Discovering oil in a hostile and remote frontier block is no mean feat but Key Petroleum Limited is pursuing a historic milestone with a planned drilling program in a section of WA’s Canning Basin where no wildcat well has been drilled before.

With limited road access, the EP 448 permit covers 8500 km² and lies within the Great Sandy Desert (see map). Explorers have made concerted efforts in the past to discover oil and gas in the Canning but only a few wells have been drilled in this particular area with a scattering of seismic lines courtesy of WAPET some 50 years ago.

Not until recently has anyone ventured into EP 448 with the objective of drilling for prospective unconventional and conventional oilfields believed to exist from seismic interpretations depicting large structures mapped in Ordovician sediments and the Nita, Goldwyer and Bongabinni Formations.

To target prospective oil, Key used innovative techniques to gather new information, integrated with existing data, to de-risk and identify drillable prospects; the essential element being the implementation of a specifically designed geochemical survey to pinpoint active petroleum systems.

In October 2013, Key commenced the largest geochemical survey ever conducted in this part of the Canning. Dubbed the Curtly Geochemical Soil Survey, which follows the Company’s cricketing-named prospects and permits, it targeted strategically located areas following seismic lines and tracks accessible only by helicopter.

Covering a 2000 km² area, specialist geochemical analysts spent five days collecting surface hydrocarbon micro seepage samples in temperatures exceeding 50 degrees celsius.

Yet despite the harsh terrain and difficult conditions, results exceeded expectations and the outcome will see Key ramping up its drilling efforts once a full integration and assessment of data has been carried out on prospects and leads collated.
The survey, in conjunction with the available seismic, aeromagnetic and well data, identified new leads and plays over the permit, detecting what is believed to be a new fairway of shallow oil prospects on trend over a source kitchen labelled the “Darriwell Sub-basin”. This was reflected in high geochemical anomalies and elevated ethane readings over mapped leads in a section to the north of the “Ambrose Low”, considered to overlie petroleum source areas.

Based on these results, the Company has refocussed its exploration strategy into a conventional shallow oil drilling program around four material prospects; Patterson, Griffiths, Griffiths South and Griffiths North. Two are planned to be drilled this year.

Key’s Managing Director Kane Marshall said he was delighted with the outcome of the survey and the resulting prospectivity upgrade of the block. “The results are more than encouraging and have far surpassed our expectations for a frontier block,” Mr Marshall said.

“The survey certainly has played a crucial role in furthering our knowledge of the petroleum source areas within the permit and by integrating these results with seismic and nearby well data we can focus our attention on specific mapped sections to de-risk and refine the best possible locations for drilling in addition to refining potential unrisked in-place recoverable oil volumes over particular areas.”