

Data Collection and Use for Coalbed Methane and Shale Gas – New Data for New Resource Types

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Previous basic data requirements by the EUB focused on providing information to determine reserves of conventional gas pools. These are hydraulically interconnected production intervals where the pressure, porosity and permeability is assumed to be consistent for all wells in the pool. Recent development of unconventional gas resources in Alberta has created a change in regulations for the collection of data for unconventional gas reserve determination.

Coalbed methane (CBM) and other unconventional gas resources such as Shale Gas (SHG) cannot be produced economically with the same data requirements as conventional pools, but as administrative units with different data collection styles. Not only is the history and style of development different for unconventional gas, but the mechanism of data utilization is different:

- previously, the intent was to determine P^* (or P_1), and now the need is to determine P_Δ ,
- previously, the determination of AOF for a zone was standard, and now a series of individual completions need flow measurement,
- previously, porosity and permeability were determined from geophysical logs calibrated to core tests, and now the core results are sparse and indicate no reliance on geophysical logs for porosity and permeability,
- The previous data was used for a volumetric reserves calculation based on reservoir engineering, and now there is more application to generate a gas deposit style calculation with gas possibly present in all lithologies.

Reserves calculation is needed specifically for CBM and SHG to fulfill the EUB mandate in indicating to the people of Alberta what resource development is possible and what the impacts are relative to resource management. A summary of the review process will be presented.