How to Exploit Recent and Current Undercover Initiatives

Richard Hillis

ASEG Workshop on Exploration Undercover

Melbourne, Thursday 15 August 2013

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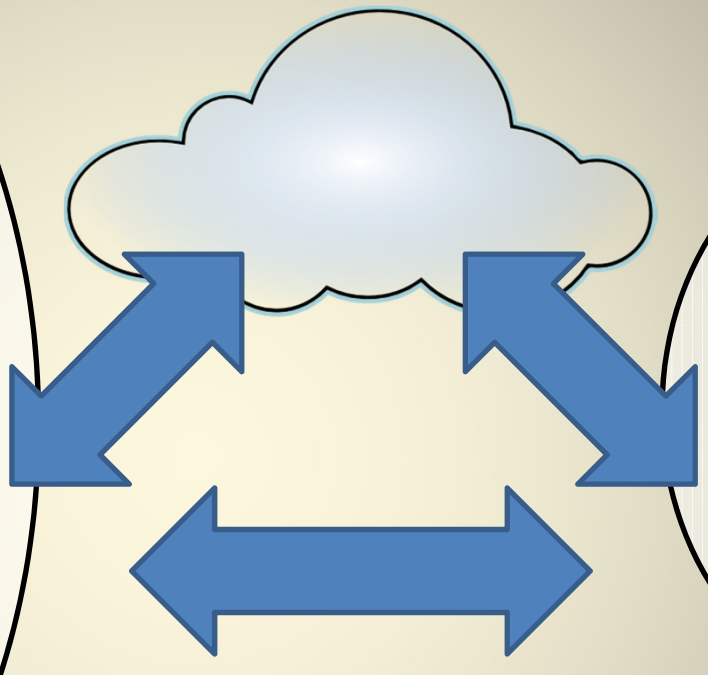
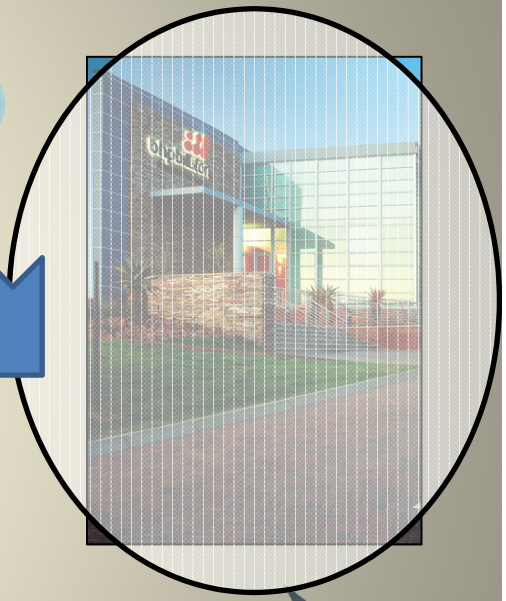
Uncovering the future





Technologies will enable
‘Prospecting Drilling’

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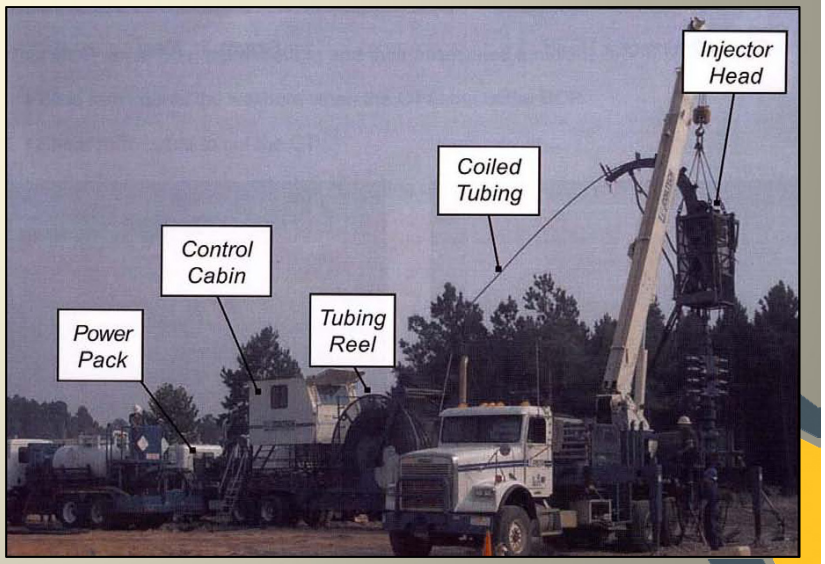
Coiled Tubing Drilling for Minex

- CTD achieves 2x ~1,000m Alberta gas wells per day in soft, predictable sedimentary rocks
- 2-3 hours move in and rig up time
- penetration rates: up to100m/hr



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Coiled Tubing Drilling for Minex

- CTD achieves 2x ~1,000m Alberta gas wells per day in soft, predictable sedimentary rocks
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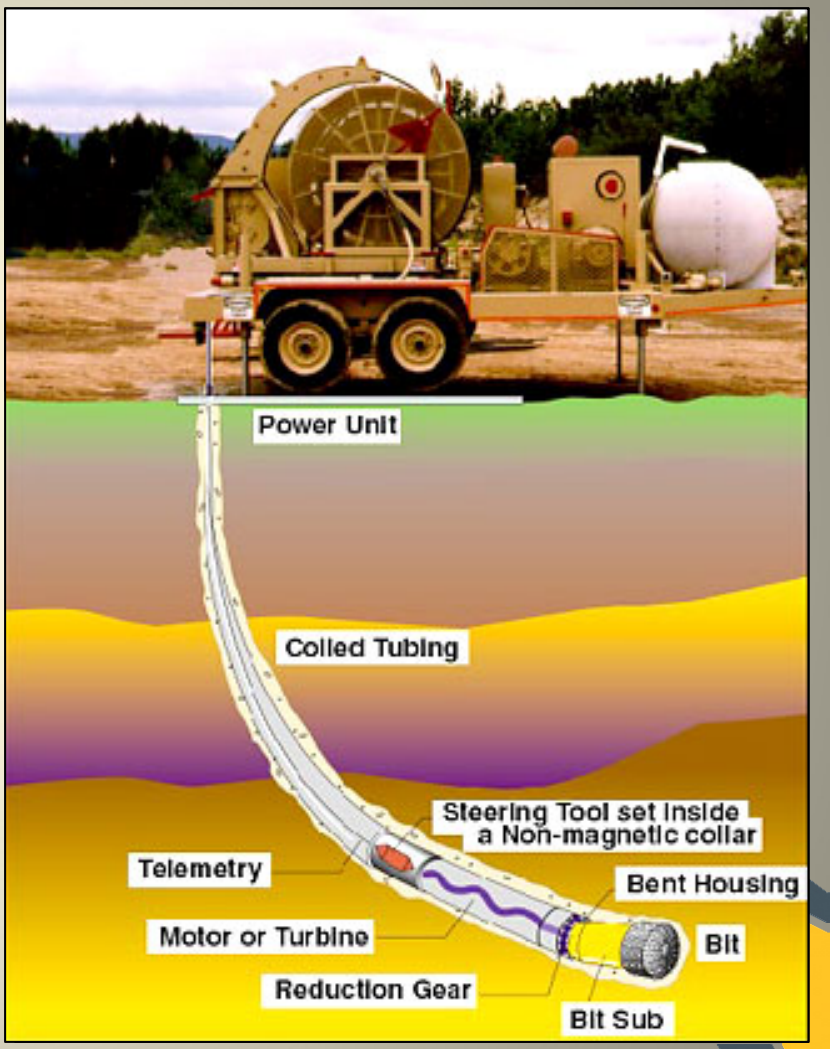
- CTD offers improved cost, safety, and environmental impact in mineral exploration
- key challenges for mineral exploration include: coil durability and low weight-on-bit drilling
- initial target: greenfields rig to 500m, weight less than 10 tonnes and $50/m



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Coiled Tubing Drilling for Minex

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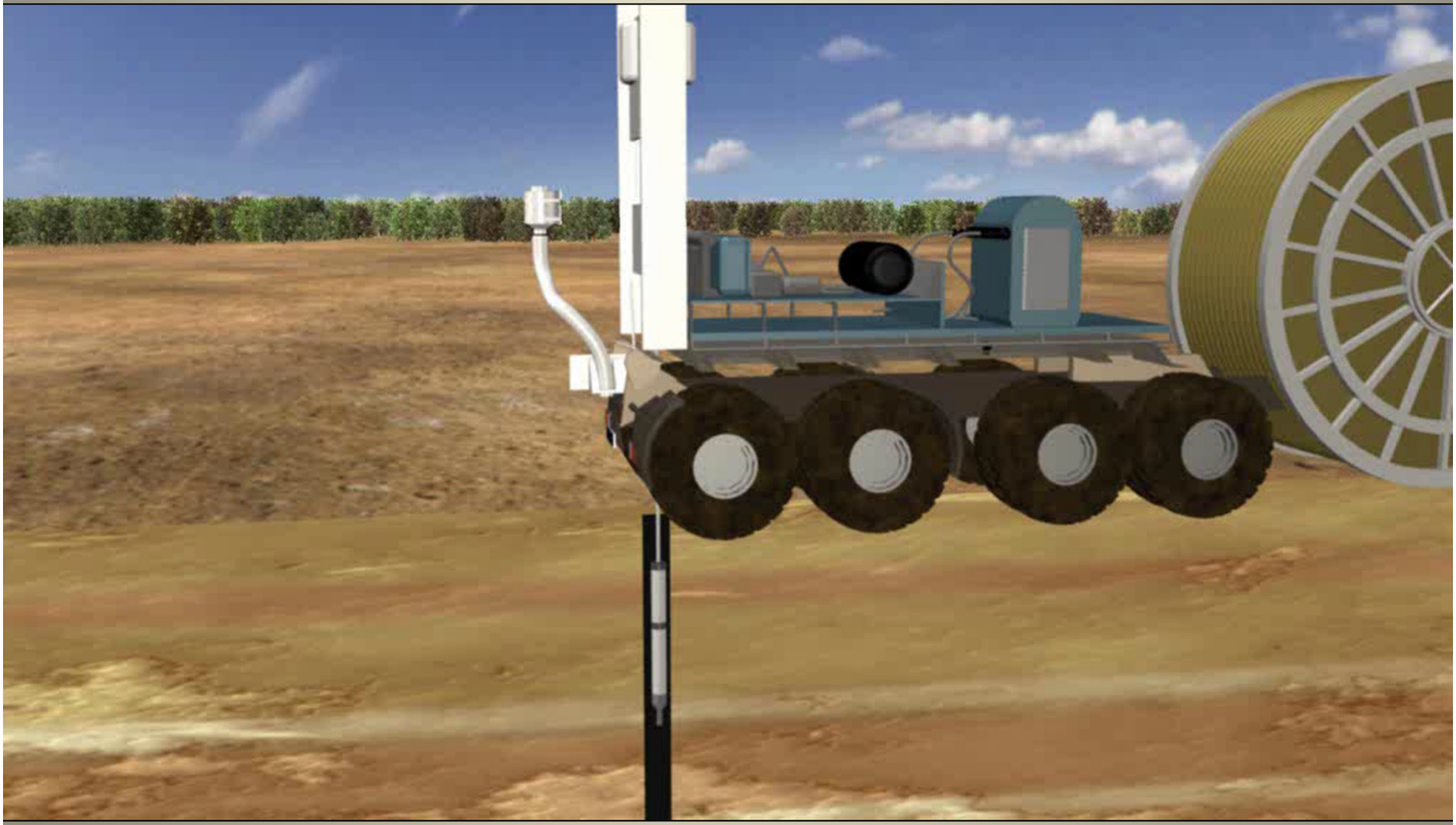
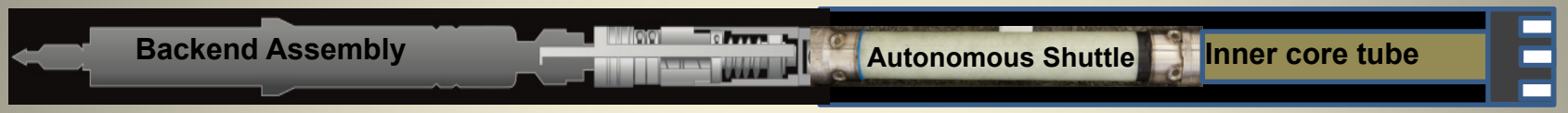
Down-Hole Rock Characterisation



Minex LWD:
Autonomous Sonde and Shuttle



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Carbon Fibre Rod with Embedded Sensor

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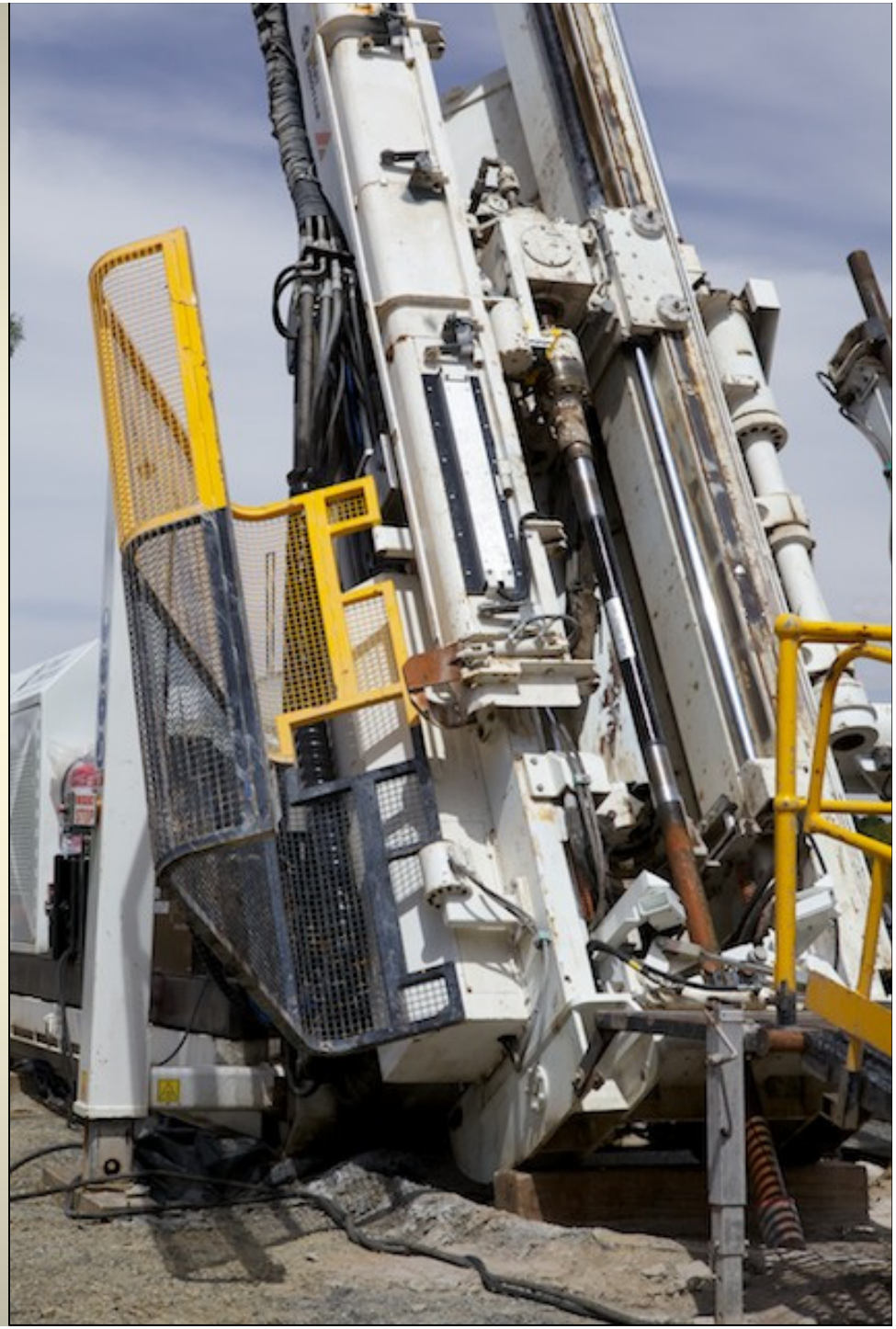
Carbon Fibre Drill Rod



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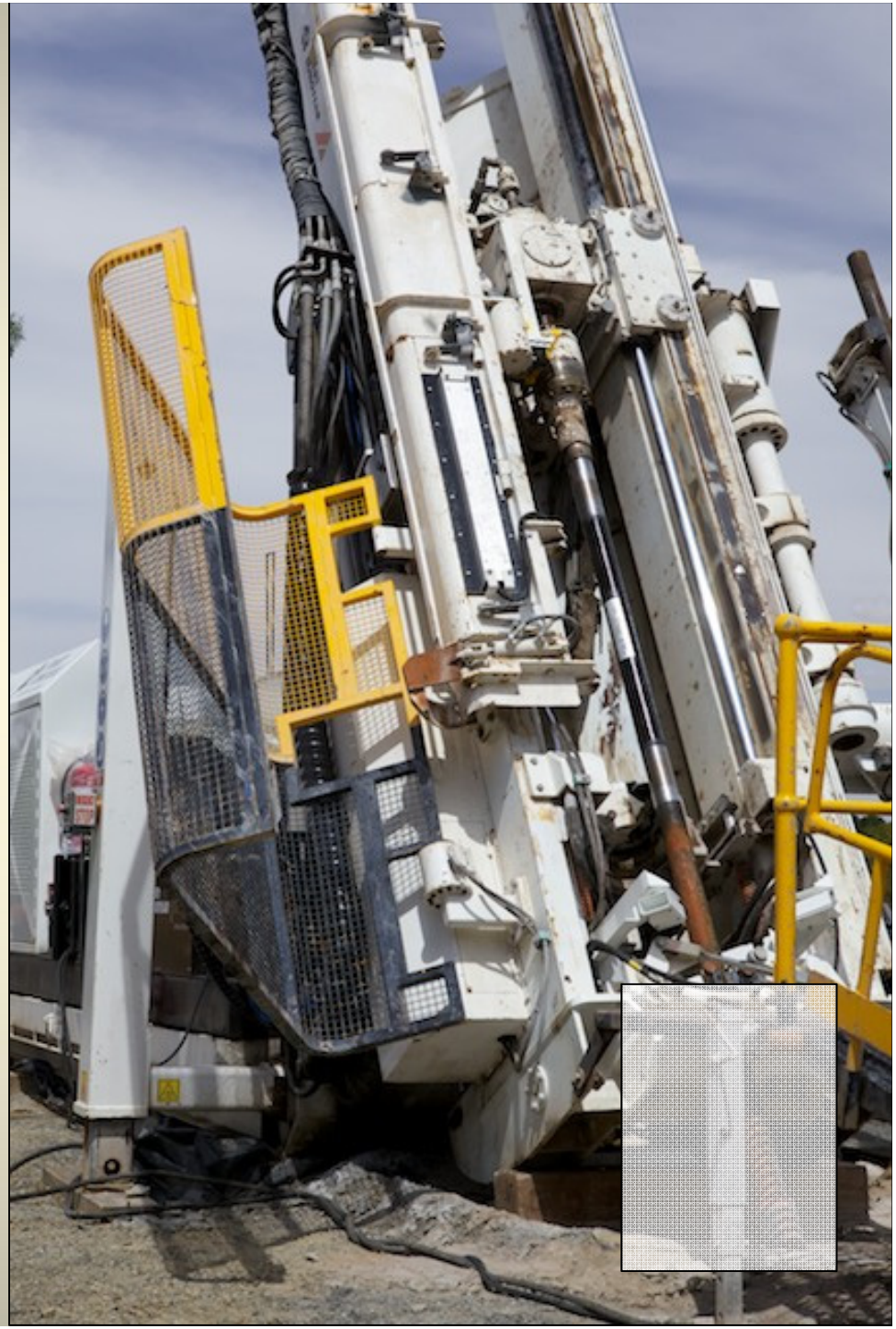
Carbon Fibre Drill Rod



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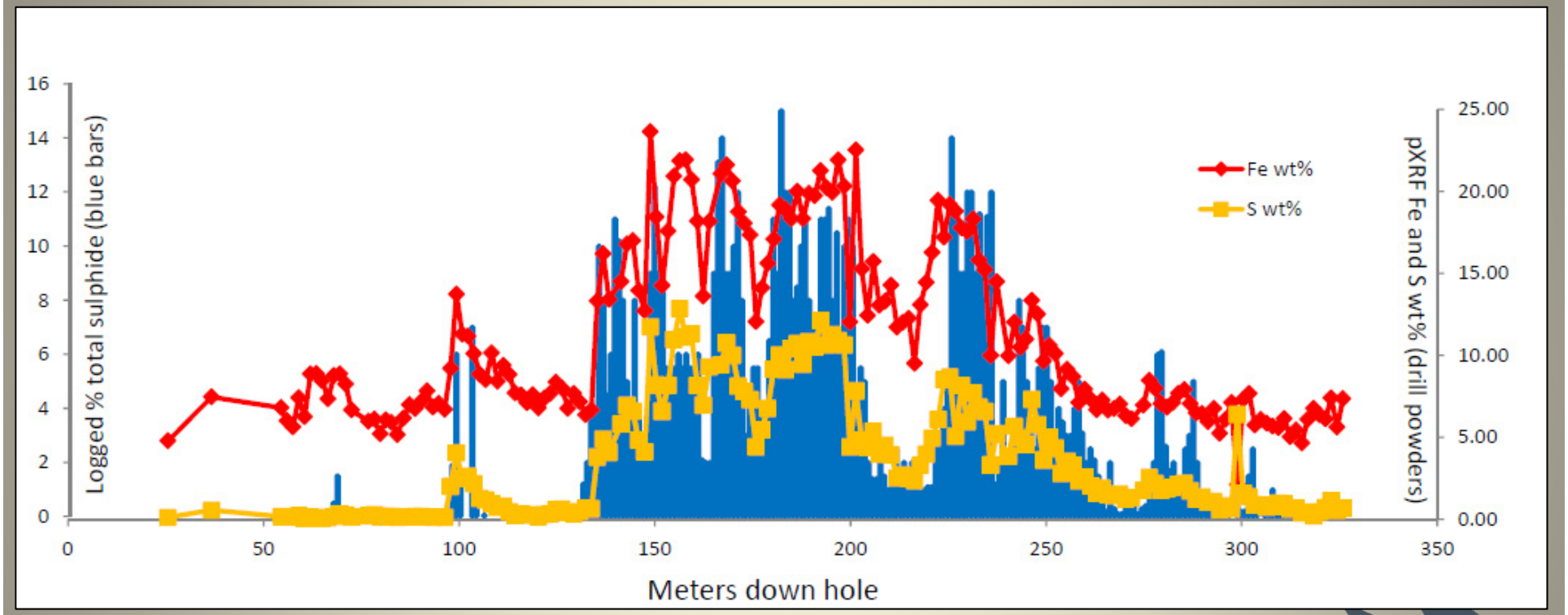
BOART LONGYEAR

Minex Lab-at-Rig



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Minex Lab-at-Rig

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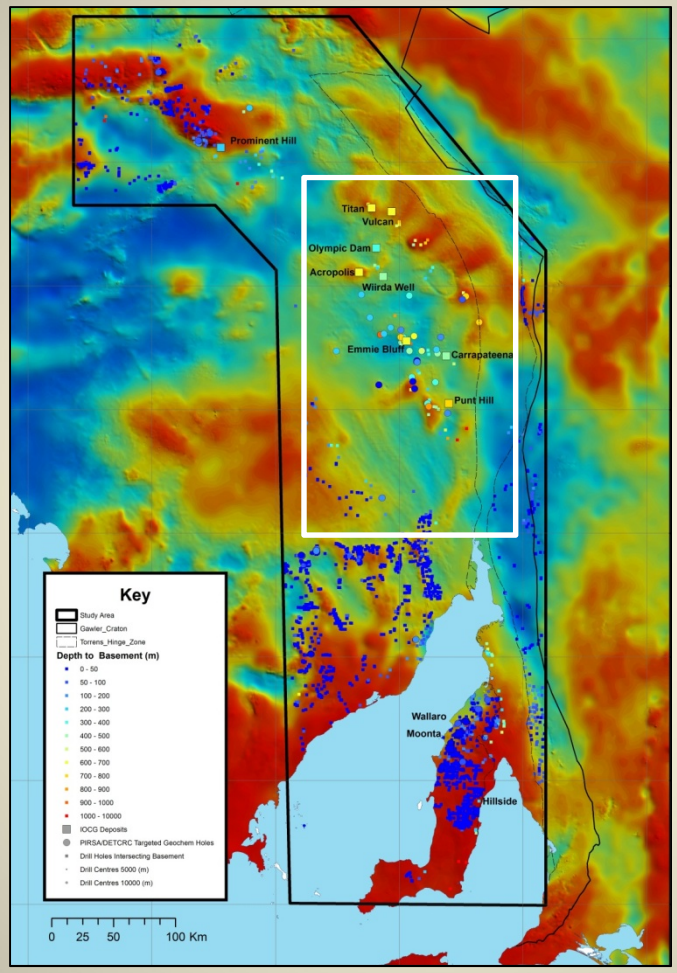
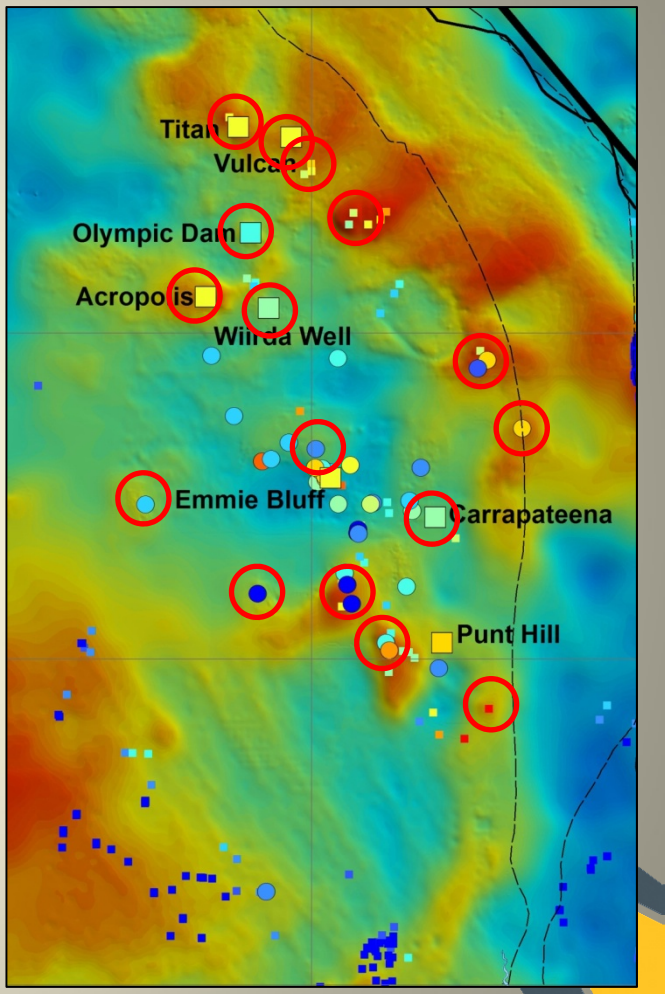
Deep Exploration: Current Practice

- IOCGs, Gawler Craton, SA
- drill through deep cover based on grav & mag anomalies alone
- many false +ves
- many anomalies tested by one hole
- sparse data collected with little knowledge to inform follow-up drilling





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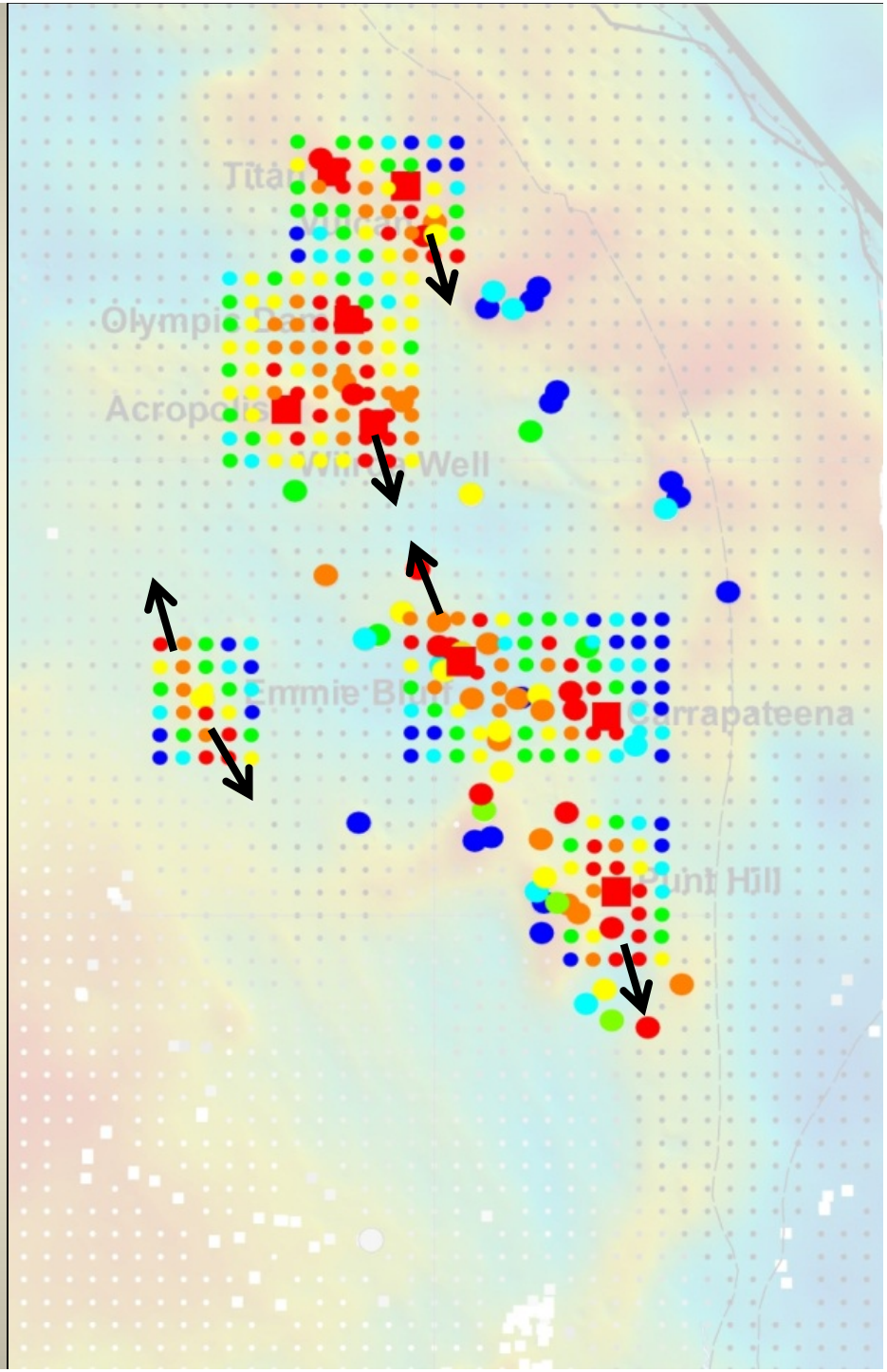
Deep Exploration: Prospecting Drilling

- build out from initial targets using 5km coiled tubing drilling grid and resampling prior holes for consistent geochemical data
- downhole & lab-at-rig tools define petrophysics and geochemical halos real-time
- anomalies re-modelled and followed up during same campaign
- targets based on broad bandwidth of geophysical and geochemical data reduces false +ves and allows recognition of new deposit types
- start to map entire mineralising system with regional scale vector potential



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Prospecting Drilling Animation

Brukunga Drilling Research & Training Facility

- Brukunga DRTF is located in a disused mine close to Adelaide
- critical to testing DET CRC's new technology and also for training
- researchers have access to state-of-art drill rig, drilling crew and fully logged and assayed test hole

Press Release on Launch of Brukunga Drilling Research & Training Facility available at: detcrc.com.au/category/media-releases/

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An Australian Government Initiative


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DOWNUNDER
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NSW DEPARTMENT OF
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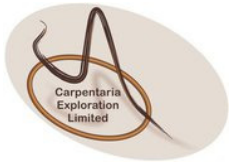
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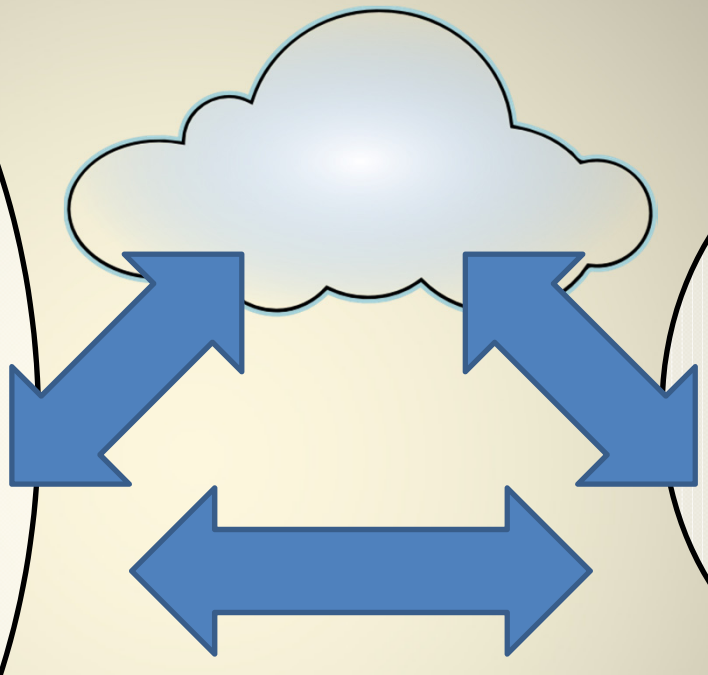

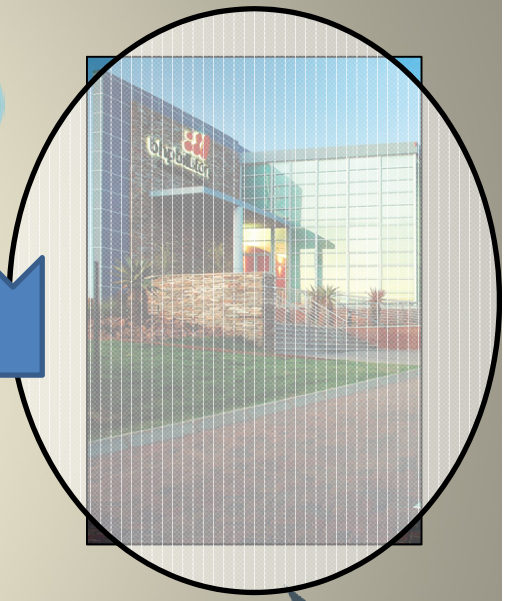

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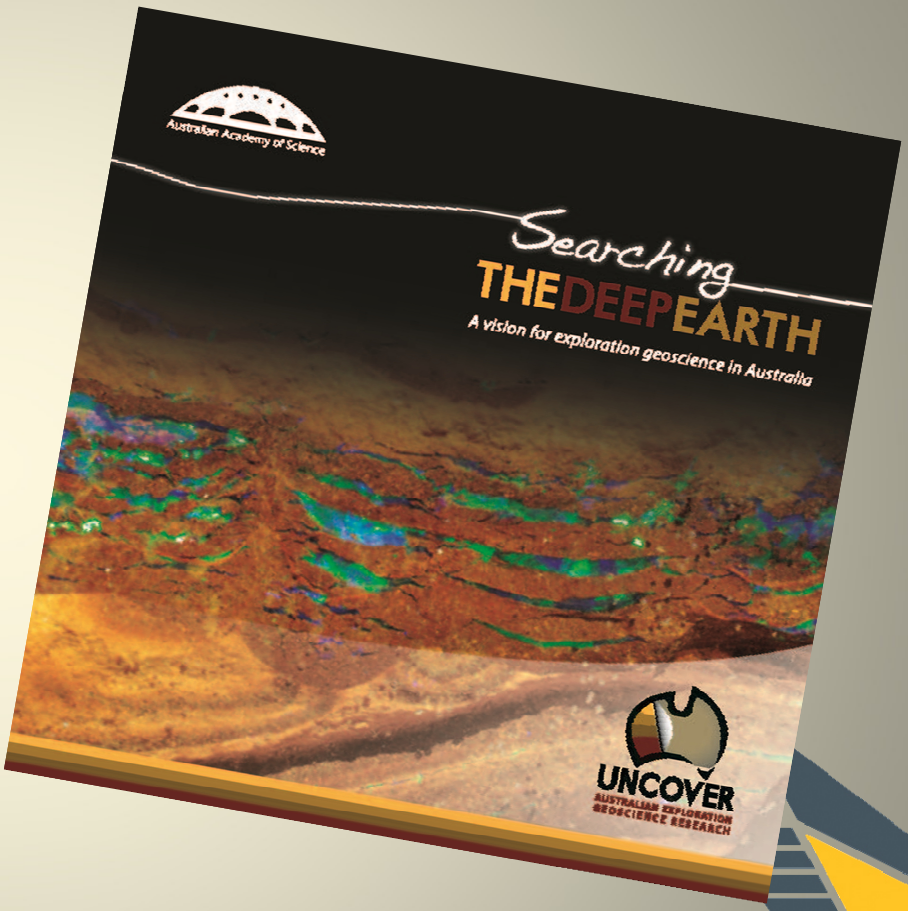
Uncover

- characterising Australia's cover
- investigating Australia's lithospheric architecture
- 4D geodynamic and metallogenic evolution of Australia
- distal footprints of ore deposits



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