

GAS CONTENT MEASUREMENT IN COALS BY DIRECT MEASUREMENT



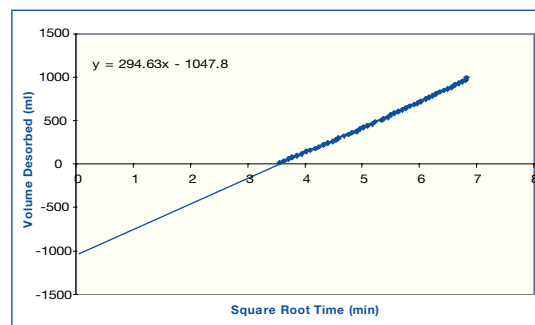
The direct measurement of gas content in coals is one of the most basic and important measurements in determining a coal seam gas resource. Sigra uses three techniques to directly measure the gas content of coals – Core Desorption, Chip Desorption, and Gas Content Without Coring.

Core Desorption

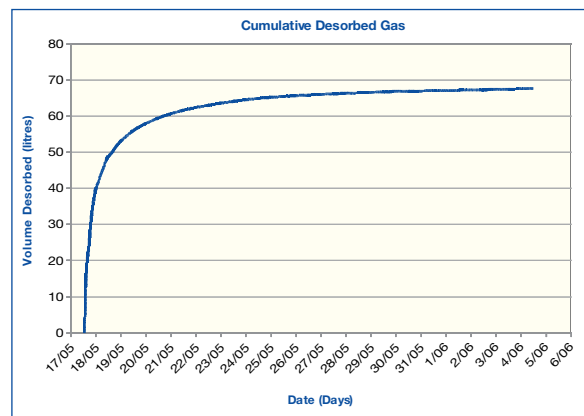
Sigra measures the desorption of coal core to determine gas content. This process follows *Standards Australia (1999) AS 3980 Australian Standard™ Guide to the determination of gas content of coal – Direct desorption method*. The process is enhanced by the core being held at reservoir temperature on surface and the automatic monitoring of the gas desorption from the core thus minimizing human error.

Sigra places a coal and surrounding rock core from a core run into a 3 m canister for desorption. The gas desorbed, Q2, is monitored automatically and sampled for gas analysis. The lost gas, Q1, is estimated by extrapolation of the rate of initial measured desorption.

At the end of the desorption process, the canister is opened and the core logged. The apparent relative density of the core sections is measured as an indication of ash content. Samples of the coal types present are then crushed to release the residual gas, Q3. The crushed coal may also be used in determining sorption isotherms and may be subject to proximate analysis to determine ash content.



Graph 1:
Example of lost gas determination plot (Q1)



Graph 2:
Example of desorbed gas measurement (Q2)