

The Heat Exchanger:

An Update On Developments In The Australian And International Geothermal Scene

by Gareth Cooper, Hot Dry Rocks

While the world's leaders were gathering in Copenhagen for an important enviro-blamestorming event before Christmas, I was not too far away, sampling some of the finest local vodka—a delight to the palate, reminiscent of rocket fuel with slight overtones of antifreeze. However, some Australian geothermal companies had better luck than me when on 13 December the Federal Minister for Energy, Martin Ferguson, descended the GDP-chimney and stuffed \$7 MM each into the stockings of Hot Rock (Koroit project, Victoria), Geodynamics (Hunter Valley project, New South Wales), GRE Geothermal (Green Rock Energy and the University of Western Australia—Perth metro area, Western Australia), Greearth Energy (Anglesea, Victoria), and Torrens Energy (Parachilna, South Australia) ... I got a box of chocolates.

Selected highlights from *Geothermaland*, in no particular order, from the recent period include ...

- Panax Geothermal announced it has signed an MoU with Santos in relation to the development and generation of geothermal power in GEL 281 in the Moomba region of South Australia.
- Weatherford Drilling International won a competitive tender and will operate Geodynamics' LeTourneau Lightning Rig ('Rig 100') for the next two years. Geodynamics' rig is identical to the one already operated by Weatherford, recently released from Paralana ('Rig 828').
- Substantial grants were awarded from the federal government's Renewable Energy Demonstration Program (REDP) fund. The first was \$90 MM awarded to Geodynamics to support the construction and commissioning of a 25 MWe geothermal power plant in the Cooper Basin by late 2013. The second REDP grant was for \$62.8 MM to Petrathern and its Paralana joint venture partners to apply to the construction and commissioning of a 30 MWe geothermal power plant.
- The Northern Territory Government released its legislation and regulations concerning geothermal exploration and development.
- The first day saw over-the-counter applications reach 17.
- The ETS bill was defeated in the Senate, leaving uncertainty among many businesses about the price of carbon emissions.
- Goldman Sachs JBWere released a research report into the Australian geothermal sector ('Renewable Energy—is geothermal the solution?'). In the report, the authors make a bold attempt to rank the different listed companies relative to each other.
- The Victorian Minister for Water and Tourism, Tim Holding, officially opened Stage 2 of the Peninsula Hot Springs Resort on the Mornington Peninsula.
- Petrathern and its joint venture partners advised that Paralana-2 had been logged to 3,740 m. Log data confirmed strong indications of natural fractures below 3,400 m, over-pressured brine in the subsurface, and temperatures reconfirming expectations that target temperature will be achieved. The forward plan is to set cement plugs as required, drill-out plugs, circulate and condition hole, attempt LWD to total depth (4,012 m), run 7" casing and cement in-place. Rig release was expected in late December. Petrathern also advised its cash contribution to drilling had increased from \$2.2 MM to \$6.7 MM.
- Panax Geothermal advised it expected to spud Salamander-1 in the Penola Trough in the second half of January 2010.
- Western Australian Mines and Petroleum Minister Norman Moore officially opened the Geothermal Centre for Excellence, based at the University of Western Australia.
- Professor Hal Gurgenci of the University of Queensland described how geothermal desalination might be a cheap source of clean water over much of Queensland.
- Hot Dry Rocks' head office relocated to the ground floor of 1A Yarra Street, South Yarra. The move allows the co-location of the office and Thermal Properties Laboratory.
- Greearth Energy was awarded a total of \$25 MM under the Victorian Government's Energy Technology Innovation Strategy for the next two stages of its Anglesea Geothermal Project. The first \$5 MM is for drilling to test temperature and reservoir properties at target depth. If the project proceeds beyond that point, the other \$20 MM will go towards a 12 MWe geothermal power plant.
- A Panax Geothermal share purchase plan closed oversubscribed by about 10%, with applications amounting to \$4.65 MM.
- A new report into options for a renewable energy economy to be released soon by the Australian Academy of Science gives 'pride of place' to geothermal and solar thermal energy and recommends the government give them priority support.
- The New South Wales Minister for Mineral Resources awarded two geothermal exploration licences in the Murrurundi Trough of the southern Gunnedah Basin to Apollo Gas. Apollo intends to explore the 3,500 km² licences by leveraging off its CSG exploration activities in the same area.
- Petrathern announced it was awarded \$794,268 from South Australia's Science and Research Fund to develop its 'GeoSolar' project. The project aims to integrate solar thermal, geothermal and combustion technologies. The project is in conjunction with the University of Adelaide's Centre for Energy Technology.
- Gradient Energy, a wholly owned subsidiary of Planet Gas, was granted 14 Geothermal Exploration Licences around Leigh Creek, South Australia, covering almost 6,600 km².
- Panax Geothermal announced it had signed an MoU with PT Dairi Prima Mineral as a step towards a potential joint venture to explore and develop geothermal resources in Northern Sumatra, Indonesia. They intend to supply at least 30 MWe geothermal power to Dairi Prima's proposed lead/zinc mining project in the area.
- The world's first 'GRANEX' Geothermal Pilot Plant facility was officially opened. The 100 kW pilot plant, developed at the University of Newcastle with support from Granite Power and aided by a federal REDI grant, hopes to emulate the success of a 1 kW prototype that achieved a 40% improvement in heat-electricity power conversion efficiency over conventional generators.
- KUTH Energy announced it is conducting an MT and AMT (audio magnetotellurics) survey across a total of 143 sites in a region of Vanuatu. ■