



W23: Informing Geophysical Exploration with Petrophysics: Processes, Pitfalls and Tools

Coordinator(s) Jim Austin

Date(s) Fri, Sep 06

Time 08:45 - 16:45

Location Crown Perth

Summary This workshop will investigate the incorporation of petrophysics into geophysical exploration approaches, citing numerous industry case studies across a range of commodities and techniques. It will delve into how fundamental geological processes affect petrophysical properties, explore the pitfalls of scale, and evaluate the strengths and weaknesses of various tools.

Schedule*

<u>Topic</u>	<u>Speaker</u>
<u>Session 1</u>	
Welcome and Introduction	<i>Chris Wijns, @ First Quantum Minerals Ltd</i>
Why early petrophysics dictates explorability: Opportunities and challenges	<i>Steve Beresford, Chief Geologist @ Independence Group NL</i>
Petrophysical Properties of Orogenic Gold Systems	<i>Barry Bourne, Principal Consultant@ Terra Petrophysics</i>
Petrophysics of Iron Oxide Copper-Gold Systems: Iron, Sulfur, Carbon and Redox	<i>Jim Austin, Team Leader @ Potential Field Geophysics, CSIRO Mineral Resources</i>
<u>Session 2</u>	
Petrophysical Properties of Porphyry and Granite-related Systems (e.g., skarns, epithermals): Effects of Alteration Zonation	<i>David Clark, Senior Principal Research Scientist @ CSIRO Manufacturing</i>

Terms and conditions

* Schedule subject to change

Workshops will proceed only if minimum numbers are reached, should a workshop be cancelled that you have paid and registered for, you will be notified and refunded the full amount. Should you wish to cancel a workshop, standard registration cancellation policy applies. Please refer to the AEGC conference website for registration cancellation policy and for further details on registration information <https://2019.aegc.com.au/>



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Petrophysical Properties of Magmatic Ni-Cu-PGE systems: Fractional Crystallisation, Exsolution and Uplift.

*Jim Austin, Team Leader
@ Potential Field
Geophysics, CSIRO
Mineral Resources*

Petrophysical Properties, Anisotropy and Remanence in Iron Formations

*Phil Schmidt, Principal
@Magnetic Earth
(formerly Chief Scientist
at CSIRO)*

Relativity, Contamination and the Paradox of Scale (10 min)

*Jim Austin, Team Leader
@ Potential Field
Geophysics, CSIRO
Mineral Resources*

Session 3

Scale dependence of electrical resistivity measurements: Case studies on VHMS, Sediment-hosted Pb-Zn, Porphyry Cu deposits

*Andrew Fitzpatrick, Chief
Geophysicist @
Independence Group NL*

Your Core-scale petrophysics doesn't explain your targets or inversions: what now?

*Jarrad Luce, Project
Geophysicist @ First
Quantum Minerals Ltd*

Petrophysics in Mineral Exploration: What can we learn from the Petroleum Industry?

*Mike Dentith, Professor @
School of Earth Sciences,
University of Western
Australia*

Seismic Methods in Mineral Exploration: Elastic properties of crystalline rocks

*Heather Schijns, Principal
Geoscientist, Seismic
Geophysics @ BHP
Geoscience Centre of
Excellence*

Session 4

Petrophysics in Inversion for Mining and Mineral Exploration

*Glenn Pears, Principal
Consultant @ Mira
Geoscience*

Incorporating structural and tectonic insights into modelling approaches

*Pete Betts, Professor of
Structural Geophysics @
School of Earth,
Atmosphere, and*

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*Environment, Monash
University*

Dealing with remanence using parametric modelling
approaches

*Clive Foss, Principal
Research Scientist,
Potential Fields
Geophysics, @ CSIRO
Mineral Resources*

Petrophysical modelling to explain deep MT
anomalies: Effects of Pressure and Temperature on
conductivity.

*Klaus Regenauer-Lieb,
Professor @ School of
Petroleum Engineering,
The University of New
South Wales*

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