

Encana anticipates beginning construction on the nearby Pratt and Waste Connections well locations (see map) in early September. The following is a summary of the activity you can expect during development. For updates specific to these or other Encana operations in Erie, visit Encana's Oil and Gas Operations page at <http://www.erieco.gov/>.

WHAT TO EXPECT

Pad Construction: Preparing each location (approximately 6 to 8 weeks; includes use of heavy equipment)

Preparation of each location will take approximately six to eight weeks. Initial activity will include the use of heavy equipment. During this phase, you can expect land clearing, grading, road construction and soils handling. Water trucks will be on location to control dust and there will be large trucks carrying earth moving equipment, graders, rollers, etc. Once this task is complete, the drilling rig will move onto the location.

Phase One: Drilling the wells (approximately 15 days per well, 24/7 hour operation)

Encana plans to operate two drilling rigs—a rig on each pad—during the drilling phase. Drilling will last for approximately 100 days at each location. Drilling at the Pratt will commence in October 2014 with drilling at the Waste Connections site scheduled to start before the end of the year. Drilling is a 24/7 operation though drilling times vary from well-to-well. Continuous drilling activity maintains wellbore integrity and reduces the total amount of time we are on location.

Once the site is constructed, the rig moves onto location. We first drill a short distance and set a large-diameter steel pipe called the conductor casing to stabilize the surface for drilling operations. Using compressed air and a small amount of fresh water, we drill below the deepest water well or aquifer and set surface casing. Casing is set by inserting a permanent steel pipe into the surface hole and then pumping specially formulated cement through the casing, filling the annular space between the outside of the casing and the wellbore; creating a barrier that extends from the surface to below the deepest water well or aquifer. Per the Colorado Oil and Gas Conservation Commission ([COGCC](#)), surface casing must extend to a depth of 50 feet deeper than the depth of any known water well or aquifer. In the DJ Basin, Encana sets its surface casing at least 100 feet deeper than any known water well or aquifer. The casing is then integrity tested in accordance with detailed and strict state regulations.

Drilling resumes to a vertical depth of approximately 6,500 feet, which is about 500 feet above the horizontal portion of the well or *kick-off point* for the lateral portion of the well. The horizontal section of the wellbore extends to a horizontal distance between 4,000 – 7,500 feet laterally.

Once we've reached the total planned distance for the lateral portion of the wellbore, we install another layer of steel casing and cement. This layer, also integrity tested, provides the pathway for production liquids and natural gas to rise to the surface at the wellhead. It also isolates the wellbore, preventing migration of fluids and natural gas from the Niobrara oil-bearing zone into water sources. Finally, thousands of feet of dense rock formations separate the Niobrara from water sources.

Encana utilizes closed-loop fluid handling systems. These systems keep drilling and hydraulic fracturing fluids within a series of pipes and tanks throughout the entire fluid storage process. Formation cuttings return up and out the wellbore during drilling and are later disposed of using state-approved disposal methods.

Phase Two: Completing the wells (approximately 5 days per well, 24/7 hour operation)

Once the well is drilled the next phase is called the completion phase and typically begins a few weeks after the drilling rig moves off of the location. The completions process, also called fracking, dramatically enhances the volume of recoverable natural gas and liquids from the formation.

During this phase, there is increased noise and significant truck traffic. This includes the delivery of equipment and materials, construction of temporary fresh water holding tanks and traffic associated with crews entering and exiting location.

WHAT IS FRACKING?

Hydraulic fracturing is the process of pumping a mixture of water, sand and a small amount of chemicals down the wellbore, under high pressure for short periods of time, into the targeted geological formations containing natural gas and oil. The water-based mixture forces open tiny fissures in the formation creating a pathway for oil and natural gas liquids to flow into the wellbore and up to the wellhead at the surface. The fracking process typically takes 5-7 days per well.

Phase Three: Production & Reclamation (averages 20-30 days for production; reclamation times vary greatly)

Once a well has been completed, crews run production tubing into the well to enhance production and create a more efficient pathway for the natural gas and liquids to travel to the surface. The flow of the liquids is controlled by a series of valves and instruments at the top of the well by the wellhead. The wellhead is the most visible part of a well and allows for surface monitoring and regulation of the production from the producing well. At the well, the natural gas flows into a gathering sales line at the location. Once in the sales line, the natural gas changes custody. Kerr-McGee owns and operates the natural gas gathering system in this area. Natural gas liquids and oil will then flow from each well through pipelines to Encana's central gathering facility (the Hub). Produced water will be redirected for reuse in subsequent fracking operations or disposed of per state regulations.

Once the wells are on production the amount of activity at the site dramatically decreases and the reclamation process can begin. Reclamation varies from location to location and may include removing debris, smoothing the operations area, and restoring location per state rules or per our agreement with the surface owner. Reclamation can take as little as two weeks or as long as one year depending on location, season, weather, and materials (e.g., fencing) availability.

Impact Mitigation Efforts

There is traffic, light and noise associated with oil and gas development activity. Prior to construction of any location, we perform sound studies to gain a better understanding of existing ambient noise and to model the sound mitigation specific to each site. Encana will install 32 foot sound walls around the perimeter of each location prior to starting drilling. The walls help minimize noise, dust, and light, as well as the visual impacts associated with drilling and completions activity on the pad. The rig is also equipped with mufflers that further reduce rig engine noise, and to the extent that we can maintain a safe working environment, we redirect lights away from neighbors and install light diffusing material on individual rig lights. Mitigation efforts are monitored and adjusted as needed and practicable. Feedback from the community regarding the effectiveness of our mitigation efforts is encouraged and appreciated.

Encana has developed and implemented a [company-wide program](#) that prohibits our contractors from utilizing fracturing products containing diesel, 2-Butoxyethanol (2-BE) or benzene. Additionally, we have determined that none of the hydraulic fracturing products Encana uses contains arsenic, cadmium, chromium, lead or mercury.

The safety of our staff and contractors as well as those living near our operations is our top priority. We provide ongoing training for staff in matters of environmental, health and safety, conduct periodic safety and emergency response drills with local responders and continue to look for ways to reduce our impacts to the community and environment. All staff and contractors are required to adhere to strict safety rules and site specific procedures to ensure the highest level of safety and adherence to site specific guidelines (i.e. access and traffic plan).

Encana voluntarily notices prior to the construction, drilling and completions phases.

Set your personal notification preferences by visiting <http://www.encana.com/crcolorado>. Please note: You **do not** need to register to receive Encana courtesy notices.



Pratt 29H-P168 and Waste Connections 29H-M168 Locations

Community Relations Number: 866-896-6371



- Blue** – Well Pad
- Red** – 1,000 Foot Notification Area
- Purple** – 500 Foot Set Back
- Dark Orange** – Temporary Completions Area
- Yellow** – Access Road
- Black** – Facilities