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Paralana Project technical presentation to Petroleum Exploration Society of Australia

Petratherm's Exploration Manager, Peter Reid, will today present the latest technical update on the Company's flagship Paralana Project at the South Australian Basins Symposium being hosted by the Petroleum Exploration Society of Australia in Adelaide.

The presentation is attached.

Yours faithfully

Terry Kallis
Managing Director

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The Paralana – Engineered Geothermal Energy Project

PESA SA Basins Symposium

Presented by Exploration Manager Peter Reid

Friday, March 26, 2010



Disclaimer

Paralana
Geothermal Energy

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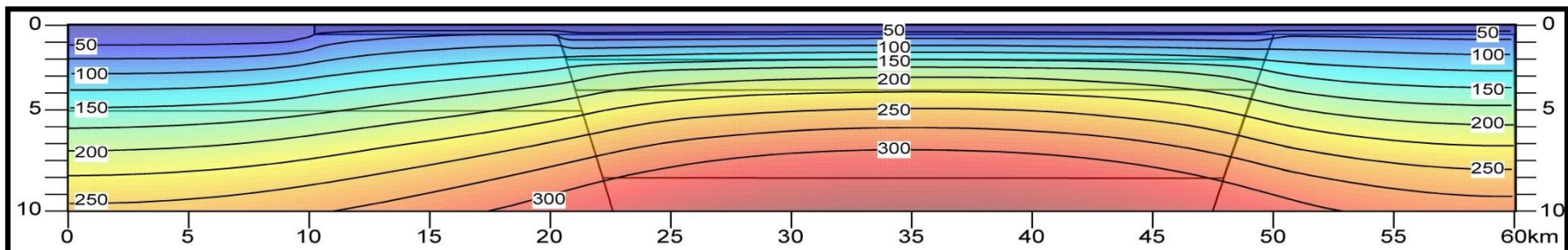
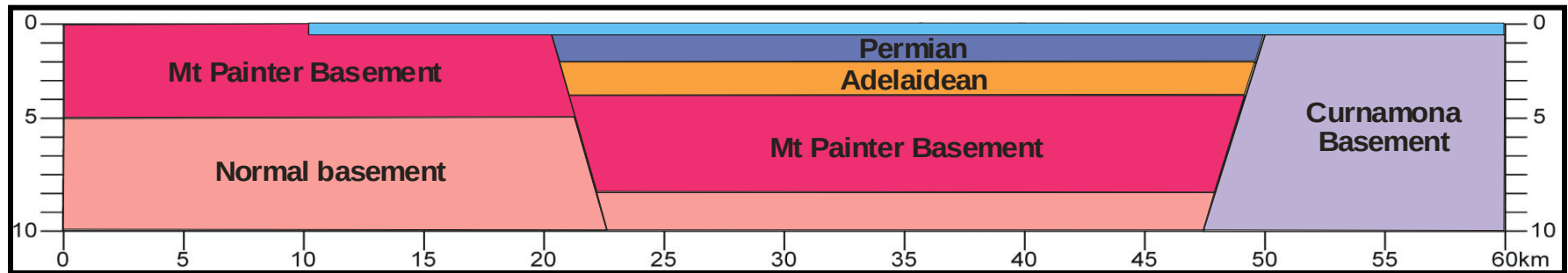
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Exploring for Heat – Paralana Project



Early modelling indicated 180°C - 200°C at approximately 4 km



West

Paralana 1B

Paralana 2

East

Poontana Basin

Tertiary and Mesozoic

Cambrian

Adelaidean

Adelaidean

Adelaidean

Basement

109°C

1807m

4000m

- > Heat flow of 129 mWm⁻²
- > Modeled 180°C-200°C at ~ 4 km

0

3km

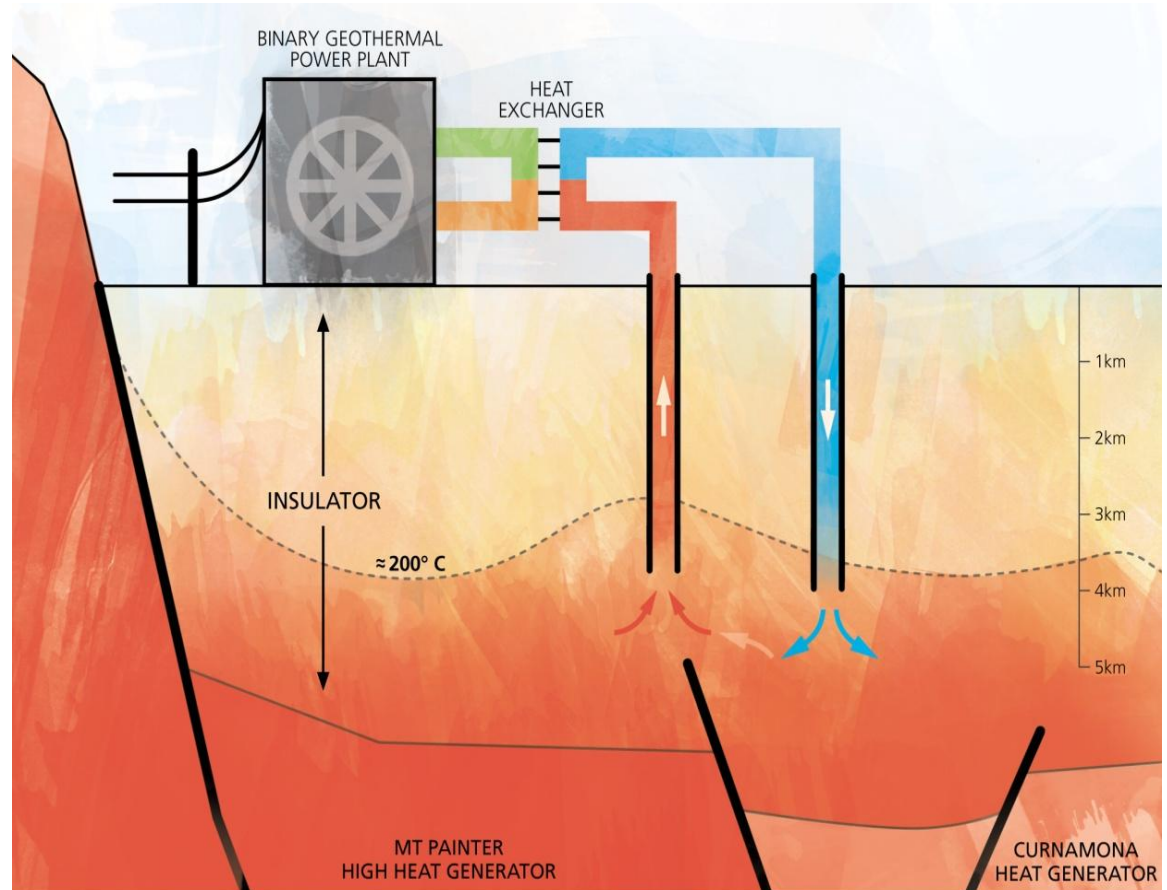
(Seismic Line 84 SPG)



Development Model – Heat Exchanger Within Insulator

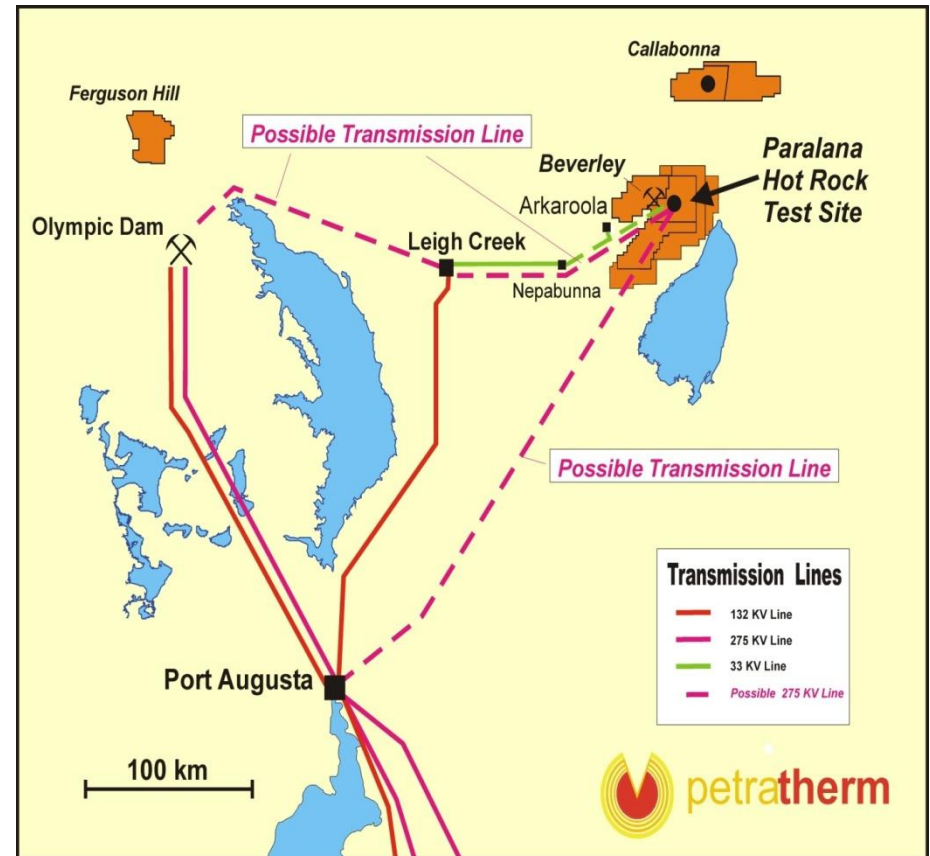
- > Higher Permeability
- > Chemically Stable
- > Lower Frac Challenge?
- > Adelaidean – bedding / joint surfaces

= Cheaper Power!

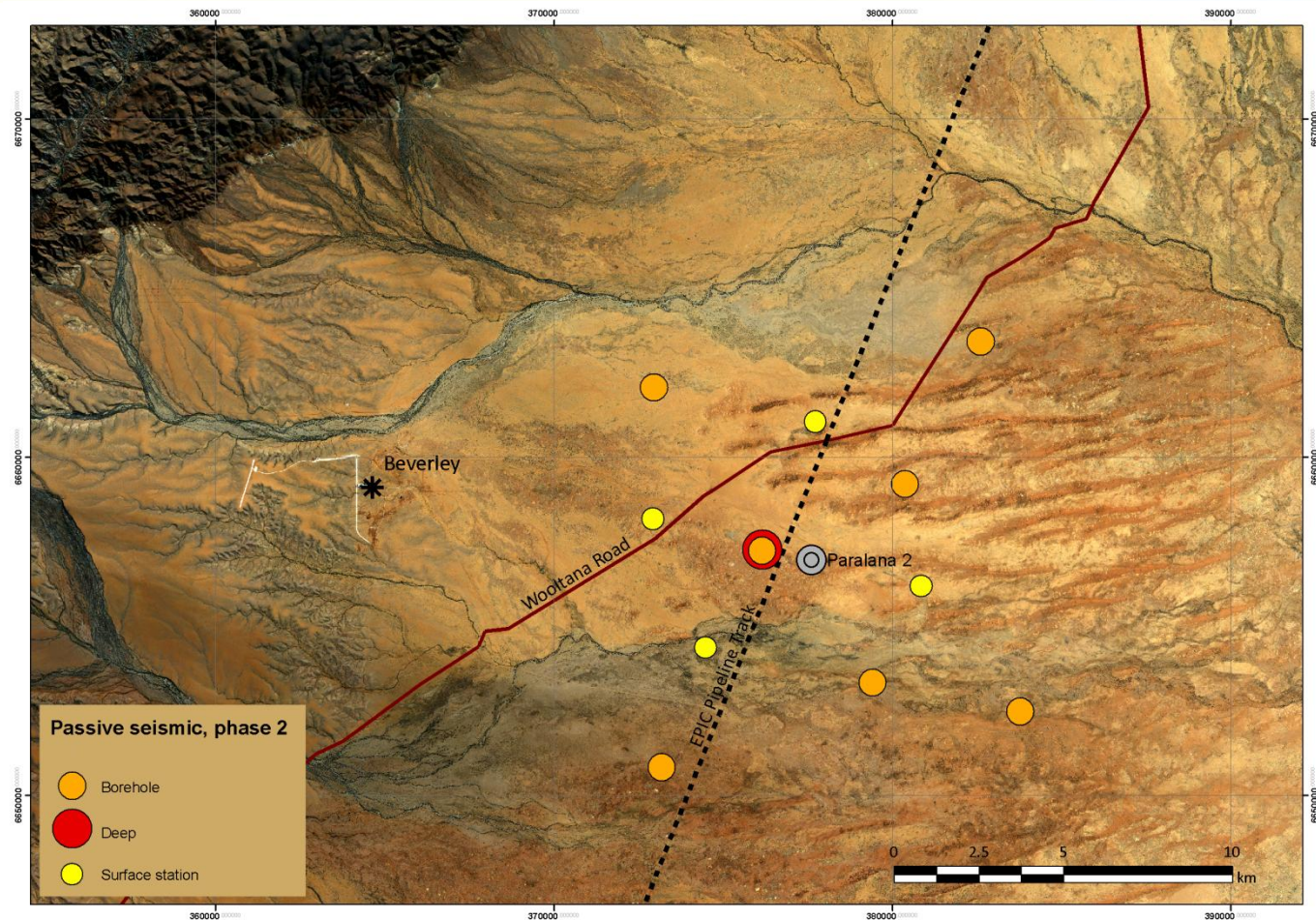


Paralana Project – Commercial Overview

- > Commercially viable at all stages. Small off grid market (5-30MWe) (Heathgate) followed by large on grid development (260 MWe+)
- > Expenditure well leveraged for proof of concept, then potentially fully funded to initial commercial demonstration scale 30MW plant
- > Funding and expertise from JV Partners, Beach Petroleum (up to 36 per cent for \$30m) and TRUenergy (up to 30 per cent for \$57m)
- > Strong Federal Government grant support - \$7 million geothermal drilling fund and \$62.762 million REDP grant

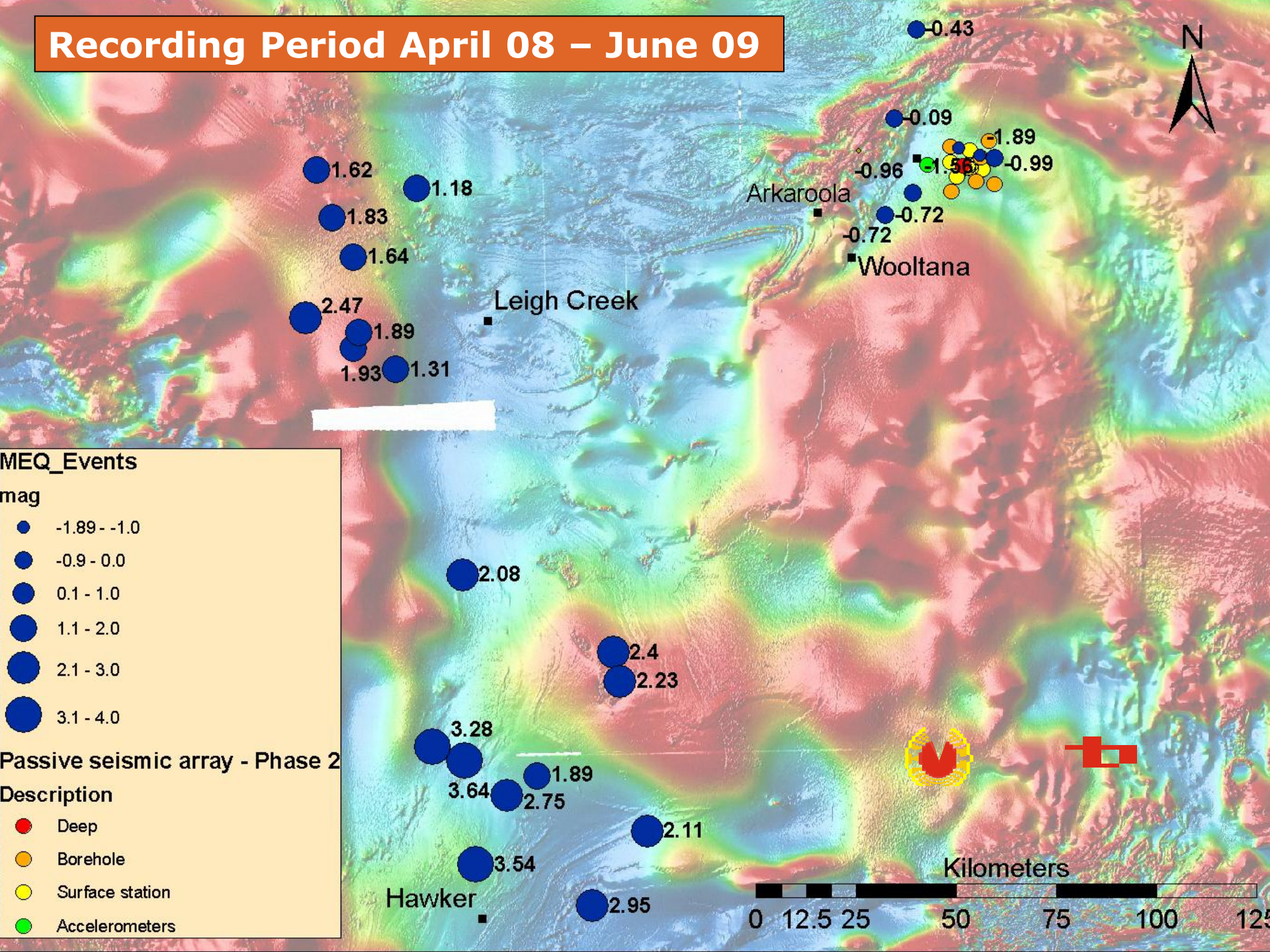


Passive Seismic Array



MEQ - Array Managed by IESE

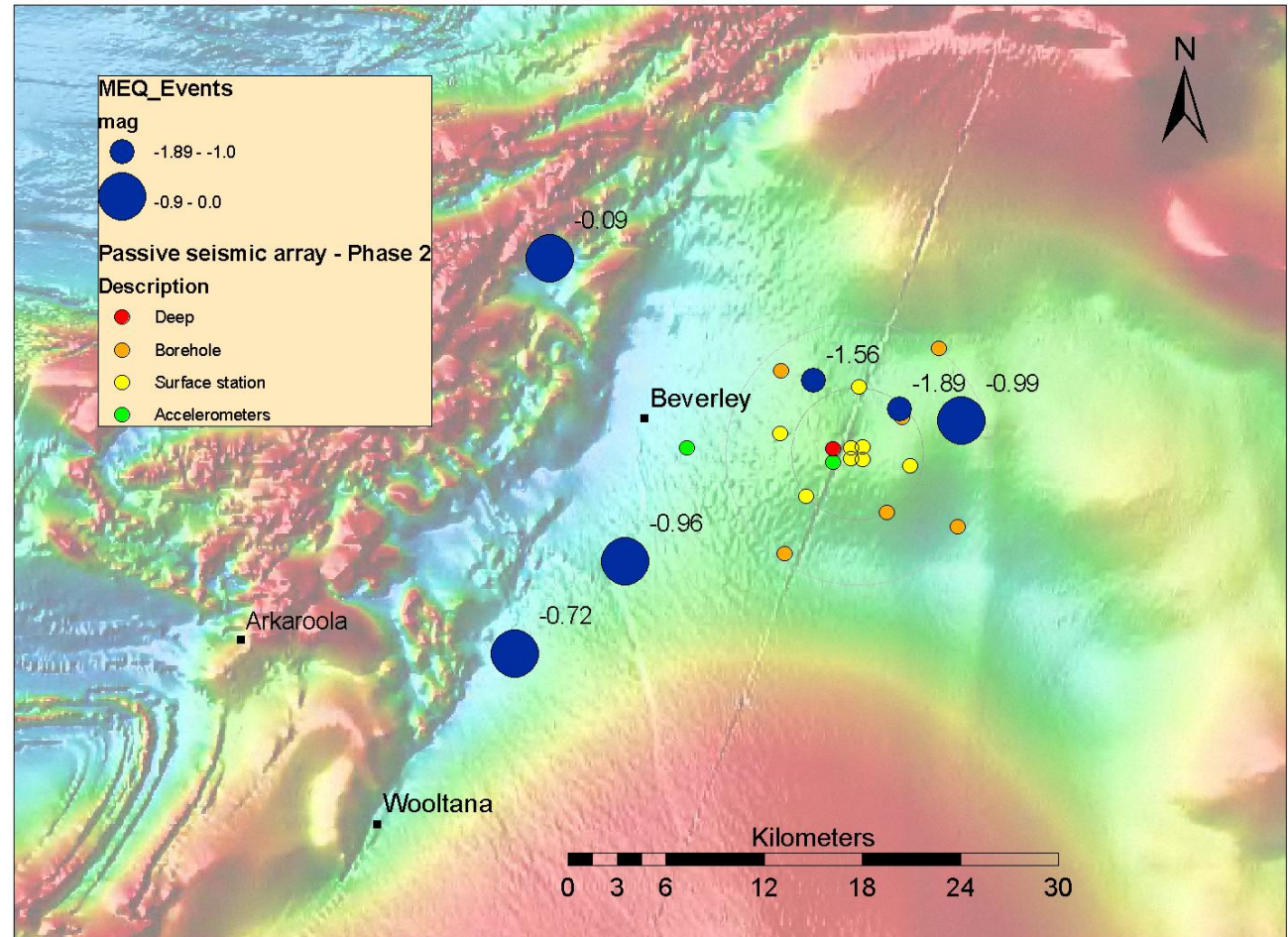
Recording Period April 08 – June 09



Pre-stimulation Seismic Events

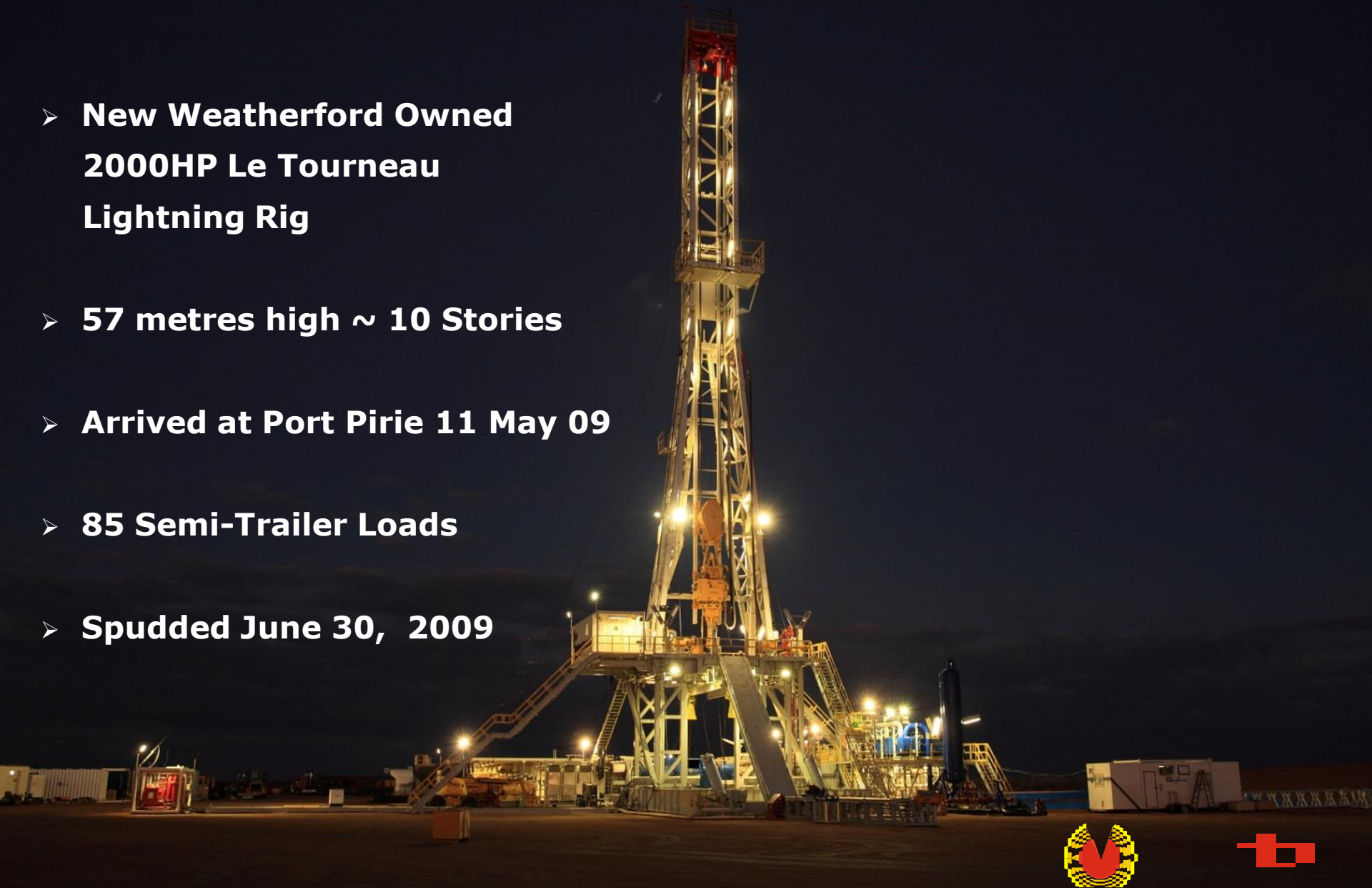
Recording Period
April 2008
– June 2009

Array detecting
small events



Paralana 2 – Drilling

- **New Weatherford Owned
2000HP Le Tourneau
Lightning Rig**
- **57 metres high ~ 10 Stories**
- **Arrived at Port Pirie 11 May 09**
- **85 Semi-Trailer Loads**
- **Spudded June 30, 2009**



Paralana 2 - Operations

- Petratherm/Beach – extensive stakeholder and community consultation – Adnyamathanha Community, Beverley Uranium Mine , Epic Pipe line, Arkaroola Village
- Beach Petroleum – Manager of Drilling Operations
- HSE - no lost time injuries
- Only minor shake down issues
- Hand-picked experienced drill crew provided



Scenario Planning vs. Murphy's Law

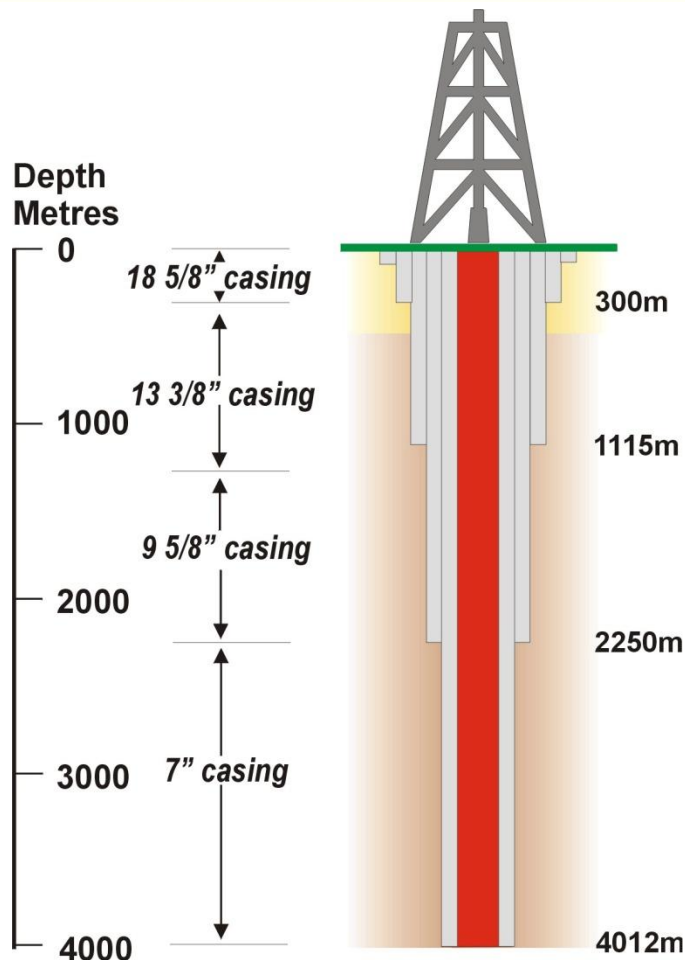


Paralana 2 – Drilling

- Very Hard Rock Formations – slow ROP 1-3 m/hr
- Tested several BHA arrangements to optimise ROP



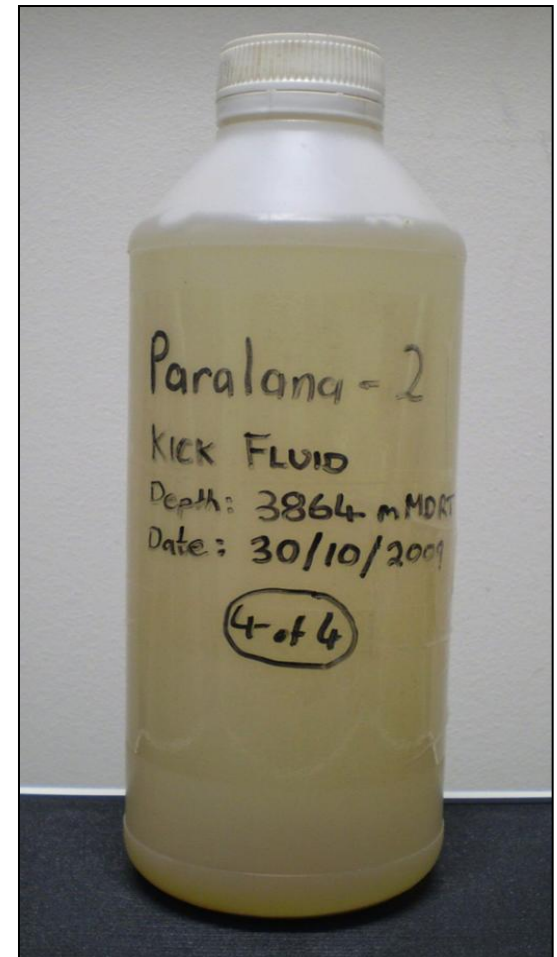
Paralana 2 - Drilling Completed to 4012 M – 9 Nov 2009



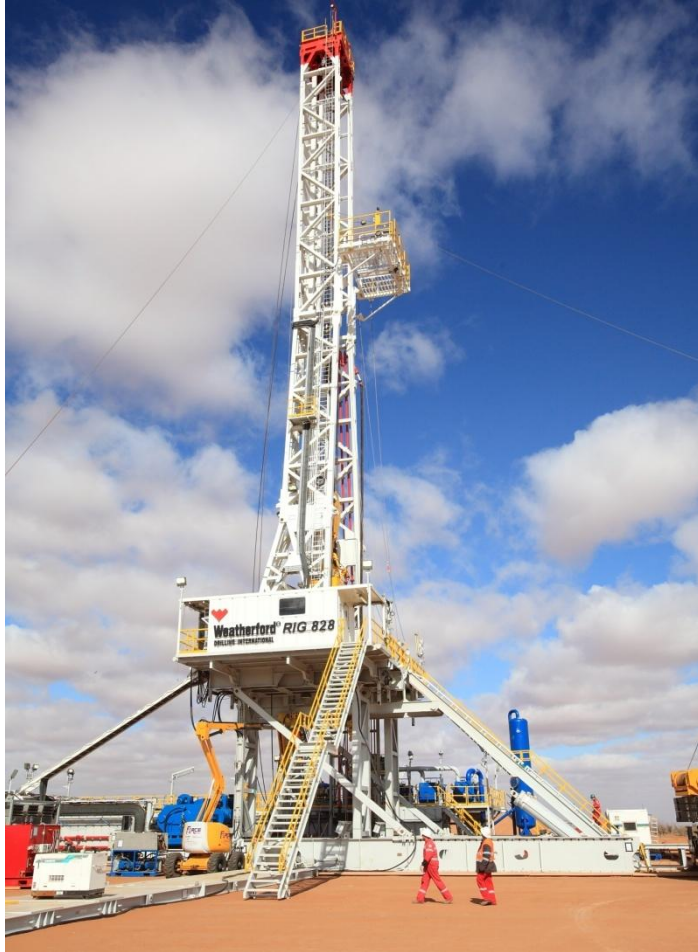
- First well designed following low-risk, standard operating methods
- Steady but slow drilling due to hard formations
- Conservatively drilled to ensure success to 4012m
- Wireline and LWD logging completed
- Well cased and cemented to 3725m
- Bottom hole temperature ~ 190°C
- Inflow zones encountered from 3690m

Paralana 2 – Reservoir Characteristics

- Inflow zones from 3690m
- Zr dataing confirms old 1590Ma Reservoir Sequence
- Contains numerous fractures and faults
- High pressure geothermal brines intersected
- 2D Seismic suggests fractured reservoir sequence is regionally extensive



Current Planned Future Work Program



- 1st Qtr 2010: Fracture stimulation design
- 2nd Qtr 2010: Fracture stimulation – ***link into over pressured zone!***
- 4th Qtr 2010/1st Qtr 2011: Drilling of the Paralana 3 deep producer well
- 2nd Qtr 2010: Circulation Test – Proof of Concept
- Late 2011: Commission first stage 3.75 MW power plant

CLEAN ENERGY FOR FUTURE GENERATIONS

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