Message from the MTD Board Chairman

Spring is here folks, but as I write this, it has come with snow and blizzards! Is this the climate change we should now expect? In this issue we have a piece from Anthony working in West Africa on his career journey in mining, an interview with Paul, our HSE guru, on his career, which also updates us on the organisation and activities of the HSE, and our regular feature on the Heritage trail. David has written a feature on one of the local societies.

Brexit talks are still in full flow, so what does that mean to our mining community? We posed this question in our last newsletter and had a great response from our readers. Not too late if you also have a view, it’s a really a hot topic.

MTD is keeping very busy as you will see from the list of forthcoming conferences for 2018 in this issue. I hope you will be able to support these, especially if they are in your locality or cover your interest area.

Happy reading! If you have any comments on this newsletter, or potential contributions for the next one in the summer, please e.mail us at: MTD@iom3.org. We are always happy to change things around and strive to improve.

Christine Blackmore
IOM3 MTD Chairman

STOP PRESS

All members of IOM3 now have free access through the IOM3 website OneMine, to over 126,000 mining and minerals related documents. OneMine is a collaborative effort among multiple societies, including IOM3, to gather the world’s most comprehensive collection of mining and minerals based research documents in one place. Included are:

• Technical Documents • Articles • Late Papers
• Conference Papers • Pre-prints

So you can view, download and print documents at no charge.

IN THIS ISSUE......

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• Apedale Heritage Centre, Loomer Road, Chesterton, Staffordshire.
We aim to achieve the following outcomes:

- Tackling the main causes of ill health, particularly occupational lung disease.
- Major accident hazards will remain the focus of HSE activities, alongside premises and Tremenheere's plans for a dedicated mining inspectorate.
- Mine workers. In 1850 inspectors were allowed to enter and inspect mine conditions in the mining industry. The Commission's findings published in 1843. Tremenheere had only limited powers under the Act but undertook many prosecutions, investigated the condition of the mining community and made recommendations for training managers, reporting of fatal and serious accidents and provision of pithead baths and suitable habitation for mine workers. In 1850 inspectors were allowed to enter and inspect mine premises and Tremenheere's plans for a dedicated mining inspectorate began to be realised.

2. What's been a highlight for you?

Working within a determined and focused fraternity in a complex and high hazard industry and contributing to the country's energy needs. The technological advancements and mining practices from those earlier times to today have been astounding and truly world class.

3. How did you become involved with the inspectorate?

In 2008 after lots of involvement and experiences of being regulated and working with the Mines Inspectorate throughout my career, I was asked to consider joining the HSE as a Principal Inspector of Mechanical Engineering. I applied and the rest is history, I was promoted to be one of Energy Division's Operations Managers with responsibility for the Mining Inspectorate in 2016.

4. What takes up most of your time with the inspectorate?

The majority of time is spent proactively inspecting and engaging with the industry in order to prevent the low frequency high impact events that are strewn throughout mining’s history. Proportionately coal mining accounted for as much as 80% of the mines inspectorate time until the largest coal mine closures in 2015.

5. Can you outline the history/remit of the inspectorate?

In 1840 a Royal Commission was established to investigate working conditions in the mining industry. The Commission’s findings published in 1842 made shocking reading. Accidents, brutality, lung diseases, long hours and highly dangerous and adverse working conditions were found to be the norm. Public outcry resulted and the Mines Act 1842 was brought into force.

The Act allowed for the appointment of an inspector of mines and collieries and the first inspector, Hugh Seymour Tremenheere took up his post in 1843. Tremenheere had only limited powers under the Act but undertook many prosecutions, investigated the condition of the mining community and made recommendations for training managers, reporting of fatal and serious accidents and provision of pithead baths and suitable habitation for mine workers. In 1850 inspectors were allowed to enter and inspect mine premises and Tremenheere’s plans for a dedicated mining inspectorate began to be realised.

The remit of the inspectorate is set out in the Mining Sector Plan: Controlling major accident hazards will remain the focus of HSE activities, alongside tackling the main causes of ill health, particularly occupational lung disease.

We aim to achieve the following outcomes:

- Prevent major incidents with potential to harm multiple workers and the public
- Address the decline in core skills and an ageing workforce
- Focus on occupational lung disease caused by exposure to diesel fume and particulates, dusts, radon and respirable crystalline silica

6. How has it changed over the years?

As the industry has contracted so too has the Mines inspectorate, whereas historically all of the mining regions of the UK had dedicated resources, the current team of Mining, Mechanical and Electrical Engineers regulate a diverse national portfolio with their expertise and experience.

7. It seems that the Inspectorate’s portfolio is quite broad – does that range of operations pose a challenge in any way?

The Mines team has responsibility for Coal, Gypsum, Stone, Miscellaneous, Storage and Tourist mines, Cableways, Mines Rescue Stations, Onshore Wells, Methane, Electricity Generation and Pumping Stations.

As described previously the team has diverse expertise, experience and engineering skills enabling them to regulate this national portfolio effectively.

8. How often are you, or colleagues, out on site at mines?

Each of the inspectors undertakes inspection and engagement activities on a weekly basis, in line with intervention and inspection plans. This can be as an individual or as part of multi-disciplinary team inspections, dependant on the topics and activities.

9. In terms of safety, how does the UK mining sector compare to others of comparable size?

The UK is one of the safest places to work in the world, we are regularly asked to participate in and present at global and European events to share our knowledge and practices. More information on the UK statistics can be found at: hse.gov.uk/statistics/index.htm

10. Do you work with similar organisations across Europe/worldwide to learn and share ideas?

Yes, we get and provide regular updates of technological advances, emerging issues and incidents worldwide to promote health and safety. The information is openly shared to learn lessons and promote best practice.

11. You highlighted statistics that show a steep drop in the number of people employed in the mining sector - from 376,000 in 1978, to 64,000 now. How, do you think, will that situation change over the coming years?

It’s a difficult question to answer but generally speaking, if it isn’t grown, it’s mined and we need the natural resources to enable growth and expansion. The early signs are promising as we see the advent of several mining projects developing, including the state of the art Woodsmiths mine project providing 100’s of new jobs in North Yorkshire.

12. Can the decline be reversed?

‘Yes’ is the obvious answer. We will always need the natural resources and minerals and following a prolonged lack of investment and insecurity in the UK mining industry it appears the demands are increasing beyond the current capacity.
13. Is there any good news for the sector?
There is good news for the mining sector.
New activity includes:
• Duntanlich (Aberfeldy) - Barites Mine
• New Crofton Coal Mine
• Woodsmith Mine (Sirius) - North Yorkshire Moors Polyhalite Mine
• South Crofty Tin Mine
• Redmoor Tin/Tungsten Mine
• Tyndrum Gold Mine
• Whitehaven Coal Mine

14. One thing that struck me was the number of tourist mines operating in the UK - how can their stories be amplified to the public?
Tourist mines as well as being interesting also provide historical and academic learning opportunities and have significant numbers of visitors each year; many have other commercial activities on site. For the wider audience, social and interactive media can be utilised to promote the various activities and exciting and interesting features on offer at each mine site. The mines are an integral part of our industrial heritage and provide the ideal learning platforms for the general public to directly experience what life was like underground, through interaction and the provision of information.

The message to the operators of historic tourist mines is that complacency cannot be allowed to set in; mines have a number of inherent hazards including - ground (roof) control, ventilation, inrush, electricity, fire and explosion, noxious gases, potentially irrespirable atmospheres, machinery and health hazards and vehicular movements. Exposing the general public to these environments has to be carefully managed and suitable and sufficient control measures and contingencies have to be in place. Along with the added complexities of introducing other activities into the mines, such as climbing, zip wires and trampolines, which add to the complexities of each site and the risk profile. Without wanting to sound too negative, the experience has to be informative, exciting and enjoyable but remain safe.

15. Is the mining industry a better place to work than 10 years ago?
In terms of the mining industry being in a better place than it was 10 years ago, it depends on which side of the debate you sit on, employment has declined with the loss of the larger coal mines because of the carbon commitment reductions in electricity generation, but statistically it is safer. That said there has been a significant increase in other mining activity and new mines are opening as the demand for precious and diverse resources increases. The Mines Inspectorate role will evolve as the search for minerals intensifies and technology and mining techniques move on. The team are professional practitioners and regulators, who keep up to date with their competencies through CPD and blended learning activities.

Internationally we interact with other regulators, operators, equipment manufacturers and the supply chain to keep abreast of technology, techniques and share knowledge and experience. As world leaders in our industry, UK regulations, mining practice, standards and guidance tend to be universally adopted and transposed, but we are always willing to learn and improve and the dialogue and interactions are invaluable in the process. We share the knowledge and experiences through industry led strategic leadership fora.

The UK is one of the safest places to work because we have learned our lessons the hard way; we have been mining this country for hundreds of years and through much iteration developed the industry. Our legislation and mining practices are written on the premise that if it can’t be done as safely as is possible then it will not be done at all. It is risk based as opposed to prescriptive legislation which isn’t always the best option, as it only sets out the minimum requirements and that isn’t appropriate in all circumstances, the outcomes have to be evaluated and suitable control measures put into place before the activities can be undertaken.

Paul Bradley
HSE

Local Society News
Part of the remit of local societies within the Mining Technology Division (MTD) is to provide a conduit for the sharing of experience and disseminating information, particularly regarding health and safety issues within the industry. In order to facilitate these important matters, the Midland Institute of Mining Engineers (MIME) is holding its 13th Safety Seminar, with technical papers of relevance to mining and mineral extraction. The theme of the event is ‘Managing the Challenge of Change’. This annual event attracts a diverse audience which includes senior personnel, procurement managers, trade unionists, students and apprentices. The event also features company exhibition stands and ample opportunities for delegates to network during break times.

This year the Seminar will take place on Friday, 20 April 2018 at the Holiday Inn, Sheffield. An Event Flyer and Registration Form can be downloaded from the MIME website (www.themime.org.uk). Pre-registration is essential to secure your place. The cost for delegates is £40 per person. Graduates/students can apply for grant funding from MIME.

Members of the MTD Board will be in attendance and would welcome meeting anyone who wishes information on MTD activities.

David Seath
MTD Board Member
MTD Question Time

After the MTD conference which highlighted that the UK has and indeed a growing mining industry we decided to ask the question,

“What effect does leaving the European Union have on the mining industry in the UK?”

in our Winter 2017 newsletter. Several of you have sent in a response, so have a read. We are going to leave this question open till the summer newsletter 2018 before we do a review of the answers and see if we can draw some conclusions. So, have your say!

“As mining is global I believe it will have very little real effect.”

“UK Govt now already done a deal to stay involved in Horizon 2020 till the end of the programme - so UK will still have access to research funds. London will remain the “mining capital” - it has the legal, financial, trading and technical skills - nowhere else in Europe will take this over- most of London “mining sector” business is of course not in Europe. Of all the business sectors Brexit is likely to impact UK least on mining and minerals”

“I’m of the view that leaving the EU has very little impact on the UK mining industry based upon current events and likely future steps. It seems highly improbable that import tariffs into the EU will be applied, given that this is not the case for other current mining imports from other international sources. Indeed I have met with the Secretary of State for International Trade, Rt Hon Dr Liam Fox MP, who provided a very strong reassurance that tariffs would not be an issue and that trade agreements would be structured to favour UK exporters into the EU and beyond. The impact on the pound/dollar exchange rate in reality always has one of the biggest influences when reviewing sensitivity around longer term financial models and this is an area that could help the UK miners as long as there is no major volatility in currency fluctuations.

The biggest concern I have is the lack of confidence from investors, including sources of equity and debt, in the UK plc. It is crucial that investors from outside the UK feel confident enough to continue to support UK mining projects – in my opinion the UK offers an excellent basis for mine projects in terms of jurisdiction, risk, ethics and cost base”.

“One of the most striking effects of leaving the EU on the mining industry will be in the field of Mining research and development. Currently UK researchers play a major role in the international consortia conducting EU funded R&D projects in Mining Engineering subjects. After Brexit, it can be expected EU funding for research is unlikely to be available to UK institutions and there appears to be no sign that it will be replaced by funds from UK Government or from industry sources in the UK to focus on mining and minerals research. There are also fears that research institutes in the EU would not welcome UK institutions to participate in consortia bidding for new projects, even if they could find funding. Additionally, UK experts would no longer be able to influence mining research priorities in Europe. The medium to long-term effect on UK research and development organisations could be quite serious”.

“Uncertainty, but impacts could be in access to personnel, capital, processing plant etc. Equally, changes to environmental laws, EU strategic metals list etc could be of concern or opportunity. Anything that could add to excise duties or tariffs within the business area could also give rise to concerns”.

“Leaving the EU introduces uncertainty, complexity and ambiguity into an already volatile commodity industry and therefore unnecessary risk to the UK mining industry. UK mining companies deal on a world market but have close links with the EU for the provision of materials and resources including for equipment, explosives and skilled personnel. Some of UK mining and mineral processing companies import commodities from the EU for blending and in the production of their saleable product; some of UK mining companies are part of wider EU based organisations or financed from within the EU. Potential restrictions and barriers to trade with the EU are a risk; overseas investment in the resurgence of our mining industry is at risk without unrestricted access to the EU. In addition, our mining equipment manufacturers will need to comply with EN standards to export into the EU and will not likely manufacture to different standards for the smaller UK market; we will however by leaving the EU have excluded ourselves from negotiations in developing those EN standards where the UK has previously had an integral and leading part.”

“For most mining companies within the UK who do not export, I think very little in terms of the overall effect on the UK internal market. However, most equipment suppliers are overseas i.e. Sandvik as an example, depending on what trade deal we negotiate could impact on purchasing of equipment from EU. For emerging UK mining companies who are looking to export their product (coking coal), any import tariffs has the potential to impact trade”.

“The most common concern or risk to future business is the effect of commodity prices, exchange rates and trade policies. The commodity prices affect the investors, who lose confidence in the mining industry. As 90% of the equipment and services provided by ABMEC members is for the export market, the exchange rate is of up most importance. With the loss of a free trade agreement with the European Union, trade policies need to be favourable if we are to continue manufacturing cost effectively in the UK”.

“Leaving the EU introduces uncertainty, complexity and ambiguity into an already volatile commodity industry and therefore unnecessary risk to the UK mining industry. UK mining companies deal on a world market but have close links with the EU for the provision of materials and resources including for equipment, explosives and skilled personnel. Some of UK mining and mineral processing companies import commodities from the EU for blending and in the production of their saleable product; some of UK mining companies are part of wider EU based organisations or financed from within the EU. Potential restrictions and barriers to trade with the EU are a risk; overseas investment in the resurgence of our mining industry is at risk without unrestricted access to the EU. In addition, our mining equipment manufacturers will need to comply with EN standards to export into the EU and will not likely manufacture to different standards for the smaller UK market; we will however by leaving the EU have excluded ourselves from negotiations in developing those EN standards where the UK has previously had an integral and leading part.”
UK Experience Overseas:
My Journey: Mining Away While at Home

Entering University of Birmingham School of Chemical Engineering with Minerals Engineering in September 1992, I was excited about a career in mining. Within the first year, following talks by chemical engineering professionals from around the UK, my excitement was dampened as it dawned on me that the mining industry in the UK was in decline. I had the options of specialising in other areas of Chemical Engineering; these thoughts lingered.

22 years on, I am glad I and many others stayed on the course and went to forge careers in mining within the UK and all over the world. My career in mining has taken me to numerous locations, ranging from the unbearable cold of the Arctic Circle to the scorching heat of the Sahara Desert in North Africa; all this while maintaining a base in the UK. Most of these exciting and exotic locations, are locations I would not have had a reason to visit otherwise!

At the same time, I have been able to put my skills to real use. I have been involved with design, design optimization, commissioning and operations management at various levels. At each stage of the projects I have been involved in, I drew on those lectures and long hours of working on assignments at university and never felt I was out of my depth at any time. ‘Never felt out of my depth’ because I learnt the art of working in diverse teams early; something we take for granted as UK students and professionals. The projects I have worked on include mining metals and materials for the future used in components for electric vehicles, high-tech medical equipment and renewable energy systems – to mention just three.

The real thrill of working in these locations comes from knowing that one is working to one’s ‘strengths’ – thanks to the high quality of mining education and professional development opportunities in the UK. Ensuring the quality of mining education in the UK is continually adapting to align with advances in the industry is thus extremely important. This will require professionals taking their experience and expertise back into UK Universities to influence curriculums and into consultancy firms to drive excellence in mining projects around the world. More importantly, it will require motivating and mentoring students in their first steps into what can be a satisfying career and a genuinely noble contribution to the advancement of mankind.

Personally my journey has spurred me on to encourage young people intending to pursue a career in mining to do so with great enthusiasm because opportunities for a career in mining are numerous in the wider world. The shortage of professional skills in the mining industry is still significant.

They say we should practice what we preach, don’t they? On the practical side, where possible, I facilitate internship and career opportunities in the mining industry for the ‘educated and willing’ through the talent development team in our organization and other networks.

Anthony Mukutuma
General Manager – FQML Guelb Moghrein Mine, Mauritania
CONFERENCE - THE ONES TO WATCH!

Midland Institute of Mining Engineers’
13th ANNUAL SAFETY SEMINAR
Friday 20 April 2018
Holiday Inn Royal Victoria, Victoria, Station Road, Sheffield, S4 7YE

Thursday 24 May 2018
Best Western Premier Yew Lodge Hotel & Conference Centre, Kegworth, Leics

IOM3 - 2nd Russian-UK Raw Materials Dialogue -
Investing in mining and mineral extraction operations
24 October 2018*
IOM3 HQ, 297 Euston Road, London
*additional events 23 and 25 October 2018

Flexible and Mobile Processing in the 21st Century
The FAME Conference in conjunction with:
The Mining Technology Division of IOM3
Wednesday 5th and Thursday 6th December 2018
IOM3 Headquarters, 297 Euston Road, London

EU FAME project and IOM3 MTD
Flexible and Mobile Processing in the 21st Century
5 and 6 December 2018
IOM3 HQ, 297 Euston Road, London

Apedale Heritage Centre, Loomer Road,
Chesterton, Staffordshire, ST5 7LB
This is an unique attraction. You can discover the lost industrial heritage of the Apedale Valley and its surrounding area here. The Heritage Centre is in an area that was once an industrial powerhouse and was founded in 2001 on the site of Apedale Colliery, which had closed a few years earlier in 1998. It is entirely run by volunteer enthusiasts, dedicated to keeping up the history of mining, and its main funding comes from the café, mine tours and donations.

The café is open every day and makes an excellent “cuppa”, as well as offering the Potteries’ speciality - North Staffordshire Oatcakes. At weekends and Bank Holiday Mondays you can take a guided tour of an authentic drift mine and look around the amazing and very atmospheric museum. The Apedale Valley Light Railway is right next to the Centre and trains run between Spring and Autumn.

The Centre has gained the Queen’s Award for Voluntary Service, and is a fascinating step back in time, interesting, absorbing and well worth a visit. Enterprises such as this deserve support to ensure that they survive as a tribute to what was a major industry in this area.

Wyn Griffiths
MTD Board Member

MTD editorial team is headed by Christine Blackmore and Rod Stace.
If you have any comment on the newsletter, would like to know more about us or would like to contribute, please contact us via IOM3, we shall be happy to help you.