



# DEEP EXPLORATION TECHNOLOGIES **CRC**

Uncovering the future



# DET CRC Background


- DET CRC will develop more cost-effective, safer and more environmentally-friendly methods for deep mineral exploration
- incorporated entity with independent board
- \$53M cash & \$62M in-kind support over 8 years from Australian government and participants
- participants include miners, research providers and service companies
- DET CRC head office is co-located with Boart Longyear's new Asia Pacific office in Adelaide
- 12 projects scoped by industry have commenced and are contracting over 100 researchers in 9 different organisations
- unique model of commercialisation of IP through the service sector
- participants: \$450k pa (~31x leverage)
- affiliates: \$10k pa with colleges for juniors, service providers and geological surveys



*DET CRC will deliver revolutionary new technology such as coiled-tubing drilling systems with logging-while-drilling capability. Drilling and logging results will be fed real-time to remote geological modelling capability in order to plan immediate (within 24 hours) follow-up drilling.*

# DET CRC Quarterly Update: Jan 2012

- Index to join DET CRC as second Participant-Level Supplier (Anglo American confirmed as new Participant)
- existing projects ongoing for 12-15 months at end 2011
- percussion rig commissioned at CSIRO QCAT for fundamental research and developing new drill bits
- core bit tests show effect of control parameters (e.g. WOB, RPM) on vibrations which in turn increase wear
- World First: successful minex drilling with carbon fibre HQ drill rod at Brukunga Drilling Research & Training Facility
- NQ carbon fibre rod with embedded core orientation electronics successfully lab tested
- prototype vision system for automating rod alignment bench tested and being fitted to Brukunga rig
- real-time, remote rig monitoring system developed at Brukunga is being installed on a rig at Telfer for Newcrest
- cloud-based geophysical modelling workflow developed
- seismic survey at Rex Minerals' Hillside IOCG discovery successfully indicates sub-vertical bodies
- geochem. anomalies discovered in Hillside cover: base is Au-rich & palaeo-redox interfaces Cu-, U- and REE-rich



*Coiled tubing drilling will permit cheaper, faster and safer drilling of more stable holes because pipe connections are not required. Logging-while-drilling will remove or greatly reduce need for core and lengthy core analysis. Combined with real-time geological modelling, these will permit follow-up drilling without rig de-mob and re-mob.*

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