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## Innamincka 'Deeps' Joint Venture – Updated work program

- Jolokia 1 operations expected to restart following floods in June 2010
- Rig 200 to drill Habanero 4 and Habanero 5 well doublet
- 'Shallows' exploration to commence in parallel using Rig 100
- Jolokia 2 to be drilled with Rig 200 to create a second well doublet
- 1 MW Power Plant to be commissioned by early 2012 using Habanero 4 and 5
- Final Investment Decision on a commercial demonstration plant by early 2013

Geodynamics, as operator of the Innamincka 'Deeps' Joint Venture, is pleased to announce an updated forward work program for the development of its geothermal resource in the Cooper Basin.

The updated work program has two main objectives. Firstly, to allow the Joint Venture to take the final investment decision (FID) on a 25MW commercial-sized demonstration plant (CDP) by early 2013. Secondly, to produce electricity from the Joint Venture's 1 MW Power Plant at Habanero by early 2012. This would be the first electricity production from Enhanced Geothermal Systems in Australia.

In November 2009, Geodynamics was successful in securing \$90 million in funding under the Federal Government's Renewable Energy Demonstration Program to facilitate this forward work program and delivery of the CDP. This is the largest government award received by any Australian renewable energy project and will be paid in instalments on the achievement of milestones between now and the commissioning of the CDP.

## Stimulation of Jolokia 1

The first major milestone will be the hydraulic stimulation and testing of a fracture zone within the granite at Jolokia 1 using the Joint Venture-owned Rig 100. Jolokia 1 was drilled in 2008 some 9 km from the Habanero site.

Successful stimulation and testing of Jolokia 1 will demonstrate that the flow properties of naturally occurring fractures within the granite at locations across the tenement area can be enhanced and will provide further significant information on reservoir characteristics.

As announced previously, the Cooper Basin region is experiencing significant flooding causing many roads to close and restricting access to site. Access is currently expected in May with operations to restart in June. The exact timing is heavily dependent on the flood waters receding and roads re-opening.

## Return to Habanero

Following successful fracture stimulation at Jolokia 1, the focus of activity within the 'Deeps' Joint Venture will return to the Habanero site where two new wells will be drilled; Habanero 4 and Habanero 5.

The Habanero site has the benefits of having a proven, flowing fracture ('proof of concept' testing was performed here in 2008/9) and the area is not susceptible to flooding. The Joint

Venture's 1 MW Power Plant is already located at Habanero with power lines built between the plant and nearby Innamincka.

The objective of Habanero 4 and Habanero 5 is to create and operate a well doublet with multiple fractures within the granite, using the existing proven fracture zone and by creating a second fracture zone deeper in the granite. This will markedly increase steam flow rates, and Habanero 4 and Habanero 5 will produce the energy for the 1 MW power plant. These wells are specifically designed as commercial scale wells and could later be used as part of the commercial demonstration plant.

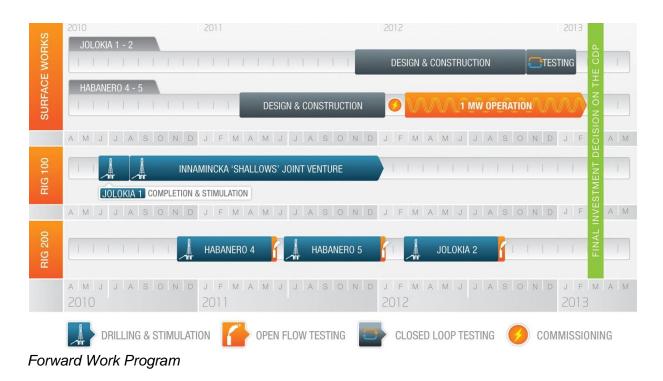
Habanero 4 and Habanero 5 will be drilled using the Joint Venture-owned Rig 200, currently under construction in Canada and due for delivery in October 2010. Rig 200 has been specifically designed for the 'Deeps' drilling and is expected to outperform Rig 100, reducing well time and costs. It will be the heaviest duty land-based drill rig in Australia. Geodynamics is exploring avenues to accelerate the delivery of Rig 200.

#### **Commissioning the 1 MW Power Plant**

The 1 MW Power Plant has been constructed at Habanero. Commissioning of the plant and the generation of electricity will follow the successful completion of Habanero 4 and Habanero 5 and is expected to occur by early 2012. Geodynamics is exploring opportunities to accelerate this timing.

## Drill Jolokia 2

After the completion of Habanero 5, Rig 200 will return to the Jolokia site, to drill a second deep well at Jolokia 2. The objective is to create a second well doublet with two fractures within the granite that will demonstrate commercial flow rates at the surface.



#### **Exploration of the 'Shallows'**

Following the successful stimulation of Jolokia 1, Rig 100 will be redirected from the 'Deeps' to commence exploration work on the Origin-operated 'Shallows' Joint Venture program.

Two slim wells will be drilled to approximately 2,200 m depth to assess the viability of geothermal energy production from Hot Sedimentary Aquifer geothermal resources in the Eromanga Basin. Further details will be released once well locations are confirmed.

The strategic advantage and flexibility afforded the Joint Venture by owning and controlling Rig 100 and Rig 200 is illustrated by the ability to undertake the 'Deeps' and 'Shallows' drilling programs in parallel.

For further information please check our website (<u>www.geodynamics.com.au</u>) or contact Mr Gerry Grove-White or Mr Paul Frederiks on + 61 7 3721 7500.

Gerry Grove-White Managing Director and CEO

Participants in the Innamincka 'Deeps' Joint Venture, which focuses on higher temperature Enhanced Geothermal Systems (EGS) below approximately 3,500 m depth are: Geodynamics Limited (Operator) – 70% Origin Energy Geothermal Pty Ltd\* – 30%

Participants in the Innamincka 'Shallows' Joint Venture which focuses on exploration of shallow Hot Sedimentary Aquifers (HSA) above approximately 3,500 m depth are: Origin Energy Geothermal Pty Ltd\* (Operator) – 50% Geodynamics Limited – 50%

\*A wholly owned subsidiary of Origin Energy Limited (ASX: ORG)

#### About Geodynamics

Geodynamics is the leading Australian geothermal exploration and development company. Geodynamics possesses some of the best geothermal resources in the world and is rapidly developing technology to exploit the resource. Geothermal energy has the potential to be a critical element of Australia's future power generation and Geodynamics is at the forefront of development.

#### About geothermal energy

Geothermal energy offers the prospect of zero carbon, base-load energy generation. "Zero carbon" means that no carbon dioxide  $(CO_2)$  will be emitted when generating energy. This is different from some other forms of 'renewable' energy, which still result in significant  $CO_2$  emissions. 'Base-load' means that power is available 24 hours a day, 7 days a week, all year round, and therefore can be used to meet energy needs at any time. This is a significant advantage compared to a number of other zero-carbon technologies that are more intermittent (such as wind, wave and solar power).

Geothermal energy produced from hot fractured rocks, also known as Engineered or Enhanced Geothermal Systems (EGS), is generated by special high heat producing granites located 3km or more below the Earth's surface. The heat inside these granites is trapped by overlying rocks which act as an insulating blanket. The heat is extracted from these granites by pumping water through fractures in the granite and bringing the hot water to surface. Geodynamics believes that energy produced using EGS technology is capable of generating base-load power at a cost that will be very competitive with other energy sources (both low carbon and otherwise).

Geodynamics is also working to exploit the lower grade, hot sedimentary aquifers at shallower depths. While hot sedimentary aquifers have lower temperatures than EGS, and hence lower power conversion efficiency, because of the shallower nature of these resources they are more readily accessible with simpler technology and therefore may be more rapidly commercialised.