

## **Oil and Gas Fast Facts and Frequently Asked Questions**

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### **FACTS**

#### **Property Rights and Interests**

**Property rights:** each tract of land contains a set of rights or interests as it relates to use or development. Among those interests are ownership of rights related to development of the surface of the land, and access to the minerals, such as oil, gas, sand and gravel, that exist below the surface of the property. Other examples of property rights could include water rights and air space above the property.

**Surface rights:** the use of the surface of a property is typically governed by zoning codes which set out allowed development (such as residential or commercial) as well as many design requirements (location, size and design of buildings, landscaping, etc.).

**Mineral interests:** property rights also include the ability to extract minerals that may exist under the surface of the ground, such as sand, gravel, oil and gas. While local zoning codes also regulate the manner in which minerals can be extracted, there are also stronger State laws which govern mineral extraction. Because it is difficult and sometimes impossible to access minerals once the surface above those minerals is developed, State rules provide certain protections that promote the extraction of minerals before surface development occurs. The Colorado Oil and Gas Conservation Commission (COGCC) regulates and oversees the extraction of minerals.

**Severed property rights:** as tracts of land are subdivided and sold, it is possible and in fact common, that some of the individual interests are ‘severed’ and sold or transferred separately. For example, water rights are often attached to parcels of land. When those properties are developed, the water rights are often transferred to a government or water district which takes the “raw” water from the undeveloped parcel and then treats it. It is very common for a property to sever and sell its mineral interests separately from the surface use. Historically, the development of the surface area of a property holds the greatest value since it is costly and difficult to extract minerals on a lot by lot basis. However in more recent times, the value of oil and gas has increased to the point that active mineral drilling is common.

#### **What is the current status of the oil and gas issue in Lafayette?**

On September 4, 2012, City Council was presented with a workshop on Hydraulic Fracturing. This workshop was intended to brief the Council on: 1) how the Development and Zoning Code, Section 26, regulates Oil and Gas drilling within the city limits 2) the location of existing wells within the city limits; 3) the Colorado Oil and Gas Commission’s rules and regulations; and 4) how other cities regulate oil and gas drilling.

The City’s Development and Zoning Code, Section 26-22.1, Oil and Gas Development, was adopted in 1994. Since Section 26-22.1 was adopted, no new oil and gas wells have been drilled within the city limits.

At the September 4, 2012 City Council workshop, City Council directed staff to review Section 26-22.1, research how other jurisdictions regulate oil and gas wells, and propose updates if staff determine deficiencies with the Code exist. Council also directed the City Attorney to draft an emergency moratorium ordinance. If, while staff is in the process of reviewing and proposing changes to the Code, an application for an oil and gas well is anticipated, staff would alert City Council, and Council could adopt the emergency moratorium.

Since the City Council workshop, the Colorado Oil and Gas Commission (COGCC), recently updated their regulations to: 1) require ground water testing prior to, and after, drilling a new oil and gas well; 2) require increased setbacks of oil and gas wells from homes and building to 500 feet; 3) require enhanced drilling measures for oil and gas wells within 1,000 feet of a home. At the January 15, 2013 City Council meeting, Senator Matt Jones, and Representative Mike Foote, talked about their belief that the COGCC's updated regulations may not appropriately regulate oil and gas wells. They stated that they believe the state legislature may adopt additional regulations, in this year's legislative agenda. Based on this fact, staff is waiting to see if any new state regulations will be adopted, prior to recommending any amendments to Lafayette's current regulations

### **FREQUENTLY ASKED QUESTIONS**

#### **Do companies have a right to drill within the City?**

Yes. The owner of mineral rights located in the City of Lafayette has a right to extract such minerals.

#### **How does approval for oil and gas activity occur?**

In Lafayette, all zone districts require oil and gas drilling extraction to obtain an approved Special Use Review (SUR). Notice of a request for a SUR is mailed to landowners within 750' of the proposed drilling activity. Subject to compliance with the City's rules and regulations pertaining to oil and gas extraction, a SUR may be reviewed at the staff level, or be forwarded to the Planning Commission. Staff review and approval takes 15 days with a 14 day appeal period and Planning Commission SUR approval can take approximately 30 days.

#### **What is the purpose of a Special Use Review?**

The purpose of the Special Use Review is to ensure that oil and gas extraction complies with the City's regulations. It provides nearby landowners a chance to comment on the application, and gives the City the ability to require certain site improvements to mitigate some impacts such as landscaping, berming, dust control, etc. Lafayette Development Code Section 26-22.1-3(a) states "In accordance with the procedures defined in this Section 26-22-1, within all zone districts, the operator shall apply for and receive special use approval prior to installing or constructing any oil and gas operation, including but not limited to drilling, reactivating a plugged or abandoned well, performing the initial installation of accessory equipment or pumping systems, reentry for purposes of sidetracking, deepening, recompleting or reworking, or performing enhanced recovery operations (e.g., injection wells) or installing, constructing, relocating or altering any access to any oil and gas operation provided that a special use approval for relocating or altering any access is required only if such relocation or alteration involves a change in point or means of access."

**What is hydraulic fracturing (or “fracking”)?**

Hydraulic fracturing is used after the drilled hole is completed. Hydraulic fracturing uses fluid and material to create or restore small fractures in a geological drill formation in order to stimulate production from new and existing oil and gas wells. Smaller particulates, typically sand, are forced at high pressure into the drill hole and the adjacent formation. These particles create paths (“fractures”) that increase the rate at which oil and gas can be released or extracted from the reservoir formations.

**Are drilling and fracking the same thing?**

While fracking often accompanies drilling in Colorado, it is not the same as the drilling process.

**How can “fracking” affect ground water?**

To ensure that neither the hydraulic fracturing fluid that is pumped through the well or the resulting oil or gas can enter the water supply, steel casings are inserted into the well to depths of between 1,000 and 4,000 feet. The space between these casings and the drilled hole is filled with cement. Once the cement has set, then the drilling continues from the bottom of cemented steel casing to the next depth. This process is repeated using small casings each time, until the oil and gas-bearing reservoir is reached, generally at a depth of 6,000 to 10,000 feet.

**What chemicals are used in “fracking”?**

The hydraulic fracturing consists mostly of water and sand, which make up 98 to 99.5 percent of the fluid. In addition, chemical additives are used. The exact formulation varies depending on the well. A typical fracture treatment will use very low concentrations of between 3 and 12 additive chemicals, depending on the characteristics of the water and the shale formation being fractured. Each component serves a specific purpose. For example, the addition of friction reducers allows the fracturing fluids and sand, or other solid materials called “proppants,” to be pumped to the target zone at a higher rate and reduced pressure than if water alone were used. In addition to friction reducers, other additives include biocides to prevent microorganism growth and to reduce biofouling of the fractures, oxygen scavengers and other stabilizers to prevent corrosion of metal pipes, and acids that are used to remove drilling mud damage within the wellbore area. These fluids are used to create the fractures in the formation and to carry the propping agent (typically silica sand), which is deposited in the induced fractures to keep them from closing up.

**Can the City force co-location of wells?**

The City cannot force the co-location of wells nor prohibit the drilling of wells if the applicant meets all setback and separation requirements, and complies with all state and local rules and regulations.

**What are the City’s setback requirements for new wells?**

Lafayette Development Code Section 26-22.1-4(1)(iii) states “Unless it would violate O.G.C.C. (a.k.a. C.O.G.C.C.) spacing rules, any wellbore, production tanks, on-site production equipment, shall be located not less than three hundred fifty (350) feet from a building, public road, aboveground utility line, railroad, wildlife habitat area, pedestrian, biking or horseback trail, features or sites with official designation as having important historic or archaeological value, building permitted for construction or a platted lot line for a lot which is covered by an approved preliminary plan for a residential or commercial use; or which preliminary plan is for

an industrial use which industrial use is characterized by an extraordinary fire hazard concerns.”

**How many wells are within the City?**

As of August, 2012, there are 14 producing wells within the city limits. Ten additional wells have been abandoned after state approval due to location, or been abandoned due to lack of production. It is common for oil and gas wells to have a life of between 15-50 years, depending on a variety of factors.

**Once a well is capped, can it be reentered?**

Subject to COGCC approval, and obtaining Special Use Review approval from the City, a well can be reentered. However, to cap a well, a portion is filled with cement. Drilling through the cement may be more difficult than drilling a new well near the previously existing well site.

**What is the surface owners’ rights related to oil and gas extraction?**

In general, unless otherwise agreed upon with the mineral owner, the surface owner’s rights are limited. Surface owners cannot encroach on the mineral owner’s activities or facilities, and may not interfere with the mineral owner’s efforts to produce the minerals. However, the mineral owner will typically negotiate a surface use agreement with the surface owner and can only enter the property for the purposes of installing, maintaining, and operating the facilities.

**When purchasing property, are the mineral rights included?**

Not always. The title commitment, which accompanies a transfer of property, will indicate an exception of mineral rights if they are not included. A mineral certificate can be purchased, which indicates who owns the mineral rights. It is best to consult an attorney for questions or for specific information.

**Can an existing non-fracked well be fracked without additional approval?**

Subject to the COGCC review process, and submit to a new SUR by the City, a non-fracked well could be fracked.

**Can the City provide input for new wells proposed near the city limits?**

The COGCC notifies the City’s Local Government Designee (LGD) of any new permits applied for when the city limits are within the Section of a Township and Range of the proposed well. The Oil and Gas Guide for Local Governments, published by the Colorado Department of Local Affairs, outlines the LGD process. The COGCC is reconfiguring their systems to include a buffer around proposed wells in order to notify any jurisdictions within that buffer regardless of the Section of a Township and Range.

**How are well locations determined?**

The State of Colorado has defined drilling “windows” for each section of land (typically one square mile). Spacing rules for gas wells in each geologic formation vary. Wells drilled into other formations may be spaced at greater densities. Wells must be drilled within the window unless an exception is granted by the State. Wells may be drilled outside of the window for reasons such as avoiding flood plains, cliffs, or other terrain considerations.

**Who, at the government level, is involved in approving oil and gas extraction?**

The COGCC and the local municipality are the two entities involved in approving oil and gas extraction.

**What rights does the City have regarding the regulation of oil and gas extraction within the City?**

The City Attorney, in the memorandum dated July 12, 2012, outlined his opinions as to the City's ability to regulate oil and gas development activities. The City Attorney stated "Lafayette may regulate the impacts of oil and gas operations but only so long as those regulations do not impinge on operational aspects that are regulated by the state."

**What would a moratorium prevent and what would it allow?**

Depending upon the exact wording of the moratorium, it could prohibit the City from accepting an SUR application for an new oil or gas operation or a modification to an existing operation, and it could prohibit the City from processing any SUR applications that were submitted, but not approved, prior to the effective date of the moratorium. A moratorium would not prohibit the continued operation of an existing oil or gas well.

**It appears the chemicals used in fracking have changed over the years. Why has this occurred?**

The technological advances in fracking over the past fifteen to twenty years have increased the ability for mineral owners to extract greater amounts of oil and gas. In addition, the linear footage of vertical bored wells requires fewer fluids, including water and chemicals, than the linear footage of a directional bored well.

**Do air, noise and visual mitigation requirements apply?**

State regulations exist regarding noise, air quality, and visual impacts. Air quality and emission standards, in particular, are only monitored and governed by the State. Most aspects of potential surface impacts are part of local government regulations.

**Has there been a study on how trucks will impact public roads? Who will pay for the repair work needed on these roads?**

Staff has not conducted or commissioned a study on the impact of oil and gas extraction and ancillary activity to public roads. However, through the Special Use Review, the City could require oil and gas operator's to mitigate this impact.

**How will the City regulate air pollution from the dust, vehicles, trucks, compressors, etc.? Who will monitor the pollution?**

In general, air monitoring is conducted by the State. The City, however, requires compliance with the Municipal Code and the approved Special Use Review and could undertake enforcement actions, if necessary, for violations.

**Is there a way to know which chemicals are used in fracking specific wells?**

Colorado oil and gas developers have recently been encouraged by the COGCC to participate in a voluntary registry of specific chemicals that are utilized at specific wells, found at [www.fracfocus.org](http://www.fracfocus.org). The COGCC website also contains various resources about the technique and the chemical content of fracking fluids.