

OVERVIEW

Shell is pursuing the production of natural gas from the Montney tight gas formation in Northeast British Columbia. The formation is potentially a large source of clean-burning natural gas consisting of a mixture of low permeability siltstone and shale approximately 2500 metres (8200 feet) below ground.

Shell's venture, called "Groundbirch," currently includes five natural gas processing plants and will have over 300 wells and 900+ kilometers of gas-gathering system (pipeline) in the next year. Groundbirch is located approximately 45 kilometers west of the City of Dawson Creek. Shell holds about 300 sections of land in the Sunset-Groundbirch area.

Within the next year, we will be producing over 250 - 300 million standard cubic feet per day (mmscft/day) of gas. This is a mix of both sweet and sour gas (sour gas is gas that contains hydrogen sulphide).

This sweet natural gas from the Montney formation needs very little processing before being suitable for delivery to market.

Groundbirch is one of several unconventional gas plays in Shell's North American portfolio.

SHELL'S UNCONVENTIONAL GAS ASSETS



MANAGEMENT OF COMMUNITY IMPACTS

Shell uses pad drilling technology to minimize our footprint; meaning that up to 26 wells will be drilled from one pad – while pads are much larger than traditional oil and gas leases. One of the benefits of this is that they help to significantly reduce each well's surface impact by decreasing the number of access roads. Each pad will only need one pipeline right-of-way, helping to further reduce surface impact.

Shell also plans to build and/or upgrade key roads to support future development and enabling us to route traffic away from local rural residencies. To increase road safety, we are also working with the RCMP to enforce serious consequences for speeding and the use of mobile devices while driving.

Shell strives to benefit local communities economically; ensuring job opportunities are available to residents. We work to provide training programs to employees to increase their knowledge of industry safety standards. Shell also plays an active role in building the capacity of our business; this includes attending energy expos and providing feedback to businesses.

Shell is working to strengthen relationships with First Nations in the area specifically with regards to business consultation and the inclusion of First Nations companies, allowing them to benefit from the development of traditional land.

With open houses, newsletters, impact assessment workshops and meetings, and community advisory groups, Shell works to include the Groundbirch community in their decision-making process. We also have community affairs representatives in the area that can be contacted 24 hours a day.

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ABOUT SHELL'S GROUNDBIRCH VENTURE



WHAT IS TIGHT GAS?

With conventional gas, the gas is typically present in reservoir rock that is porous (containing many pockets or holes) and/or is naturally fractured (contains cracks and fissures) so that the gas can easily flow through it. In the case of unconventional gas, the surrounding rock is much denser and gas cannot flow freely which makes it difficult to produce; therefore, a technology called hydraulic fracturing is used to artificially crack or break the reservoir rock and introduce manmade fractures which allow the gas to flow at commercial rates.



1 Drilling

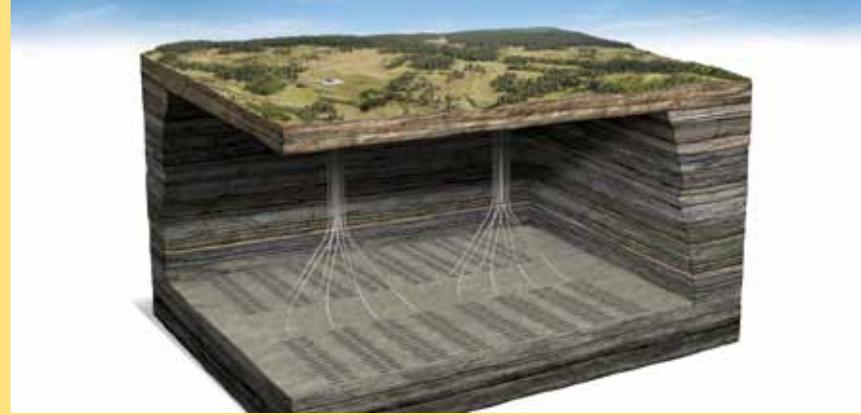
Shell uses horizontal drilling technology to minimize its footprint. Using this approach, a number of wells can be drilled from a single surface location or pad to access gas over 10 km away. A multi-well pad is typically about 270m X 200m (885 feet x 650 feet) in size and can be used for up to 26 wells.

By using multi-well pad drilling, we can significantly reduce our surface footprint by building fewer well pads and therefore needing fewer access roads and pipeline right-of-ways.

It typically takes about 15 to 35 days to drill a well in the area, which is then followed by completions operations including hydraulic fracturing.

2 & 3 Hydraulic Fracturing & Completions

We use hydraulic fracturing to access the natural gas in the area. Hydraulic fracturing involves injecting water mixed with sand and a small percentage of chemicals at very high pressures through the wellbore into the gas reservoir. The pressure created by the water fractures or cracks the formation providing a path for the gas to flow into the wellbore. The sand then enters these cracks and keeps them propped open so that gas can flow through them to the wellbore.



Flaring

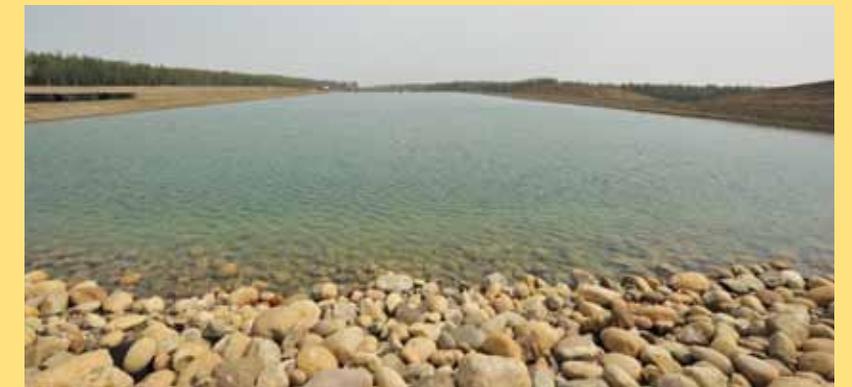
Historically, once a well has been drilled and before surface facilities are installed, the well production is tested by sending the produced gas to a flare stack. This flaring is a concern to local residents and it has an environmental impact. Therefore we are prebuilding pipelines and infrastructure when and where feasible.



4 Gas Processing

Natural gas processing at Groundbirch consists of five gas plants. The plants process the gas by removing water and liquid hydrocarbons (condensate) and then compressing the gas to the pressure required for delivery into the main sales gas transportation lines to domestic and industrial markets in British Columbia, Alberta and the US.

Future gas plants will be designed and constructed in a modular fashion to reduce costs and improve efficiency.



5 Water Management

Water is an important resource to us and to our neighbors. To protect sources of fresh water near our wells, Shell inserts two to three steel pipes called casing into its wells then cements them into place. Before commencing drilling, we test water wells around our locations in order to ensure that we will be able to detect any changes in water quality in the unlikely event that we were to have any impact on these wells.

In order to reduce our need for fresh water, Shell recycles as much water as practical in our operations. To facilitate this, Shell built its first "water storage and recycling facility," operational since late 2010. This facility stores flowback water, water produced at the gas processing plants, as well as additional fresh water. Other water storage and recycling facilities are to be constructed at key locations across the field.

In addition, Shell entered a partnership with the City of Dawson Creek on a 10 year initial agreement to build waste water treatment facilities that provide reclaimed water to our operations as an alternative source of water. This will displace the majority of Shell's need for fresh water in our operations. This facility has been operational since May 2012.

