

Leaking Seismic Holes are Negatively Impacting Agricultural Production

Issue

Agriculture contributes \$10.46 billion to the provincial economy each year¹. The viability of agricultural production, however, depends on the availability of a ready source of water. Leaking seismic holes deplete the quantity and availability of groundwater and can contribute to damages on the surface, negatively impacting agricultural production.

Background

Seismic activity is used by the oil and gas industry to find underground sources of oil and gas. Seismic waves are transmitted into the ground using drill holes and explosive devices or specially designed vibration trucks that simulate an earthquake.² Alberta Environment issues permits for seismic operations and keeps a log of all seismic activity in the Province of Alberta. Occasionally, seismic operations contribute to a leak in the substrate causing groundwater to flow to the surface. Pursuant to Alberta Environment guidelines, these leaks are to be sealed and noted. These plugs can be damaged by cattle, farming operations and over time can give way. There are numerous examples of anecdotal complaints made by farmers and land owners of considerable damages and flow as a result of leaking seismic holes. Leaking seismic holes deplete the quantity and availability of groundwater and can contribute to damages on the surface, negatively impacting agricultural production.

Currently, the process for landowners and farmers who are negatively impacted by leaking seismic holes is to make a complaint to Alberta Environment. Alberta Environment and Sustainable Resource Development will make a determination if the water leaking is caused by seismic activity and if it is, will determine if the company that conducted the original seismic is still in operation. If the company is in operation, Alberta Environment will bring an action against the company for resealing the leaking seismic hole. There is currently no remedy for the farmer or landowner whose land has been damaged except for a civil legal claim against the company. If the company that conducted the seismic is no longer in operation, the landowner is responsible for incurring the costs of sealing the leaking seismic hole, unless the seismic leak is on Crown land, then the Crown will incur the costs. Landowners have no remedy to force Alberta Environment to take action against the seismic operator or to seal leaking seismic holes that are on Crown land (i.e. ditches) and any damages that the landowner may incur, including depletion of the groundwater source or surface damage. The average cost incurred by landowners to seal leaking seismic holes is approximately \$5,000.00 and may require more than one application. All Albertans benefit from economic development and sustainability of both oil and gas

¹ Government of Alberta. (2013). *Highlights of the Alberta Economy 2013*. Retrieved January 31, 2013 from http://albertacanada.com/files/albertacanada/SP-EH_highlightsABEEconomyPresentation.pdf

² Seismic is defined in the Oilfield Glossary as: 1. adj. [Geophysics] Pertaining to waves of elastic energy, such as that transmitted by P-waves and S-waves, in the frequency range of approximately 1 to 100 Hz. Seismic energy is studied by scientists to interpret the composition, fluid content, extent and geometry of rocks in the subsurface.

development and agricultural production. However, private agricultural producers and landowners should not be held responsible for attempting to recover for damages, loss of agricultural production, or the associated costs caused by seismic activity which is approved and permitted by the Alberta Government, which benefits all Albertans.

The Alberta Chamber of Commerce recommends that the Alberta Government

1. Establish a fund to pay for damages caused by seismic activities on private lands. These funds could be administered by an independent tribunal with agricultural expertise to assess and award damages to private landowners caused by seismic activities. The fund may be financed through public means or by requiring a bond be paid on all seismic surveys to cover the costs of maintaining seismic holes.