



PCD Environmental Monitoring

- 12 months of site monitoring completed after PCD operations resulting in:
 - No groundwater contamination issues
 - No air quality issues
 - No surface subsidence

Leigh Creek Energy Limited (LCK) is pleased to announce that it has completed 12 months of environmental monitoring at its flagship Leigh Creek Energy Project (LCEP) following completion of its Pre-Commercial Demonstration (PCD) operations. The results have been submitted to the Department for Energy and Mining (DEM) for their review.

Monitoring program and Results

LCK completed operations for its PCD for In-Situ Gasification (ISG) at its Leigh Creek site mid-2019.

A regular and extensive environmental monitoring program was undertaken prior, during and post PCD operations.



Following completion and shutdown of the PCD, the conclusion of the 12 months environmental monitoring confirms our capability to manage ISG within the environmental boundaries approved in accordance with the Statement of Environmental Objectives (SEO) required under the *Petroleum and Geothermal Energy Act 2000*. All the results have been submitted to DEM for their review.

The monitoring program scope includes:

1. Groundwater:

The monitoring program included 27 wells which were drilled at various depths around the site.

The LCK Hydrogeology team undertook regular sampling of the wells to monitor groundwater for any changes in quality, levels, pressure and temperature. The reporting frequencies for this announcement are shown in green in Table 1 below:

Table 1: Groundwater Monitoring Frequency

	Pre-PCD	During PCD	Post-PCD		
			0-12 months	12-24 months	24-36 months
Groundwater quality	Baseline	Weekly/monthly	monthly	quarterly	six-monthly
Groundwater levels	Baseline	Weekly/monthly	monthly	quarterly	six-monthly
Vibrating Wire Piezometer (VWP) Groundwater pressure/temperature	N/A	hourly	hourly	six-hourly	six-hourly
Inlet well pressure/temperature	N/A	hourly	hourly	six-hourly	six-hourly
Outlet well pressure/temperature	N/A	hourly	hourly	six-hourly	six-hourly

2. Groundwater Chemicals of Potential Concern

To monitor the presence of Chemicals of Potential Concern (COPC) which are chemicals with the potential (depending on background levels, where they are located and potential receptors) to have adverse impacts on human health or the environment.

There has been no detected migration of COPCs from the gasifier chamber into the surrounding formation.

3. Air Quality:

Air samplers were situated in 7 locations to identify the presence of odours and other air borne pollutants. Key locations included the Leigh Creek and Copley Townships.

LCK has met the requirements of the Air Quality Monitoring Plan and demonstrated compliance with the SEO, in particular the assessment criteria that 'regular air quality measurements indicate levels are below relevant health-based air quality criteria (as listed in the Environment Protection (Air Quality) Policy) at sensitive receptors (i.e. towns or residences).'

No detections above air quality criteria were measured.

4. Surface subsidence:

20 monitoring stations were installed to identify ground movements. These were monitored before during and post PCD operations by a third party surveying company.

No meaningful movements were detected following the surveys.

LCK Managing Director's comments

Phil Staveley Managing Director LCK said:

"We have committed to responsibly run our operations and the extent of monitoring undertaken has proved our capabilities in running ISG operations and confirmed the initial studies that the LCEP site is suitable for our planned commercial project development."

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The Board of Leigh Creek Energy Limited authorised this announcement be provided to the ASX.

About Leigh Creek Energy

Located in South Australia, Leigh Creek Energy Limited is an emerging energy company focused on developing its Leigh Creek Energy Project (LCEP). The LCEP will produce hydrogen and/or nitrogen fertiliser products from the remnant coal resources at Leigh Creek by utilising In Situ Gasification technologies.

The Company is committed to developing the LCEP using a best practice approach to mitigate the technical, environmental and financial project risks. For information on the ISG process [CLICK](#)