

GAS CONTENT MEASUREMENT IN COALS BY DIRECT MEASUREMENT



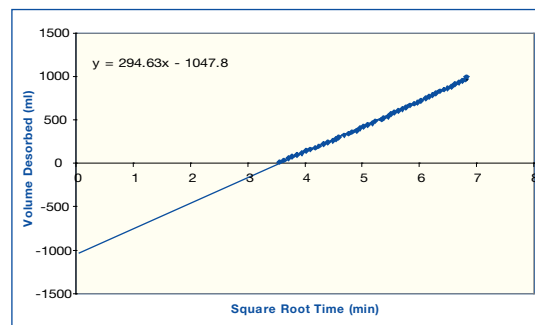
The direct measurement of gas content in coals is one of the most basic and important measurements in determining a coal seam gas resource. Sigra uses three techniques directly measure the gas content of coals – Core Desorption, Chip Desorption and Gas Content Without Coring.

Core Desorption

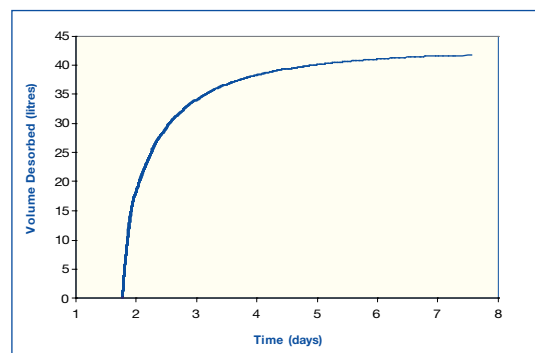
Sigra routinely undertakes the desorption of coal core to determine gas content. This process follows *Standards Australia (1999) AS 3980 Australian Standard™ Guide to the determination of gas content of coal – Direct desorption method*. It is, however, enhanced by the fact that the core is held at reservoir temperature on surface and that desorption of gas from the core is automatically monitored, thus eliminating human error.

Sigra normally place all coal core 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 desorption, 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 taken for crushing to release the residual gas, Q3. This crushed coal may also be used in determining the sorption isotherms and will generally be subject to proximate analysis so that the ash content can be determined.



Example of lost gas determination plot



Example of desorbed gas measurement (Q2)