

Erie Specific / Frequently Asked Questions

Q. Where can I find information about a particular Encana location?

A. Encana posts detailed information about its active locations on the Town of Erie website on an [Encana specific page](#). In 2008, Encana developed an [Encana specific map for the Erie community](#) as a way of providing detailed information about sites that are either in the development phase (drilling and completions) or for locations where Encana is seeking approval from State or local officials for future operations in the Erie area.

Q. Who can I contact if I have concerns or issues with Encana's operations?

A. Contact Encana's local community relations team via phone at [866.896.6371](tel:866.896.6371) or by email at CommunityRelationsUSA@encana.com.

Q. How is oil and gas regulated?

A. Each state has regulatory authority over oil and gas development that occurs within its boundary. This makes sense since state regulators have the best understanding of the unique natural resources of their state. In Colorado, the Colorado Oil & Gas Conservation Commission (COGCC) is responsible for regulating oil and gas development. The COGCC issues permits for the drilling and operation of oil and gas wells, and enforces rules and regulations for the spacing of wells, well bore design and construction, and well site reclamation. The COGCC also sets out the requirements for the plugging and abandonment of wells and for the treatment and disposal of oil and gas production waste. Visit the [COGCC's website](#) to learn more about oil and gas regulations in Colorado.

Additionally in 2007, the Colorado Legislature enacted legislation directing the COGCC to promulgate rules in consultation with the Department of Public Health and Environment (CDPHE) to protect health, safety, and welfare of the general public in the conduct of oil and gas operations. The rules took effect on July 1, 2009 for federal land and April 1, 2009 for all other land.

The [federal government, specifically the EPA](#), also plays a role in regulating oil and gas development.

The [Colorado Department of Public Health and Environment](#) (CDPHE) regulates air quality. We obtain the required permits through the CDPHE for our operations. We also follow the requirements in the Colorado regulations for emission controls and monitoring. We have also entered into a memorandum of understanding with Erie to add additional emission controls such as vapor recovery units.

Local governments, like Erie, have a seat at the table when it comes to oil and gas development in their community. From determining which routes we might utilize to access a location, to requesting that operators to avoid high traffic times around schools or requesting that certain [best management practices be included in our operations](#), local municipalities have an opportunity provide input into our mitigation efforts.

Here's an excerpt from Erie's municipal code that specifically addresses Use by Special Review Approval Criteria:

Town of Erie Municipal Code, Title 10, Section 7.13.C.9. (pp 245-248)

9. Step 9 (Approval Criteria)

Applicable, as follows: An Architectural review may be approved upon a finding that the application meets all of the following criteria:

- a. The Architecture is generally consistent with the Town's Comprehensive Master Plan;
- b. The Architecture is generally consistent with any previously approved Architecture during the subdivision plat, Site Plan, or any other precedent plan or approval as applicable;
- c. The Architecture complies with all applicable development and design standards set forth in this UDC, including but not limited to the provisions in Chapter 6;
- d. Any significant adverse impacts reasonably anticipated to result from the use will be mitigated or offset to the maximum extent reasonably practicable; and

e. The Architecture proposed will be compatible with the character of surrounding land uses.

Q. Will oil and gas wells developed in or around Erie be fracked (hydraulically fractured)?

A. Yes. Oil and gas wells drilled in Colorado are hydraulically fractured. More than 1.2 million wells have been fracked. In fact, 90% of all wells in America are fracked at some point during their lifespan. (Source: Interstate Oil & Gas Commission (IOGCC) and Independent Petroleum Association of America (IPAA)).

Q. [What is fracking?](#)

A. Hydraulic fracturing, also referred to as fracking, 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 horizontal well, depending on the length of the lateral section of the well.

Q. What's in fracking fluid?

A. [Hydraulic fracturing fluid](#) consists of 99.5% water and sand, and a small amount of additives (0.50%).

Q. How can I find a list of the chemicals used in Encana's fracking operations?

A. Visit FracFocus.org to find information on a previously fracked well. [Disclosure rules in Colorado state](#) that a chemical disclosure registry form must be completed and posted on the chemical disclosure registry (a public disclosure website FracFocus.org) within 60 days following the conclusion of a hydraulic fracturing treatment, and in no case later than 120 days after the commencement of such hydraulic fracturing treatment.

Q. What mitigation efforts does Encana take in an attempt to minimize impacts to the community?

A. Encana employs a variety of steps to minimize impacts to area residents during the development phase. It's important to note that each community, and for that matter, each location is unique. In an effort to reduce the impact our activity has on the area around our locations, Encana is investing nearly \$80 million dollars to develop a centralized gathering facility, referred to as [the Hub](#). The Hub will allow for the collection and processing of oil and natural gas liquids to take place at one central location. At the Hub, equipment will further separate the water from the oil and capture the rich natural gas vapor. This approach dramatically reduces overall emissions from our operations; it also reduces the typical pad size from approximately 5 acres down to roughly 1.5 acres or less. These numbers can vary depending on the number of wells per pad.

Other mitigation measures Encana plans to utilize in the Erie area include:

- We conduct baseline noise surveys to provide an understanding of existing ambient noise levels in the area. This data helps us determine how best to place the equipment on location and informs the design of site specific noise abatement solutions.
- At the Pratt and Waste Connections sites we are installing 32' temporary sound abatement walls to reduce noise, light, and visual impacts associated with the drilling and completion phases.
- We deploy traffic management teams during rig deployment and rig out.
- We utilize street sweepers for mud tracking mitigation and water trucks for dust mitigation.

Q. What are the expected air emissions during drilling, completions (includes fracking) and production at Hub pads?

A. Temporary sources of emissions during operations may occur from the following:

- Drilling Rig: Encana operates both diesel and liquefied natural gas rigs in the DJ Basin. EPA has mandated that new diesel engines meet tighter emissions standards and that each generation of engine be cleaner than the one before;

similar to emission specifications and standards set for auto manufacturers. Liquefied natural gas rigs produce less carbon dioxide, volatile organic compounds and nitrogen oxide emissions.

- Completions: Federal and State regulations require closed-loop completions. During flowback, we use a closed-loop system. This means that all vapors are captured and either put into the pipeline or combusted.
- Production: Because the Pratt and Waste Connections wells are designated Hub wells, all liquids will flow to the Hub facility via pipeline. At times, there may be fugitive emissions from the wellhead facilities on the pad—fugitive emissions can develop at any threaded connection, flange etc. We will continue to utilize our leak detection and repair program at both the Hub and future pad locations through the use of our IR cameras.

Q. What does Encana do to help protect air quality?

A. Over the past seven years, Encana has invested over \$40 million on emission control technology and is continually evolving and improving this technology.

Encana played a significant and important role in the passing of new, more stringent air quality regulations in Colorado. The effort brought Encana, the [Environmental Defense Fund](#) (EDF), other operators and the State of Colorado together to develop air quality regulations aimed at significantly reducing air emissions associated with oil and gas operations. EDF lauded the (newly amended) regulations, referred to as [Reg. 7](#), as the strongest air quality rules in the nation. The rule establishes a new monitoring system for leak detection and repair for methane as well as its traditional focus upon VOC's (volatile organic compounds).

The Denver Post recognized the collaborative effort by naming the group winners of their [Colorado's Top Thinkers in Energy](#).

Q. Have there been any studies on air quality?

A. Yes, in fact Erie commissioned a number of analyses specific to oil and gas development related air quality? You can read more about the report on Erie's website at <http://erieco.gov/922/Air-Quality-Reports>

Also, many universities and agencies such as NOAA are continually studying air quality to help inform policy and the public on ways to further reduce emissions. Encana participates in many of these studies.

Q. Are oil and gas operations exempt from the Clean Air Act?

A. No, oil and gas operations are not exempt from the Clean Air Act. CDPHE-APCD is the agency responsible for developing and implementing air quality regulations to comply with the provisions of the Clean Air Act. Oil and gas operations are required to be permitted through the CDPE-APCD. Oil and gas operations are also subject to several regulations from the Environmental Protection Agency (EPA).

Q. Are you required to monitor emissions from your operations?

A. Encana staff, lease operators, visit the sites frequently to maintain and inspect equipment; we also monitor our equipment for leaks using an infrared (IR) camera.

We also monitor operational data at each site and use that information to calculate emissions for permitting and compliance purposes, specifically:

- Track VOC emissions on weekly and monthly basis;
- Track downtime of combustors and must account for uncontrolled emissions; and
- Complete and submit semi-annual compliance reports to CDPHE.

Also, the CDPHE has a team of inspectors doing spot checks and IR camera inspections throughout the year.

Q. But do you have to monitor or measure the actual emissions?

A. No, we do not have to monitor specific emissions from each location. The CPDHE-APCD has a number of monitors throughout the State to continually monitor air quality. We also have participated and will continue to participate in various industry air quality studies. CDPHE monitored air quality during one of our drilling/completion facilities and it showed that emissions were well below any levels which could potentially affect public health.

Q. What emissions come from fracking?

A. We utilize green completions or *closed-loop completions* in our operations. Natural gas produced during the completions phase is captured. There are some emissions from the use of generator engines that power the pumps. These temporary sources are removed once the wells have been fracked.

Q. What is the composition of fracking fluids utilized by Encana in Colorado?

A. The exact composition may vary slightly well-by-well and operator-to-operator. To get the exact composition visit FracFocus.org. Per [COGCC rules](#), within 60 days following the conclusion of a hydraulic fracturing treatment, and in no case later than 120 days after the commencement of a hydraulic fracturing treatment, Encana [industry] must complete the chemical disclosure registry form and post the form on the chemical disclosure registry (FracFocus).

Visit www.FracFocus.org and search for Encana wells drilled in Erie over that past few years.

We should also highlight that per our [Responsible Products Program](#), Encana prohibits the use of any hydraulic fracturing fluid products containing diesel, 2-Butoxyethanol (2-BE) or benzene and we have informed our suppliers that any product containing these additives cannot be used in our hydraulic fracturing operations. Additionally, we have determined that none of the hydraulic fracturing products Encana uses contain arsenic, cadmium, chromium, lead or mercury. Encana is committed to ensuring that none of these heavy metals will be used in our hydraulic fracturing operations.

Q. I read a lot about spills; what are the rules about reporting and cleaning-up spills?

A. The COGCC sets forth the requirements for how oil and gas operators report and remediate spills. **Once a spill is discovered, we begin clean-up and remediation (if needed) immediately.**

New rules (effective December 2013) require:

- Any spill of exploration and production (E&P) waste greater than or equal to 1 barrel (BBLs) (the old rule was 5 BBLs) outside of a berm or secondary

containment must be reported to COGCC by phone call or email within 24 hours.

- Any spill of E&P waste greater or equal to 5 BBLs (the old rule was 20 BBLs) *regardless of containment*, must be reported to COGCC by phone call or email within 24 hours.
- All reportable spills must be reported to the COGCC via Form 19 (an initial report) within 72 hours and supplemental information must be provided within 10 calendar days.
- Within 24 hours of a reportable spill, the surface land/tenant and the local municipality with jurisdiction over emergency response must be notified.

Q. Can the project(s) be relocated further away from homes (i.e. to meet the recommended setback of 2000 ft.)?

A. The COGCC setback rule states 500 ft. from an occupied building; **2000 ft. is not the recommended setback**. Encana meets or exceeds all the COGCC rules and requirements for both the Pratt and Waste Connections sites.

After discussing the possibility of changing the surface location of the Pratt wells, it was determined Encana would be unable to move the location given the Surface Use Agreement with the landowner predates the 2013 rule revisions. Additional factors include the topography of the area and the need to co-locate the production facilities near existing locations (operated by Synergy) decrease surface impacts.

Q. Why did the Pratt and Waste Connections project accelerate from the dates provided at the Erie Planning and Commission hearing held in July 2014?

A. As we drill horizontal wells, we continue to increase our drill time efficiency which has a ripple effect on our rig schedule. We operate multiple rigs throughout the basin and must adjust our schedule in response to rig performance. We always make a point to note that our schedule is subject to change. Once we determine where a rig is going to be operating next, our courtesy notice protocol is activated.

Q. What is flaring and why do you do it?

A. Flaring is the controlled burning of natural gas. Flaring occurs when natural gas is present that cannot be captured and placed into a sales pipeline. This might occur

during the drilling phase. Every operators preference is to capture gas as much natural gas as possible from the wells however, in situations where capturing the gas is not possible, it is better from an air quality perspective to burn the gas through a flare system rather than vent it directly into the atmosphere.

Q. What emergency provisions are in place for worst-case scenario events?

A. First and foremost, we design and engineer our systems to operate safely. We work closely with local emergency responders including the fire department and local law enforcement to plan for, coordinate and respond to emergency situations. We hold periodic table-top and hands-on training exercises to prepare staff and responders in the event of an emergency. For every location, including the Hub facility, we are required to submit an emergency response plan with the state permit.

Q. What are the noise levels in dBA at 350 ft. during drilling and fracking operations?

A. Every location we operate is unique. From the topography around the site, to the proximity to busy roads and existing area activities, all contribute to existing baseline levels of noise. Because of this, each location requires a site specific plan for sound mitigation. Prior to beginning drilling operations, Encana consults with third-party sound engineers to conduct a sound study. From this data, these noise experts develop a model of the location and if needed, recommend a variety of noise mitigation options.

To answer this question, we asked noise experts to provide some average measurement data for 350ft. Here’s what they shared:

Based on noise signatures and continuous monitoring¹:

Operations / NO Mitigation	
Operational Phase	LAeq at 350 ft. (dBA)
Drilling	63 – 67
Hydraulic Fracturing	66 – 73

¹ Data provided by [Principle Energy Services](#).

Operations / WITH Mitigation	
Operational Phase	LAeq at 350 ft. (dBA)
Drilling	61 – 65
Hydraulic Fracturing	64 – 67

Please note the following disclaimers:

- Different locations/topography
- Different weather patterns between sites and monitoring periods
- Not enough data points at 350 feet to give an accurate and fair average of sound levels before/after mitigation
- Ambient factors for all of the provided data points

Q. What are the benefits of this project to the local community?

A. The Erie community at-large benefits in numerous ways from oil and gas development. This is not meant to downplay the fact that the development of natural gas and oil resources brings with it some temporary nuisance issues during construction, drilling, completions and production. It does, and Encana has certainly worked hard to adjust and improve operational practices in an effort to minimize those impacts—the Hub is just one such example. We do our best to address the temporary impacts and support programs and initiatives that benefit the community as a whole—now and in the future. We also continually ask ourselves “how can we improve?”

Encana supports giving back to the communities where we operate. Our investments in local 501c3 organizations in the DJ Basin totals more than \$3 million. Here are several examples of local projects we’ve supported:

- \$250K in support of the thermal solar system at the Erie Community Center that is used to heat all of the domestic water used in the building
- \$175K in support of the energy efficiency lighting at the baseball fields
- \$50K in support of an energy efficient HVAC system at the Erie library

- \$30K in support of Boulder County RSVP Board which provides services to seniors and the disabled
- \$145K to Energy Outreach Colorado for low income energy assistance
- \$60K to Erie Elementary in support of their STEM program
- \$32K to Erie Middle School for their technology program
- \$34K to Erie High School in support of new technology.
- \$110K to Erie Village HOA and \$77K to Vista Point HOA in support of a new community parks.
- \$95K to GO3 Foundation for installation of their Global Ozone Project – Erie High School participates in the program along with numerous other schools across Colorado.
- \$17.9K in support of the Erie Rotary Club’s 3rd Grade Dictionary program which we’ve been supporting since 2009
- \$30K to The [Thorne Ecological Institute](#) connecting kids to nature program
- \$111.5K to Via Mobility for transportation and mobility services for older adults and individuals with disabilities who live in and around Erie

Additionally, in 2013 Encana paid the following in State and Federal taxes:

Colorado state severance taxes	\$ 7,533,533
State royalty payments	\$ 4,002,081
Gross production (ad valorem)	\$40,291,282
Taxes to counties	\$37,953,442
Colorado personal property taxes to counties	\$ 6,698,339
Colorado sales/use tax	\$26,732,102
Federal royalty payments	\$43,787,635

From an overall industry prospective, a [University of Colorado Boulder study](#) noted that the oil and natural gas industry generated \$29.6 billion for the Colorado economy in 2012 alone, which included \$1.6 billion in tax revenue for Colorado’s schools, parks and roads.

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