



THE UNIVERSITY OF
NEW SOUTH WALES

SCHOOL OF MINING ENGINEERING

REHABILITATION OF MINE SITES

Overview of the Issues

Associate Professor David Laurence

PECC Minerals Network – Noumea 6-7 November 2002

Mine Rehabilitation - The Issues

- Safety
- Environment
- Community
- Economic/Governance
- Technical
- Land use
- The Tropics – Unique Challenges

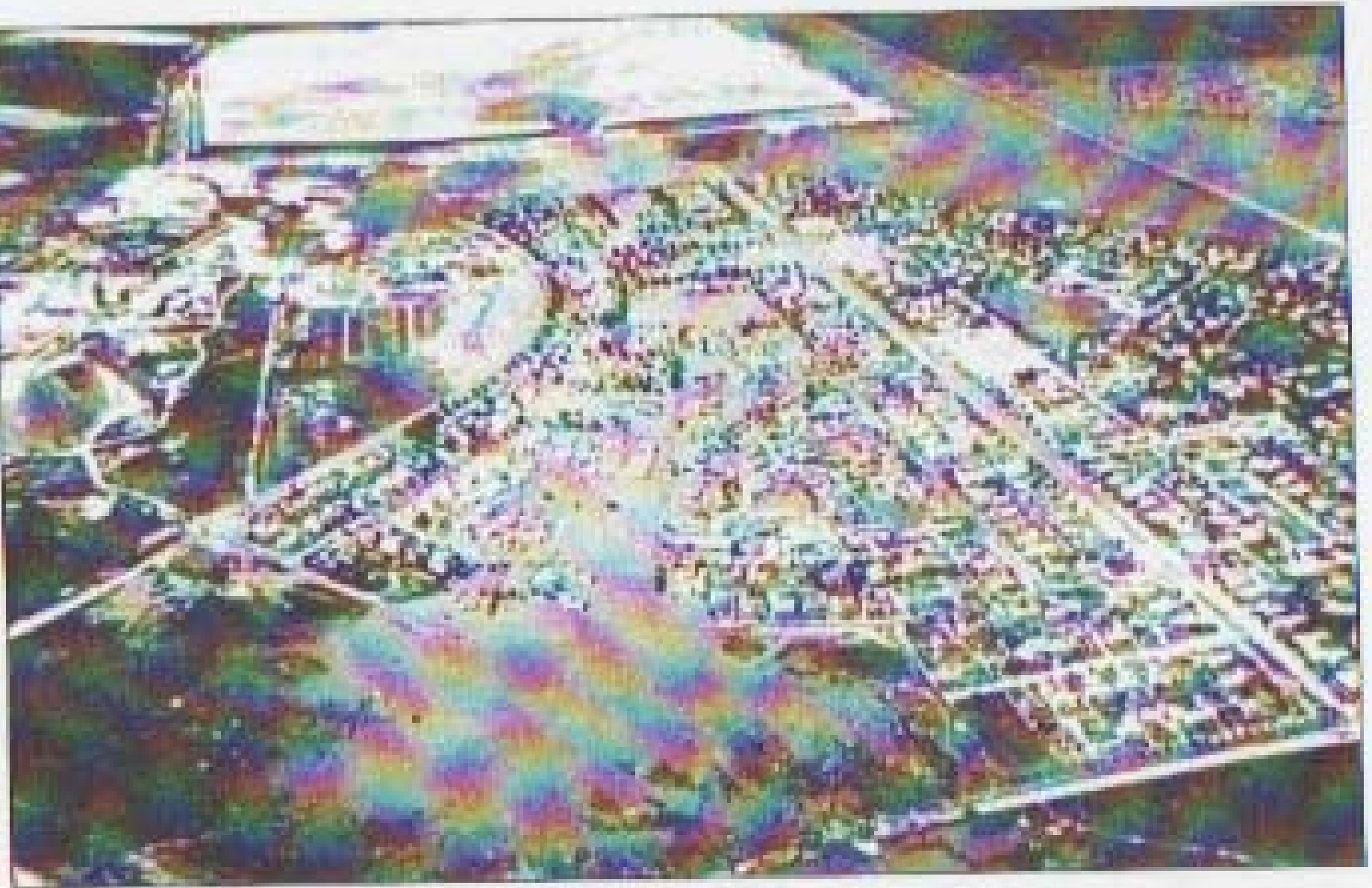
Mine Rehabilitation and the Bottom Line

- Triple?
 - Environment, Community, Economic
- Quadruple?
 - Environment, Community, Economic & Governance
- Quintuple?
 - Environment, Community, Economic, Governance & Safety

1. Safety Issues

- Openings
 - Shafts
 - Pits
- Infrastructure
 - Buildings, machinery, equipment
 - Roads
- Hazardous chemicals





2. Environmental Issues

- Protection of fauna and flora
 - Maintaining ecological biodiversity
 - Protection of coral reefs
- Water management
 - Surface & groundwater
 - Acid mine drainage
- Soil erosion
- Air quality
- Landscaping & Revegetation

Acid Mine Drainage



3. Community Issues

- Stakeholder involvement in mine rehabilitation planning
- Sustainability after mining?
- Loss of jobs for employees and local business impact
- Damage to fishing and other resources



Supporting Indonesian communities against the dehumanization and environmental destruction caused by the invasion of the mining, oil and gas industries.





4. Economic & Governance Issues

- Environmental Impact Assessment
- Ensuring funds available for rehabilitation
- Government role before, during and after mine closes
- Use of financial bonds
- Voluntary Codes
- Corporate reporting

Code for Environmental Management (1996)


- Sustainable development
- Continual improvement
- Risk management
- Environmentally responsible culture
- Rehabilitation and decommissioning
- Integrated environmental management
- Community partnership
- Performance targets
- Reporting

5. Technical Issues

- Life of mine planning for rehabilitation and closure
- A good team to plan for mine closure
- Maximise resource extraction
- Importance of training and education

Training & Education

- Undergraduate
- Postgraduate
- Industry Short courses
- Training Kits
 - Environment Australia
 - UNEP



UNSW MINING RESEARCH CENTRE (UMRC)
SCHOOL OF MINING ENGINEERING
(Providing research and ongoing professional development for the mining industry)

SHORT COURSE CALENDAR FOR 2002

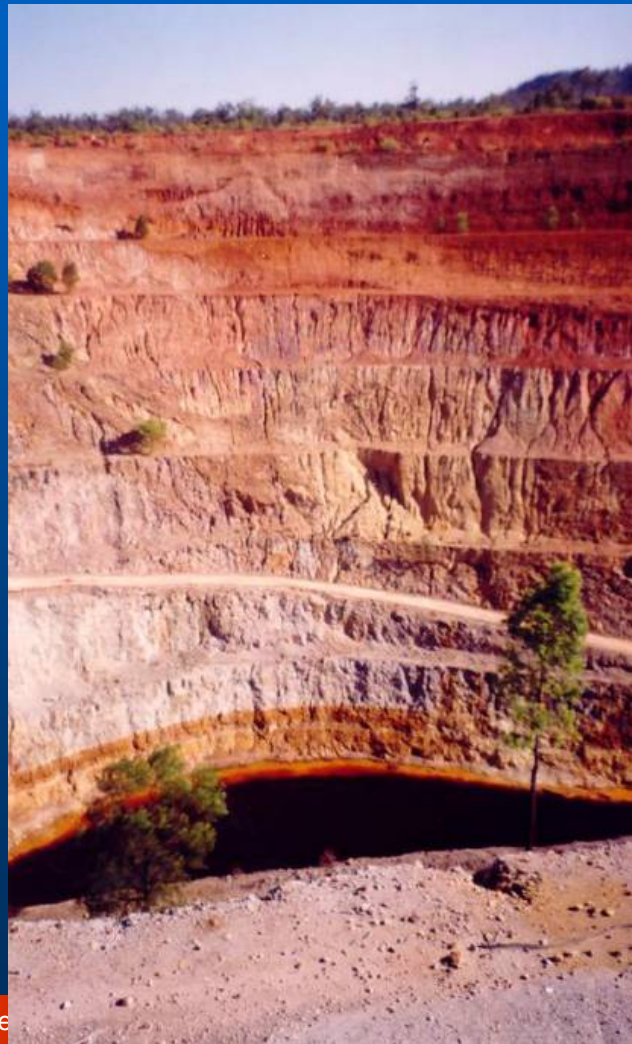
TBA		5 days Mine Ventilation	(MINE9910)
FEBRUARY	11 – 15	5 days Possible Mine Visit	
FEB/MARCH	25 – 1	5 days Mining Processes and Systems	(MINE8110)
MARCH	11 – 15	5 days Mine Feasibility, Planning & Project Evaluation	(MINE8220)
	15 – 19	5 days Mining Geomechanics	(MINE8140)
APRIL/MAY	29 – 3	5 days Hazard Identification, Risk and Safety Management	(MINE8120)
MAY	6 – 10	5 days Mining Law	(MINE8770)
JULY	15 – 19	5 days Environmental Management for the Mining Industry	(MINE8780)
AUGUST	5 – 9	5 days Management Systems – Projects, Processes, Contracts, Contractors	(MINE8210)
	26 – 30	5 days Blasting and Rock Fragmentation	(MINE8740)
SEPTEMBER	2 – 6	5 days Advanced Soil Mechanics & Mine Fill Technology	(MINE8750)
	9 – 13	5 days Mine Slope Stability	(MINE8710)
	23 – 27	5 days Mechanised Excavation Engineering	(MINE8730)
SEPT/OCT	30 – 4	5 days Advanced Rock Mechanics	(MINE8720)
NOVEMBER	11 – 15	5 days Advanced Mineral Economics & Commodity Marketing	(MINE8790)

Occasionally, circumstances may require postponement of a course, so please make appropriate travel arrangements when booking flights etc.
Other courses are available by distance learning. Please contact the School for further information.
NB: All subjects with numbers next to them are academic subjects for the Graduate Diploma and Master of Engineering Science.

Kim Russell
UNSW Mining Research Centre
School of Mining Engineering
The University of New South Wales
UNSW SYDNEY NSW 2052
Phone: 61 2 9385 5006
Facsimile: 61 2 9313 7269
<http://www.mining.unsw.edu.au>
E-mail: KimR@eng.unsw.edu.au

26/4/2002

6. Land Use after Mining – Threats & Opportunities











7. Mining in the Tropics – Unique Challenges

- Rainfall
- Topography
- Seismicity
- Land issues
- Community issues
- Tourism
- Unique flora & fauna





