



## April 2012 Newsletter

### Executive Summary

Contact Anna Porter ([annaporter@detcrc.com.au](mailto:annaporter@detcrc.com.au)) for further information on any items.

Forthcoming Project Reviews & Science Steering Committee Meeting (29-30 May), Researchers' Workshop (31 May- 1 June) and PhD Workshop (30 May-1 June) at Caloundra

Diary Date: Annual Conference, 18-21 Nov, Hahndorf.

Imdex join DET CRC as Participant-Level Supplier. CSA Global join DET CRC as supplier affiliates.

Animations available for all DET CRC projects:  
[www.youtube.com/playlist?list=PLC48741A6F4DA805A&feature=plcp](http://www.youtube.com/playlist?list=PLC48741A6F4DA805A&feature=plcp)

Video released on drilling with carbon fibre drill rod:  
[www.youtube.com/watch?v=ox0fcXVbpos&list=PL9E4BA1EF425B41D4&index=1&feature=plpp\\_video](http://www.youtube.com/watch?v=ox0fcXVbpos&list=PL9E4BA1EF425B41D4&index=1&feature=plpp_video)  
and on the Hillside Field Trip:  
[www.youtube.com/watch?v=6xD4o1CUTfA&list=PLD507435018DFB359&index=1&feature=plpp\\_video](http://www.youtube.com/watch?v=6xD4o1CUTfA&list=PLD507435018DFB359&index=1&feature=plpp_video)

DET CRC at PDAC 2012.

Uncover initiative: "a vision for Australian Exploration Geoscience" from the Australian Academy of Science.

Example reports available for sponsors in Centric:

- DET CRC's Seismic Experiment at Hillside
- Hydrogeochemistry Potential of the Stuart Shelf

Gravity survey undertaken at Brukunga and planning DET CRC's second test hole.

Sampling commences to characterise background and anomalous geochemistry in cover and basement in Yorke Peninsula.

Peter Kanck becomes 100% DET Project Integrator. Darren Caldwell to lead Brukunga Project 1.4.

Eric Takam and Liliya Malovichko commence at Curtin University and Shane Fox at Boart Longyear.

Project Leader bonuses introduced.

Awards for Steven Fraser and Amir Mokaramian.

Changes to Centric.

Full DET CRC Slide Presentation available.

Know Your DET CRC Researcher: Brett Harris

### Top Ten Project Highlights Q1 2012

First test hole completed to 300m at Brukunga, penetrates mineralisation and ~60m into footwall.

Pyrite, pyrrhotite, chalcopyrite and arsenopyrite present in Brukunga core, thus suitable for testing logging tools. Hylogging of test hole core completed.

Rod stacker sensor for automated rod handling successfully field tested.

HQ and NQ carbon fibre rods manufactured with new preparation process for adhering the steel rod joints.

Glass fibre drill rod manufactured for borehole radar.

Power spectra from seismic-while-drilling with diamond bit distinguish drilling & non-drilling conditions. Events with moveout on gathers suggest coherent signal.

Autonomous shuttle successfully tested in WA borehole (natural gamma data acquired and downloaded from tool): shuttle will be pulled up with drill rods yielding logging without separate wireline deployment.

Diffraction summing yields improved seismic resolution of Hillside's mineralised zones from low cost survey.

Combining bulk geochemistry and hylogger mineralogy at Emmie Bluff (Stuart Shelf) identifies basement alteration halos on simple discrimination diagrams.

Rare earth element (REE) distribution in haematites of IOCGs suggests potential cover vector to mineralisation.



Mineralised core from DET CRC DDH1, the first test hole at the Brukunga Drilling Research and Training Facility (for further information on the geology of Brukunga core contact David Giles, [david.giles@adelaide.edu.au](mailto:david.giles@adelaide.edu.au)).

**Forthcoming Project Reviews & Science Steering Committee Meeting (29-30 May), Researchers' Workshop (31 May- 1 June) and PhD Workshop (30 May-1 June) at Caloundra.**

The agenda for the above meetings is appended to the end of this newsletter. Please confirm your attendance with Anna Porter (annaporter@detcrc.com.au).

**Diary Date: Annual Conference, 18-21 Nov, Hahndorf.**

The DET CRC's annual conference will return to Hahndorf in 2012 with field trips/workshops on Sunday 18 Nov, project reviews and Science Steering Committee meeting 19-20 Nov and an Open Day on Wednesday 21 Nov. We will again visit the Brukunga Drilling Research and Training Facility.

**Imdex join DET CRC as Participant-Level Supplier. CSA Global join DET CRC as supplier affiliates.** Imdex signed the Deed of Joinder to DET CRC at the PDAC Conference in Toronto on Tuesday 6 March. We are particularly pleased that Imdex will be the second supplier Participant of DET CRC, and as such will share with Boart Longyear the first right to submit a commercialisation plan regarding DET CRC Project IP.

Imdex's focus areas are drilling fluids (AMC) and downhole instrumentation (Reflex). Imdex will be contributing both cash and in-kind to the DET CRC with in-kind focused in Project 1.1 developments in mud cleaning and cuttings analysis (including use of lab facilities) and downhole motors, both critical to the development of a coiled tubing drilling system for hard rock mineral exploration.

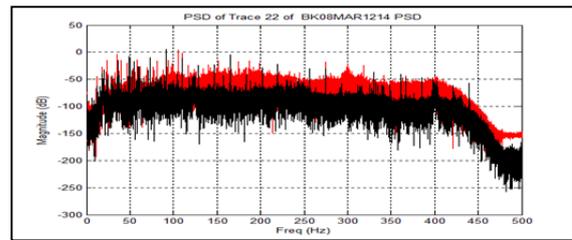
[www.imdex.com.au](http://www.imdex.com.au)

CSA Global were confirmed as a Supplier Affiliate of DET CRC by Special Majority Vote of the Participants and we welcome them and their contact Graham Jeffress. The number of DET CRC Affiliates remains 28 as Imdex have moved from Affiliate to Participant.

[www.csaqglobal.com](http://www.csaqglobal.com)



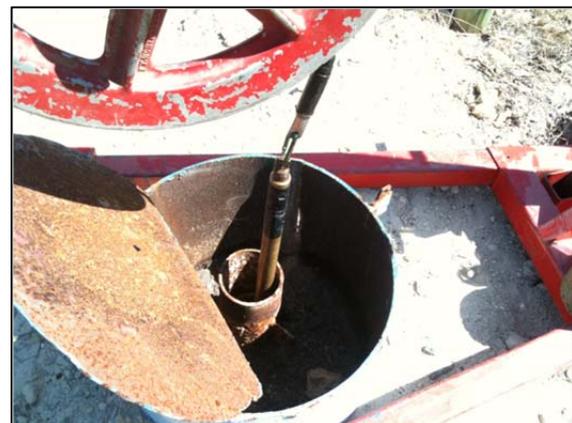
Derek Loughlin witnesses Imdex's Deed of Joinder at PDAC 2012 with Richard Hillis (left) and Bernie Ridgeway, MD Imdex (right) looking on.



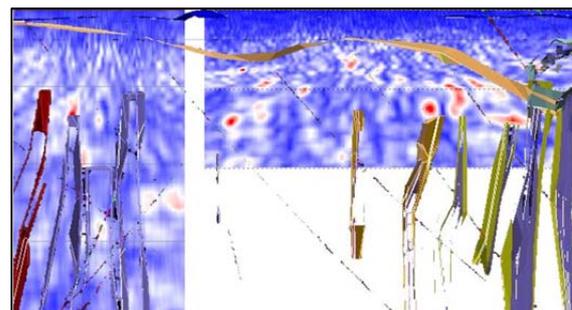
Seismic-while-drilling recordings from surface geophones at Brukunga. Power spectra comparison during drilling (red) and no drilling (black) (for further information contact Christian Dupuis, C.Dupuis@curtin.edu.au).



Christian Dupuis about to test the autonomous gamma shuttle (for further information contact Christian Dupuis, C.Dupuis@curtin.edu.au).



The autonomous gamma shuttle being tested in a borehole on a wireline cable. The next stage of testing will involve the shuttle being pumped down inside the drill rods at Brukunga (for further information contact Christian Dupuis, C.Dupuis@curtin.edu.au).



A diffraction summing technique yields hot zones coincident with tops of ore shoots known from drilling at Hillside. Data acquisition was very low cost (for further information contact Milovan Urosevic, M.Urosevic@curtin.edu.au).

### Animations available for all DET CRC projects:

[www.youtube.com/playlist?list=PLC48741A6F4DA805A&feature=plcp](http://www.youtube.com/playlist?list=PLC48741A6F4DA805A&feature=plcp)

Animations have been produced for all DET CRC projects, providing an approximately one minute summary of the aims of each project. The animations all have voiceovers. The original 'vision' animation for DET CRC produced by Barrick has also been given voiceover. All are available on YouTube.

### Video released on drilling with Carbon Fibre Rod:

[www.youtube.com/watch?v=ox0fcXVbpos&list=PL9E4BA1EF425B41D4&index=1&feature=plpp\\_video](http://www.youtube.com/watch?v=ox0fcXVbpos&list=PL9E4BA1EF425B41D4&index=1&feature=plpp_video)

### and on the Hillside Field Trip:

[www.youtube.com/watch?v=6xD4o1CUTfA&list=PLD507435018DFB359&index=1&feature=plpp\\_video](http://www.youtube.com/watch?v=6xD4o1CUTfA&list=PLD507435018DFB359&index=1&feature=plpp_video)

The video release on the carbon fibre drill rod accompanied a conventional (text) press release that is available on the 'News' area of the DET CRC website. We intend to pair all press releases with video to increase their accessibility and take-up.

Those who didn't make last year's pre-conference field trip to Hillside led by Steve Hill can get a flavour of that trip from the video. If there is sufficient interest from those unable to attend last year, we will consider running the Hillside trip again in 2012. Do let Steve Hill ([steven.hill@adelaide.edu.au](mailto:steven.hill@adelaide.edu.au)) know if you would like a re-run of the Hillside field trip in association with this year's conference.

### DET CRC at PDAC 2012.

DET CRC attended PDAC 2012, obtaining a booth in the well-positioned Australia Pavilion and represented by Richard Hillis, Ian Hardwick, Christian Dupuis and our conference prize winner, PhD student Stephanie McLennan. None of us had previously attended PDAC, nor indeed any conference with over 30,000 delegates. Richard Hillis spoke at the CAMESE technology forum, at DMITRE's South Australian dinner and at a conference keynote. The stand was continuously busy and staffed terrifically by Ian, Christian and Stephanie. We were also able to meet with many current and potential future Participants and Affiliates of DET CRC.

DET CRC has spoken and will speak at many conferences, but PDAC is the only conference where we have taken out a booth and sent a team. It is our intention to return to PDAC 2013. Any feedback on our promotional strategy at conferences would be welcome.



*Know Your Researcher: who is mixing it with the 'oilies' at the Society of Petroleum Engineers Coiled Tubing workshop in Dubai in February?*



*DET CRC's booth at PDAC 2012.*



*Christian Dupuis and Stephanie McLennan speak to a visitor to the DET CRC Booth at PDAC 2012.*

### Uncover Initiative: "A Vision for Australian Exploration Geoscience" from the Australian Academy of Science.

A working group under the auspices of the Australian Academy of Sciences has produced an exposure draft of 'UNCOVER', a document which provides a possible vision for the future of exploration geoscience in Australia. UNCOVER is currently being presented at workshops around Australia. Much of what is proposed sits in DET CRC space:

- national cover map
- national map of the deep crust and upper mantle
- national 4D metallogenic map
- national distal footprints map.

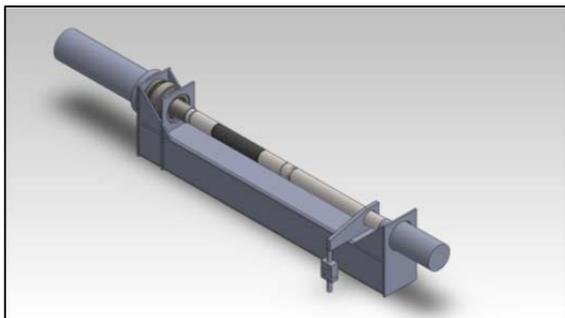
As well as the DET CRC-relevant exploration geoscience components, the document promotes the need for new drilling and sensing technologies and also promotes a government-supported regional drilling program of the type DET CRC has been championing.

[www.youtube.com/watch?v=2SpTjzqk-o&feature=plcp](http://www.youtube.com/watch?v=2SpTjzqk-o&feature=plcp)

The document is not a bid for funds *per se*, rather it sets the framework under which bids for funding will be made. We will monitor its development (deadline for comment 3 June). The Hon. Martin Ferguson MP, Australian Minister for Resources Energy and Tourism,

launched the UNCOVER initiative and is likely to present the final document at the IGC conference in Brisbane in August. I believe DET CRC can and should support this initiative and that DET CRC and its participants would benefit from its implementation. Thanks to DET CRC Chair, Tom Whiting, who has served on the UNCOVER working group.

[www.science.org.au/policy/uncover.html](http://www.science.org.au/policy/uncover.html)  
[www.science.org.au/policy/documents/SearchingtheDeepEarth.pdf](http://www.science.org.au/policy/documents/SearchingtheDeepEarth.pdf)



*Design of axial loading and torsion test rig for composite drill rods. The rig is capable of 50 tonnes axially and of 15 kNm of torsion (for further information contact Gary Cavanough, gary.cavanough@csiro.au).*

Example reports available for sponsors in Centric:

- DET CRC's Seismic Experiment at Hillside
- **Hydrogeochemistry Potential of the Stuart Shelf**

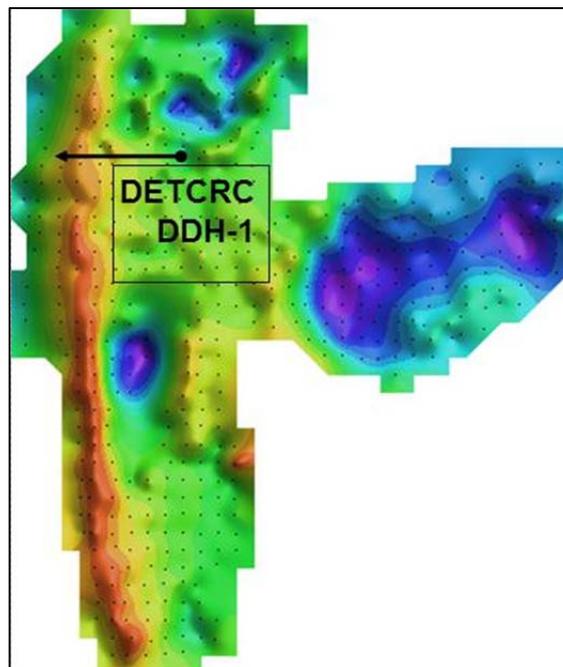
The above and many other reports are available to sponsors within the Project area of Centric. If you are a sponsor and don't have user access please contact Anna Porter (annaporter@detcrc.com.au).

### Gravity survey undertaken at Brukunga and planning DET CRC's second test hole.

Haines Surveys have undertaken a gravity survey of the Brukunga site. The survey was undertaken to provide typical pre-drill data, and thus a pre-drill geological model of the mineralisation, that can be modified on-the-fly utilising real-time drilling data. This will be a demonstration, in Project 2.3, of the DET CRC's proposed real-time geological model building for single drilling campaigns. For further information contact David Giles (david.giles@adelaide.edu.au) or Richard Chopping (Richard.Chopping@ga.gov.au).

With completion of the first test hole at Brukunga, planning has commenced for the second hole. The second hole is due to be commenced in June. It is likely to have a surface location close to the first test hole (within ~10m), with discussions currently focusing on moving the second hole along strike or up/down dip from the first hole and on whether it will parallel the first hole's deviated trajectory or be somewhat steeper.

The first test hole intersected a flowing aquifer at 320m and a cement plug was set on the bottom 20m of the hole. This aquifer presents a possible ahead-of-bit imaging target for geophysical techniques in the second hole. Adjacent holes will also permit comparison of the spatial variation of grade with the results of the, volume-sampling PGNAA geochemical tool. Furthermore the development of geophysical techniques will be facilitated by being able to place sensors in the first hole while the second is being drilled. If you wish to contribute to planning the second test hole, contact Daren Caldwell (dcaldwell@boartlongyear.com), Christian Dupuis (C.Dupuis@curtin.edu.au) or David Giles (david.giles@adelaide.edu.au) as soon as possible.



*Results of the gravity survey at Brukunga showing the stratabound mineralisation and also its easterly dip. The data will be used to demonstrate DET CRC's proposed real-time geological model building for single drilling campaigns. For further information contact David Giles (david.giles@adelaide.edu.au) or Richard Chopping (Richard.Chopping@ga.gov.au).*

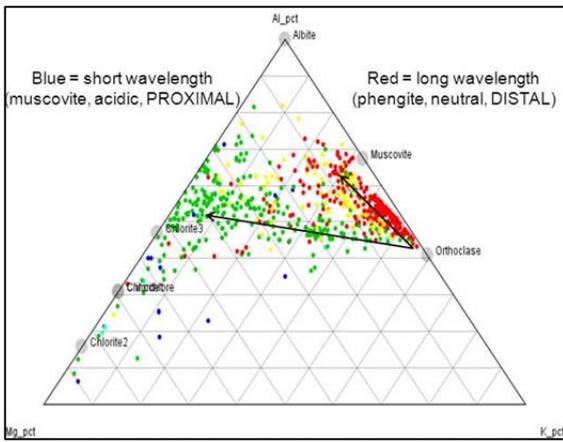
### Sampling commences to characterise background and anomalous geochemistry in cover and basement in Yorke Peninsula.

Sampling to characterise background and anomalous geochemistry in cover and basement has commenced in Yorke Peninsula. Projects 3.2 and 3.3 will sample 100-150 drill holes in the central Yorke Peninsula.

Samples will include:

- 1 m at base cover
- 1m at top basement
- 1m, 10m into basement

and will be analysed for a full suite of whole rock geochemistry. For further information contact Caroline Forbes (caroline.forbes@adelaide.edu.au).



Combining bulk geochemistry and hylogger mineralogy at Emmie Bluff (Stuart Shelf) identifies basement alteration halos (for further information contact David Giles, david.giles@adelaide.edu.au).

### Peter Kanck becomes 100% DET Project Integrator. Darren Caldwell to lead Brukunga Project 1.4.

I am delighted to announce that Peter Kanck now has 100% of his time allocated to DET CRC in the project integrator role. The role will also have a strong commercialisation focus. This arrangement was effective 1st April. DET CRC has been seeking more of Peter's time and also a full-time project integrator. I'd like to thank Joe Moody and others at Boart Longyear for facilitating this development.

In order that Peter can focus on project integration, Darren Caldwell, Boart Longyear, who has also been 100% allocated to DET CRC, will take over Leadership of the Brukunga Drilling Research and Training Facility and will also contribute to Project 1.1 (Coiled Tubing Rig) with its expansion under the Opportunity Fund.



Peter Kanck, new DET CRC Project Integrator



Darren Caldwell, new Project Leader for the Brukunga Drilling Research and Training Facility

### Eric Takam and Liliya Malovichko commence at Curtin University and Shane Fox at Boart Longyear.

Welcome Eric Takam and Liliya Malovichko who have joined the DET CRC team at Curtin University. Eric, who hails from the Cameroon will be working on Project 2.4 (Joint Inversion) and Liliya, from Russia will be working on Project 3.1 (Hard Rock Seismic). Shane Fox, Boart Longyear, has also been 100% allocated to DET CRC to work on Project 1.1 (Coiled Tubing Rig) with its expansion under the Opportunity Fund.



Left: Shane Fox, Boart Longyear (Project 1.1, Coiled Tubing Rig). Upper right: Eric Takam, Curtin University (Project 2.4, Joint Inversion). Lower right: Liliya Malovichko (Project 3.1, Hard Rock Seismic Exploration).

### Project Leader bonuses introduced.

DET CRC has paid bonuses to Program and Project Leaders based on the red/orange/green lights that their quarterly reports received during 2011. Given that DET CRC does not employ its researchers, the bonus scheme was seen by the Board of DET CRC as a valuable means of directly incentivizing Program and Project Leaders. The same bonus scheme will apply again in 2012 and additional bonuses will be available to reward commercialisation outcomes.

### Awards for Steven Fraser and Amir Mokaramian.

Amir Mokaramian, one of our PhD students based at Curtin University under the supervision of Vamegh Rasouli and Gary Cavanough, received a \$10,000 MERIWA scholarship for 2012 on top of his DET CRC project support. Amir is obviously making great progress as January's newsletter referred to his review publications on coiled tubing drilling at the 'Deep Mining 2012' conference.

Congratulations also to Steve Fraser who along with co-authors won the award for the best mineral geophysics paper at the 22nd ASEG Conference in Brisbane in February. The paper's title was 'Self-organizing maps for pseudo-lithological classification of 3D airborne electromagnetic, gravity gradiometry and magnetic inversions'.

### Changes to Centric.

We are acutely aware that Centric has not been a very user-friendly project management system since its inception with DET CRC. We have embarked on a suite of changes coordinated by Ian Hardwick to improve Centric's functionality. Users will notice the new Year 2 project milestones are much more clearly

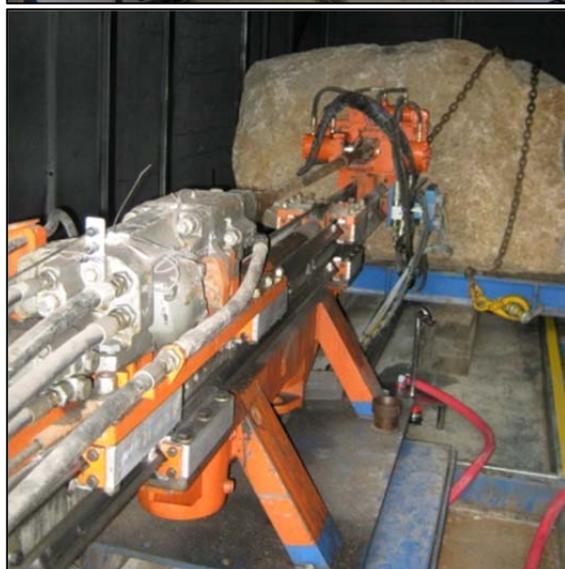
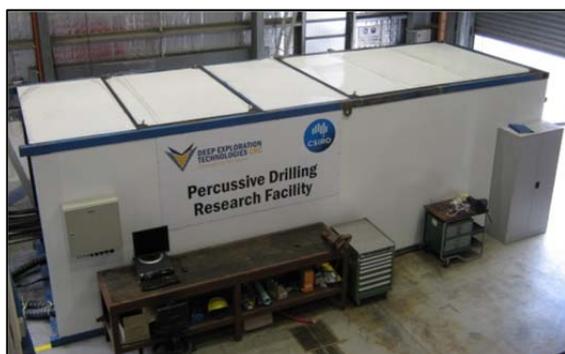
formatted than previous milestones and this is the first of several changes that will make Centric more user-friendly. Centric will be the source of basic project information, reports and publications, so if you don't have user access please contact Anna Porter.

#### Full DET CRC Slide Presentation available.

A comprehensive DET CRC slide presentation has been loaded on 'YouSendIt' and can be accessed via this link until 11 May:

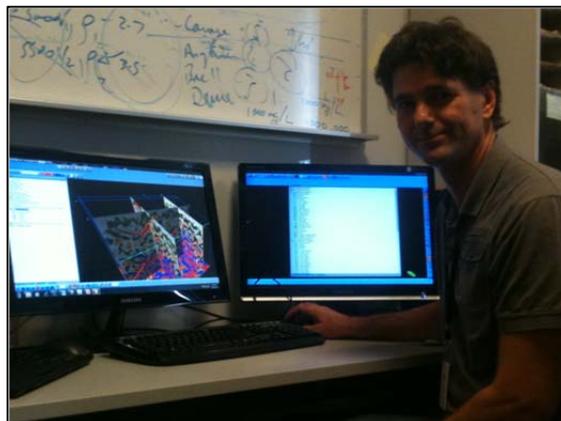
[www.yousendit.com/download/M3BuZm1IZ2ozS3BjR01UQw](http://www.yousendit.com/download/M3BuZm1IZ2ozS3BjR01UQw)

The presentation is public domain and is essentially as given by Richard Hillis and Christian Dupuis at March's 'Science at the Surveys' session in Perth. The PowerPoint file includes some animations. If these do not play when downloaded you may need to contact Anna Porter for copies of the animations and re-import them.



DET CRC's percussive test rig at CSIRO's QCAT facility, Brisbane (for further information contact Gary Cavanough, [gary.cavanough@csiro.au](mailto:gary.cavanough@csiro.au)).

#### Know Your Researcher: Brett Harris Curtin University, Project 2.4.



Project 2.4 Researcher Brett Harris.

Geophysics has taken Brett around the world, but this Sandgroper still calls Western Australia home. Born in the small southwest town of Harvey, Brett completed high school in nearby Bunbury and his BSc Hons (Geophysics) at Curtin University. After graduating, he worked for North Exploration in Parkes and Mt Isa. Brett returned to Curtin University to undertake his PhD in geophysics. Dr. Harris' geophysical odyssey then continued including stints with Ivanhoe in the Gobi Desert and consulting in Patagonia. Brett is married with a 2 year-old girl and a 5 year-old boy. A former WA Institute of Sport hockey player, he is now fully occupied with his young family and geophysics.

Project 2.4 is led by Graham Heinson at the University of Adelaide and involves a significant team at Curtin University. Brett is 'point man' for the Curtin University team and is researching joint inversion of seismic and electromagnetic data.

Brett says "It is important that we remain flexible and creative in the way we exploit EM and seismic methods as the benefits may lie in unexpected places. For example, co-located 3D seismic and EM surveys may provide a multi-parameter 3D volume (i.e. conductivity, velocity and density) for overburden, host and deposit, the benefits of which range from better targeting wells for mine dewatering, to improved pit design, to delineating brownfields deposits."

Richard Hillis  
April 2012



## Agenda for Project Reviews, Science Steering Committee Meeting, Researchers Workshop and PhD Workshop

Caloundra, Queensland, 29 May – 1 June 2012

Tuesday 29 May					
Program Overviews, Project Reviews, Sponsor/Researcher Meetings, Affiliate Colleges Meetings & Dinner					
	Topic	Speaker(s)	Topic	Speaker(s)	Affiliates
9.00 am	CEO Welcome	Richard Hillis			
9.15 am	Program 1 Summary <sup>1</sup>	Gary Cavanough			
9.45 am	Program 2 Summary	Christian Dupuis			
10.15 am	Program 3 Summary	David Giles			
10.45 am	<b>Morning Tea</b>				
11.15 am	Project 1.1 Review <sup>2</sup>	Project 1.1 Team	Project 2.3 Review	Project 2.3 Team	
12.45 pm	<b>Lunch</b>				
1.45 pm	Project 1.2 Review	Project 1.2 Team	Project 2.4 Review	Project 2.4 Team	
3.15 pm	<b>Afternoon Tea</b>				
3.45 pm	Project 1.3 Review	Project 1.3 Team	Project 3.1 Review	Project 3.1 Team	
5.15 pm	Opportunity to schedule sponsor/researcher meetings				Affiliate Colleges Meetings
6.00 pm	<b>Sessions Close</b>				
7.00 pm	<b>Dinner (venue TBC)</b>				

Wednesday 30 May					
Project Reviews, Science Steering Committee Meeting, Research Team Meetings, PhD Event & PhD Dinner					
	Topic	Speaker(s)	Topic	Speaker(s)	PhD Program
8.00 am	Project 1.4 Review	Project 1.4 Team	Project 3.2 Review	Project 3.2 Team	
9.30 am	Project 2.1 Review	Project 2.1 Team	Project 3.3 Review	Project 3.3 Team	
11.00 am	<b>Morning Tea</b>				
11.30 am	Project 2.2 Review	Project 2.2 Team	Project 3.4 Review	Project 3.4 Team	
1.00 pm	<b>Lunch</b>				
2.00 pm	Science Steering Committee Meeting (SSC members only separate agenda to be prepared)		Opportunity to schedule inter-/intra- research project team meetings		1 pm — 5 pm PhD Students' Event
5.00 pm	<b>Sessions Close</b>				
6.00 pm					PhD Students' Dinner and Presentations

<sup>1</sup> Program Summaries to provide an overview of the program's vision and objectives and a summary of progress of each project against milestones to-date.

<sup>2</sup> Project Reviews to be started by Project Leader with a 15-20 minute overview covering:

- project vision/rationale/broad goals (as a reminder for those not working on the project day-to-day, e.g. project animation)
- highlights of progress to-date
- milestones
- summary of future plans (again as a reminder for those not working on the project day-to-day)
- whether there are any related Opportunity Fund projects related to your project commencing
- summary of personnel working on the project with their time allocations and key responsibilities (including any PhD students)
- risks and impediments
- key linkages with other CRC projects and programs and beyond DET CRC
- achieved or planned utilisation/commercialisation outcomes
- response to Science Steering Committee comments from November meeting
- summary of reports and publications

Remainder of Project Review to be scheduled as desired by project leader, but likely to include detailed presentations by members of the project team.

Thursday 31 May Researchers Workshop		
	Topic	Speaker(s)
8.30 am	Project 3.1 Discussion <sup>3</sup>	Project 1.3 Team
9.15 am	Project 1.3 Discussion	Project 3.1 Team
<b>10.00 am</b>	<b>Morning Tea</b>	
10.30 am	CEO Comments	Richard Hillis
11.00 am	Project 1.1 Discussion	Project 1.2 Team
11.45 am	Project 3.2 Discussion	Project 3.2 Team
<b>12.30 pm</b>	<b>Lunch</b>	
1.30 pm	IP and Commercialisation	Ian Hardwick & Peter Kanck
2.15 pm	Project 2.2 Discussion	Project 2.2 Team
<b>3.00 pm</b>	<b>Afternoon Tea</b>	
3.30 pm	Project 3.4 Discussion	Project 3.4 Team
4.15 pm	Brukungu Overview	Darren Caldwell & Peter Kanck
4.35 pm	Brukungu Discussion	
<b>5.15 pm</b>	<b>Sessions Close</b>	
<b>7.00 pm</b>	<b>Informal Dinner (venue TBC)</b>	

Friday 1 June Researchers Workshop & PhD Workshop			
	Topic	Speaker(s)	PhD Program
8.30 am	Project 2.1 Discussion	Project 2.1 Team	
9.15 am	Project 3.3 Discussion	Project 3.3 Team	
10.00 am	Setting Project Milestones and KDPs	David Giles	
<b>10.30 am</b>	<b>Morning Tea</b>		
11.00 am	Project 2.3 Discussion	Project 2.3 Team	
11.45 am	Project 1.2 Discussion	Project 1.1 Team	
12.30 pm	Hillside Case Study Presentation I	TBC	
<b>12.50 pm</b>	<b>Lunch</b>		
1.50 pm	Hillside Case Study Presentation II	TBC	12.30 pm — 3.30 pm PhD Breakout Session Schedule TBC
2.10 pm	Hillside Case Study Presentation III	TBC	
2.30 pm	Project 2.4 Discussion	Project 2.4 Team	
3.15 pm	Closing Comments	Richard Hillis	
<b>3.30 pm</b>	<b>Sessions Close</b>		

<sup>3</sup> The audience for the project discussions on Thursday and Friday is the entire DET CRC research team including PhDs. While more research-oriented this audience will be less technically specialised than the Project Review audiences of the previous two days. Focus on the vision for your work, how it fits in with overall CRC vision, research highlights to-date, outputs, linkages and other topics of greatest interest/relevance to the entire DET CRC research team. This is not a reporting/review session, so unlike the previous two days, progress against milestones need not be discussed. Each project discussion should start with a 15 minute overview from the project leader and then use the remaining 30 minutes as the project leader chooses, but possibly involving speaker(s) who didn't speak at the project reviews over the previous two days.