

WHAT'S NEXT

There may be times when it's necessary for Chief Oil & Gas to return to completed well sites and perform additional work. Most of the time, it's for routine maintenance, designed to ensure the well head is operating properly and that the structure is intact. At other times, the site may be reworked to accommodate additional gas flow (re-fracing the well). Or, there may be an opportunity to generate additional natural gas from an existing site by using another drilling technique.



Opportunity Under Our Feet

Drilling for Natural Gas

A CLEAN SOURCE
OF ENERGY



Drilling For Natural Gas

Drilling for natural gas in the Appalachian Basin is not new. Developers, drilling companies, landowners, local townships and other stakeholders have been working together for many years to find ways to capitalize on our country's energy resources.

At Chief Oil & Gas, we work hard to make sure we communicate with those affected by our activities in the area, and we work hand-in-hand with local communities, government officials and local regulators to create mutually beneficial, long-term relationships. We don't just work here — we live here too.

WHAT YOU CAN EXPECT FROM THE DRILLING PROCESS

Throughout the drilling process, various equipment will be used at the drilling site. Initially, you will see bulldozers to clear and set up the location. Trucks will be used to deliver necessary equipment and materials. A drilling rig will be erected, and a crew will be on site 24/7 to manage and oversee the drilling operations which usually lasts around 2-3 weeks, sometimes longer.

Chief Oil & Gas ensures that all of its drilling sites and wells follow the numerous safety and environmental protections required by the various agencies that oversee oil & gas operations.

PREPARING THE DRILLING LOCATION

Once the optimum location for drilling a natural gas well has been identified by our geologists and engineers, Chief will survey the area for any existing structures, including homes, pipelines or power lines. We also work with local agencies to gather information regarding streams and the local habitat to assure appropriate measures are taken to protect the environment. If the site is located on a farm, we will contact the landowner to discuss considerations such as access roads and gates. If the site is located near homes or businesses, we will try our best to keep everyone informed about what to expect.

DRILLING THE WELL

First, we work with the landowner to establish right-of-ways to the drilling site. The site is then cleared and prepared for production. Storage containers are established to store the materials used in drilling, and a drilling rig is erected at the location. It takes about 2-3 weeks to drill the well.

HORIZONTAL DRILLING

In a straight or vertically drilled well, the weight of the drill string acts with gravity to guide the drill bit perpendicular to the ground surface. In a horizontally drilled well, specially designed tools are used to guide the drill bit in a specific direction. Horizontal drilling minimizes the disruption to the surface land, as multiple areas of natural gas may be accessed from the same drill site, simply by changing the direction in which the drilling occurs.

Once the drilling is complete, Chief uses a variety of engineering and completion techniques to access the natural gas resources. The well will not produce economic quantities of gas until it has been completed which typically involves hydraulic fracturing.

FRACTURE STIMULATION

Fracture stimulation involves the use of water to break up the shale that holds the natural gas. Water, mixed with sand and a small amount of highly diluted chemical additives, is pumped into the ground at a high pressure, and breaks up the rock so the natural gas may be released. Hydraulic fracturing is commonly referred to as "fracing" in the natural gas industry. This process takes about a week to complete.

WELL COMPLETION AND CLEAN UP

After the well is drilled, storage tanks and equipment used to separate the gas from any liquids in the well may be installed. Meters, pumps and other safety equipment are also installed. The debris is removed and the area is fenced for safety. A pumping unit may be needed onsite to continue to assist with the flow of gas from the location.

Chief monitors the site and its operations and production. At this point, the well is just beginning its life of production which can last between 20-30 years or longer.

GAS PIPELINES

Pipelines are needed to transport the natural gas from the well location to an appropriate processing facility. If Chief needs to install pipelines, our midstream subsidiary, Chief Gathering, will contact the surface landowner to discuss the process and what to expect.

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