

1.4 Application of Geochemistry to Mine Closure

One day course and workshop

Date: 18th September 2005 (Sunday before the IGES)

Place: Perth Sheraton

Course Presenters: Rob Bowell, John Chapman, Dick Glanzman, Ron Watkins and Jeff Parshley

Course Registration A\$253

This course will address geochemical aspects of mine closure. The presenters will use examples from their own experience and of others to discuss waste rock, tailings, remnants of heap leach processes, pits, pit lakes and ways in which water quality can be improved by natural processes.

Contents

- Mine closure issues – role of geochemistry
- Geochemical field assessment of mine waste
- Application to mine waste rock facilities
- Geochemical character and behaviour of tailings during storage
- Application to heap leach facilities
- Application to pits and pit lakes
- Application to underground facilities
- Geochemical engineering to mitigate water quality impacts by natural processes



Presenters:

Eur.Geol. R.J.Bowell (BSc (Hons) PhD C.Chem MRSC C.Geol FGS) (Course leader)

SRK Consulting, Cardiff, Wales, UK

Web address: www.srk.com

Email: srk003@aol.com

Rob is a Principal Geochemist with 18 years experience. He specialises in applying geochemistry and mineralogy to a wide range of mining and engineering problems. His background is in mineral exploration in deeply weathered terrains and in academic research in exploration and environmental geochemistry, environmental engineering and mineralogy. His main field of expertise is in geochemical treatment of mine waste and water (including arsenic-rich waste, cyanide solutions, acid rock drainage and saline water). He has published over 120 papers in the fields of environmental and exploration geochemistry, treatment of mine waste and water. Rob is a fellow of the AAG, the current Vice President of the Association and a deputy editor of GEEA.



Dr Ron Watkins (MSc. PhD.)

Curtin University of Technology, Perth Western Australia

Web address: www.curtin.edu.au/

Email: r.watkins@curtin.edu.au

Ron has a PhD from the University of London and an MSc in Geochemistry from the University of Leeds. He has lectured at the University of St Andrews and the University of Cape Town before joining Curtin University in 1994, where he teaches environmental geology and geochemistry and is Director of the Environmental Inorganic Geochemistry Group (EIGG). Research within EIGG covers environmental pollution, including that related to mining and mining wastes.

Ron has researched mine tailings geochemistry in the Philippines, India, Thailand and Zimbabwe, as well as in Western Australia and Victoria, where he leads a program on sulphide tailing rehabilitation using thin covers at Stawell. He is the regional Vice-President of the Society of Environmental Geochemistry and Health (SEGH). He has more than 70 scientific publications and is an Associate Editor of two international geochemical journals.



Mr John Chapman (BSc MSc P.Eng. Grad.IE.Aust)

SRK Consulting, Brisbane, Australia

Web address: www.srk.com

Email jchapman@srk.com

John is a recognised expert in Acid Mine Drainage assessment, prediction and control. He has gained diverse international experience ranging from research and development work completed in biological engineering, including processes of denitrification (nutrient control), sulphate reduction, bacterial oxidation (reduction of BOD) and bio-leaching, to site assessment, reaction pathway modelling, and site reclamation.

Mr Jeff Parshley (BA PG CEM)

SRK Consulting, Reno, Nevada, USA

Web address: www.srk.com

Email: jparshley@srk.com

Jeff is a professional geologist with more than 20 years experience in the exploration and environmental assessment of metal ore deposits. His experience include mine closure design, pit lake studies, cyanide heap leach closure, tailings characterization, geochemical studies, mine waste characterization studies, mine closure audits, permitting, environmental audits, environmental impact assessments and public information planning.



Dick Glanzman (Degrees.)

CH2M Hill, California, USA

Web address: www.ch2m.com

Email: Dick.Glanzman@ch2m.com

DETAILS AWAITED