

Program

9th Australian Workshop on Acid and Metalliferous Drainage
20 – 24 November 2017 | Burnie, Tasmania

Monday 20 November 2017		
08:00am	Registration and tea/coffee on arrival	
SESSION 1: Opening session Plenary Room: Town Hall		Chair: Mansour Edraki
08:30am	Welcome and introduction	Neville Plint SMI
08:40am	Opening address TBC	Jen Parnell Mineral Resources Tasmania
08:50am	Introduction of program structure	Mansour Edraki SMI
09:05am	Address by major sponsor RGS Environmental Pty Ltd	Alan Robertson RGS Environmental Pty Ltd
09:10am	INAP and Global Alliance update	Gilles Tremblay INAP
09:40am	Keynote presentation: Continuous improvement through collaboration	Ros Green (Rio Tinto Ore), Richard Marton (BHP)
10:10	Morning Tea	
SESSION 2: Forecasting AMD - from laboratory to mine site Plenary Room: Town Hall		Chair: Ward Wilson
10:35am	Keynote presentation: Instrumented column testing of potentially contaminating tailings under field climatic conditions	David Williams (The University of Queensland), C. Zhang
11:05am	Converting chemistry to mineralogy for acid and metalliferous drainage risk management	Fern Beavis (Earth Systems), J. Taylor, S. Winchester, M. Tyler K. Ehrig, J. Waters
11:30am	Multiple kinetic testing methods to understand the geochemistry of waste at McArthur River Mine, Northern Territory	Brent Usher (Klohn Crippen Berger), M. Landers, P. Marianelli
11:55am	Experimental models of metal leaching for scaling-up to the field	Zhong-Sheng Liu (National Research Council Canada), C Huang, L. Ma, E. Dy, Z. Xie
12:20pm	Lunch	
SESSION 3: Parallel session		
	Monitoring, assessment and prediction I Room: Braddon Hall Chair: Andrew Garvie	Prevention and control Room: Town Hall Chair: Alan Robertson
01:30pm	Using chromium reducible sulfur to predict acid formation potential Gert du Plessis (MBS Environmental), D. Allen, M. North, S. Black, B. Price, N. Rothnie	Development of a NAF/PAF grade control programme for placement of a WRD cover Alison Hendry (SRK Consulting), J. Chapman, J. Jones, K. Mandaran, B. Luinstra
01:55pm	Classification of waste rock for McArthur River Mine, Northern Territory Matt Landers (RGS Environmental Pty Ltd), J. Taylor, S. Pape, N. Murphy, N. Bourgeot, E. Hardjo	The practicalities and implementation of a NAF grade control programme for placement of a WRD cover Alison Hendry (SRK Consulting), B. Luinstra, J. Jones, K. Mandaran, J. Chapman

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02:20pm	Weathered sulfidic waste-laboratory-scale tests for assessing water quality in backfilled pits Alex Watson (SRK Consulting (Australasia) Pty Ltd), C. Linklater, J. Chapman, R. Marton	The formation of aluminate-doped surface passivating layer on pyrite for effective acid and metalliferous drainage control Roger Smart (Blue Minerals Consultancy), Y. Zhou, MD. Short, J. Li, RC. Schumann, R St. C. Smart, AR. Gerson, G, Qian
02:45pm	Afternoon Tea	
SESSION 4: Monitoring, assessment and prediction II Plenary Room: Town Hall		Chair: Mike Fawcett
03:10pm	Keynote Presentation: The influence of sample numbers and distribution on the assessment of AMD potential	Andrew Garvie (SRK Consulting (Australasia) Pty Ltd), D. Kentwell
03:40pm	A geoenvironmental characterisation tools for the coreshed during early life-of-mine assessments	Rebekah Cornelius (University of Tasmania), A. Parbhakar-Fox, D Cooke
04:05pm	Why variable oxidation rates are needed for the prediction of AMD from dynamic waste rock dumps	Joshua Pearce (O'Kane Consultants), S. Pearce, R. Marton
04:30pm	Observations and explanations from the monitoring data of Equity Silver Mine, Canada	Zhong-Sheng Liu (National Research Council Canada), C. Huang, L. Ma, KA. Morin
04:55pm	End of Workshop Day 1	
05:45pm	Buses depart from Burnie Arts & Function Centre for Workshop Dinner	
06:30pm	Workshop Dinner, Pier01 Restaurant, Ulverstone	

Posters
Posters will be available for viewing during break times throughout the workshop in Town Hall Foyer
Investigating the geochemistry of selenium in the residual from biological wastewater treatment at a coal mine L. Desauony and D. Kirste (Simon Fraser University – Department of Earth Science, Burnaby, British Columbia, Canada)
Validation of sequential leaching tests to predict potential impacts of low sulfur iron ore waste on surface and groundwater quality S. Black^A, B. Price^A, N. Rothnie^A, R. Sharma^A, R. Marton^B and D. Allen^C (^A ChemCentre, Resources and Chemistry Precinct, Bentley, WA, ^B BHP Billiton Minerals Australia, Perth, WA, ^C MBS Environment)
Determining bioaccessibility risks at the historic Aberfoyle tailings site, Northeast Tasmania: opportunities for effective rehabilitation R. McLaine^A, A. Parbhakar-Fox^A, N. Fox^B, M. Reid^C (^A ARC Industrial Hub for Transforming the Mining Value Chain (TMVC), University of Tasmania, ^B Co-operative Research Centre for Optimising Resource Extraction (CRC ORE), University of Tasmania, ^C Mineral Resources Tasmania)
Physicochemical properties of iron oxides: opportunities for useful AMD products? B. Mooney^A, B. Paull^A, T. Lewis^B, A. Parbhakar-Fox^C (^A Australian Centre for Research on Separation Science (ACROSS), University of Tasmania, ^B School of Physical Sciences (Chemistry), University of Tasmania, ^C Industrial Hub for Transforming the Mining Value Chain (TMVC), University of Tasmania)
Geoenvironmental characterisation of the abandoned Scotia Mine, north east Tasmania: implications for management practices A. Parbhakar-Fox^A, T. Lewis^B P. Hamill^B, A. Wakefield^C, R. Botrill^C and J. Parnell^C (^A ARC Industrial Hub for Transforming the Mining Value Chain (TMVC), University of Tasmania, ^B Discipline of Chemistry, School of Physical Sciences, University of Tasmania, ^C Mineral Resources Tasmania)
Waste not, want not – using waste hay to improve pit lake water quality R. Green^A, C. Mather^A, C. Kleiber^A, S. Lee^A, M. Lund^B, and M. Blanchette^B (^A Rio Tinto Iron Ore, 152-156 St Georges Terrace, Perth, WA 6000, ^B Mine Water and Environment Research Centre (MiWER), Edith Cowan University, 270 Joondalup Drive, Joondalup, WA 6027)

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Tuesday 21 November 2017		
08:00am	Registration and tea/coffee on arrival	
SESSION: Program update		
Plenary Room: Town Hall		
08:30am	Program update	Mansour Edraki SMI
SESSION 1: Influencing closure outcomes		Chair: Tania Laurencont
Plenary Room: Town Hall		
08:40am	Keynote presentation: Geochemical characterisation of mine wastes: Does it matter?	Alan Robertson (RGS Environmental Pty Ltd), G. Maddocks, M. Landers
09:10am	Keynote presentation: Designing tailings and waste rock systems for chemical and physical stability	Ward Wilson (University of Alberta), B. Wickland, B. Weeks
09:40am	An integrated approach to closure of landforms containing potentially acid forming waste rock in north-west Queensland	Alex Sexton (Ernest Henry Mine (Glencore Copper Assets)), A. Butler, J. Chapman, T. Anderson
10:05am	Improved rehabilitation outcomes through smart cover design at Endeavor Mine, NSW	Timothy Rohde (EMM Consulting Pty Ltd), K. Hardie, N. Jamson
10:30	Morning Tea	
SESSION 2: Advancements in closure		Chair: Richard Marton
Plenary Room: Town Hall		
11:00am	Keynote presentation: Are you doing all you could be to optimize your closure alternatives?	Mike O’Kane (O’Kane Consultants), A. Baisley, S. Pearce
11:30am	Controlling acid and metalliferous drainage from decommissioned underground mines	Jeff Taylor (Earth Systems), N. Bourgeot, A. Sampaklis, N. Staheeff, S. Pape, E. Hardjo, M. Quiatol
11:55am	Rehabilitation options for potentially contaminating coal tailings stored in pits	David Williams (The University of Queensland)
12:20am	Forecasting long term water quality after closure: Boliden Aitik Cu mine	Mike O’Kane (O’Kane Consultants), P. Weber, M. McKeown, D. Christensen, S. Mueller, B. Bird
12:45	Lunch	
SESSION 3: Parallel session		
	Final voids and pit lakes Room: Braddon Hall	Remediation and treatment Room: Town Hall
	Chair: David Jones	Chair: Jeff Taylor
01:45	Pit lake water quality modelling at Century Mine Claire Linklater (SRK Consulting (Australasia) Pty Ltd), A. Watson, A. Hendry, J. Chapman, J. Crosbie, P. Defferrard	Chemical and economic feasibility study of application of alkaline CSG waters in AMD remediation David Cohen (University of New South Wales), Q. Chen, M. Andersen, A. Robertson, D. Jones, B. Kelly
02:10pm	Developing Pilbara pit lake analogues to inform closure considerations Wijnand Germs (ERM), G. Race, R. Green, R. Marton	Treatment of acid and metalliferous drainage including removal of contaminants from a site Samual Costin (Global Aquatica)

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02:35pm	Guidelines for opencast coal pit void closure and relinquishment David Salmon (Amanzi Consulting)	Evaluating applications of bed and fly ash for controlling acid and metalliferous drainage-examples from Tasmanian mine wastes Anita Parbhakar-Fox (University of Tasmania), R. Clifton, N. Fox
03:00pm	Testing a pit lake water quality model against eight years of field data Ursula Salmon (University of Western Australia)	Portland Cement applications to control acid mine drainage generation from waste rocks Michael Sephton (La Trobe University), JA. Webb
03:25	Afternoon Tea	
SESSION 4: Managing past legacies Plenary Room: Town Hall		Chair: David Williams
03:45pm	Rehabilitation planning at the former Rum Jungle mine site in northern Australia Part 1. Geochemical characteristics of mine wastes and inferred post rehabilitation source terms	David Jones (DR Jones Environmental Excellence), P. Ferguson, T. Laurencont
04:10pm	Rehabilitation planning at the former Rum Jungle mine site in northern Australia Part 2. Environmental performance assessment for the preferred rehabilitation scenario	Paul Ferguson (Robertson GeoConsultants Inc), C. Wels, D. Jones, T. Laurencont
04:35pm	A decade of AMD treatment initiatives for New Zealand coal mines	Paul Weber (O'Kane Consultants), J. Pearce, W. Olds, K. Malloch, H. Christenson
05:00pm	Briefing mine site tour - Rosebery	Martin Brownlee (SSHE Superintendent – Australian Operations, MMG Minerals and Metals Group)
05:25pm	End of Workshop Day 2	

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Wednesday 22 November 2017		
Field Trip		
08:30am	Meet at Burnie Arts & Function Centre	Mansour Edraki SMI
07:00am	Buses depart: Bus 1: MMG Rosebery Bus 2: Zeehan	
12:30pm	Lunch at Rosebery Mine	
01:45pm	Bus 1: Zeehan Bus 2: MMG Rosebery	
Approx 05:00/06:00pm	Buses return to Burnie Arts & Function Centre	

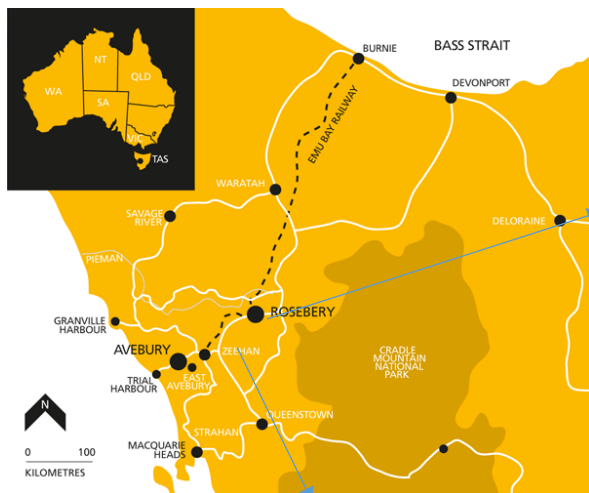
ON SITE REQUIREMENTS

Whilst on-site, delegates are required to have:

- Steel capped, closed shoes
- Long pants
- Long sleeves

It is recommended delegates have a hat and sunscreen. Bottled water will be provided on the buses.

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Thursday 23 November 2017		
08:00am	Registration and tea/coffee on arrival	
SESSION: Program update Plenary Room: Town Hall		Chair: Mansour Edraki
08:30am	Program update	Mansour Edraki SMI
SESSION 1: Geomicrobiology and AMD Plenary Room: Town Hall		Chair: Roger Smart
08:40am	Keynote presentation: Bacteria-mineral interactions at sulphide mineral surfaces	Gordon Southam (The University of Queensland)
09:10am	The link between microbial diversity and at-source AMD prevention	Omy Ogbughalu (University of South Australia), AR. Gerson, G Qian, R St. C. Smart, RC. Schumann, N. Kawashima, R. Fan, J. Li, MD. Short
09:35am	Extraction of cobalt from historic sulphide tailings using bioleaching	Anita Parbhakar-Fox (University of Tasmania), J. Glen, D. Kemp
10:00am	Integrated leaching/bioleaching and sulphate reducing processes for metal recovery and treatment of mine tailings	Denys Villa Gomez (The University of Queensland)
10:25	Morning Tea	
SESSION2: Parallel session		
	Monitoring, assessment and prediction III Room: Braddon Hall	Geo-environmental approaches Room: Town Hall
	Chair: Brent Usher	Chair: Peter Scott
10:50am	Gas flux and the linkage with predicting AMD loads in waste rock dumps, and designing practical engineering solutions – field based case studies Steven Pearce (O’Kane Consultants), M. Barteaux, J. Pearce	The role of AMD in Pilbara Iron Ore: mobilisation and fate of trace elements during surface and groundwater flow Amy Ware (University of Western Australia), RT. Watkins
11:15am	Water quality predictions under highly variable moisture and temperature: A case study on the Importance of thermodynamics Yuan Tian (Klohn Crippen Berger), R. Strand, G. Wang, J. Tuff, B. Usher	Geochemical and mineralogical characterisation of a tailings-rich sediment bank, King River, Western Tasmania Sarah Gilmour (University of Tasmania), A. Parbhakar-Fox, L. Jackson, DR. Cooke
11:40am	Non-iterative modelling of mine site hydrogeochemistry Roald Strand (Klohn Crippen Berger), J. Tuff, B. Usher	Intrinsic neutralisation potential from automated drillcore logging for improved geoenvironmental domaining Laura Jackson (University of Tasmania), A. Parbhakar-Fox, N. Fox, DR. Cooke, AC. Harris, E. Savinova
12:05pm		Characterisation of arsenic geochemistry in tailings from a mesothermal AU deposit Hannah Christenson (CRL Energy Ltd), J. Pope, D. Craw, J. Johns, D. Trumm, N. Newman
12:30pm	Lunch	

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SESSION 3		Chair: Bruce Kelley
Plenary Room: Town Hall		
01:30pm	Panel discussion (Chair: Bruce Kelley) Workshop wrap-up Mansour Edraki	
03:15pm	Afternoon Tea	
03:45pm	End of 9 th Australian Workshop on Acid and Metalliferous Drainage 2017	