



petratherm

South Australia's Future Energy

“Building a portfolio of quality geothermal energy projects - Australia and Overseas”

18 August 2009

**Presented by
Terry Kallis (Managing Director)**

Explorer and Developer of Geothermal Energy

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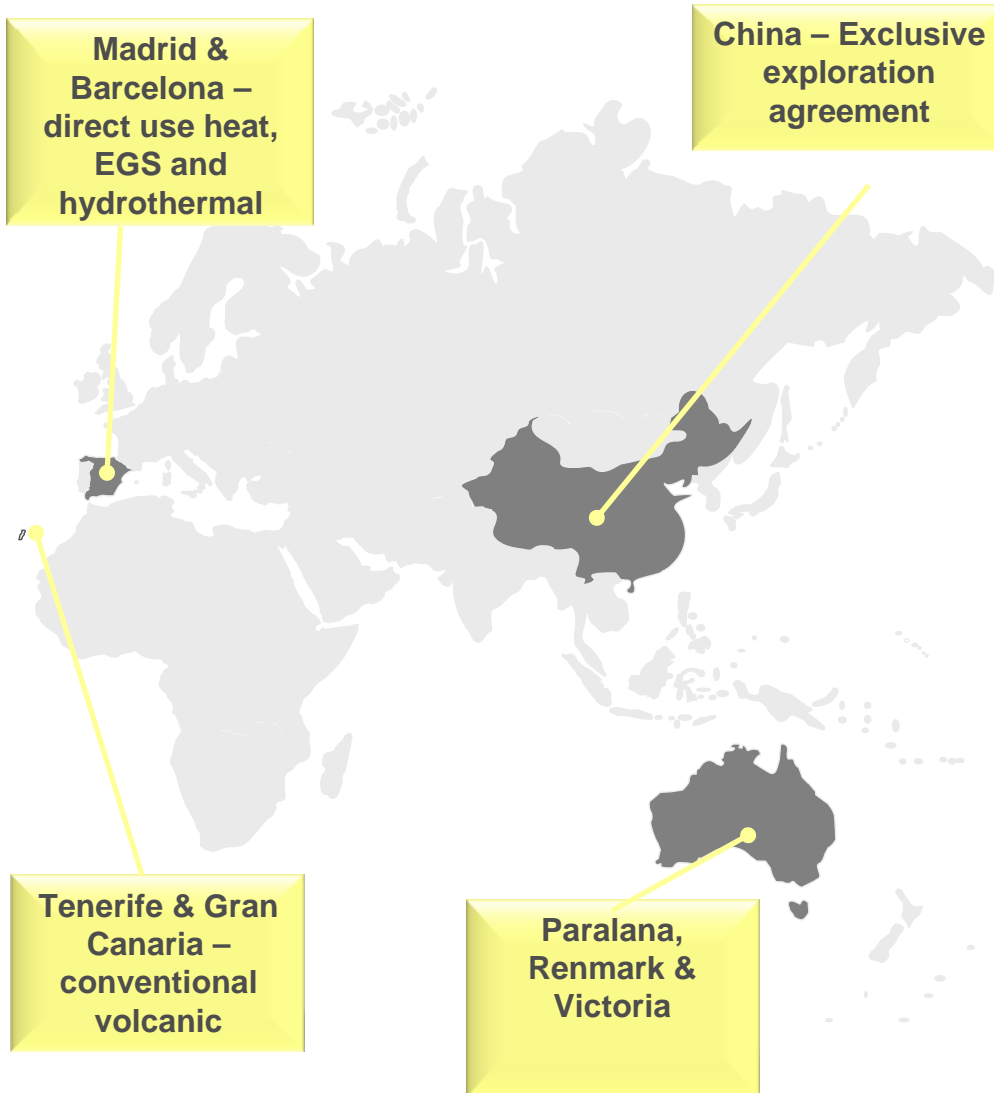
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Presentation Outline

- Corporate DVD (8 minutes)
- Corporate Overview
- Geothermal Energy Technology
- Paralana Project
 - Overview
 - JV arrangements
 - Drilling program and fracture stimulation
- Key Points of Differentiation
- Outlook for Calendar 2009

Corporate Overview (PTR.AX)



Key Statistics

- Current shares on issue – 92 m
- Market capitalization - \$28.5m (at share price of \$0.30)
- Cash – June 30 \$13 m
- Grants - GDP \$7.0m
- Grant Application – REDP \$62.8 m
- 3100 Shareholders with major shareholder - Minotaur Exploration (22%)

Projects

- Projects spanning **Australia, Spain and China** – EGS, conventional volcanic, hot sedimentary aquifer & direct use heat
- **Flagship project** – Paralana
- **Exciting growth projects:**
 - Direct heat, conventional and EGS geothermal projects covering Madrid, Barcelona, Canary Islands and Victoria's East Gippsland Basin
 - Exclusive government supported exploration agreement in China

Joint Venture Partners

- **Beach Petroleum (up to 36% for \$30m)**
- **TRUenergy (up to 30% for \$57m)**

Corporate Mission & Business Model

Mission *“to explore for and develop, emission free, geothermal energy projects that are commercially sustainable”*

Business Model

“to develop a portfolio of quality geothermal energy projects conventional and EGS – for power and/or heat – where there is a favourable combination of geology and market conditions - and introduce joint venture partners with skills, risk appetite and funding ability to further develop projects through to production”

Petratherm Board



Derek Carter
Chairman



Simon O'Loughlin
Director



Richard Hillis
Director



Richard Bonython
Director



Terry Kallis
Managing Director



Donald Stephens
Company Secretary

Highly experienced Board with combination of commercial and technical skills including:

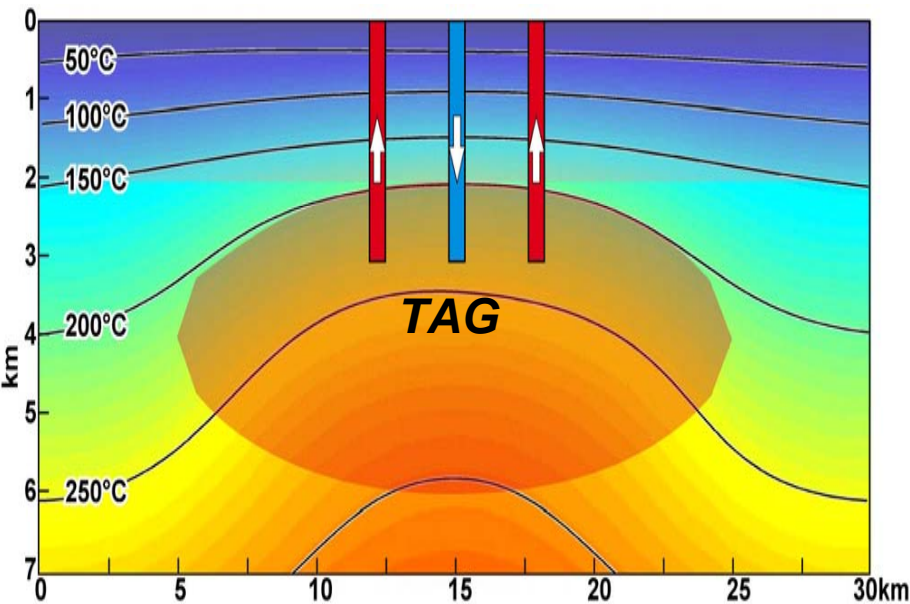
- Corporate governance
- Financial management
- Legal
- Marketing
- Project Management
- Exploration and development
- Geology/Geophysics
- Resources and energy
- Government and stakeholder relations

Corporate Overview – Skills & Capabilities

Combined skills and experience of the Board Management, Partners and Consultants capable of delivering successful geothermal energy projects – from underground resource through to market

- Beach Petroleum - Subsurface – well design, drilling and fracture stimulation
- TRUenergy (CLP Group) - Power generation, transmission and sales
- Geothermal Explorers - EGS reservoir/project development
- Expert Consultants - Prof. Richard Hillis and Dr Martin Hand (Adelaide University)

Geothermal Energy Technology - Project Portfolio



Paralana – EGS – power production

East Gippsland – Hot sedimentary aquifer

Tenerife and Gran Canaria – volcanic conventional, high enthalpy systems, proven technology, potential for high yielding wells for power production of 50 MW to 100 MW

Madrid and Barcelona – both EGS and district heating – low enthalpy aquifer for heat to supply local market within 5 kilometres

TAG – thermally anomalous granite

EGS technology – hot rocks

Large systems – low enthalpy

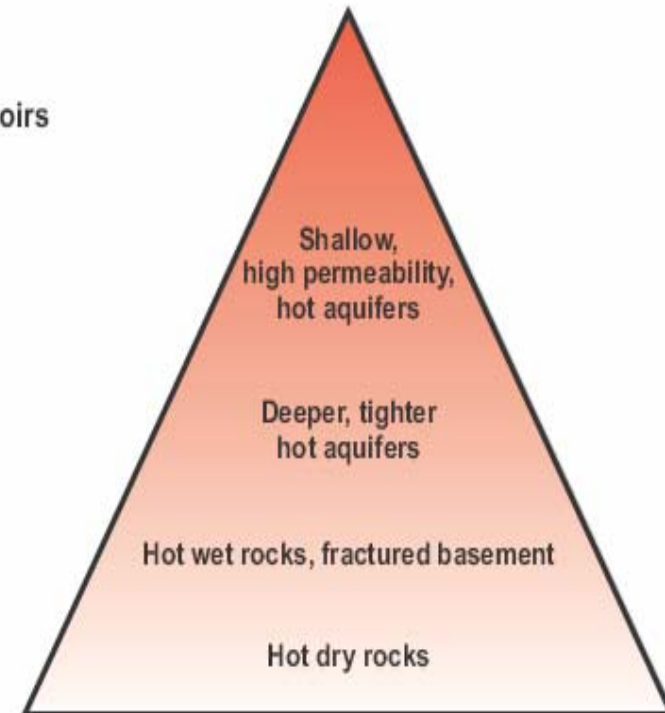
Abundant resource

Requires large commercial demonstration

Conventional reservoirs

Improved technology

Unconventional

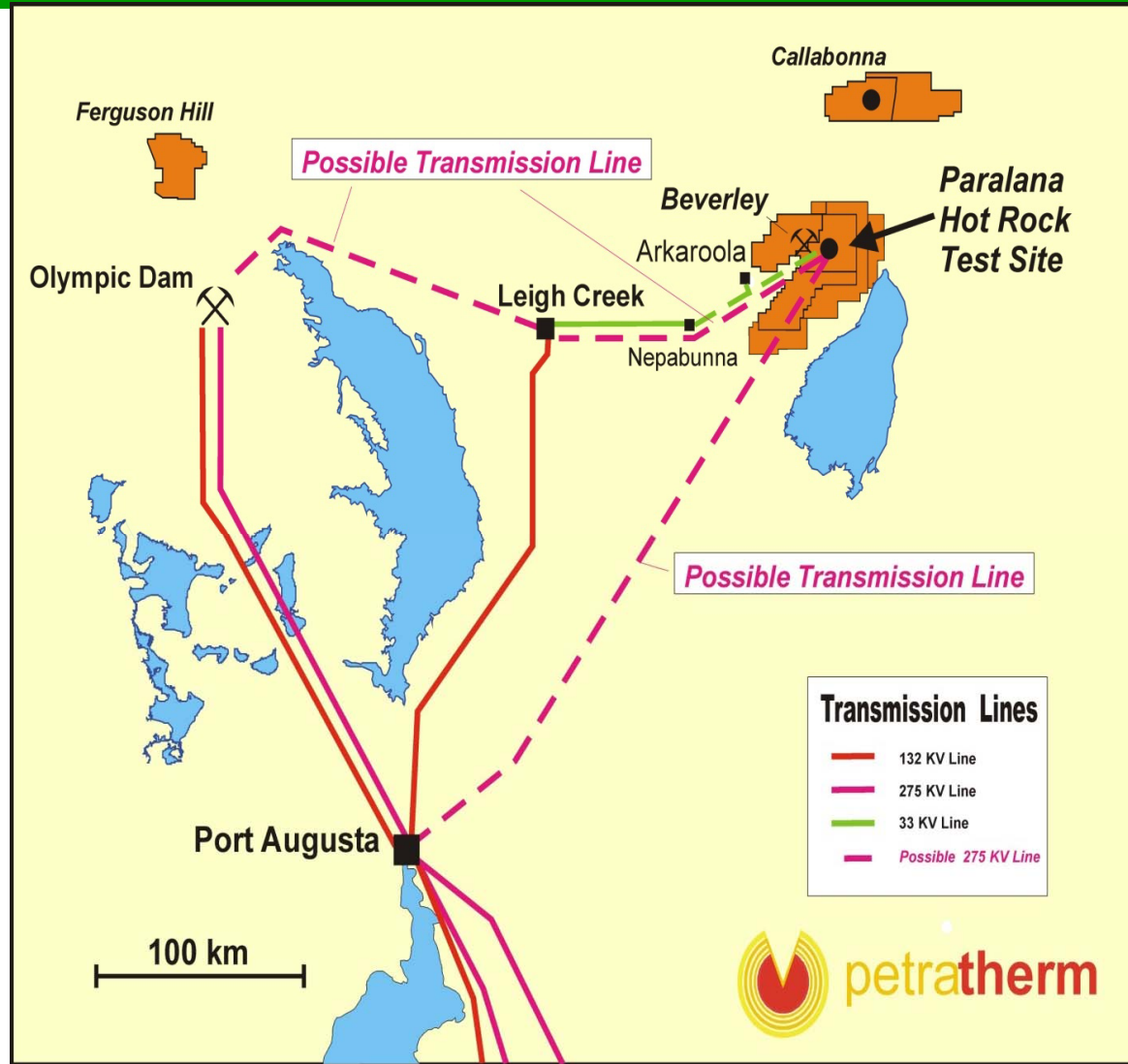


Engineered Geothermal Systems (EGS)

Paralana Project - Overview

Uniquely positioned to be potentially commercially viable at all Stages!

- ✓ **High heat flow rate** ($128\text{mW}/\text{m}^2$) and predicted **Temperature** of 200°C at a depth of 3600 metres
- ✓ **Stable geological formation and expect no overpressures** – suggests good drilling conditions
- ✓ Very **close to market** for initial plant (up to 7.5MW).
 - Off grid market ~ Heathgate Resources' Beverley Uranium Mine (11km) and Four Mile.
- ✓ Sub-surface and above surface **expertise**.
- ✓ **After HEWI, potentially fully funded** to initial commercial, demonstration scale 30 MW plant.
- ✓ **Endorsement** from major industry participants – JV with Beach and TRUenergy (refer later)
- ✓ \$5M Federal REDI & \$7M GDP Grants
- ✓ Ability to scale-up in commercially viable increments (7.5, 30, 260 and 520 MW) **reduces risk**
- ✓ **Next step is drilling 4 km HEWI wells**.



Paralana Project Joint Venture

➤ **Beach Petroleum Farmin (Jan 2007) for up to \$30M for 36%**

- \$5M first well and stimulation
- \$5M second well and stimulation – earns 21%
- After HEWI - Option to earn a further 15% for \$20M
- Plus equity share of project costs at every stage

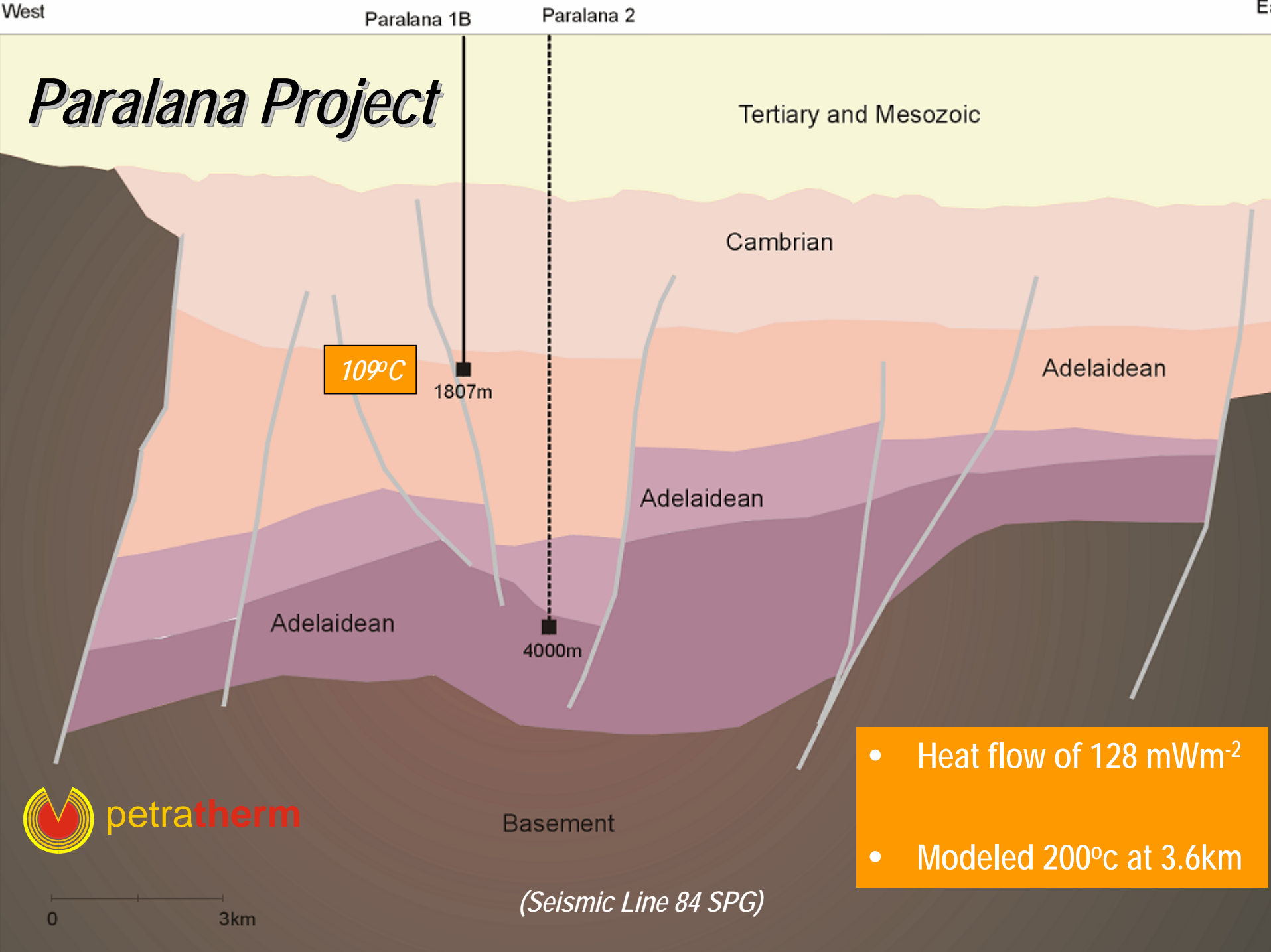
➤ **TRUenergy Farmin (Aug 2008) for up to \$57M for 30%**

- \$3M first well and stimulation
- \$3M second well and stimulation – earns 10%
- After HEWI, have an Option to earn a further 5% for \$7M
- After 7.5 MW pilot plant - Option to earn a further 15% for \$44M
- Plus equity share of project costs at every stage

Beach Petroleum, TRUenergy and Petrathem have complementary sets of skills and represent a formidable collaboration for the Paralana Project

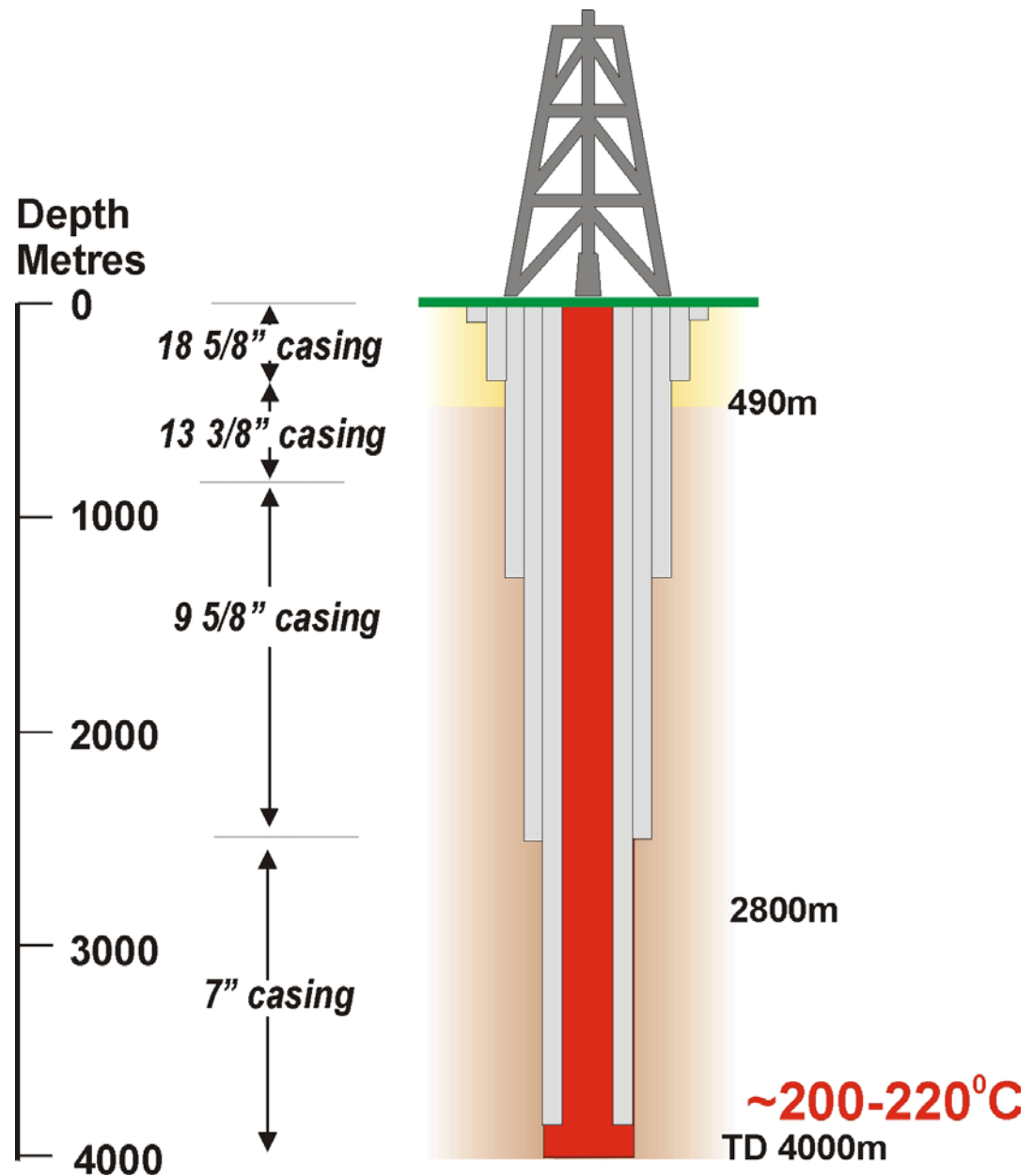
Under the Paralana JV - prior to the use of grant funds - the first \$8.0 M for each well is sourced from Beach \$5.0 M, TRUenergy \$3.0 M

GDP and REDI grants further support the funding of the Paralana JV



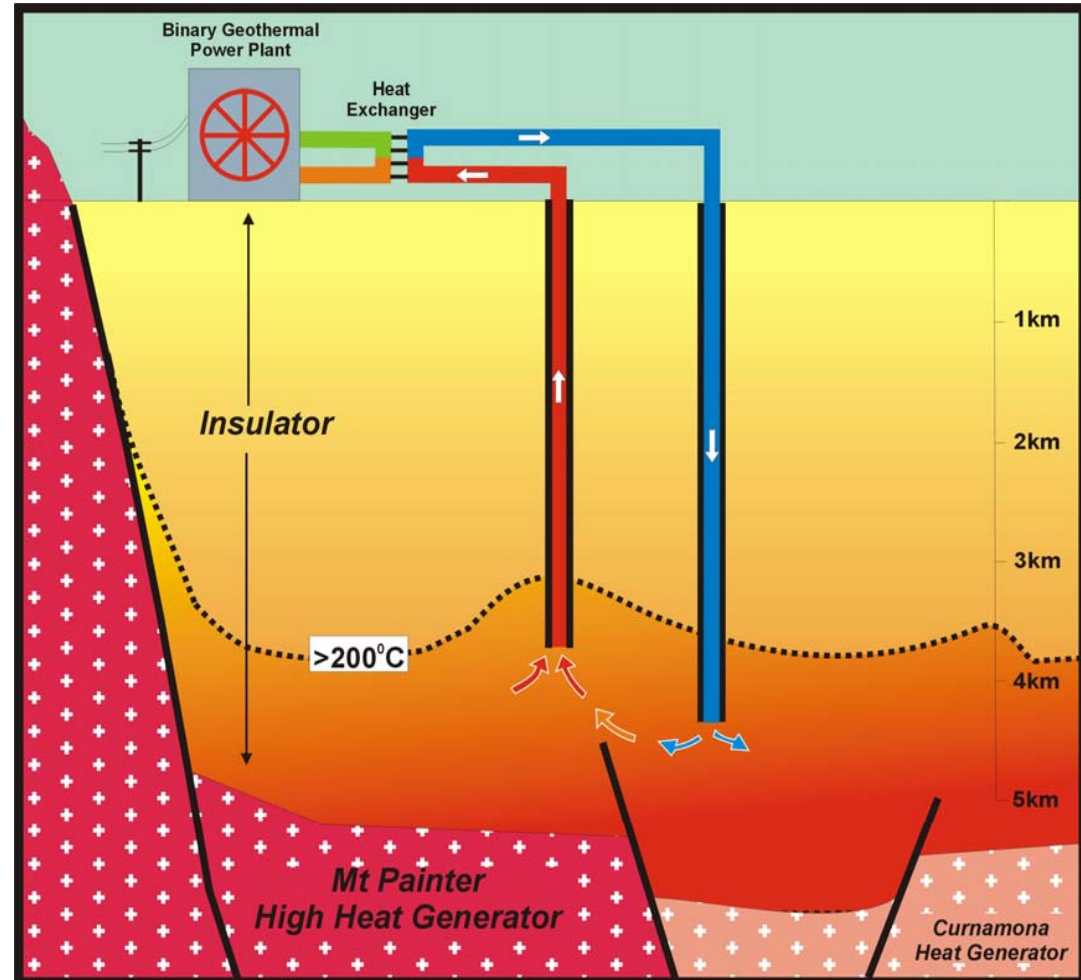
Paralana 2 - Development Path to date

- 2D Reflection Seismic and MT Surveys
- Installed Passive Seismic Array (IESE)
- Cleared 1km x 2km development site
- Casing and well head ordered
- Camp Established and Crew Trained
- Drilling rig arrived, transported, assembled and drilling at a depth of ???



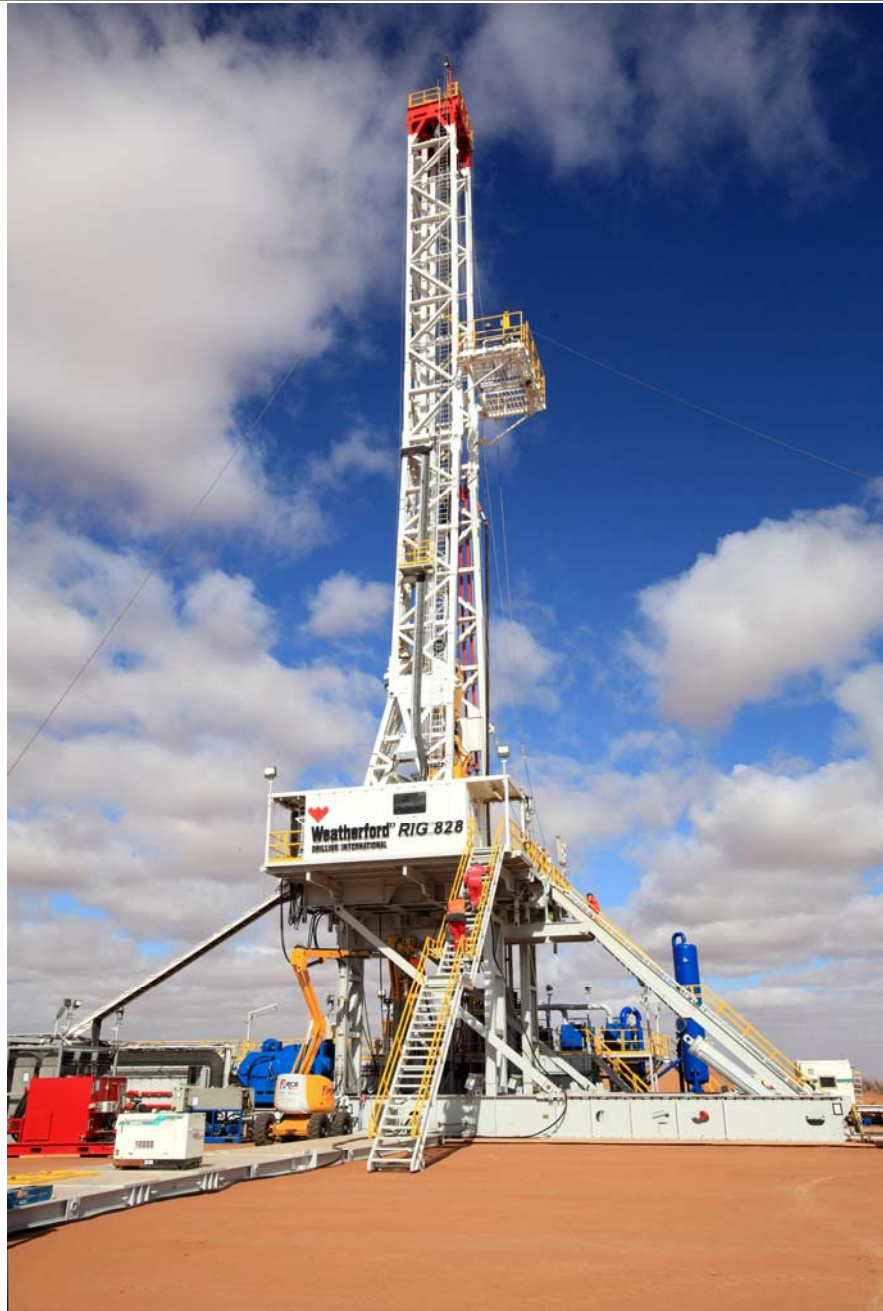
Paralana 2009 Development Plan

- *June 2009*
First Deep Well to ~ 4 Kms
- *Well testing and stimulation program*
- *First half 2010*
Second Deep Well



Heat Exchanger Within Insulator (HEWI) Model

Paralana 2 Well Drilling



- Contract 2000 HP Drilling Rig # 828 from Weatherford International Drilling arrived in Port Pirie in May 2009 - Le Tourneau – “ Lightning Rig” built in Dubai
- Paralana 2 well spud in late June 2009
- Well Testing and Stimulation Program to follow after well completion
- Paralana 3 drilling – six to nine months after completion Paralana 2 - first half 2010
- First power to Heathgate Resources’ Beverley Uranium Mine – early 2011

Paralana Drilling Rig and Camp Site



Petratherm Key Points of Differentiation

- Unique approach to “exploration for heat” and its commercial assessment of projects - “location, location, location” – resource, market, permits/stakeholders
- HEWI model approach to resource exploitation process for EGS/hot rock that aims reduce costs and risks – also reducing the time for delivery
- Flagship Paralana Project, clear commercial and competitive advantages with a willing potential customer at “off grid” prices and a *realistic, long term and unique path to commercialization* and two quality, complementary JV partners
- Quality international portfolio of projects across geothermal technologies – EGS, District Heating and Volcanic sources – electricity and heat – Australia and Overseas (Spain & China)
- Clear business model – aimed at introducing quality JV partners coupled with a strongly skilled Board, Management team and consultants - track record of successfully delivering projects

Petratherm Outlook for Calendar 2009

- Finalize the \$57M TRUenergy Farm-in ✓ January
- Secure \$7M GDP funding for drilling ✓ April
- Spud Paralana 2 deep well (4kms) ✓ June
- Drill/complete well (around 3 to 4 months) followed by , testing logging, fracturing and stimulation program in second half of 2009 (under way)
- Secure \$62.8M of REDP funding for 30 MW demonstration project (application lodged)
- Complete Madrid GDH feasibility assessment and concurrently progress potential JV - late 2009 (underway)
- Complete assessment of East Gippsland Project and JV project (late 2009)
- Complete China generative program, establish JV (late 2009)
- Continue to assess and review current and new project opportunities – including new JVs (ongoing)



Thank You



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