

NORTH - WEST REGIONAL GROUP NEWSLETTER

JANUARY 2002

Happy New Year to you all! We hope that you made the most of the Christmas festivities, as its back to the real world and the start of this season's programme of meetings. As usual the Annual Quiz was a great success and congratulations to 'Atkins Sandy Pockets' quiz team who will look after the Quiz trophy for another year at WS Atkins.

This year marks the 25th Anniversary of the North West Regional Group of the Geological Society. The group originated as the fourth Regional Group, with its inaugural meeting being held on 28th April 1977 at Winwick, Warrington. To celebrate this occasion a special lecture and buffet has been organised to be held at the Swan Tavern, Winwick, home to the North West Regional Group.

The first meeting aims to provide a different focus on the issues surrounding contaminated land. Jonathan Arch (Arthur Andersen) will deliver a presentation that steps aside from the end-user and scientific discussions, addressing instead the financial, stakeholder and regulatory drivers which influence the business that is contaminated land.

The second meeting seeks to guide us back to our geological routes, removing the prefixes assigned to our careers. John Howell (Liverpool University) will reflect on his field experience and share with us the secrets of an aeolian dune field hidden by the Entedeka flood basalts in NW Namibia.

The third meeting reflects on the importance of developing an effective rock slope risk management system, enabling prioritisation and targeting of future budgets and maintenance actions. Ian Nettleton (EDGE Consultants UK Ltd) will present examples from the Highlands of Scotland.

The 25th Anniversary meeting is to be presented by Dr John Reynolds (Reynolds Geo-Sciences Ltd). Dr Reynolds will discuss the serious economic and humanitarian implications of Glacial Lake Outburst Floods (GLOFs). This discussion will be supported with an update of the commercial project work assessing glacial hazards in the Himalayas, Andes, Nepal, Chile, Peru and Bhutan.

Best wishes

Katherine Liddle

NOMINATIONS FOR TREASURER

After 5yrs as Treasurer John Martin has decided to step down and offer the position to another member in the North West region. We would like to take this opportunity to thank John (and his family!!) for the time and effort given to the North West Regional Group over the years.

Nominations for Treasurer should be sent to the Chairman by the person willing to propose a candidate and seconded by another member. Written nominations with signatures of candidate, and the persons proposing and seconding the nomination must be received by Monday 21st January. Voting will take place at the next meeting (Tuesday 22nd January).

Send nominations to Mr Mark Parkin, WS Atkins Consultants, Thomson House, Birchwood Science Park, Risley, Warrington, WA3 6AT

TUESDAY 22ND JANUARY 2002 AT 7:00PM

THE BUSINESS OF CONTAMINATED LAND

Speaker: Jonathan Arch (Arthur Andersen)

Venue: Racecourse Suite, Haydock Thistle Hotel, Haydock

Synopsis: To date the management of contaminated land has been dominated by redevelopment. Part 2a provides an additional driver, but still relates contaminated land management to regulation and land use. So what does this mean for businesses involved in owning, purchasing and redeveloping contaminated land and how are they responding? This presentation discusses the corporate approach and attitude in dealing with the problem of contaminated land, addressing the relative weight given to financial, stakeholder and regulatory drivers in influencing corporate decision making.

THURSDAY 7TH FEBRUARY 2002 AT 6:30PM

DEATH OF AN ERG. THE DROWNING OF A DESERT DUNE FIELD BY THE ENTEDEKA FLOOD BASALTS IN NW NAMIBIA

Speaker: John Howell (The University of Liverpool)

Venue: The Earth Science Department, The University of Liverpool

Synopsis: The Cretaceous Etjo Sandstone of NW Namibia represents the deposits of an aeolian dune field (erg) deposited during the earliest phases of the break up of Gondwanaland. Extrusion of the Entedeka flood basalts covered the dune field and preserved dunes up to 120m high, in situ. Superb exposures of this fossilised desert on the margins of the modern day Namibia provide an incredible insight in to the internal geometries of aeolian systems.

THURSDAY 14TH MARCH 2002 AT 6:30PM

SLOPE RISK AND REMEDIAL WORKS - A HIGHLAND PERSPECTIVE

Speaker: Ian Nettleton (EDGE Consultants UK Ltd)

Venue: Holiday Inn Garden Court, Mold

Synopsis: A variety of excavation techniques and design approaches have resulted in considerable variations in the degree of instability, and thereby risk, exhibited by excavated rock slopes. Such variations in the hazards posed by rock slopes requires robust risk management systems that allow comparison of risks at different locations with differing geological and geometrical characteristics.

Effective rock slope risk management requires knowledge of the location of all potentially unstable rock slopes, and an indication of the level of risk they pose to the infrastructure and public. Only then is it possible to compare the relative risks associated with different failure mechanisms and rock slopes, to enable prioritisation and targeting of future budgets and maintenance actions.

In addition, the data collected for risk assessment needs to form a baseline data set ("snapshot") for each slope, enabling changes, deterioration and problem areas to be monitored and assessed over time.

The risk assessment is a means to an end. The application of a coherent and logical approach to risk management is of equal or greater importance than the application of an assessment procedure. Such systems have been developed and implemented for highway and quarry rock slope management in the Highlands of Scotland. The systems have performed well for slopes with highly variable and complex geological structures.

Examples of the variety of rock slopes excavated and risk assessment approach are described in the presentation.

Due to the number of rock slopes in the Highlands of Scotland and the close proximity of slopes to infrastructure in this mountainous environment, a wide spectrum of remedial works have been implemented and many of these works have been tested by failures. A review of some of these approaches is presented.

FIRST CALL REPLY FORM FOR BUFFET MEAL - 25th ANNIVERSARY MEETING

To be returned by Friday 19th April 2002

Return to SECRETARY

I wish to book _____ places to attend the buffet following the 25th Anniversary Meeting on Monday 29th April 2002.

Cheques for £5.00 per person can be made payable to The Geological Society.

Please post cheques and reply slips F.A.O the Secretary to EDGE Consultants UK Ltd, Atlas House, Simonsway, Manchester, M22 5PP.

MONDAY 29TH APRIL 2002 AT 6:30PM

25TH ANNIVERSARY MEETING OF THE NORTH WEST REGIONAL GROUP

GLACIAL HAZARDS: A GROWING PROBLEM WITH CHANGING CLIMATE

Speaker: Dr John Reynolds (Reynolds Geo-Sciences Ltd)

Venue: The Swan Tavern, Winwick, Warrington

Synopsis: That our world climate is changing is beyond dispute - with increasing storminess, higher rainfall, more meteoric floods, landslides, and so on. We see this obviously enough even here in the UK but then we have the infrastructure, technical resources (if not the money) and wherewithal to cope with these phenomena with a measure of reasonable relative comfort.

This is not the case for people who at best are living marginal existences in the remote high mountains of the Himalayas and the Andes. For many of these people, having enough food to feed their families is their greatest and hardest challenge. To add physical disaster to their lives is more than many of these societies can cope with.

Ask most people what natural hazards exist and the answers will undoubtedly be earthquakes, volcanic eruptions, typhoons, floods, drought, etc. Few will even think of ice as being hazardous yet hazardous it is.

Glacial hazards result from the retreat of glaciers and the formation of lakes at high altitude and dammed by moraines, often cored with stagnant ice. A range of phenomena can cause the moraine dam to breach, sometimes explosively, releasing many thousands of cubic metres of water and debris per second. The ensuing torrents can rage downstream at speeds of tens of kilometres per hour, with run-up heights on the outside of meanders of many tens of metres. The flood waves can strip vegetation and defoliate huge trees that then become battering rams and can block whole river channels. One such blockage in 1994 diverted a flood wave through an adjacent village and killed 27 people who could not run fast enough to escape the mud and water. The same event managed to travel for over 200 km downstream where the flood wave was recorded at over 3 m high - it may have been higher but the hydrograph was destroyed!

Historical investigations have revealed that the frequency of Glacier Lake Outburst Floods (GLOFs) is increasing dramatically. In the 1950s, there was about one significant event per decade. By the 1990s, there was an event every three years. By the year 2010, it is expected that there will be one major event each year in the Himalayas.

Just as the situation is worsening in the Himalayas, so too is the case in the Andes, exacerbated by El Niño and La Niña. Not only are hydropower stations and local communities affected but so too are many of the high altitude mines. Consequently, the management of glacial hazards has serious economic as well as humanitarian implications.

This talk will be illustrated with case history material obtained during commercial project work in the Himalayas and the Andes, including results from field work undertaken in Nepal in October 2001 and from Chile in 2002, as well as from earlier trips to Peru, Nepal and Bhutan.

THE GEOLOGICAL SOCIETY

NORTH-WEST REGIONAL GROUP

REMAINING PROGRAMME OF MEETINGS 2001-2001

Tuesday 22nd January 2002

7:00pm

The Business of Contaminated Land

Jonathan Arch

Arthur Andersen Racecourse Suite, Haydock Thistle Hotel,

Haydock

Thursday 7th February 2002

6:30pm

Death of an erg. The Entedeka flood basalts in NW Namibia

Dr John Howell

The University of Liverpool

Department of Earth Science

The University of Liverpool

Thursday 14th March 2001

6:30pm

Slope Risk and Remedial Works - A Highland Perspective

Ian Nettleton

EDGE Consultants UK Ltd Holiday Inn Garden Court, Mold

Monday 29th April 2002

6:30pm

25th Anniversary Meeting of the North West Regional Group

Glacial Hazards: a growing problem with changing climate

Dr John Reynolds

Reynolds Geo-Sciences Ltd The Swan Tavern, Winwick, Warrington