

# ASX Release



**PETRATHERM LIMITED**  
**ABN 17 106 806 884**

## Paralana EGS Project Update

Petratherm's Exploration Manager, Peter Reid, will present later today an update on the Paralana EGS project to the 2009 Australian Geothermal Energy Conference being held at the Hilton Hotel in Brisbane.

Mr Reid's presentation will cover the technical aspects of the Paralana project, together with recent information from the Paralana 2 well drilling campaign.

The presentation is attached.

Yours faithfully

**Terry Kallis**  
Managing Director

**12 November 2009**

**ASX Code: PTR**

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### ABOUT THE JOINT VENTURE PARTNERS:

Beach Petroleum (ASX: BPT) is an oil and gas company headquartered in Adelaide that farmed-in to the Paralana Project in January 2007. Beach can earn up to 36% of the project for \$30 million plus its equity share of project costs. ([www.beachpetroleum.com.au](http://www.beachpetroleum.com.au)).

TRUenergy Geothermal is a wholly owned subsidiary of the CLP group, one of the largest publicly-listed power businesses in Asia Pacific ([www.truenergy.com.au](http://www.truenergy.com.au) and [www.clpgroup.com](http://www.clpgroup.com)). TRUenergy Geothermal farmed-in to the Paralana project in August 2008. TRUenergy Geothermal can earn up to 30% of the project for \$57 million.

### MEDIA CONTACT:

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# The Paralana – Engineered Geothermal Energy Project

Australian Geothermal Energy Conference  
Presented by Exploration Manager Peter Reid

Thursday, November 12, 2009



Paralana  
Geothermal Energy

# CLEAN ENERGY FOR FUTURE GENERATIONS



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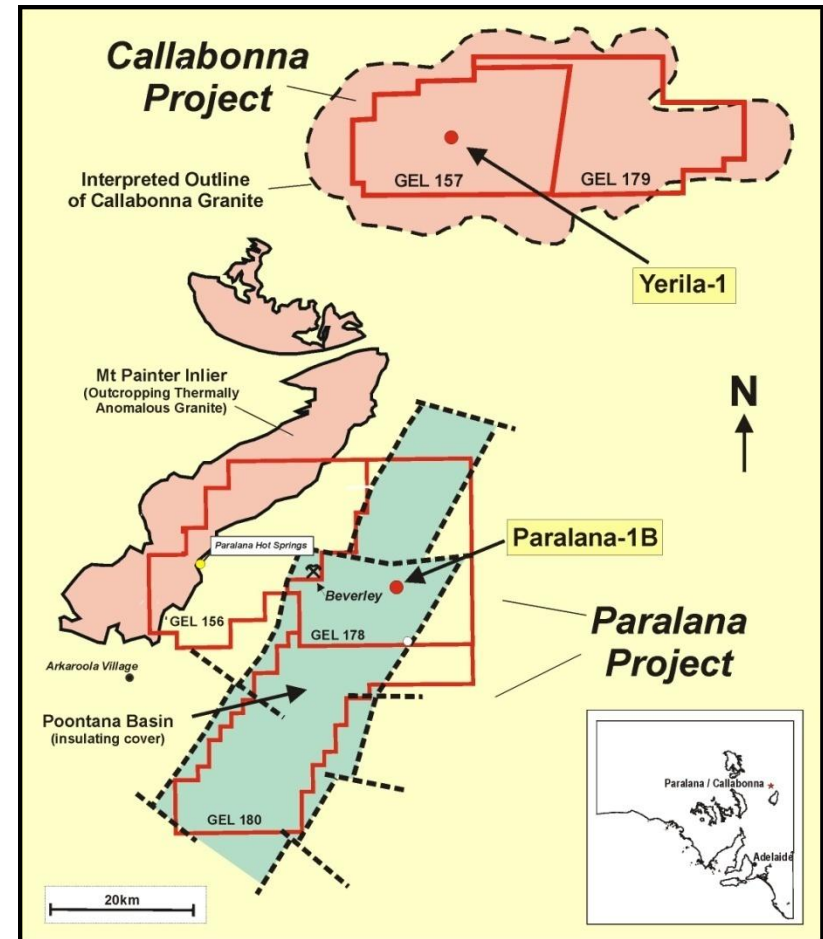
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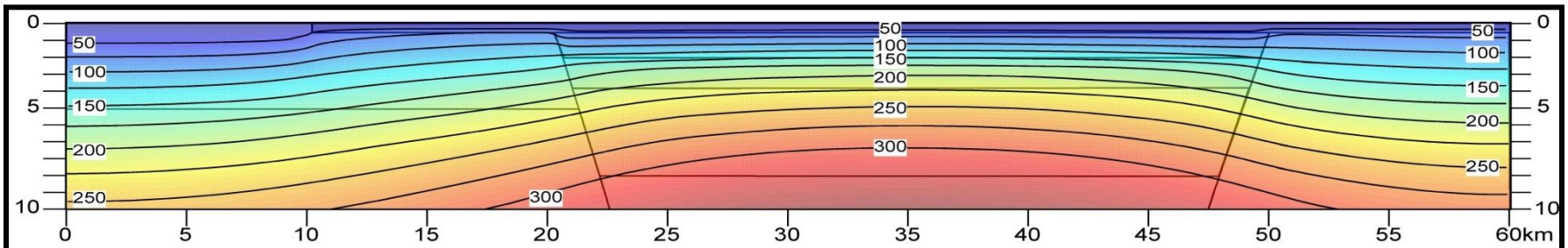
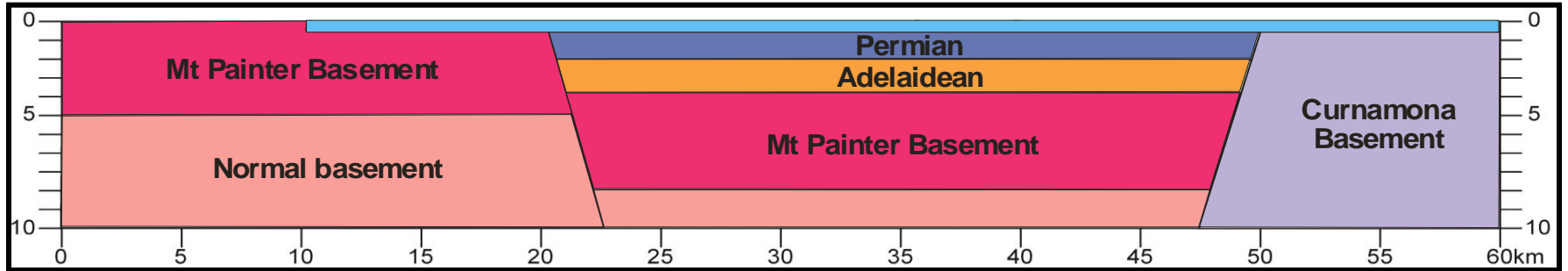
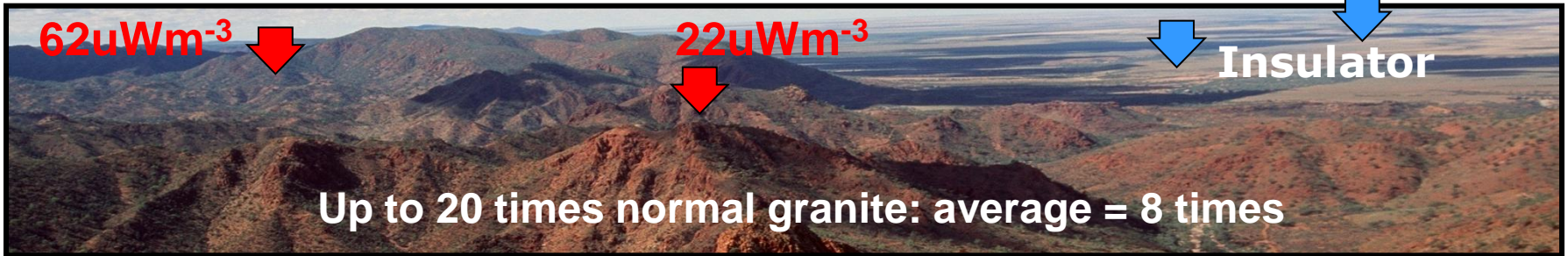
# Why Paralana?

## Evidence for Thermal Anomalism

- > Hot Springs
- > Fossil Hydrothermal Breccias
- > Elevated groundwater temperatures
- > High heat flow (Mt Gee 126 mWm<sup>-2</sup>)
- > Poontana basin insulator

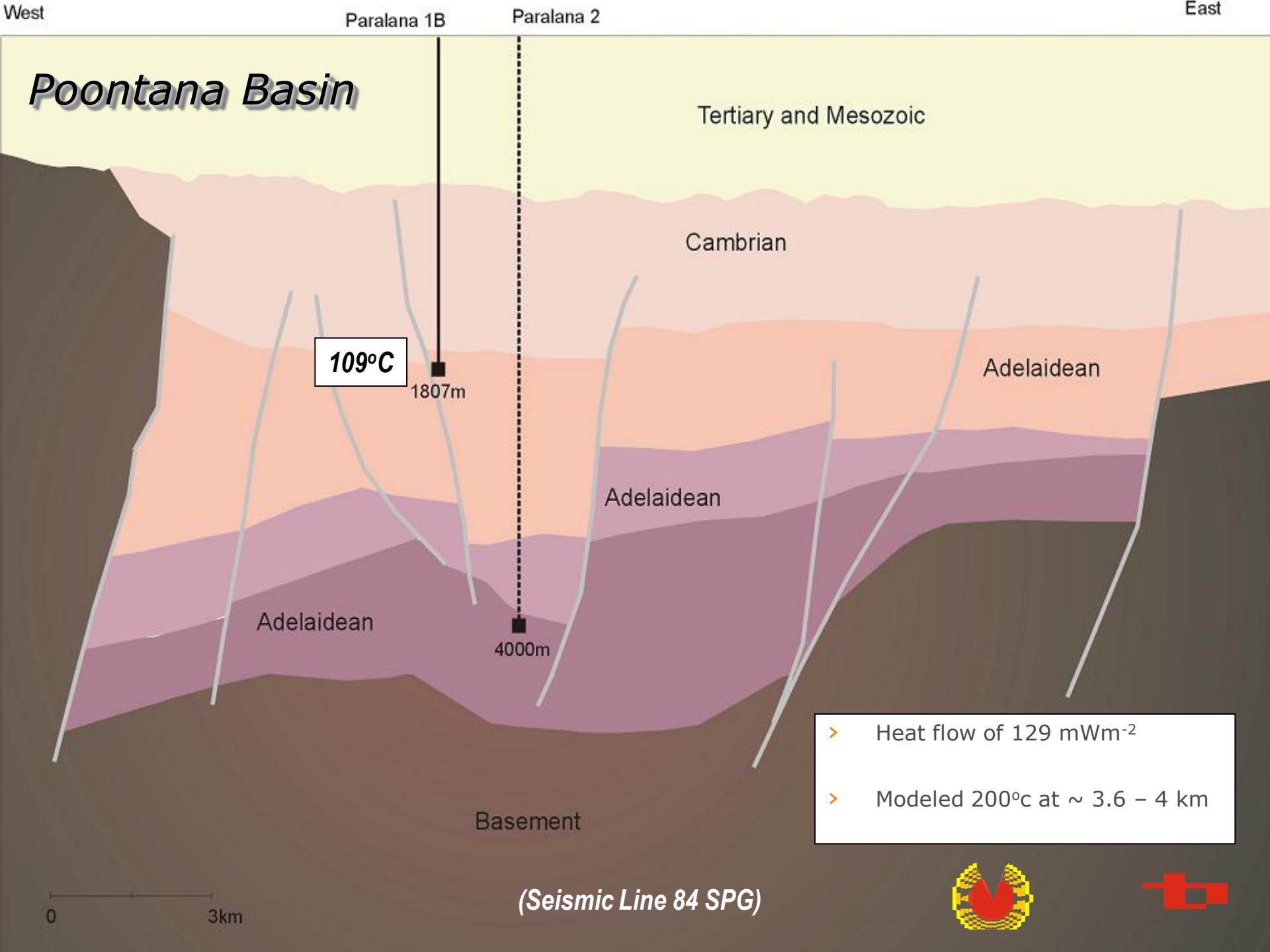


# Exploring for Heat – Paralana Project



Early modelling indicated 200°C at approximately 3.6 - 4 km

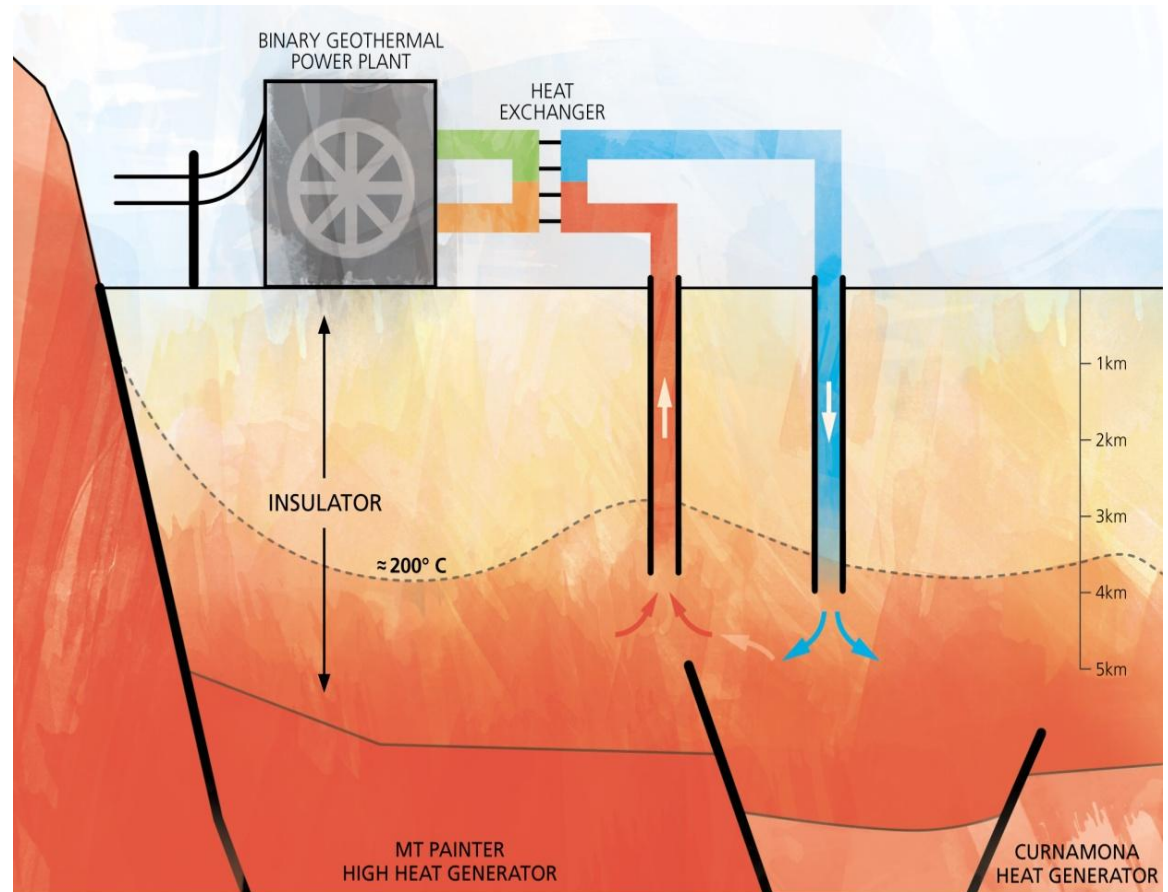




# Development Model – Heat Exchanger Within Insulator

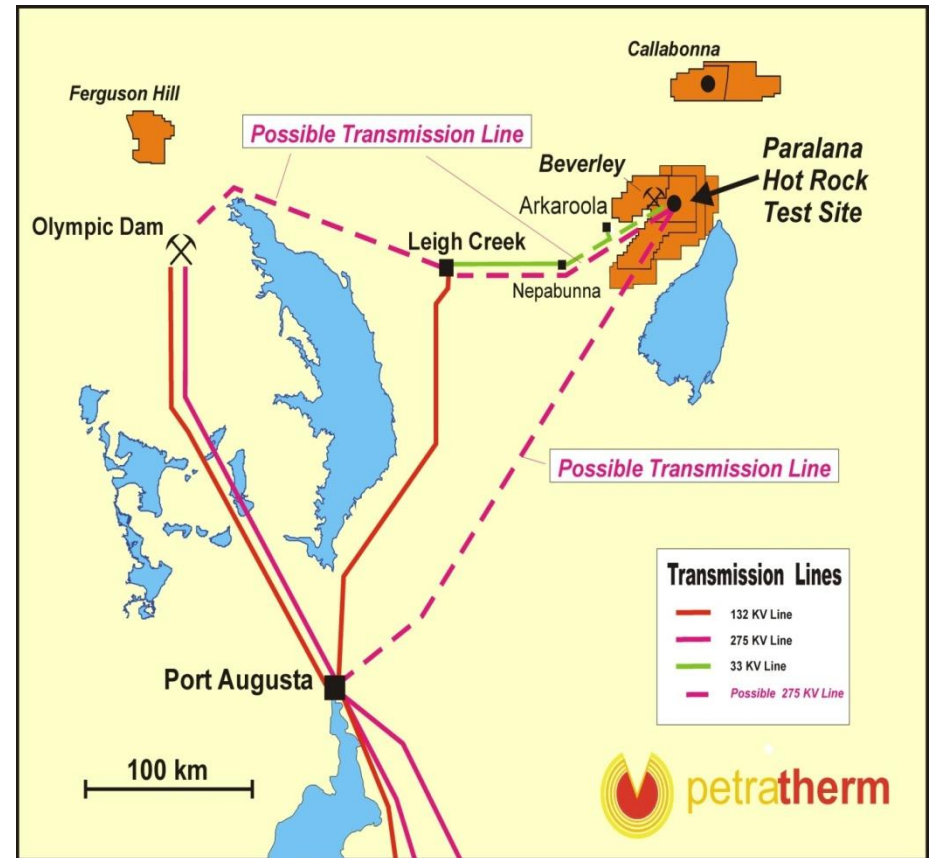
- > Higher Permeability
- > Chemically Stable
- > Lower Frac Challenge?
- > Adelaidean – bedding / joint surfaces

= Cheaper Power!

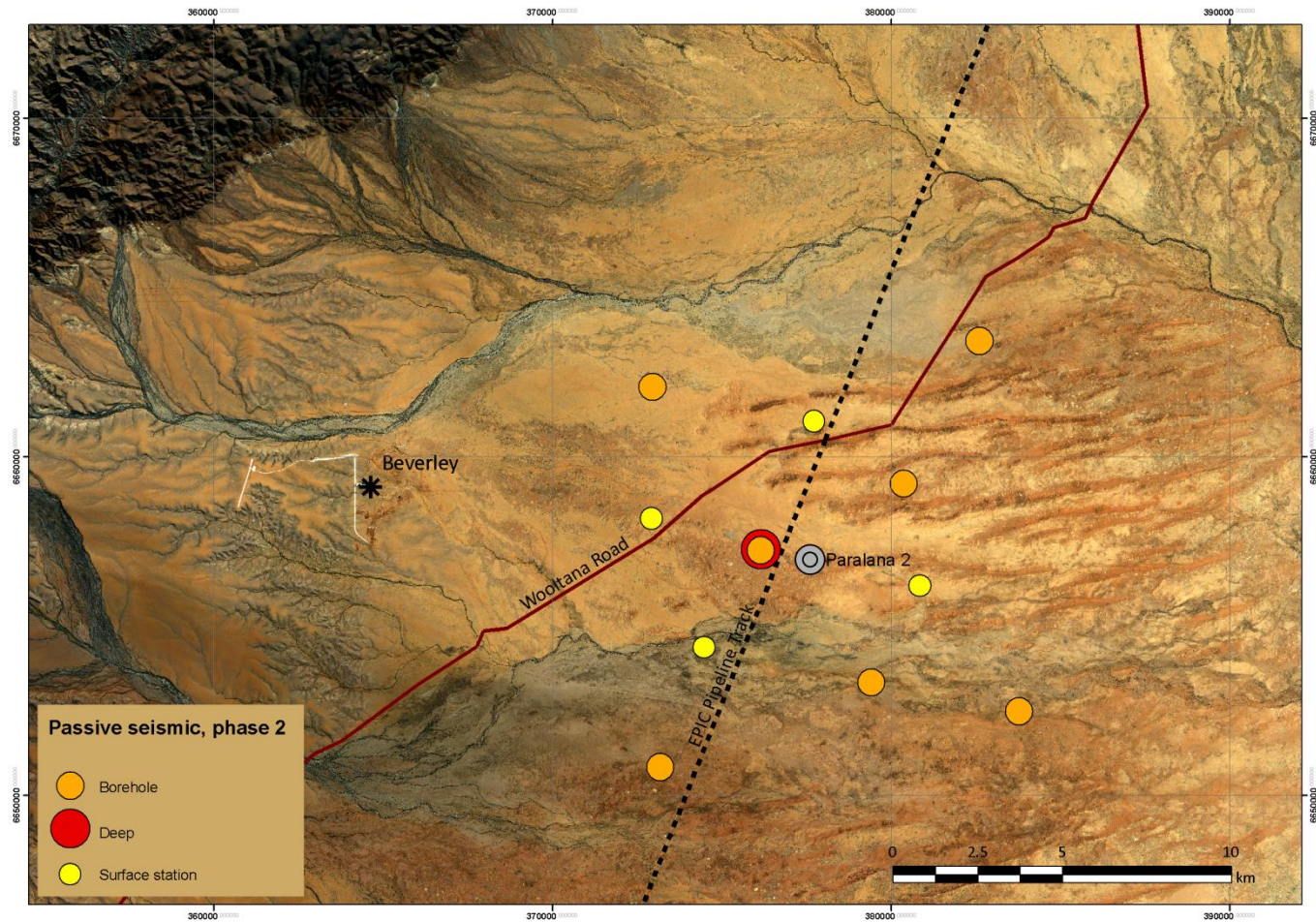


# Paralana Project – Commercial Overview

- > 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

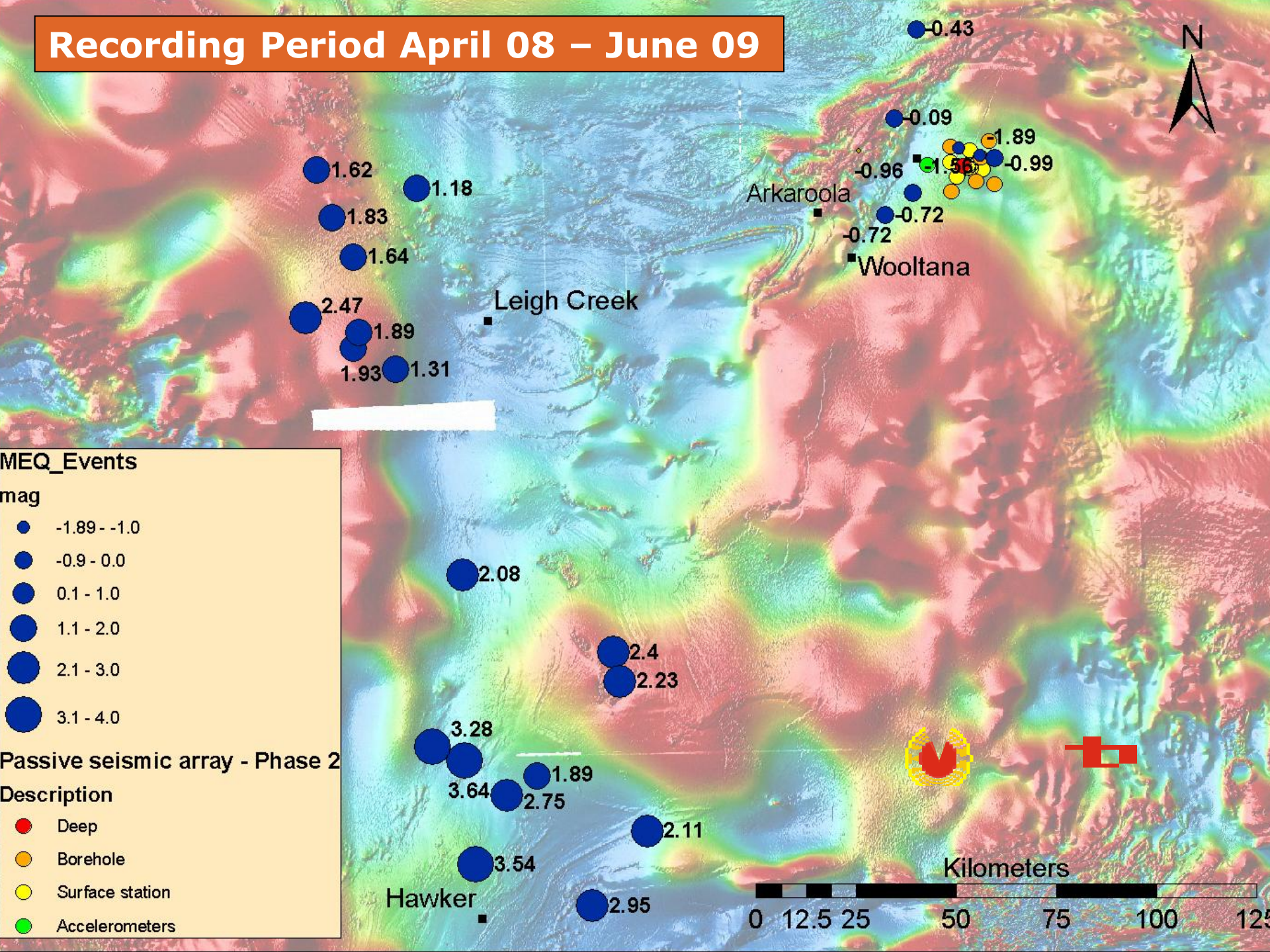


# Passive Seismic Array



MEQ - Array Managed by IESE

# Recording Period April 08 – June 09



## MEQ\_Events

mag

- -1.89 - -1.0
- -0.9 - 0.0
- 0.1 - 1.0
- 1.1 - 2.0
- 2.1 - 3.0
- 3.1 - 4.0

Passive seismic array - Phase 2

Description

- Deep
- Borehole
- Surface station
- Accelerometers

1.62  
1.83  
1.64  
2.47  
1.89  
1.93  
1.31

Leigh Creek

Arkaroola

Wooltana

2.08

2.4  
2.23

3.28  
3.64  
2.75  
1.89

2.11

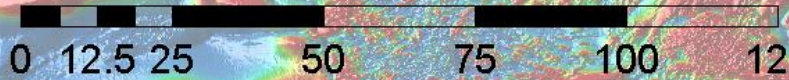
Hawker

3.54

2.95

-0.43  
-0.09  
1.89  
-0.96  
-0.99  
-0.72  
-0.72

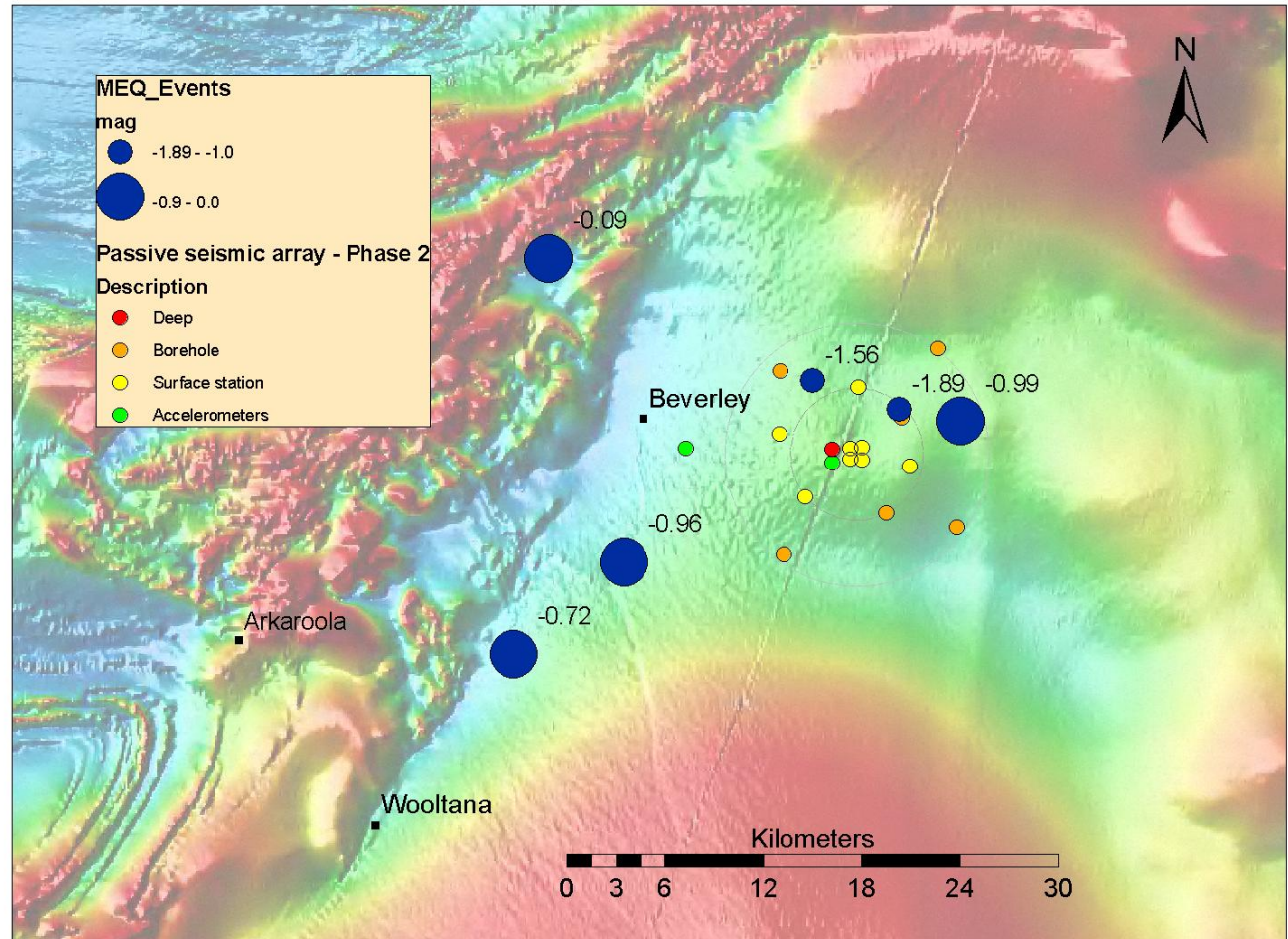
Kilometers



# Pre-stimulation Seismic Events

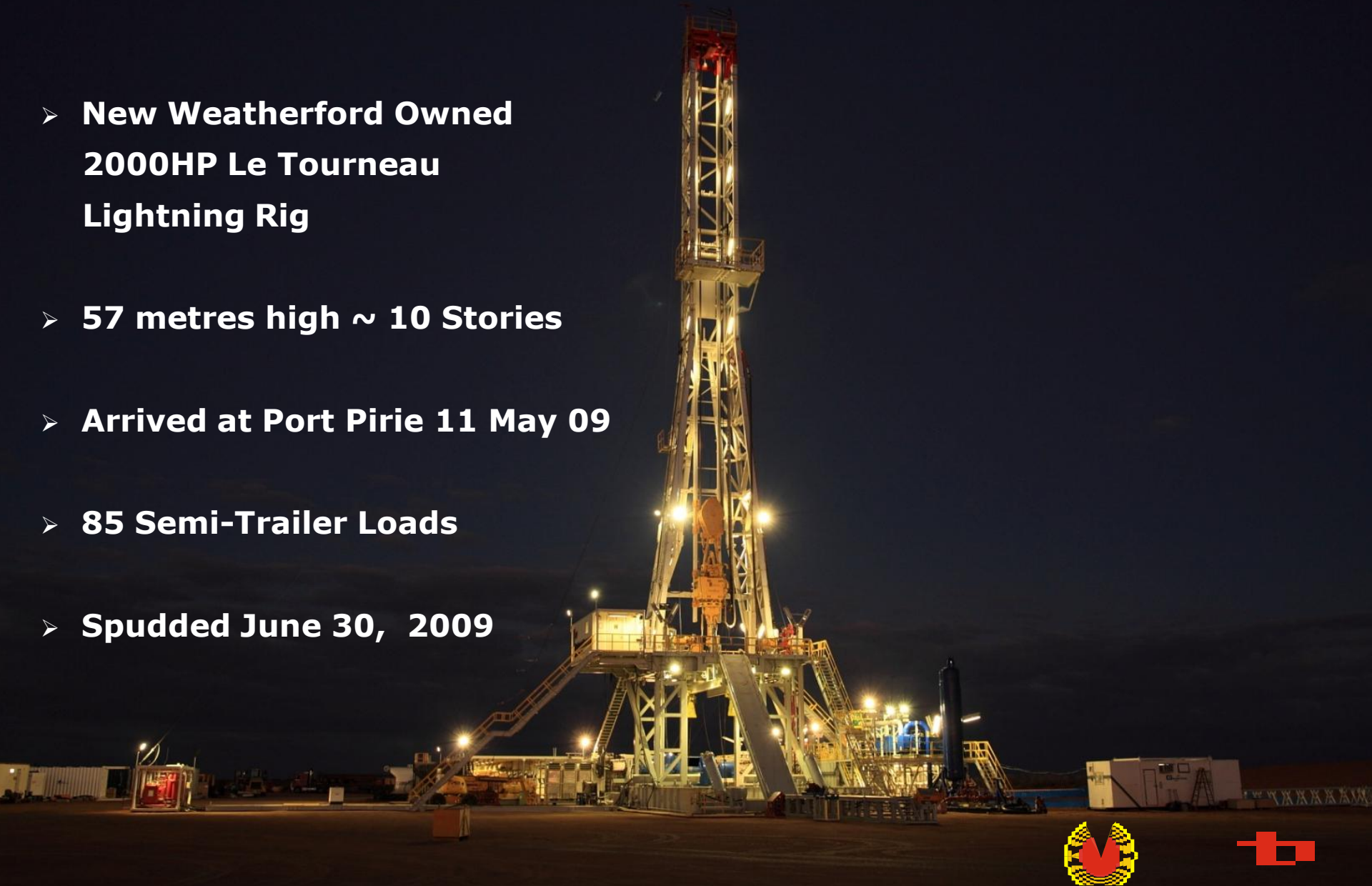
Recording Period  
April 2008  
– June 2009

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 - to date no lost time injuries
- > Only minor shake down issues
- > Hand-picked experienced drill crew provided



# Scenario Planning vs. Murphy's Law

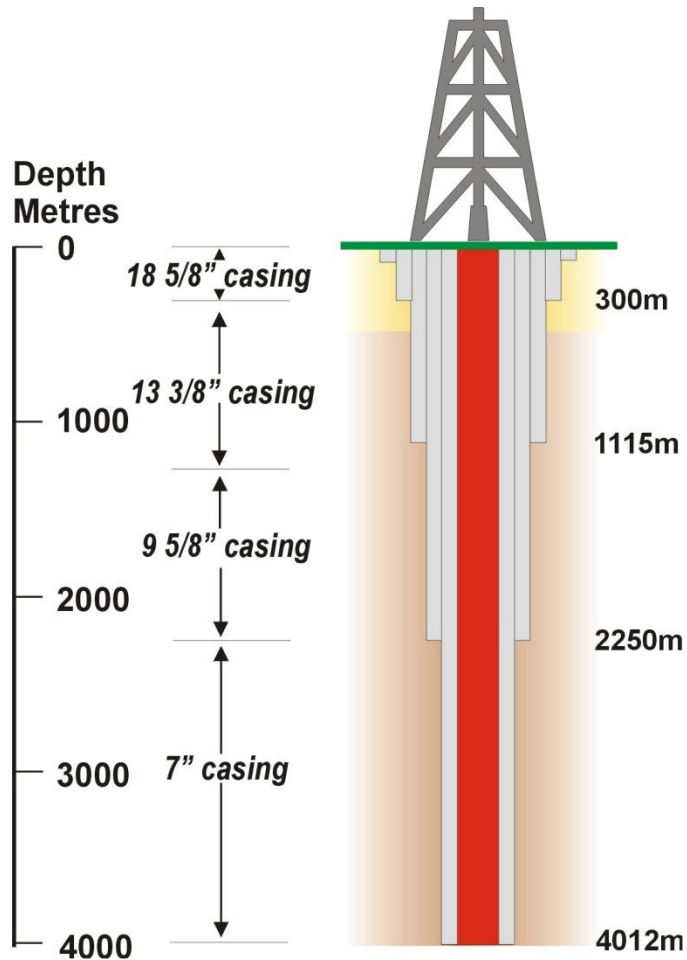


## Paralana 2 – Drilling

- Very Hard Rock Formations – slow ROP 1-3 m/hr
- Tested several BHA arrangements to optimise ROP
- ***Remember this is a Wildcat Well !***



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



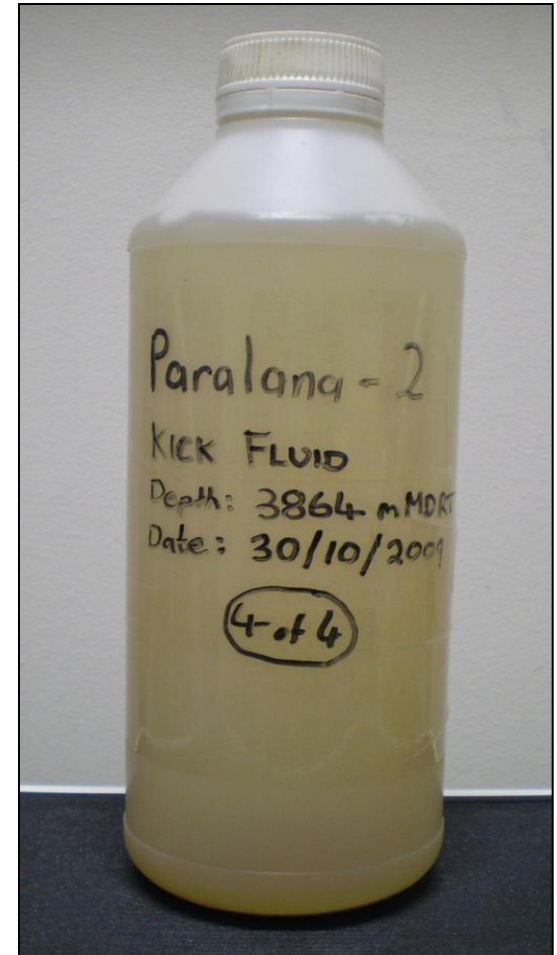
- > First well designed following low-risk, standard operating methods
- > Steady but slow drilling due to hard formations
- > Wireline logging underway
- > Will be fully cased and cemented
- > Inflow zones encountered from 3690m

# Paralana 2 – geothermal brines

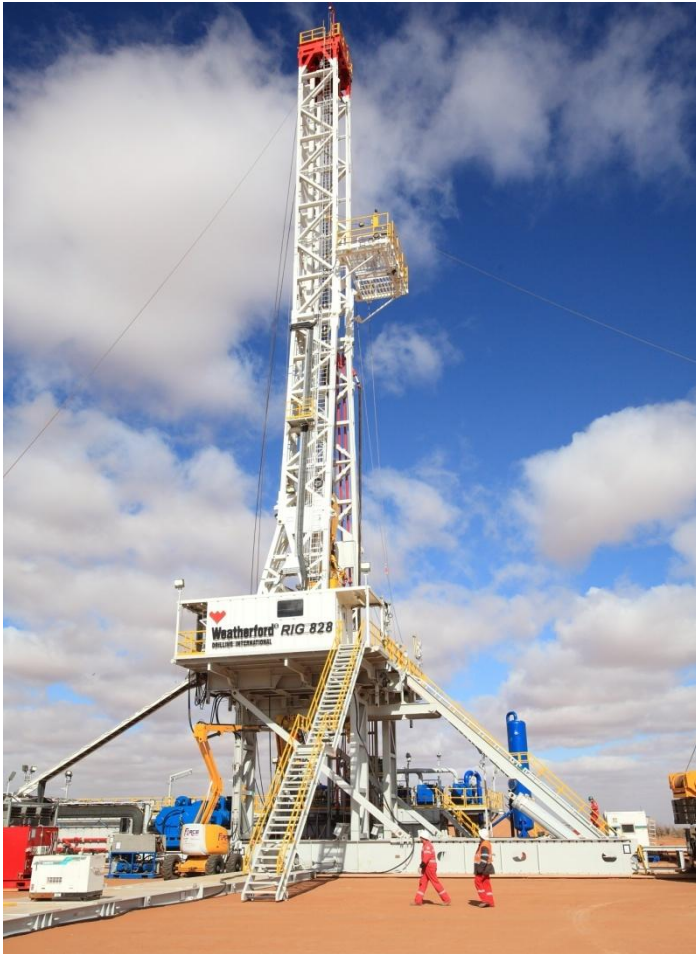
- > Inflow zones from 3690m
- > Brine samples taken
- > Wireline Logging Program –

## Reservoir Characterisation!

- > Temperature
- > Permeability
- > Insitu stress field
- > Geology
- > Rock Properties



# Current Planned Future Work Program



- > November 2009: Wireline Logging
- > 1<sup>st</sup> Qtr 2010: Mini frac program/fracture stimulation design
- > 2<sup>nd</sup> Qtr 2010: Multizone fracture stimulation
- > 3<sup>rd</sup> Qtr 2010: drilling of the Paralana 3 deep producer well
- > End 2010: Circulation Test – Proof of Concept
- > Early 2011: Commission first stage power plant

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