

## Competing uses of geological space: resolving conflicts between production and natural gas storage interests

By Nigel Bankes

### Decision commented on:

[Kallisto Energy Corp. Application for a Well Licence Crossfield East Field](#), 2012 AERCB 005, February 24, 2012

This decision deals with the potential for conflict between conventional oil and gas operations and natural gas storage projects.

The idea of resource use or landscape level conflicts is familiar to us in the context of the use of the surface. Consider, for example, the conflicts between recreation and forestry interests, between forestry and oil sands or conventional oil and gas exploration. The idea of competing uses of the subsurface is less familiar but our search for new resources or the application of new technologies to known resources is increasing the potential for those subsurface conflicts. High pressure fracturing operations to stimulate production either from shallow oil formations or deeper shale gas formations raises concerns about the effect of these operations on potable groundwater resources, and proposals to sequester carbon dioxide in saline formations or depleted oil or gas reservoirs raises concerns of sterilizing hydrocarbon resources. The province's new CCS regime explicitly addresses this scenario through a provision in the *Oil and Gas Conservation Act*, (OGCA) RSA 2000, c O-6, s 39(1.1) which provides that the ERCB "may not approve a scheme for the disposal of captured carbon dioxide to an underground formation .... unless the [applicant] satisfies the Board that the injection of the captured carbon dioxide will not interfere with (a) the recovery or conservation of oil or gas, or (b) an existing use of the underground formation for the storage of oil or gas."

We have seen other conflicting resource use issues over the years with the gas over bitumen debates in the province: see, for example, *Giant Grossmont Petroleums Ltd. v Gulf Canada Resources Ltd.*, 2001 ABCA 174.

### The facts

Kallisto applied to the ERCB for a licence to drill a vertical well (the 11-26) in the NW quarter of section 26 anticipating oil production from the basal quartz formation (BQA). Kallisto had some additional rights in the balance of section 26 but did not own all of the rights. CrossAlta, the operator of the CrossAlta storage facility which makes use of adjacent depleted pools (the Elkton pools), objected to the application because of the possibility of communication between its stored gas and the wellbore of the 11-26 well. The Board approved the CrossAlta storage unit in 1994.

The evidence showed that there was some communication between the CrossAlta storage reservoir and the BQ formation at least as far west as section 25. Indeed it seemed to be accepted that the adjacent 7-25 well had been producing storage gas although there was disagreement as to whether the communication which allowed that production was natural or was induced by fracturing operations. The Board noted that while the wellbore of the 7-25 well was in close proximity to the CrossAlta storage reservoir (vertically a matter of 11 metres, horizontally about 100 metres) the proposed 11-26 well is underlain by the Shunda formation rather than the Elkton and some 1200 metres laterally from the closest part of the storage reservoir (at para 48). Kallisto acknowledged that it had no right to produce storage gas.

### **The decision**

The Board ruled that Kallisto should receive a licence for the proposed 11-26 well on three conditions: (1) Kallisto should submit stabilized initial pressure data as soon as possible, (2) Kallisto must not use fracture simulation exceeding 40 tonnes without the consent of the Board, and (3) Kallisto must submit stabilized pre- and post-fracture pressure data.

The Board rejected CrossAlta's contention that the licence should be denied. The Board concluded that the risk of communication between the 11-26 well was low and that this risk could be managed in several ways, both by the terms and conditions of the licence (above) and the general rules of the oil and gas conservation legislation which would preclude Kallisto from completing any well as a gas producer without a pooling agreement or a compulsory pooling order. Since CrossAlta owned at least some of the mineral rights in the southern half of section 26 this afforded CrossAlta the opportunity to protect itself should it become necessary (at para 81). In reaching this conclusion the Board seemed to acknowledge that any blanket refusal to issue the licence would effectively accord CrossAlta a buffer zone at no cost to itself. Such a decision would sterilize the resource and would be counter to the orderly and efficient development of the oil and gas resources of Alberta and thus contrary to one or more purposes of the *OGCA* (s 4).

In my view the decision is a good example of the Board using the terms and conditions of a licence to balance the competing interests of the parties.

For further discussion of natural gas storage law in Canada see Bankes and Gaunce, [\*Natural Gas Storage Regimes in Canada: A Survey\*](#), December 2009, 134pp.