Disposal Wells

What is a Disposal Well and Produced Water?

A disposal well is often a depleted oil or gas well, into which waste fluids can be injected for safe disposal. A by-product of oil and gas production is water that was either trapped in the same deep formations, was injected to stimulate a formation (hydraulic fracturing), or was injected to enhance oil recovery. This water is generally highly saline and not suited for domestic purposes.

Water specific to fracture return may be recycled for further use, or disposed by injection into deep subsurface formations, through a disposal well.

Surface discharge of produced water is prohibited in B.C. Water used during hydraulic fracturing is not discharged into surface waters, such as lakes and streams, and is not discharged into near surface aquifers used for potable water supply.

Out of **261** approved disposal wells in B.C., 82 are active and all are located in the northeast.

Disposal Wells and Induced Seismicity

Companies are required by the Commission to limit the injection and disposal pressure so as not to fracture the formation and to ensure the integrity of the disposal zone. These pressure limits are determined during the case-by-case application review process and are based on individual formation and wellbore properties.

A disposal well application is assessed for induced seismicity potential and to ensure:

- Oil and gas resources are not impacted.
- The wellbore integrity is suitable for disposal injection.
- Wells in proximity are suitably designed to contain disposal pressure.
- The disposed water will remain contained within the underground formation.
- The applicant is the rights holder to the formation.

Applications may be denied because of an elevated risk of seismic activity.
By regulation, a monthly injection/disposal submission reports on the volume of fluid disposed and maximum average wellhead pressure. The disposal approval contains numerous additional conditions requiring monitoring, measurement, testing and reporting to ensure the ongoing viability of the well and reservoir for disposal service.

Approval conditions for any disposal well may be altered by the Commission at any time.

BC Oil & Gas COMMISSION

For Further Information
Email ogc.communications@bcogc.ca or call 250-794-5200
24 Hour Incident Reporting for Industry 1-800-663-3456
This information is published by the BC Oil and Gas Commission and available online at www.bcogc.ca

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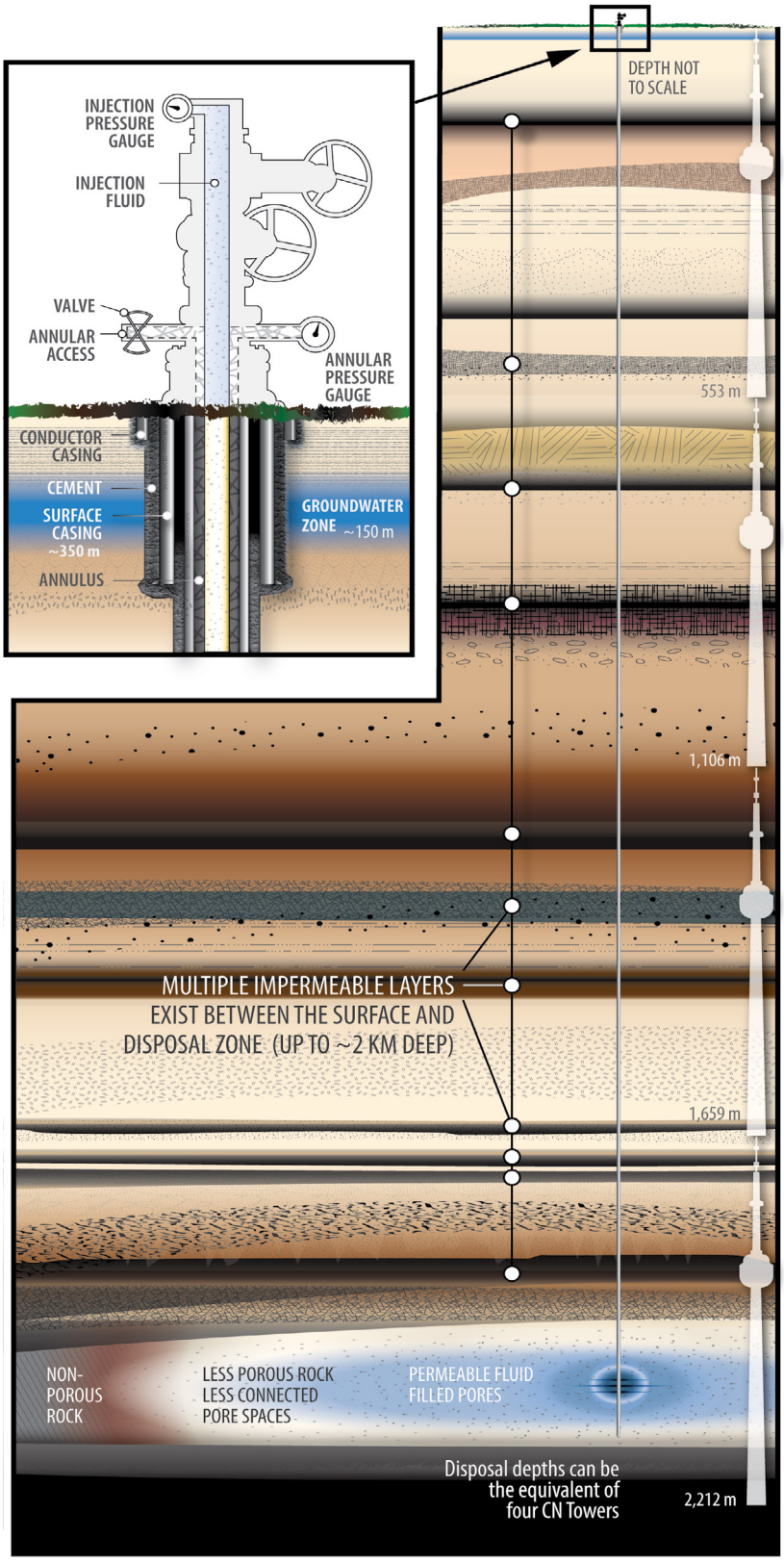

Did you know?

- The Commission has reviewed all disposal wells in the province. This includes amending approval orders to include conditions for monitoring, measurement, testing and reporting to ensure the ongoing integrity of the wells and containment of the disposal fluid.
- After 12 months of no (or zero) disposal volumes reported, the operator is required to change the status of the well to suspended and must inspect the well annually. Inspection requirements for suspended wells include: visual inspection, wellhead maintenance, surface casing vent flow test, and lease maintenance.
- The Commission has taken a leadership role in the detection and mitigation of induced seismicity. Commission studies in 2012 and 2014 led to enhancements such as increased seismic monitoring and ground motion monitoring. Mitigation measures for companies include new regulations that shut down industry operations if seismic activity reaches a certain threshold. The Commission has on-going research and collaboration with industry, academia and other agencies in the field of induced seismicity.
- A recommendation from the Commission's 2012 and 2014 studies on seismicity included a geological and geophysical analysis to identify pre-existing faults near proposed disposal sites. The Commission's Disposal Well Application guideline now requires a map showing known faults within 20 km of proposed disposal locations.
- The Commission supports enhancement of science-based regulations, and supports researchers at British Columbia Universities on a variety of research topics including well integrity, groundwater and surface water resources, induced seismicity, and others.

Public Concerns and Complaints
1-250-794-5200 (24-hour public number)
Report concerns such as odours, spills or noise.

Incident Reporting for Industry
1-800-663-3456 (24-hour emergency number)
Report oil and gas related incidents.

Disposal wells are designed to isolate fluids in deep, non-productive formations, thus protecting usable subsurface water aquifers and the environment.