GREAT ARTESIAN OIL AND GAS LIMITED
ABN 44 078 607 682

Quarterly Report on the Operations
on Petroleum Permits.

Significant field operations were undertaken in two of Great Artesian’s permits during the quarter; PELs 91 and 107.

PEL 91
In PEL 91 Carrickalinga-1 well was drilled as an exploration well of a structural trap on the easterly plunging Keupinnie Nose, approximately 5 km down-dip of the Keupinnie-1 well. Carrickalinga-1 was fully funded by Beach Petroleum, who also operated the drilling operations. The well being the first of the farmin commitment wells within the permit. Primary objectives of the well were reservoirs within the Patchawarra Formation and Namur Sandstone. Secondary objectives were reservoirs within the Hutton Sandstone and Poolowanna Formation.

The well was drilled vertically to a total depth of 2,716 m. Drilling commenced on 4 August 2003 and was plugged and abandoned on 29 August 2003. The well did not encounter any shallow (Eromanga Basin) hydrocarbon shows of significance. However, within the Patchawarra Formation several intervals of fluorescence were indicated and two drill stem tests were conducted over the interval 2,532.5-2,546 m. The first drill stem test (DST) was a mechanical failure, however DST# 2 flowed gas to surface in 85 minutes with a maximum gas rate of 26,000 cubic feet per day and recovered 1.2 barrels of dark brown-green mud cut oil over a flow rate of 2 hrs. No formation water was recovered. Results indicated that those hydrocarbons were associated either with coal or low porosity permeability sandstones. Log analysis indicated the likelihood of a thin oil zone but it was not considered to warrant further evaluation and completion. Log analysis also indicated the presence of several thick, good quality sandstones within the lower Patchawarra Formation, however, all appeared to be water-wet.

Carrickalinga-1 has demonstrated that hydrocarbons have migrated across this portion of PEL 91 and into the Keupinnie Nose. Coupled with the earlier discoveries at Sellicks-1 and Christies-1 in the adjacent PEL 92 permit, the Carrickalinga-1 results confirm the high overall petroleum prospectivity and “oil-proneness” of this portion of the southwest Patchawarra Trough. During September Beach Petroleum recorded an additional 6 km 2D seismic line across the Carrickalinga-1 location in order to provide better correlation to the pre-existing seismic grid and so aid in a more complete post-drilling evaluation of the Carrickalinga-1 results.

PEL 107
Moana-1 was drilled in PEL 107. It was designed to test a robust, simple anticlinal structure on the southwestern margin of the Patchawarra Trough, about 11 km northwest of the prolific Lake Hope oilfields. Seismic mapping indicated that the Moana structure had approximately 17 m of structure relief and encloses an area of nearly 2.0 km². Moana-1 was drilled to test this structure, located in the extreme
northwestern portion of the permit. Hydrocarbons were anticipated in the Patchawarra and Poolowanna formations. Drilling of Moana-1 commenced on 15 July. The well reached a total depth of 2256 m within pre-Permian Basement.

A number of sandstone reservoirs were encountered during drilling. Side wall cores and log analysis indicated the presence of some hydrocarbon shows. A DST was run over the interval 2054-2080m. The test was a mechanical success. However it produced only a minor amount of water, indicating that the reservoir was tight and water saturated. A decision was made that the well be plugged and abandoned on 30 July 2003 and the rig was released at mid-night on 1 August 2003.

The results of Moana-1, being located in the extreme north-western portion of PEL 107, have little bearing on the perceived prospectivity of structures currently selected as potential future drilling targets in other parts of PEL 107. These latter targets are all located within the main petroleum fairway located between structural highs on which the Talloola-Tantanna and Spencer oil fields are located. These targets lie deeper into the basin where they are anticipated to have better quality Patchawarra Sandstones, shed from the south, as well as Merrimellia formation sandstone reservoir potential.

The absence of hydrocarbons within the Moana structure is most likely due to the structure having not been located on a migration pathway. Alternatively, the structure may be located in a region where the Patchawarra Formation sandstone reservoirs have poor reservoir properties, a feature inhibiting lateral migration into the structure.

During August and September 2003 Beach Petroleum Limited acquired, and fully funded as part of its farmin commitments to PEL 107, approximately 158 km of 2D seismic data during the Albus Seismic Survey. This survey involved the acquisition of infill seismic coverage across 9 specific exploration targets identified on the basis of previous seismic data in region to the north of the Nealyon-Talloola and Warra-GMA trends upon which the Sturt, Malgoona, Talloola, Tantanna, Spencer West and Spencer oil fields are located. Processing of these data will be undertaken prior to the end of the calendar year, following which a location for the second farmin well commitment in PEL 107 will be made by Beach.

EPP 27

During the quarter Woodside Energy Limited ("Woodside") continued its geophysical and geological interpretation of the Carpenter Seismic Survey. This 3D seismic survey was recorded across the Cobana structure, located in the northwestern corner of EPP 27. As the results of Woodside work was not completed by the end of the quarter Woodside arranged for a Technical Committee Meeting of the EPP 27 co-venturers to be held in Perth on 23 October 2003. However, and prior to this meeting Woodside – in order to conform with certain Joint Venture Agreement obligations – notified Great Artesian that upon earning its 40% Participating Interest following the acquisition, processing and interpretation of the 3D Carpenter Seismic Survey it would:

(a) not be electing to proceed to earn a further 50% interest by funding the drilling of an exploration well;

(b) be re-assigning its Participating Interest back to Great Artesian, and

(c) resigning as Operator of the EPP 27 Joint Venture.
An ASX announcement, dated 15 October 2003, was made by Great Artesian Oil and Gas Limited detailing this development. Copies of this ASX announcement were also forwarded to shareholders in documentation included for the Notice for the Annual General Meeting.

Dr Raymond D Shaw  
Managing Director  
Great Artesian Oil and Gas Limited