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MEDIA RELEASE

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Beach & General Atomics to evaluate potential for “bio oils & fuels” production in SA’s Cooper Basin

The potential for the oil and gas fields of South Australia’s Cooper Basin to produce “bio fuels” and “bio oils” through special land farming techniques which absorb waste CO₂, is to be the subject of a study by a new Australian-United States alliance announced today.

Prominent Cooper Basin producer, Beach Energy Limited (ASX:BPT) and San Diego-based environmental, energy and defence technologist, General Atomics (“GA”) are to examine the bio fuels and bio oils production option.

If successful, the two companies plan to work towards having one or more commercial scale bio fuels and bio oils plants – of between 1,000 and 2,000 hectares in size - operating in the province by June 2015.

The terms of the study are included in a Memorandum of Understanding (“MOU”) signed between Beach and GA recently in a commitment to jointly work together to determine whether the Basin is well suited for the production of bio oils and bio fuels.

Specifically, they will analyse whether the region’s natural elements can contribute cost effectively to algae bio oil and fuel production and then whether the related technology that GA is developing, can produce algae oil while reducing CO₂ emissions from Beach’s natural gas and oil production areas in the Cooper Basin.

“The growing of algae on land unsuitable for other farming applications and nourished with poor quality water and with otherwise undesirable CO₂, is possible,” General Atomics Mr Bill Davison said today.

“The yield of oil per unit surface area is large - many times larger than the yield of oil for other oil growth crops,” Mr Davison said.

“The challenge with the use of algae for this purpose is cost.”

Beach’s Managing Director, Mr Reg Nelson, said “It does seem plausible that the effluent mitigation requirements of hydrocarbon fields within the Cooper Basin may match up well with the feed requirements of an algae farm. Taken together, one achieves a cost effective and environmentally sound system for producing bio oils and bio fuels.”

Beach and GA have mapped out a study program that is designed, if successful, to lead to a staged development of trial then commercial bio oils and bio fuels production facilities in South Australia over the next five years.

The studies will be based within Beach’s numerous oil and gas production sites around Moomba.

“For Beach, this is a continuation and expansion of our drive to maximise the potential of hydrocarbon provinces such as the Cooper, for conventional and unconventional gas and oil opportunities, and an emerging suite of new by-products being made possible by technological breakthroughs,” Mr Nelson said.

“Success will ensure that for possibly the first time in Australia’s petroleum sector, commercial production of oil and gas from a field can be matched on-site with environmentally-based by-product options able to deliver a saleable green fuel.”

Staged evaluation and possible project development

The bio oils and bio fuels MOU between Beach and General Atomics outlines a tiered evaluation then project development pathway. This will comprise:

- **Initial cost evaluation**

- Assessment of water, land, solar radiation and CO₂ availability and suitability for algae farming,
- Existence of or need for new suitable power sources, transportation and other infrastructure, and
- Potential markets.

If the evaluation results prove satisfactory, then both parties will move towards separate agreements for a gradual scale-up of related projects, anticipated to be:

- **Possible project stages**

- Select algae species and complete economic feasibility study by August this year
- Build and operate test systems including 100 sq metre ponds or raceways by June next year
- Establish and operate a 10-20 hectare pilot scale system by December, 2012, and
- If the pilot is successful, build and operate one or more commercial scale systems of 1,000 – 2,000 hectares in size and due for completion by June, 2015.

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Background on General Atomics

General Atomics is a high technology firm with a history of finding successful solutions for environmental, energy, and defence challenges. For more than half a century, GA has specialised in performing innovative research and development of transformational technology for practical applications. GA is an affiliate of Heathgate Resources in South Australia and General Atomics Aeronautical Systems, the producer of the Predator series of unmanned



aircraft systems. Over the past four years, GA has committed significant resources to developing near-term, economical solutions for producing renewable energy. GA's work in this area is primarily in algae bio-oil production, biodiesel plastic recycle, municipal waste water exploitation and supercritical water waste-to-



energy processes.