

Wednesday, 12 December 2018: ASX ANNOUNCEMENT

Environmental monitoring shows exceptional results

- Leigh Creek Energy releases first environmental information from Pre-Commercial Demonstration operations
- Results 100% in line with expectations

Leigh Creek Energy Limited (ASX: LCK) (“LCK” or “the Company”) is pleased to provide initial environmental monitoring results pertaining to its Pre-Commercial Demonstration (PCD) at the former Leigh Creek coal field site.

The first environmental results confirm the PCD is operating as expected, in line with scientific modelling. This evidence supports the Regulator and LCK’s claim the process can be done in a safe, regulated and controlled manner and that the Leigh Creek site is ideally suited to the ISG process. The illustrations below represent the three gasifier monitoring zones; green (greater than 100 metre radius from the gasifier), amber (between 15 metre and 100 metre radius from the gasifier) and red (up to 15 metres radius from the gasifier).

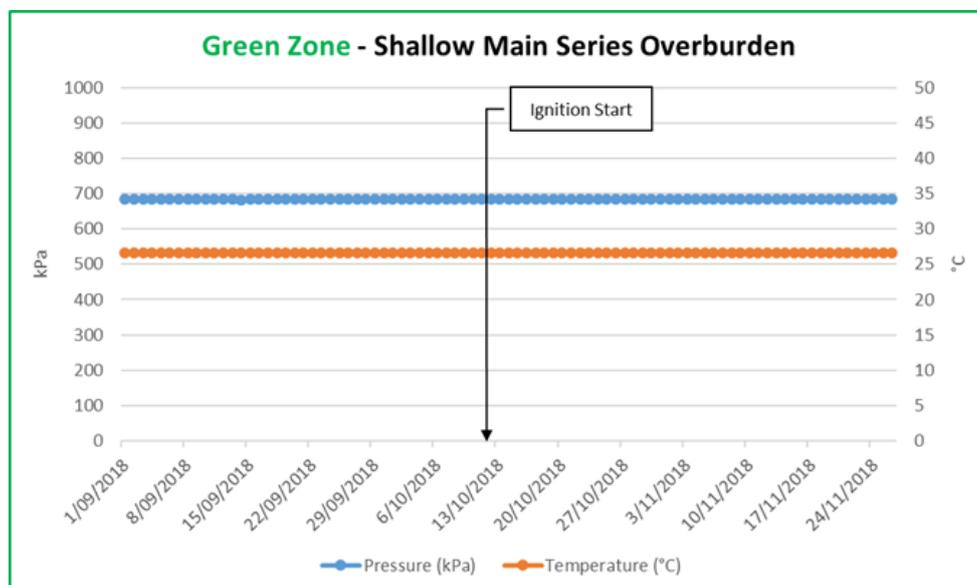
The results align with expected monitoring program observations:

- Green Zone (100m > radius): No change in pressure
- Amber Zone (100m < radius): Minor decrease in pressure (blue curve) and no change in temperature
- Red Zone (15m < surrounding gasifier): No change in temperature, decreased pressure after ignition **(inward flow towards the gasifier/gasifier content contained)**

Pressure and temperature monitoring data is required under the Company’s regulatory obligations and have been published on the Department of Energy and Mines website [here](#) (link details below).

Initial observation data

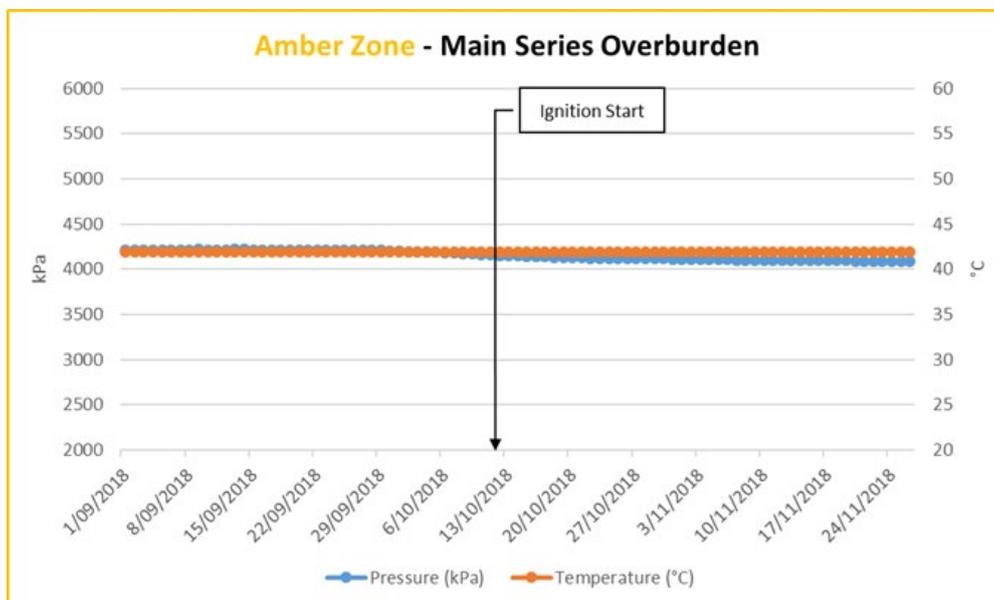
Green zone: From the date of ignition the sensors in the shallow overburden rock, between 96 to 103 metres depth, have shown no change in pressure (blue curve) and temperature (orange curve). No pressure and temperature variance from baseline is expected in this zone.



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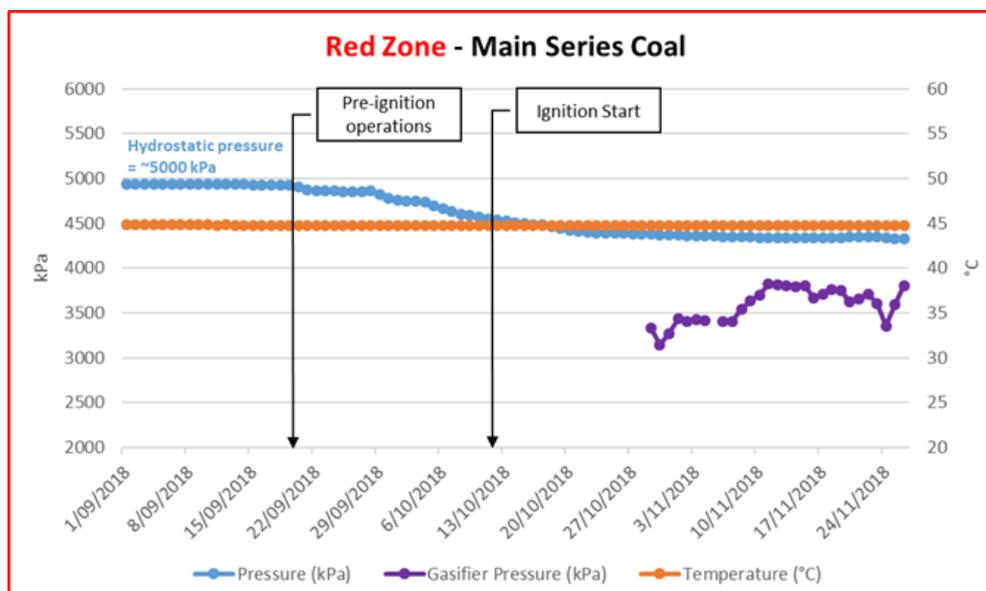
Amber zone: From the date of ignition the sensors in the overburden rock, between 415 to 493 metres depth, have shown a minor decrease in pressure (blue curve) and no change in temperature (orange curve). Some pressure and temperature variance from baseline is expected in this zone given it is within 100 metres of the gasifier.



Red zone: From the date of air injection and subsequent ignition, the sensors surrounding the gasifier chamber in the coal seam between 485 to 512 metres depth, have shown a decrease in pressure (blue curve) and no change in temperature (orange curve). The decrease in pressure is mainly due to air circulation and depressurising between the inlet and outlet wells, creating a pressure sink in the gasifier chamber.

No change has been observed in temperature sensors approximately 15 metres from the ignition point in the coal seam. Coal has very low thermal conductivity and it is unlikely that any significant change in temperature will be seen in the sensors in the coal seam during the PCD period.

Furthermore, the gasifier operating pressure (purple curve) is below baseline hydrostatic pressure at approximately 5,000 kPa and also below surrounding pressure after ignition, indicating there is inward flow towards the gasifier and no loss of containment.



[More information](#)

LCK monitoring data can be found in detail on the Department of Mines and Energy website:

www.energymining.sa.gov.au/petroleum/projects/prj_leigh_creek_energy_isg#monitor_data

Leigh Creek Energy – poised for growth

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About Leigh Creek Energy

Leigh Creek Energy Limited (LCK) is an emerging energy company focused on developing its Leigh Creek Energy Project (LCEP), located in South Australia. The LCEP will produce ammonium nitrate products (fertiliser and industrial explosives) from the remnant coal resources at Leigh Creek, utilising In Situ Gasification (ISG) technologies, and will provide long term stability and economic development opportunities to the communities of the Upper Spencer Gulf, northern Flinders Ranges and South Australia. The Company is committed to developing the LCEP using a best practice approach to mitigate the technical, environmental and financial project risks.

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