

Shale Gas Development in Alberta: The Role of the Alberta Geological Survey

Dean Rokosh*

Alberta Geological Survey, Edmonton, Alberta, Canada
dean.rokosh@gov.ab.ca

and

Andrew Beaton

Alberta Geological Survey, Edmonton, Alberta, Canada

Abstract

'Shale Gas' refers to natural gas stored in organic-rich lithologies such as dark-coloured shale, interbedded shale/silt/sand, and shaley siltstone/sandstone. The role of the AGS in shale gas development is, in part, to collect and disseminate data to the public, government and industry. Our intention is two-fold: 1) to define shale gas in the Alberta context; and 2) outline available shale gas data and material, including the following: a) a series of basin-wide cross-sections and maps aided by sample and core analysis that will identify formations of interest and the location of organic-rich 'shale gas' strata; and b) geochemical and geological databases that are designed and implemented using public information.

Each formation of interest will be assigned a 'project' status and will consist of a compilation of data, maps and cross-sections leading to a series of detailed working models specific to Alberta, by drawing comparisons to USA shale gas plays. The data compilation will include, but not be limited to, a list of producing shale gas wells, a list of non-producing wells that have tested/perforated shales, detailed geochemistry (e.g. adsorption data, TOC, maturity, etc.), sedimentology (including shale brittleness), structure (faults, fracture fairways), stratigraphy, mineralogy, thin section, completion and production data, gas-kick data from the EUB, and lastly, a resource estimate. To a lesser extent the compilation will include evaluating the correlation of geochemistry to log parameters in the WCSB, and hydrological influences. All databases, maps and reports will be available through the AGS website (<http://www.ags.gov.ab.ca>), which will be continually updated. A 'Shale gas' web page should be up and running by the convention.