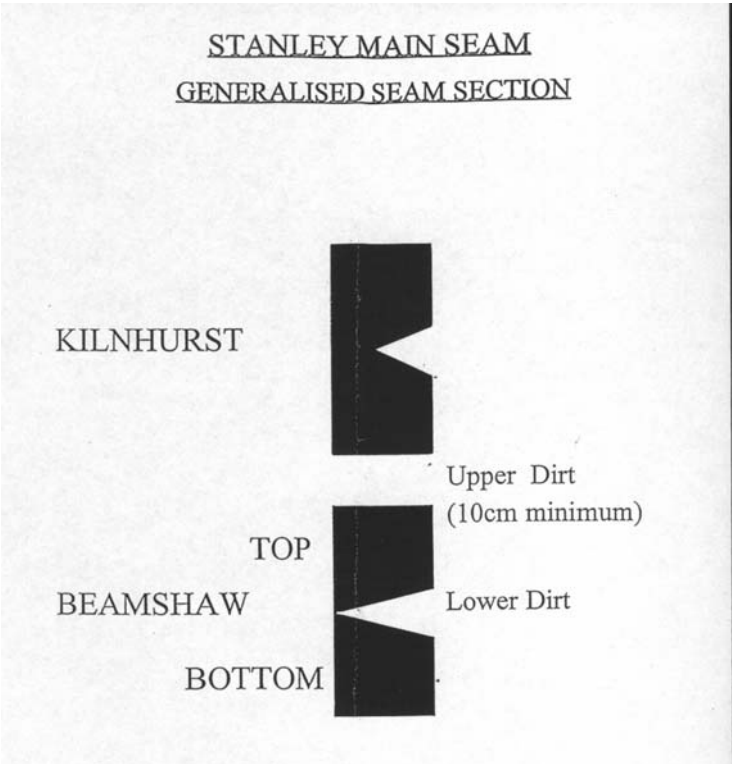

Fig. 2 Generalised section of the Stanley Main seam

The Stanley main seam at Riccall is formed by a local union of the Kilnhurst and Beamshaw seams. A dirt split between the Kilnhurst and Beamshaw rapidly opens to the East, North and West such that the combined seam is unworkable. In addition a mid seam split within the Beamshaw also thickens in the same directions. In the North West of the workable area the Kent's thin seam converges close to the Stanley Main accompanied by a slight thickening of the overall seam but deterioration in floor strength. Its overall thickness varies from 2.3m to 1.8m from west to east across the take. Its in seam dirt thickness is relatively constant at 0.2m. Roof and floor measures comprise of fairly strong siltstones and silty mudstone and working conditions are generally good. The seam proved to be fairly typical, being affected by the odd swilley, localised gradient changes, near roof and floor sedimentary variations.

The united seam is present some 60-70m above the Barnsley and the fault structure is well proven by workings in the lower seam. No significant faulting was envisaged in the planned panel runs as they mirrored the Barnsley seam workings below. As in the Barnsley seam, the main panel runs were truncated by a WNW-ESE trending 10m fault. As part of the assessment for a potential mining area, a detailed analysis of the risks of water inrushes was made. In summary, the Stanley Main seam is some 270m beneath the water bearing Permian strata. This was considered more than adequate for the planned panel widths. The Woolley edge rock, a 15-20m coal measures sandstone is present 40-50 metres above the seam. The sandstone is variably developed over the area, comprising of mainly massive siltstones to the East. The Woolley edge was considered to be isolated from the Permian and therefore only likely to contain minor quantities of water. Other minor near roof sandstones are present containing small inflows of water. No risks of significant water problems were initially identified. But water inflow can have a significant consequence.

At Wistow mine, larger water flows have had disastrous affects on mining in its early and more recent history. The water makes at Wistow were drawn from the water bearing Permian strata along subsidence related linkages as a result of mining panels which placed too much strain on the base of the Permian. Significant face line weighting was also experienced resulting in the abandonment of the working faces. Such weighting was not a factor at Riccall as the water makes were less severe and not considered to be direct from the Permian.

The proposed development lay above an area of current and successfully worked Barnsley Seam. This could be classified as low risk with major faulting on its boundaries already proven. The initial assessment suggested an average seam thickness of 2m providing 9 million tonnes of reserves. Without this development the future viability of the Selby complex would be at considerable risk. However planning permission was necessary to mine the Stanley Main reserves and this would be difficult to obtain.

2. Planning

The area of coal to be worked lay partially below Skipwith Common SSSI therefore subsidence was likely to be the main issue. Independent consultants were appointed to assess the implications on Agriculture, Ecology, Archaeology, Hydrology and Subsidence. All local authorities and statutory consultees were kept appraised of the plans as they developed including English Nature and English Heritage. The proposal would also have an effect on spoil disposal at the Gascoigne Wood site and would be subject to a separate planning application for an extension to the tip including an improved restoration scheme. The Planning application was submitted in October 1997 supported by the Environmental Statement.

Planning Permission was granted in December 1998 subject to the following conditions: -

- The Subsidence pattern does not depart significantly from that predicted for the Combined Barnsley and Stanley Main seam workings.
- Any remedial works in the “area of interest” should take into account areas of Archaeological and historical importance.
- The layout of the panels was now fixed and could not be altered by any significant amount, other than by agreement in writing from North Yorkshire County Council.

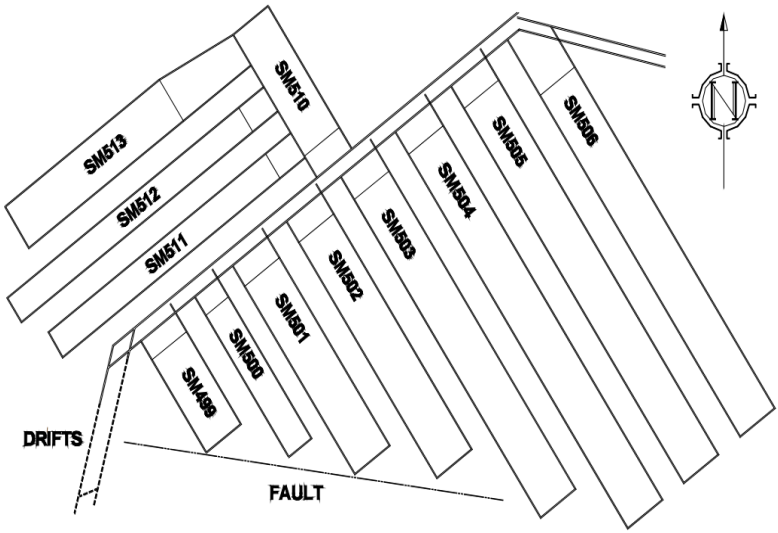

Fig 3. Planned Layout of the Stanley Main Seam

The layout accessed the new seam via two drifts at Riccall Mine. The Intake drift was to be driven from an existing junction near to the pit bottom at a gradient of 1 in 12 for 450m. The top of the drift would be driven to transitional gradients to give a smoother catenary for the planned 1500mm wide conveyor system. This roadway would turn to form the intake lateral when vertically above the East Conveyor Road (Barnsley Seam).

The Return drift would be driven parallel to the intake drift on a shallower gradient of 1 in 20 for 550m and would turn to form the Return Lateral leaving a 40m pillar with the intake lateral. Slits would be formed at the main and tail gates of the proposed panels as required.

Both the Intake and Return drifts were driven setting 5.6m x 3.9m arches using Titan E301 and E134 Roadheaders respectively. Major faulting seen in the Barnsley seam was intersected during drivage and a heavier section arches set in these areas.

An integral part of the economic case of the Stanley Main Project was that all the roadways would be primarily supported using roofbolts. The plan was to drive the Intake Lateral using a Joy ED15 and Return Lateral with a Joy12CM18 both fitted with hydraulic bolting rigs.

To comply with the newly introduced Control of Ground Movement Regulations (1999) and the fact that Riccall Mine had no relevant experience of working the seam a successful “stand up trial” took place in the Return Lateral proving its geotechnical capability to be solely supported by roofbolts. In conjunction with this trial extensive geotechnical investigations were taking place to prove that it was possible to support the roadway by roofbolts alone.

4. Geotechnical Design

The Stanley Main Seam faces at Riccall Mine are in a unique geotechnical environment. This section aims to provide useful and practical information on the design principles and the experiences gained in development and longwall workings. It will cover the following sections.

Concepts of near-bye workings.

Modelling processes and early

Layout designs.

Ground fracturing influences.

Gateroad layout change.

4.1 Concepts of near-bye workings.

Modern coal production has always been challenging, particularly as mines exploit reserves in previously worked areas.

Layouts become more complex for example due to: -

Roadways near to old workings

Roadways driven in Longwall scours

Longwalls adjacent to old workings

Longwalls above and below old workings

The fundamentals of ground control for developments and production are re-written as the experience is gained. The Stanley Main Project, at Riccall Mine, is no exception. Ideally, the preferred sequence of extraction for multi seam working is upper seam to lower seams and within the vertical boundary of the upper extraction. This would create a vertically de-stressed environment, suitable for the deeper workings.

Longwalls that work above previous extractions run several higher risks to both development and production due to: -

Higher vertical and horizontal stress redistributions at the boundaries.

Disturbed ground conditions for roadway development due to influence of fracturing. This influences the stand-up time of exposed ground.

Increased risk of water migration into stress relieved zones of strata.

4.2 Modelling Process and Early Layout Design

Three significant mine plan decisions had to made during the Stanley Main feasibility study:

The positioning of the lateral roadways,

The sequencing of panel extraction and

All were going to be significantly affected by the under worked Barnsley seam and subsequent Stanley Main extractions. The final geotechnical design would be greatly dependant on the influences that the Barnsley seam workings had upon the Stanley Main roadways.

Consultants, Rock Mechanics Technology (RMT), were used to advise on the sequencing, roadway positioning and any support issues. They utilised information from insitu stress measurements and geological logs of roof and floor measures to give some prediction on stress redistribution and the feasibility for supporting all laterals and gate roads on roofbolts. The critical areas of investigation concluded, that the lateral roadways could be separated by at least a 40m pillar however, significant stress re-distribution, from the Stanley Main panels will affect both roadways.

In practice, the Return Lateral has suffered moderate ribside movements causing some extensive roofstrap deformation. However, the roof remains intact and stable. The rock mass nature of the lateral roadways towards the outbye end is very good, comprising a siltstone / sandstone roof providing good potential for optimising rockbolted support. The Laterals could therefore, be supported using rockbolts as principal support, utilising 6 x 2.1m rockbolts in the roof and 3 x 1.8m rockbolts in each ribside. This support array would be closely monitored for performance.

The Barnsley seam coalfaces were phased to be complete during 2001, being replaced with the Stanley Main production. Some sequencing issues required attention. Firstly, would it be feasible to develop the Laterals to their full extent, then start to develop the farthest panel and work them back toward the drifts? This would mean that any water issues could be "left behind" due to the natural dip of the seam. This raised the stability issues of retreating the maingate roads either along side a previous extraction or placing it in the high risk, stress notched position. Due to timing this was not possible, as production was required to take over from the Barnsley Seam. Secondly, could the panels SM510 to SM513 (located at the other side of the Laterals) be developed and worked simultaneously with SM501 to SM506? This issue was discounted because of the availability of equipment and the cost of higher risk developments.

It was planned that the first panel to be worked SM501's. Its gate roads should be placed between 15m and 20m from the underlying rib or pillar edge and to support the excavation with steel frame supports supplemented with rockbolts. This was regarded as a first stage strategy to be further reviewed as experienced is gained.

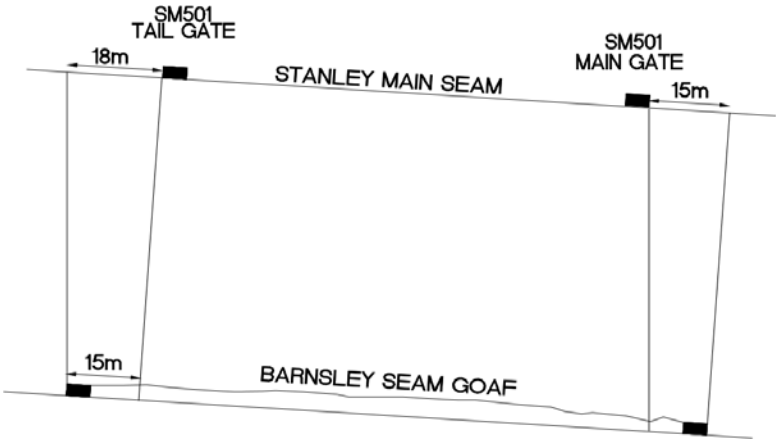

Fig. 4 Relative positions of SM501's Gate Roads relative to Barnsley H501's

4.3 Ground fracturing influences for gateroad design

In order to evaluate the expected gate behaviour and the effect of interaction, it was necessary to take account of both the altered stresses and the potentially disturbed nature of the strata induced by the Barnsley workings. Hoek and Brown (1980) proposed a method for estimating the insitu strength of rock masses. It reduced the rock strengths from intact laboratory samples into four categories depending on the degree of jointing and disturbance in the rock mass:

The Stanley Main gateroads and facelines were classified as ranging from "Partially Disturbed" to "Disturbed". In practice, this meant that whilst the geological nature of the roof was good, the roofbolt densities and patterns had to be significantly modified to provide more confinement to the immediate roof fractured by previous workings. Changes to the support systems were monitored to ensure effectiveness.

4.4 Gate road layout changes SM501's Tailgate was the first roadway to be developed over the extracted Barnsley Seam. It was positioned some 15m, perpendicular to the dip of the seam, inside the underworked panel. The Tailgate was within 15 degrees of the preferred stress direction but the magnitude of the stress was significantly altered due to being vertically de-stressed. Put simply, there was insufficient horizontal stress in the roof to promote rockbolting techniques and therefore 5.3m x 3.6m steel framed supports were set, supplemented by roofbolts until further investigation works were carried out.

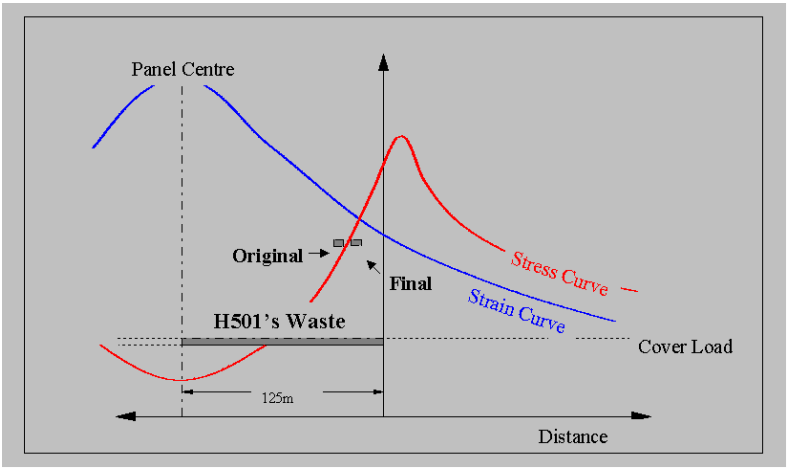

Fig.5 Stress- Strain distribution around SM501's tail gate

In order to determine the best position for the Tailgate several techniques were used. The drilling of low angle cores both over the Barnsley goaf and into the solid pillar side. The three cored lengths were recovered on average 18.5m long. These revealed that the left side (over Barnsley Goaf) was more broken and fractured than the pillar side, and that there was an increase in fractures in the right hand cored hole from 14m to 18.5m. Monitoring of sophisticated ground deformation equipment such as strain gauged roofbolts, sonic extensometers, telltale monitoring devices and closure profiles, added to our data, to assist in our decision.

The heading continued to approximately 339m at which point using the geotechnical information gathered it was decided to move the Tail Gate 4.5m towards the pillar side. This significantly improved roof conditions (Fig 5).

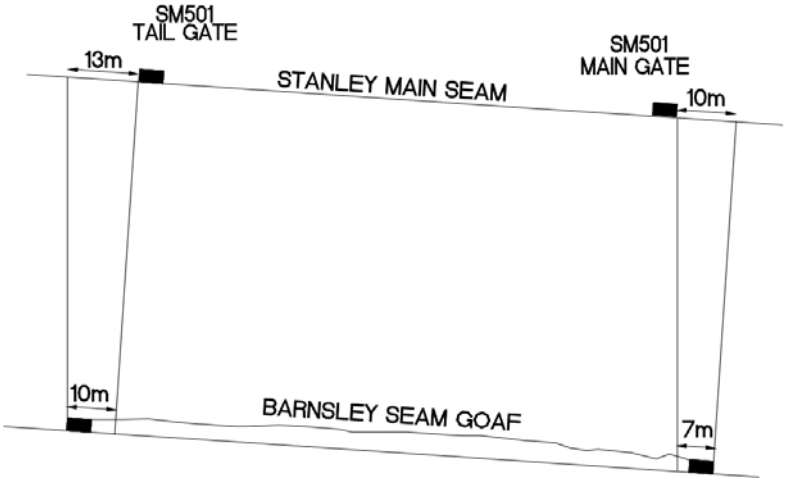

Fig. 6 Adjusted positions of SM501's Gate Roads relative to Barnsley H501's

6 x 2.1m Roofbolts through 4.3m Straps were installed with gopher type machines using the mesh cage support system from 468m inbye. Downthrow faulting believed to be the same as that seen at the inbye end of Barnsley's H501s stopped the tail gate heading at 1110m. Although the faulting seen was not significant it was felt that these were runners from the major fault and with the hade being back over the heading it was decided to pull back. The junction with the faceline was constructed some 15m outbye placing it 30m inside the Barnsley rib in a vertical plane compared to the 10m designed position. Drivage of the faceline using 2.1m roofbolts through 5.4m straps began in mid June 2001.

Ground Control Mechanisms

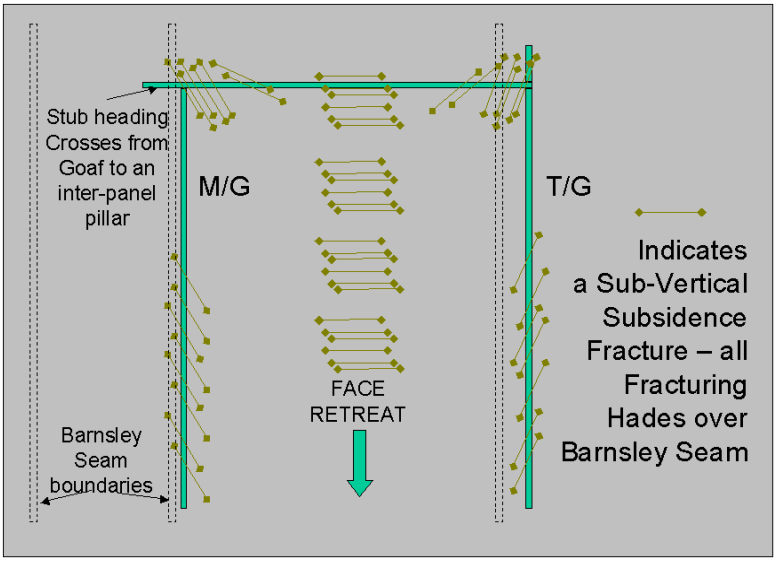

Fig.6 Subsidence Fracturing on a longwall panel

The pattern and frequency of fracturing around the Stanley Main panels has been mapped and shows that the intensity and frequency varies along the gateroads and facelines. The fracture planes also allow water / gas to migrate into the workings. The fracturing is most evident in the first 40m on the faceline, indicating that shear zones have developed from the Barnsley Seam and are a significant risk of instability. The support philosophy, for the future facelines, was to maintain discrete blocks of strata using high shear-strength, resin based tendons. Hence, a 4:3 pattern of 4m flexible rock bolts were to be used on faceline drivages.

To improve stability of faceline junctions, over the Barnsley goaf, high strength, pre-tensioned tendons (megabolt) were used. Traditional “semi-active” cable bolts didn’t provide the fully active tensioned support. A typical junction area would be tensioned with some thirty-five megabolts, equivalent to 875 tonnes of support capacity.

Further information has been gained with a development roadway driving from a goaf area, over an underlying pillar edge (Fig. 6) SM504’s faceline heading needed to continued its development into the inter-panel pillar for operational reasons. Whilst it was envisaged that significant additional support was going to be required in both the roof and rib area of the stub heading, actual conditions in terms of significant over-break and roof deformation meant that mining ceased after 25m of development or 18m over the Barnsley pillar edge

A major influence on the Stanley Main Longwalls has been the variability in the nature of roof control. The modelling techniques in other seams have determined values of shear strain that concentrate themselves into cyclic ground failure mechanisms.

The cyclic nature of shear strain failure, on a longwall retreat, can be illustrated using the work done by RMT. This has been clearly seen on Stanley Main Longwalls and in certain circumstances, when the front abutment stresses coincide with previous strain failures, significant roof falls along the working face occurred.

5. SM501's Production

Production started on 2 January 2002 with 3m retreat in the first 3 days and 26 metres in the following week. During that weekend an influx of water occurred on the face appearing virtually overnight up to 5 feet deep at the face entry. Unfortunately at this time with the faceline being on full dip and the main gate dipping inbye, water collected at the main gate junction end of the face and partially up the faceline. With no accurate data available the quantities involved were estimated at 175 gpm.

The primary concern was to keep the water levels below the AFC motors. Initially water had to be pumped through the faceline and out via the tail gate on to the floor in a swilley area. Larger 50hp pumps were brought in and installed in the main gate and connected to the ranges to deal with this initial inflow.

A decision was taken to cut the face and move water by soaking it into the product at the same time creating more capacity behind the face as the face rose out bye. This was relatively successful with the face achieving 15m of retreat during the week although operational problems were experienced with the water washing silt out of the product and depositing it down the sides of the stage loader. By the 17th January the rates had subsided to below 100gpm.

The following observations were made at the time: -

No significant weighting was seen on the face supports.

Water was heard running behind the supports in the goaf area at the point where faulting may be projected back from the faceheading.

Water drippers from Tailgate telltale holes which had "dried up" overnight reappeared.

No excessive quantities of water had been tapped by methane boreholes drilled up in the tail gate.

On the 24th January 2002 a second notable inflow lasting 4 days occurred with a 24hour average peaking at 300gpm. The third and final significant inflow was seen on 2nd February 2002 lasting 3 days with rates between 254 and 287gpm and quickly subsiding to 80gpm. The total inflow of water at this point in time stood at approximately 4.5 million gallons.

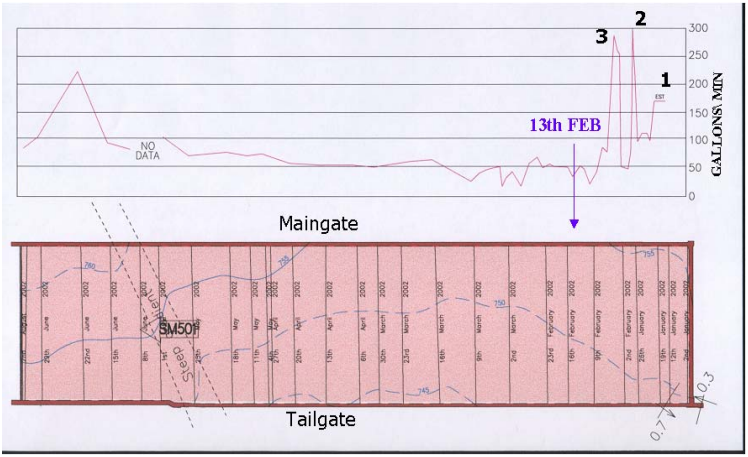

Fig. 7 SM501's Retreat / Gallons per minute per day

On the 13 February 2002 some 6 weeks after production had started with the face at 928m mark and having retreated some 165m a meeting of senior management was called to discuss the possible sources and mechanism of water inflow. Several observations and theories were put forward.

- Looking at the retreat measures it was noted that three influxes had been seen each after intervals of 30m retreat.
- Samples of the water were high in chloride content at around 50,000mg/l indicating Deep Zone Strata Water
- During the sinking of the shafts unlined sections of the Woolley Edge Rock had yielded maximum rates of 30 gallons per minute.
- Advice had been sought as to the possible porosity of the Woolley Edge Rock which could be around 5%. Using this percentage a possible 26 million gallons of water could be sat in the sandstone above the face.
- Subsidence seen at the surface had suggested some movement at the Woolley Edge Rock horizon.

The average water make from the 6th February had subsided to well below 50 gallons per minute. From 750m out bye the main gate dipped on the line of retreat and the

contours suggested that if the goaf became waterlogged the water would then migrate to the Main Gate end creating further problems.

Consideration was given to boring a hole up into the immediate strata at the out bye end of the Main Gate in an attempt to pre drain the roof. With no significant increases in the water make and with little confidence in locating the exact position of the voids the hole was never drilled.

SM501's retreated a total distance of 963m averaging 35m/week with a maximum weekly retreat of almost 60m. Although water remained on the district, primarily

as nuisance water in small swilleys in the Main Gate, the maximum daily rate remained below 100gpm.

As the water inflow had significantly affected production levels investigatory work by Nottingham University was commissioned to work alongside UK Coal staff to give an insight into the source and mechanisms of inflow seen. Any information gained would be used to assist in future planning of water control systems.

6. Modelling of water flows around the Stanley Main workings at Riccall.

In order to develop an understanding of the process of water flow, and to a similar extent gas flow, around SM501's Longwall, Nottingham University were asked to investigate the situation as developed on SM501's face.

The first Stanley Main seam face encountered disruption to operations due to severe makes of water early into production. This would severely affect production levels for future mining at Riccall.

The investigation would: -

- Examine the likely sources of this water influx, how it was reaching the workings and whether current mining plans needed to be changed to avoid a repeat occurrence.

The work done at the time involved:

- Mine visits to 501's District and 502's development.
- Analysis of the known Geological data provided by UK Coal Mining Ltd.
- Empirical predictions of Principal Tensile Strains (PTS) around SM501's panel.
- FLAC (Fast Langrangian Analysis of Continua) numerical modelling of the influence of the faulting encountered in SM501's Tailgate.

These investigations identified the following: -

The FLAC modelling showed that the working of the Barnsley seam alone was unlikely to have created flow paths between the Stanley Main level and the Woolley Edge aquifer.

High levels of strata strain are induced, due to the combined extractions and would be limited to the immediate proximity of the Stanley Main Seam.

However, the shear strain values at certain weaker strata levels, above the Stanley Main, could have risen to the point where these zones could become charged, over a period of time, prior to the working of SM501's.

FLAC modelling showed that the fault plane, affecting 501's and 502's panels induced vertical breaks from the face start line, could provide pathways for water. Nottingham recommended reviewing the position of future facelines relative to the fault.

The distance between the faceline drivage and the fault plane could be significant. It was recommended that changes to this position should be modelled

The modelling also indicated that the initial stages of panel retreat are critical in terms of the effect of ingress of water via the fault or strata fracturing.

8. Water Inflows into Mine Workings

It is stating the obvious that for water to inflow into Longwall working there has to be a source of water and a mechanism by which that water migrates into the workings. Whilst no individual factor singularly dominates two important factors have been identified.

- Interval to the aquifer.
- Geology of the intervening strata.

The evidence (North and Jeffrey 1991) suggest two mechanisms could be responsible for the lower incidence of water makes associated with rich mudstone roof measures.

- Weaker bands dissipate strain over a wide area therefore reduce the induced fracture width, length and connectivity.
- Clay mineralogy shows a propensity to swell that help to seal fractures. The result is a reduction in vertical permeability.

The presence of faulting in the section is thought to be of extreme importance in the occurrence of water on faces and over-ride other factors. In trying to account for the reasons behind the high water inflows on the Stanley Main faces at Riccall these factors will play a part along side the significance that the previous Barnsley faces might have had on an inducing flow paths or reservoir for water build up.

Garrity (1981), in his study of water inflow into Longwall workings beneath the North Sea in the NE of England concluded that there were high risk of inflows when: -

- Cover to the seabed or base of premium was less then 104m or 100m respectively.
- Faults of throws greater than 1m connected the water source to the workings.
- Competence of immediate roof strata was relatively high. Where the first 20 – 30m contained less than 35% mudstones.

He concluded that inflows occurred during strata fracturing following caving at a time when major roof breaks occur in stronger measures. This induces continuous fractures in the cover that connects to the water source. This is exacerbated by faulting and reduced by the presence of less permeable rocks which fracture easily and re-compact.

Xiao (et al) took case studies from a number of collieries (Horden, Blackwell, Wistow, Cotgrave, Clifton) and deduced that certainly in the case of the Northumberland and Durham coalfield, except where water inflows were specific to faults, there was quite a significant correlation between inflows and the presence of a high percentage of competent rocks in the immediate roof.

In these circumstances inrushes associated with heavy face weighting can occur. In this case bed separation associated with poor caving may allow water to form reservoirs connected to a high pressure aquifer. As mining progresses high reaction forces build up with the potential for large strain energy release and water inflow at failure. The well documented cases at Wistow mine illustrate this.

A number of authors (Hoare et al (1978), Elliot (1978)) have proposed a relatively simple explanation for these water inrushes based on the bed separation theory. In the Cannock Chase coalfield they concluded that bed separations opened up allowing build up of water above the cavity zone behind the face and inrushes occurred when face breaks connected through to these -invariable in the first 30 metres above the face.

I. W. Farmer (1991) reasons only a zone of bed separation that is above the caving zone can accumulate water to give flushes into the face. If there is a high proportion of impermeable strata then a seal is formed and no water inflows occur. Bai (et al) have proposed that if a threshold of 2mm/m vertical tensile strain for the onset of bed separation then the region defined by the 2mm/m strain contour should be the region of increased water storage capability compared with pre-mining situation. It may well be that these voids fill over time with connate strata water rather than being directly charged from the main aquifer if there are no induced flow paths.

How does this research and experience help us to explain the mechanism of water inflows into the Stanley Main workings at Riccall? From the research and observations it is suggested that:

1. Workings in the Barnsley Seam have induced sufficient strain in the strata above the Stanley Main workings up to the Woolley Edge rock to induce bed separation.

2. These voids have most likely charged with connate water rather than from the known aquifer of the Woolley Edge rock. Modelling of the strain on the strata above the Stanley Main suggests insufficient strain (less than 10mm/m tensile strain) to allow fracturing and aquifer water to charge these voids.

3. Subsequent working of the Stanley Main faces have induced failure of he strata over the goaf intersecting these reservoirs of water allowing inflows into the current workings.

4. The presence of major faulting has not thought to play a significant part in forming a flow path for water into current workings based on our experiences on SM503's.

5. Modelling techniques have shown the cyclic nature of shear strain failure could account for the cyclical natures of inflows and roof failure during mining operations.

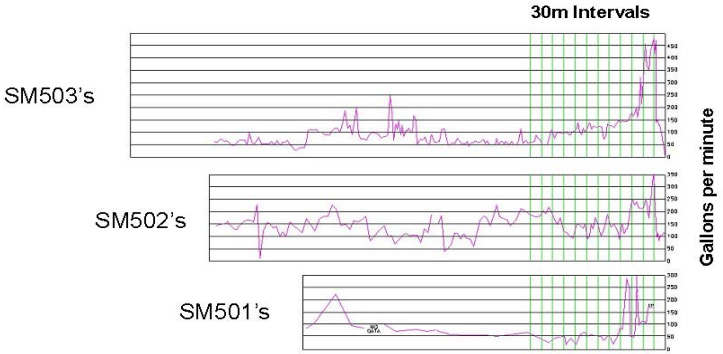

Fig 8. SM501's – SM503's Retreat/ Gallons per minute per day

6. With the exception of 504's the first three faces within the Stanley Main have exhibited remarkable similarities i.e. within 30 metres and at regular intervals thereafter increased inflows of water. Thereafter there appears to be an apparent reduction in flow. Evidence suggests that water migrates through the floor in the later stages of the face to be collected and pumped outbye and thus masking further inflows of water.

7. Between the shafts and Skipwith No.1 borehole (across the Stanley Main take) the percentage of incompetent strata within the first 30 metres is low. In the case of the shaft 30% and Skipwith No.1 20% agreeing with Garrity's observation that where the competence of the immediate roof strata was high there was a greater likelihood of higher induced water flows.

8. Summary

The following factors need careful consideration when designing for multi-seam working: -

- Roadway positioning relative to the old wastes below is critical to ensure optimum support design.
- Panel extraction sequences have a major influence on vertical stress redistribution in the rock mass above Longwalls.
- Horizontal stress is differentially affected by previous extraction and has significant effect on workings above.
- The rock mass above old wastes is "incrementally" vertically stress relieved and can be disturbed by systematic fracturing.

- Strata water can be a significant feature; adequate water management systems should always be deployed.

In practice, as mining engineers, what can we learn from our experience? There is no doubt that as mines are confronted with multi-seam working, they present a challenge to safety and economically produce coal. In the design stage recognition has to be given to a wide variety of factors that will influence the design of roof support and roadway layout. As developments expand into new areas new experiences leads to challenging the known. The challenge for all engineers is to timely recognise those changes that need intervention to reduce risk.

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Elliott, R. E. (1978) *"Strain Zones and Water Migration above a Working Point"*. Unpublished Geological Branch Seminar paper. National Coal Board, London.

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THE PEAKE FUND

CONDITIONS OF AWARD

The Peake Fund was established by the generosity of Major George Herbert Peake in 1930 and the Trust Deed dated 21st March of that year between Major Peake and the Midland Institute of Mining Engineers sets out the objectives and conditions relating to the Fund. The Fund was further supported by a member of the Peake family and the Midland Institute of Mining Engineers.

In accordance with these objectives the principal award made will be the "Peake Travelling Scholarship". This will be offered to fund the associated travelling and subsistence costs at home and/or abroad of successful applicants that will enable individual scholars to enhance the value of a suggested field of study related to their overall education, training and experience in the science and practice of mining engineering.

An award in accordance with this objective will normally be offered on an annual basis.

The secondary objective of the Trust enables Council from time to time to Grant an additional award to other suitable applicants either on a group or individual basis who seek financial support in the field related the advancement of education in the science and practice of mining engineering.

Any award from the Fund will be made by the Council of the Midland Institute of Mining Engineers following recommendation by its Finance and Awards Committee and will be regulated by the following Conditions.

TRAVELLING SCHOLARSHIP
CONDITIONS OF AWARD

1. Candidates must have been a member of the Midland Institute of Mining Engineers for at least twelve months.
2. Applications will be considered from any member over the age of 21.
3. No member will be permitted to receive more than one Scholarship.
4. Any application will need to be supported by an appraisal of financial costs involved.
5. Candidates will be required to submit a completed application form that will be supplied on request by the Secretary of the Midland Institute of Mining Engineers. This form will make provision for providing details of the education, training and experience of the applicant and the names of two referees, one academic and one industrial from whom confidential reports may be obtained.
6. Following initial appraisal of applicants, selected candidates may be required to attend for interview in which case they will be expected to submit to the Secretary, before the interview, a synopsis not exceeding 500 words describing the scheme of study which they wish to follow accompanied by details of the financial costs involved.
7. An award will be made in relation to the relevance of the candidate's proposal along with his demonstrated academic ability, experience and overall personality.
8. A Scholarship will normally be offered each year, but the decision of the Council shall be final and, if in their opinion there is no suitable candidate they may withhold the Scholarship.

Successful Candidates will be required -

1. To devote such time as may be agreed by Council in any one year to fulfil the objectives of the proposed study.
2. At the completion of the Scholarship, to submit to the Council three copies of a Final Report within twelve weeks of completion of the visit, giving a general view of the results of the investigations and of the conclusions drawn therefrom.
3. The Council of the Midland Institute of Mining Engineers will, where possible, assist the candidate in organising visits. Notes of Guidance which gives assistance and advice for the collection of information, data and format for the Final Report will be provided by the Secretary of the Midland Institute of Mining Engineers.
4. It is a firm condition of the award that the candidate personally makes adequate insurance arrangements to cover all aspects of the visit, details of which will be provided to the Secretary of the Midland Institute of Mining Engineers.
5. 90% of the total amount awarded may be payable in advance. A balance 10% will be paid on receipt of the satisfactory Final Report.
6. Any reports relating to the award shall be the sole property of the Midland Institute of Mining Engineers and publications of them, in whole or in part, shall be entirely at the discretion of the Council. Council will not unreasonably withhold permission in relation to this matter and will encourage the candidate's interest in wider publication.

ADDITIONAL AWARDS

1. Limited funds may be made available at Council's discretion for secondary awards. Any application must fully satisfy the objectives of the Trust relating to the advancement of education, science and practice in the field of mining engineering.
2. All applicants must be members of the Midland Institute of Mining Engineers and is open to all members.
3. Written application should be made to the Secretary of the Midland Institute of Mining Engineers.
4. Any application will need to be supported by an appraisal of financial costs involved.
5. At the completion of the study a Final Report must be submitted to the Secretary of the Midland Institute of Mining Engineers within twelve weeks.
6. 80% of the total amount of the award may be payable in advance. The remaining 20% will be paid on the receipt of a satisfactory Final Report.

Previous Awards of The 'Peake' Travelling Scholarship

1925-26 Harry Halmshaw
1928-29 T. F. S. Brass, B.A.(Cantab.) Hons.
1930-31 R. Neill, B.Eng.(Min.)
1931-32 R. E. Ward, B.Eng.(Min.) Hons.
1935-36 A. G. Douthwaite, B.Sc.(Min.)
1936-37 J. Ridley Gunn, B.Sc.(Min.)
1938-39 F. H. Baker, A.R.S.M., B.Sc.
1945-46 T. L. Carr, B.Eng.(Min.) (Hons.)
1948-49 J. V. Greensmith, B.Eng.(Min.)
1951-52 P. Sharp, B.Eng.(Min.)
1955-56 F. Fairclough, Jnr., B.Sc.(Min.) (Hons. First-Class)

1957-58	M. Brocklesby, M.A.(Cantab.), B.Eng.
1959-60	J. M. Bennett, B.Eng.(Min.) (Hons.)
	” D. R. Moore, B.Eng.(Min.)
	” A. E Bunniss
1962-63	J. C. H. Longden, B.Sc., A.R.S.M., C.Eng.
1963-64	J. A. Oat
1964-65	R. L. Wilson, C.Eng.
1966-67	R. Swain1967-68 I. H. Forsyth
1969-70	M. Ellis
1970-71	A. A. Lindsay, C.Eng.
1973-74	A. F. G. Woodley, B.A.(Cantab.), B.Sc.(Hons.)
1974-75	S. P. Wing, B.Sc.
1975-76	P.R.M. Stephens
1980-81	E. J. Downes
1982	W. J. Tinsley
1984	S. R. Newson
1985	P. Clapham
1988	R. W. Forrest
1990	A. D. Hall
1991	M. Tucker
1993	P. Baines, M. Haworth
1994	P. T. Burgin
1995	D. Sykes
1996	G. A. Watson
1998	D. Mabley
1999	P. Nicholson
2001	M. Thompson
2003	Dr. D.Dixon-Hardy
2004	M. Pegden

WEBSTER TRAVELLING PRIZE

The Webster Travelling Prize was established by the generosity of Major Noel Edwin Webster, OBE, MC in 1963 and the Trust Deed dated 7th November in that year between Major Webster and the Midland Institute of Mining Engineers sets out the objectives and conditions relating to the Prize.

In accordance with these objectives the principal award made will be "The Webster Travelling Scholarship". This will be offered to fund the associated travelling and subsistence costs at home and/or abroad of successful applicants that will enable individual scholars to enhance the value of a suggested field of study related to their overall education, training and experience in the science and practice of mining engineering.

An award in accordance with this objective will normally be offered on an annual basis.

The secondary objective of the Trust enables Council from time to time to grant an additional award to other suitable applicants either on a group or individual basis who seek financial support in the fields related to the advancement of education in the science and practice of mining engineering.

Any award from the Fund will be made by the Council of the Midland Institute of Mining Engineers following recommendation by its Finance and Awards Committee and will be regulated by the following Conditions.

TRAVELLING SCHOLARSHIP
CONDITIONS OF AWARD

1. Candidates must have been a member of the Midland Institute of Mining Engineers for at least twelve months.
2. Applications will be considered from any member under 35 years of age.
3. No member will be permitted to receive more than one Scholarship.
4. Any application will need to be supported by an appraisal of financial costs involved.
5. Candidates will be required to submit a completed application form that will be supplied on request by the Secretary of the Midland Institute of Mining Engineers. This form will make provision for providing details of the education, training and experience of the applicant and the names of two referees, one academic and one industrial from whom confidential reports may be obtained.
6. Following initial appraisal of applicants, selected candidates may also be required to attend for interview, in which case they will be expected to submit to the Secretary, before the interview, a synopsis not exceeding 500 words describing the scheme of study which they wish to follow accompanied by detailed financial costs involved.
7. An award will be made in relation to the relevance of the candidate's proposal along with his demonstrated academic ability, experience and overall personality.
8. A Scholarship will normally be offered each year, but the decision of the Council shall be final and, if in their opinion there is no suitable candidate they may withhold the Scholarship.
9. Applicants will normally be expected to be participating members of the Younger Members and Student Section.

Successful candidates will be required -

1. To devote such time as may be agreed by Council in any one year to fulfil the objectives of the proposed study.
2. At the completion of the Scholarship, to submit to the Council three copies of a Final Report within twelve weeks of the visit, giving a general view of the results of the investigations and of the conclusions drawn therefrom.
3. The Council of the Midland Institute of Mining Engineers will, where possible, assist the candidate in organising visits. Notes of Guidance which gives assistance and advice for the collection of information, data and format for the Final Report will be provided by the Secretary of the Midland Institute of Mining Engineers.
4. It is a firm condition of the award that the candidate personally makes adequate insurance arrangements to cover all aspects of the visit, details of which will be provided to the Secretary of the Midland Institute of Mining Engineers.
5. 90% of the total amount awarded may be payable in advance. A balance of 10% will be paid on receipt of the satisfactory Final Report.
6. Any reports relating to the award shall be the sole property of the Council of the Midland Institute of Mining Engineers and publications of them, in whole or in part, shall be entirely at the discretion of the Council. Council will not unreasonably withhold permission in relation to this matter and will encourage the candidate's interest in wider publication.

ADDITIONAL AWARDS

1. Limited funds may be made available at Council's discretion for secondary awards. Any application must fully satisfy the objectives of the Trust

relating to the advancement of education, science and practice in the field of mining engineering.

2. All applicants must be members of the Midland Institute of Mining Engineers and will normally be expected to be participating members of The Younger Members and Student Section and be under the age of 35.
3. Written application should be made to the Secretary of the Midland Institute of Mining Engineers.
4. Any application will need to be supported by an appraisal of financial costs involved.
5. At the completion of the study a Final Report must be submitted to the Secretary of the Midland Institute of Mining Engineers within twelve weeks.
6. 80% of the total amount of the award maybe payable in advance. The remaining 20% will be paid on the receipt of a satisfactory Final Report.

Previous Awards of 'Noel Webster' Travelling Scholarship

1960-61	R. Barradell
	P. Speight
1961-62	I. W. Smith
1962-63	B. Blanchard
1963-64	H. H. Forster
	P. D. Warburton
1964-65	B. H. Jackson
	M. Pike
1966-67	I. J. Brown
1967-68	P. Nutall
1968-69	A. J. Worbey
1969-70	A. Hartley
1970-71	D. Evans
1971-72	J. S. Sumnall
1973-74	L. Bryan,
1975-76	R. J. Cole,
1978-79	L.R. Stace
1979-80	M. Clarke
1981-82	E. McWilliams
1983	G. M. Jones
1984	M. K. Tucker
1985	P. W. Sharman
1986	W. P. Cooke
1987	M. G. Walsh
1989	P. Baines
1990	P. McHale
1991	M. Haworth
1993	A. D. Hall
	B. Blessed
1994	M. Thomson
1995	C. J. Rogers
1996	T. Wastell
1997	S. G. Dobson
1998	J. Savage
2000	R. Newton
2001	G. Watson
2003	J.Engels

REPORTS ON TRAVELLING SCHOLARSHIPS

Available for Young Members and Student Section to borrow

1980	Mining Systems in the Sydney Basin Coalfield.	M. Clarke
1984	Coal Mining Techniques in America	M. K. Tucker
1984	The Use of Roof-Bolting Techniques in Mines in West Germany and France	S. R. Newson
1985	High Output Face Designs (in the UK and Germany)	P. Clapham
1985	Development and Performance for Retreat Longwall Mining	P. W. Sharman
1986	American Longwall	W. P Cooke
1987	Low Cost Coal Production in N.S.W. Australia	M. Walsh
1988	Coal Clearance in the United States	R. W. Forrest
1989	The Australian Experience - Ground Support Utilising Roofbolts and Cable Bolts	P. Baines
1990	Australian Development Drivage Techniques	P. McHale
1990	Assessment of Analytical Techniques used within Industry	A. D. Hall
1991	Managing the Potential of Longwall Development	M. A. Howarth
1991	American Longwall Mining, its Finance and Control	M. Tucker
1993	Running the Business	P. Baines B. Blessed A. D. Hall M. Haworth
1994	The Airport Core Programme, Hong Kong	P. Burgin M. Thomson
1995	Australia	D. Sykes C. J. Rogers
1996	The Mineral Extraction Techniques and Practices in Eastern Canada	G. A. Watson T. Wastell
1997	Australia (New South Wales)	S. G. Dobson
1998	South Africa	D. Mabley J. Savage
2000	USA 2000	P. Nicholson R. Newton
2001	The Chinese Coal Industry-A Revolution?	G.Watson M.Thompson

The J. F. Tunnicliffe Paper Competition – C. S. Littlewood Memorial Award

At the time of the merger of the Midland Institute of Mining Engineers and the Yorkshire Branch of IMEMME two similar awards existed within each of the two bodies. The Tunnicliffe award having been initiated in 1978 by the Midland Institute Council in recognition of the work done by John Tunnicliffe on behalf of the young members of the Institute. The C. S. Littlewood award having been established within IMEMME to commemorate the memory and name of a conscientious long term servant, Past National President and Branch President. The two awards are combined and with funds available within the C. S. Littlewood Fund provide an annual cash prize to a value determined by the Branch Council.

Competition Rules and Conditions of the Award

1. All the papers shall be the authors' own work.
2. Papers shal1 be submitted to the Young Members Section four weeks before the presentation date.
3. The presentation of the paper shall not exceed 20 minutes.
4. The judges will be selected from the Midland Institute of Mining Engineers Council on invitation by the Young Members Committee.
5. The judges decision in relation to the competition is final.
6. The judges will award all, some or none of the available prize money.
7. Prize money will be provided from the C.S. Littlewood Memorial Award Fund and the sum to be presented each year to be determined by Yorkshire Branch Council.
8. All authors shall be members of The Institution of Mining and Metallurgy Yorkshire Branch.
9. All authors shall be 35 years or less on the presentation date.
10. The competition will normally be held each year.
11. The prize money and Tunnicliffe competition shield will normally be presented at the General Meeting of the branch following the competition.

The overall winner will be presented with a Certificate.

C. S. LITTLEWOOD AWARD

1980	M. Godley	1985	T. Richardson
1981	D. Robinson	1989	A. Soloski
1981	M. Pinder	1994	R. Allison

THE J. F. TUNNICLIFFE PAPER COMPETITION

1978	A. J. Eavis	1989	C. A. Tibble
1979	N. Wills		M.J.Thompson
1980	P. V. Butterwick	1990	A. Fake and A. Camm
1981	R. Haigh	1991	D. Sykes
1982	C. R. Beaumont	1992	M. Thompson
1983	R. A. Law	1993	C. Rogers
1984	J. Millar	1994	D. Dixon and T. Hunt
1985	C. Walker	1995	A. D. Hall
1986	R. Forrest and P. Baines (Joint)		
1987	P. Baines		

1988 A. Hall

J. F. TUNNICLIFFE PAPER COMPETITION AND C.S. LITTLEWOOD AWARD

1996 D. Mabley
1997 J. Savage
1999 G. Watson
2000 M. Pegden
2001 P. Greenhalgh and G. Yuill
2002 J. Engels
2003 J.Engels
2004 G Speakman

THE AMCO BURSARY FUND

The AMCO Bursary is constituted by Declaration of Trust dated 11 November 1999 as amended by Supplemental Deed dated 30 March 2000 and is a registered Charity, No 1080526.
The Charity Trustees are the elected Officers of the Yorkshire Branch Council of the Institution of Mining and Metallurgy.

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Vice President Mr K Sabin	

This is the fourth year of the Charity and the above trustees were elected to office on the 7th October, 2004.

The object of the charity is for the charitable purpose in the advancement of education in the science and practice of mining and or such other subject areas as may be defined by The Institution of Mining and Metallurgy. In particular to provide short-term work related training for students who may have difficulties in obtaining practical instruction and work participation.

Rules and Conditions for the Bursary have been published and distributed, particularly to the University of Leeds. Any student member wishing for support from the Bursary should contact the Secretary for an application form.

LIST OF MEMBERS 2004/2005

Corrected 30th June 2005

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1869-72	*T. W. Embleton*
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1875-78	*T. W. Embleton*
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1881-84	*T. Carrington, C.E.,F.G.S.*
1884-85	*T. W. Jeffcock*
1885-87	*A. M. Chambers*
1887-88	*T. W. Embleton*
1888-90	*C. E. Rhodes,M.I.C.E., F.G.S.*
1890-92	*Joseph Mitchell,M.I.C.E., F.G.S.*
1892-94	*Sir William E. Garforth*
1894-96	*J. Nevin*
1896-98	*G. B. Walker, M.I.C.E.*
1898-1900	*W. H. Chambers*
1900-02	*J. Gerrard*
1902-04	*H. B. Nash*
1904-06	Col. T. W. Mitchell,A.M.I.C.E.
	J. R. R. Wilson
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1907-08	Sir William Walker,C.B.E.
1908-10	*M. H. Habershon*
1910-11	*I. Hodges*
1911-13	*Prof. F. W. Hardwick, M.A.*
1913-15	*Walter Hargreaves,J.P., LL.D.*
1915-17	*C. C. Ellison*
1917-19	*W. D. Lloyd, J.P.*
1919-21	*J. H. W. Laverick, J.P,D.Eng. M.I.CE*
1921-23	*Lt.-Col. Harry Rhodes,T.D., M.I.CE.*
1923-25	*John Brass, M.I.C.E.*
1925-27	*Robert Clive*
1927-29	D. H. Currer Briggs,M.B.E., J.P, M.A.
1929-32	*Prof. R. V. Wheeler,D.Sc F.l.C F.G.S.*
1932-34	*A. C. F. Assinder*
1934-36	*Prof. Douglas Hay,M.C B.Sc M.I.C.E.*
1936-38	*Basil H. Pickering,MC., J. P.*
1938-39	*Sir W. Benton-Jones,Bart., LL.D.*
1939-41	*D. MacGregor*
1941-42	*H. M. Hudspeth,D.S.O., M.C., M.Sc.*
1942-43	*A. S. Blenkinsop, J.P.*
1943-44	*Major N. EWebster,O.B.E.M.C.D.Eng.*
1944-46	*H. Watson Smith,C.B.E., J.P., M.I.C.E*
1946-47	*Major T. W. Adam,M.C., A.M.I.C.E.*
1947-48	*Major H. J Humphrys,C.B.E.D.S.M.C.*
1948-50	*Prof. I. C. F. Statham, M.Eng.(Min.)*
1950-51	*J G. Bond, B.A.(Cantab.).*
1951-52	*R. G. Baker, C.B.E.,B.Eng.(Min.).*
1952-54	*H.A.Longden,B.Sc.(Hons.). .FR.Eng.*
1954-55	*G. C. Payne, B.Sc., C.Eng.*
1955-57	*N. Hulley*
1957-58	*H. Saul, B.Sc.(Eng.).*
1958-59	*H. J. Atkinson, O.B.E.*
1959-60	*F. S. Atkinson, M.Eng.*
1960-61	*J. T. Whetton, D.S.O.,O.B.E.,, M.Sc.*
1961-62	*F. V. Tideswell, O.B.E.,, C.Eng.*
1962-63	*G. A. Corden, B.Sc., C.Eng.*
1963-64	*J. E. Longden, C.Eng. J.P.*
1964-65	*A. Wright, M.Eng., C.Eng.*
1965-66	*Major J. A. Peasegood,T.D.*
1966-67	*C. Machin, J.P., C.Eng.*
1967-68	E. Hoyle, C.Eng.
1968-69	*Prof. H. J King, C.B.E B.Sc. FR..Eng.*
1969-70	*W. J. Charlton, O.B.E.,M.Sc., C.Eng.*
1970-71	H. T. Ramsey, C.B.E.,M.Sc. .C.Eng.
1971 -72	*J.Blunt, CEng.*
1972-73	P. I. Allsop, B.Eng. (Hons.), C.Eng.
1973-74	W. Forrest, .BE. B.Sc(Hon)FR.Eng.
1974-75	G. C. Thorpe,B.Eng.(Min.), C.Eng.
1975-76	C. W. Turner, C.Eng.
1976-77	F. Ramsden, C.Eng.,M.B.I.M.
1977-78	P. D. Binns, B.Sc., Ph.D.,C.Eng.
1978-79	J. F. Tunnicliffe,B.Sc.(Hons.),FR.Eng.
1979-80	C. Shepherd, B.Eng.,C.Eng., F.G.S.
1980-81	W. M. Eaton, O.B.E.,B.Sc., C.Eng.
1981-82	C.TMassey,O.B.E.,B.Sc.(Hons.)C.Eng.
1982-83	R CowlesC.Eng.(Min.)FR.Eng.
1983-84	A. W. Tuke,O.B.E.,C.Eng., F.B.I.M.
1984-85	P Turner, B.Sc.(Min),C.EngA.R.I.C.S.
1985-86	*R. A. Bonell, C.Eng.,F.I.Min.E.*
1986-87	P. Hinchliffe, B.Sc.(Hons.), C.Eng., F.
1987-88	J. T. Pearey, C.Eng.F.I.Min.E., J.P.
1988-89	*M. J. Haynes, B.Sc. (Hons.), C.Eng.,*
1989-90	D. Moore, B.Sc.(Hons.),C.Eng., F.I.
1990-91	E HortonB.Sc.(Hons.),C.EngF.B.I.H.
1991-92	P. M. Davies, B.Eng.(Hons), M.Phil.
1992-93	R. G. Siddall, B.Sc.(Hons.), FR.Eng. F
1993-94	Dr J. McQuaid, C.B., D.Sc.,FR.Eng.
1994-95	A. Houghton, O.B.E.,C.Eng.,

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1925-28	J. C. Cranshaw
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1930-31	C. C. Higgins
1931-33	H. Watson-Smith
1933-34	J. R. Tommis
1934-36	C. C. Bleach
1936-37	T. F. S. Brass
1937-38	F. E. Stone
1938-40	J. Mann
1940-41	F. H. Bevan
1941-42	H. Green
1942-43	E. H. Jones
1943-44	S. Preston
1944-45	T. J. Green
1945-46	J. M. Langley
1946-47	J. Mann
1947-48	H. McLoughlin
1948-49	J. H. Mallen
1949-50	F. Allard
1950-51	J. A. Wood
1951-52	M. F. Lodge
1952-53	T. T. Gibson
1953-54	A. Shaw
1954-55	D. Stewart
1955-56	G. W. Eaton
1956-57	S. C. Walker
1957-58	F. T. Hindley
1958-59	G. H. Hirst
1959-60	J. A. Beatson
1960-6 1	R. Hathaway
1961-62	J. F. Smith
1962-63	H. W. Plumb
1963-64	T. T. Gibson
1964-65	P.Bowman
1965-66	T. Griffiths
1966-67	S. Collier
1967-68	J. H. Jackson
1968-69	J. Pickles
1969-70	L. Mitchell
1970-71	J. S. McQue
1971-72	N. Littlewood
1972-73	A. Gibson
1973-74	H. Thompson
1974-75	K. Selby
1975-76	*S. Russell*
1976-77	J. H. Jackson
1977-78	J. Wormald
1978-79	A.Kirk
1979-80	J.S.McQue
1980-81	G.E.Hancock
1981-82	*K. Selby*
1982-83	J. White
1983-84	G. Barnes
1984-85	J. Hewitson
1985-86	G. Kaye
1986-87	P. A. Lowery
1987-88	D. E. Ellis
1988-89	C. Rhodes
1989-90	F. Schofield
1990-91	K. Gilling
1991-92	B. Dickinson
1992-93	J. R. Goodchild
1993-9 4	P. W. Goodier

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1938-39	J. W. Smaller
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1941-42	B. Eddershaw
1942-43	E. Taylor
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1944-45	R. J. Jones
1945-46	R. D. Alison
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1949-50	R. W. Kirkop
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1951-52	J. E. Pegg
1952-53	T. M. Muirhead
1953-54	R. Burton
1954-55	W. D. Machen
1955-56	H. Harvey
1956-57	R. W. Worrall
1957-58	A. Bexon
1958-59	H. Ingham
1959-60	H. Brown
1960-61	C. S. Littlewood
1961-62	W. H. Littlewood
1962-63	T. L. Evans
1966-67	D. M.Anderson
1967-68	J. W. Ibbotson
1968-69	G. W. Sutton
1969-70	W. S.Askew
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1971-72	G.W. Davidson
1972-73	J. A. Stewart
1973-74	H. Canonroyd
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1975-76	R. Evans
1976-77	F. Menslip
1977-78	N. E. Riley
1978-79	N. Hindley
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1980-81	D. B. Rowland
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1985-86	P. Cowdell
1986-87	F. A. Loukes
1987-88	W. Tyas
1988-89	J. Myers
1989-90	J. Naylor
1990-91	G. T. Beverely
1991-92	C. A. Bowers

1963-64 W. Wine
1964-65 J.V. Dickinson
1965-66 E. Crossley

1992-93 F. Garthwaite
1993-94 M. Myronko

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1994-95 P. Deakin

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1996-97 P. Hetherington, BSc, I.Eng., F.I.Min.E.
1997-98 P.S. Lewis, BSc.,CEng.,F.I.Min.E.

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1999-2000 W. J. Tinsley, BSc (Hon)s, CEng.MIMM
2000-2001 N. Hardie, BEng, CEng, FIMM
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2003-2004 Dr. R. J. Fowell, BSc, MEng, PhD, CEng, FIMMM

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1911-14	*Sir William Garforth*
1918- 19	*G. B. Walker, M.I.C.E.*
1932-34	*John Brass, M.I.C.E.*
1941	*John Brass, M.I.C.E. (Acting).*
1945-48	*Prof. Douglas Hay, M.C., B.Sc., M.I.C.E.*
1948-50	*Prof. J. A. S. Ritson, D.S.O., O.B.E, M.C., T.D., B.Sc.*
1954-56	*Major N. E. Webster, O.B.E., M.C., D.Eng.*
1958-59	*H. A. Longden, B.Sc.(Hons.), F.I.C.E., FR..Eng.*
1960-61	*R. G. Baker, C.B.E., B.Eng.(Min.).*
1964-65	*G. C. Payne, B.Sc.(Min.).*
1965-66	*John Brass, C.B.E.,B.Sc.(Hons.).,FR..Eng.,F.I.Min.E.*
1974-75	*Prof. H. J. King, C.S.E., B.Sc., Ph.D., FR.Eng., F.I.Min.E.*
1975-76	*L. J. Mills, C.B.E., B.Sc.(Hons.), FR.Eng.*
1977-78	J. E. Wood, O.B.E., B.S.(Hons.), FR.Eng., F.I.Min.E.
1978-79	W. Forrest, O.B.E., T.D., B.Sc.(Hons.), Ph.D., FR.Eng., F.I.Min.E.
1981-82	C. D. Hornsby, B.Sc.(Hons.), C.Eng., F.I.Min.E.
1985-86	P. T. Allsop, B.Eng.(Hons.), C.Eng. F.I.Min.E.
1987-88	Prof. J. F. Tunnicliffe, B.Sc.(Hons.), FR.Eng., F.I.Min.E.
1992-93	C. T. Massey, O.B.E., B.Sc.(Hons), FR.Eng., F.I.Min.E.
1993-94	A. W. Tuke, O.B.E., C.Eng., F.I.Min.E., F.I.B.H.
1995-96	R. G. Siddall, B.Sc(Hons.), FR.Eng., F.I.Min.E., F.I.Mgt.
1996-97	J. Naylor, BSc.(Hons.), C.Eng., F.I.Min.E., M.I.Mech.E.

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1956-57 ..	R. G. Horsfield, B.Sc.(Hons.)
1957-58 ..	A. Cooper
1958-59 ..	P. Wainwright, B.Eng.
1959-60 ..	D. J. Graham, B.Eng.
1960-61 ..	D. R. Moore, B.Eng.
1961-62 ..	G. M. Poole, B.Eng.
1962-63 ..	O. E. Dyball
1963-64 ..	J. G. Weston, B.Sc.(Hons.), (Min.Eng.)B.Sc. (Hons.), (Mech. Eng.)
1964-65 ..	P. D. Warburton
1965-66 ..	M. M. Locke
1966-67 ..	P. J. O. Alcock, B.Eng.
1967-68 ..	J. T. Ireland, C.Eng.
1968-69 ..	B. H. Jackson
1969-70 ..	D. A. Pell
1970-74 ..	R. J. Cole, C.Eng.
1974-76 ..	L. Bryan, C.Eng.
1976-77 ..	P. R. M. Stephens, B.Sc.
1977-78 ..	N. B. Wills
1978-79 ..	G. M. Davies, B.Sc.
1979-81 ..	M. Clarke
1981-82 ..	J. A. Varah
1982-83 ..	G. M. Jones
1983-84 ..	*I. Bickerton*
1984-85 ..	V. Wainwright
1985-86 ..	C. R. Beaumont
1986-87 ..	*J. Oxby*
1987-88 ..	W. P. Cooke
1988-89 ..	N. F. Sawyer
1989-90 ..	P. Baines
1990-91 ..	P. McHale
1991-92 ..	A. D. Hall
1992-93 ..	B. Blessed
1993-94 ..	P. T. Burgin

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1995-96	M. Raby
1996-98	G.A. Watson

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INSTITUTION OF MINING AND METALLURGY (YORKSHIRE BRANCH)

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1999-2000	R. Newton
2000-2001	P. Nicholson
2001-2002	P. Greenhalgh

SUPPLEMENTARY MAILING LIST
2003/2004

The Institute of Materials, Minerals & Mining, 1 Carlton House Terrace, London. SW1Y 5DB. **0207451 7300**

Eur Ing.Dr.G.J.M. Woodrow, Deputy Chief Executive, The Institute of Materials, Minerals & Mining, Danum House, South Parade, Doncaster. DN1 2DY. **01302 380912. Email:** graham.woodrow@iom3.org

George Burke , The Institution of Mining & Metallurgy, Nottinghamshire Branch.Email **georgeburke@talk21.com**

Mr. C. Rhodes, IEng.FIMMM, Honorary Secretary, The Midland Institute of Mining Engineers, c/o AMCO Construction Ltd., P.O.Box 1, Whaley Road, Barugh, Barnsley, S75 1HG. **01226 243413. Fax No. 01226 320207. Email:** office@immyork.fsnet.co.uk

Mr. D. Seath, CEng.FIMMM, Honorary Secretary, The Mining Institute of Scotland, 1/3 Russell Gardens, Edinburgh, EH12 5PG. **0131 3460653. Fax. 0131 3460667. Email:** D.Seath@btinternet.com

Mr. S. Porthouse, Honorary Secretary, The Institution of Mining and Metallurgy, North East Branch, Neville Hall, Westgate Road, Newcastle upon Tyne, NE1 1SE. **0191 2322201.**

Mr. R. Bates, Honorary Secretary, The Institution of Mining and Metallurgy, Western Branch, Wardell Armstrong, Lancaster Building, High Street, Newcastle under Lyme, Staffs. ST5 1PQ. **O1782 612626. Email:** rbates@wardell-armstrong.com

Mr. B. Ward, CEng,MIMMM, Honorary Secretary, The Institution of Mining and Metallurgy, South Midlands Branch, 64 Barbara Avenue, Kirby Muxloe, Leicester. LE3 3HD. **0116 2393263.**

Mr. Rob Pearce,FIMMM, Honorary Secretary, The Institution of Mining and Metallurgy, Wales Branch, Government Buildings,Ty Glas, Llanishen, Cardiff CF14 5SH. **012920 263000: Email rob.pearce@hse.gsi.gov.uk**

Dr. C. Hallett, CEng,MIMMM, Honorary Secretary, London and Southern Counties Minerals Industry Branch, Knight Piesold Ltd., Kanthack House, Station Road, Ashford, Kent. TN2 1PP. **01233 658200. Fax No. 01233 658299. Email:** cjhallett@knightpiesold.co.uk

Dr. P. Foster, Honorary Secretary, The Institution of Mining and Metallurgy, South West Branch, Cambourne School of Mines, University of Exeter, Redruth. Cornwall. TR15 3SE **01209 714866. Fax No.01209 716977. Email: P.J.Foster@csm.ex.ac.uk**

If any members are aware of any changes or omissions, please inform the Honorary Secretary at the address given at the beginning of the Handbook.