

Oil and Gas Wells: Drilling Activity

What is Drilling?

In the energy resource industry, drilling is a process that utilizes a mechanical rig that is configured to bore a hole into the earth's subsurface. Well activities are most commonly associated with drilling as wells are used in drilling operations for obtaining, developing, storing, injecting and/or the production of oil and gas.

Drilling Operations

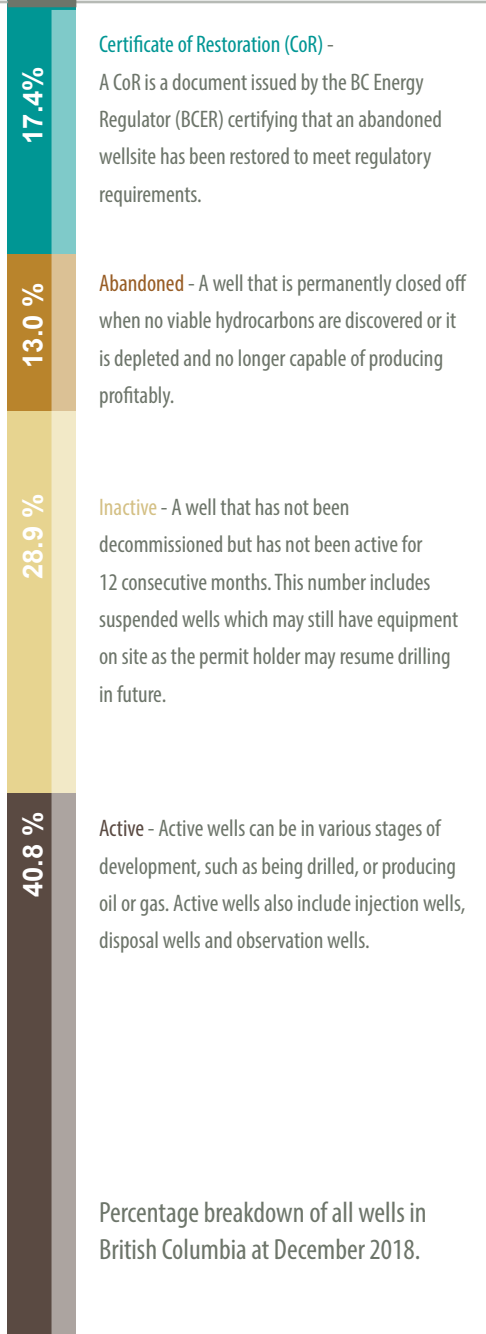
Drilling operations require an enormous amount of resources, preparation, expertise and personnel. A number of steps are required to prepare a location for drilling, to operate a drill site and finally to ultimately reclaim the site.

A drilling rig typically consists of power system, hoisting system, rotating system and circulating system. The power system provides the main power for the rig. The hoisting system raises and lowers the drill string in and out of the hole and controls the weight on the drill bit during drilling. The rotating system turns the drill string and the drill bit to break the formation rocks. The circulating system pumps the drilling fluids down the inside of the drill string and the drilling fluids return through the annulus to bring the cuttings to surface.

The drilling process normally involves setting conductor pipe to isolate unconsolidated shallow formations; drilling the surface hole and set surface casing to protect the groundwater and to support Blowout Preventer (BOP). Then drilling the main hole and set the production casing to isolate porous formations and provide a conduit for oil or gas production.

Regulating Drilling Operations

The BC Energy Regulator works to make sure industry understands, respects and meets or exceeds all the regulations and standards. Operators must apply to the BCER to construct and operate a well. In addition, well reports and well data are submitted to the BCER on a regular basis. Industry is encouraged to develop best management practices and the BCER works with industry to share lessons learned and advances in science and technology.



Public Concerns and Complaints

Report concerns such as odours, spills or noise.

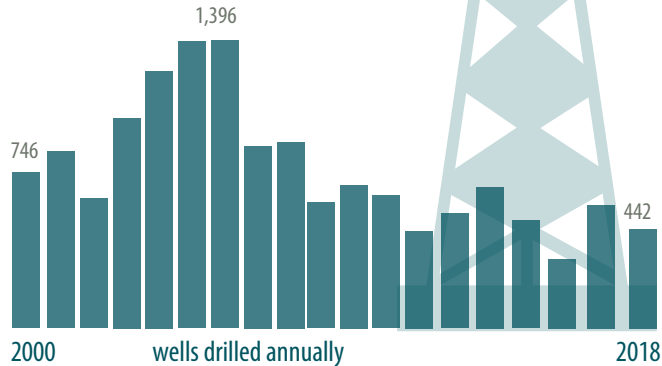
1-250-794-5200 (24-hour public number) or 1-877-500-BCER (2237) (24-hour toll free).

Incident Reporting for Industry

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

25,424

oil and gas wells in B.C. at Dec. 2018



What is BOP?

BOP is a short term for Blowout Preventer which serves as well control devices used to prevent the uncontrolled release of formation fluids (oil, gas or water) from the well.

BOP is a very important piece of equipment to ensure drilling safety. The Drilling and Production Regulation requires a well permit holder must ensure that, during all well operations, reliably operating well control equipment is installed to control kicks, prevent blow-outs and safely carry out all well operations.

Well Statistics

The BC Energy Regulator (BCER) provides activity levels on its web site as part of its commitment to enhancing transparency and understanding. A variety of reports are available online in the BCER's [Data Centre](#).

Technical reports published by the BCER provide valuable information on geology and resources for basins and the province. To view, go to: www.bc-er.ca/data-reports/reports.

The BCER's open data portal provides GIS data to the public on a number of activity details including well surface hole locations and well areas. Available at: <https://data-bc-er.opendata.arcgis.com>.

The BCER's Core Research Facility archives and provides public access to inspect and examine petroleum well cores and drill cutting samples. Visit www.bc-er.ca/energy-professionals/core-research-facility for more details.

Drilling Status

Spud: when drill bit starts to drill the surface hole. For drilling re-entries, the spud date is deemed to occur as specified by the BCER's Drilling Engineer.

Drilling Resumed: the startup or resumption of drilling after the well has been drilling suspended. Resumed spud date will often be when the drill bit starts new hole.

Drilling Suspended: when drilling is finished for a short time only and one or more of the objectives are not reached or when more drilling is imminent within one year of release of the rig. After one year the status of the well is considered as rig released and a well permit amendment application is required for drilling re-entry.

Rig Released: When drilling is finished and no further drilling is imminent at the wellsite. A Summary of Drilling Operations Report is required within four business days of rig release.