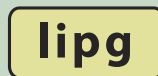


# OUR COMMITMENT TO OPERATING IN A SAFE AND RESPONSIBLE MANNER

The Lochend Industry Producers Group comprises four reputable oil and gas companies that have a proven track record and are committed to integrity, safe and fair practices, partnering with the community for responsible resource development.

[www.lipg.ca](http://www.lipg.ca)



lochend industry producers group



Please contact us if you have any questions.

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## facts for addressing **misconceptions**

**“ LIPG MEMBER COMPANIES ARE ACCOUNTABLE FOR OUR ACTIONS AND OPERATE IN A SAFE AND RESPONSIBLE MANNER TO PROTECT THE ENVIRONMENT AND MITIGATE DISTURBANCE TO STAKEHOLDERS. ”**

Recent letters to the editor in local papers have linked energy activities in Peace River, Rosebud, Horn River, Oklahoma and Pennsylvania to the oil and gas practices of the LIPG companies here in Lochend. Most often they are geologically, technically and jurisdictionally unrelated and do not represent what is happening specific to Lochend oil and gas activities.

Just one example of how operations in these areas can differ is the illustration between shale gas development and the Cardium sweet oil development underway in Lochend. They are very different types of operations and at a different scale of development, which is important to understand when comparisons are made to ensure information is in context. An article in the Fall/Winter 2014 edition of the LIPG newsletter titled “Facing in the Lochend area, what you need to know” contrasts just some of the differences between these two types of energy development.

In Lochend, the LIPG member companies have adopted a set of best practices that have almost entirely eliminated the flaring of gas in

favour of capture and conservation or minimal incineration. Water testing protocols have been enhanced and efforts put in place to minimize nuisances such as dust and noise. Additionally, we are in the process of working with area residents to determine if an air quality monitoring study is required to reassure landowners that our operations are safe. These are all positive steps taken in an effort to address community concerns and mitigate disturbances wherever possible.

In the end, we can only stand on the facts of our record. To date, the LIPG companies have drilled more than 110 wells in the Lochend area. We have worked to instill confidence in our neighbors that our operations are safe and cause the least amount of disturbance possible. In the chart that follows, we have summarized some of the inaccurate or false statements that have been made in the public forum as “myths” and we have provided some information and additional insight and resources to further assist with understanding our Lochend area operations.

Sincerely,  
LIPG Member Companies

# myths versus **facts** about LIPG operations in Lochend

## YOU MAY HAVE HEARD

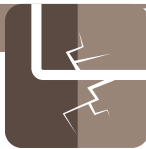
**X MYTH:** Property values have declined by 26 percent in Lochend.



**✓ FACT:** According to the County of Rocky View assessment records, the value of farmland in the Lochend area has either been stable or increased slightly since 2011. From 2013 to 2014, assessment increases averaged one percent.

## YOU MAY HAVE HEARD

**X MYTH:** Geology is highly fractured leaving pathways for migration of frac fluids into the aquifer.



**✓ FACT:** Sedimentary organic material can form oil and gas only under anoxic conditions, meaning the total absence of oxygen. If leakage through the geological barriers were possible, all of the oil and gas would have disappeared ages ago. In Lochend, impermeable layers of shale act as a natural geologic barrier which prevents frac fluid flowing upwards from the Cardium formation to the Paskapoo aquifer, which is the geological zone for groundwater.

## YOU MAY HAVE HEARD

**X MYTH:** Fracing causes earth tremors and surface damage.



**✓ FACT:** Hydraulic fracturing artificially induces fractures in a hydrocarbon reservoir. These fractures cause numerous micro seismic events within the rock immediately surrounding the wellbore for a brief duration of time during the frac process. Generally speaking micro seismic events are 'minus 2' on the Gutenberg-Richter magnitude scale, much too small to be felt at surface. For reference a -2 magnitude micro seismic event is the same energy release as dropping a jug of milk to the floor from a counter. The United States Geological Survey classifies micro earthquakes as having a Gutenberg-Richter magnitude of less than 3, a level that is just at the point of perception but unlikely to cause damage, 100,000 times greater energy release than a -2 magnitude event. According to Earthquakes Canada, there has not been an earthquake in the Lochend area (within a 50 km radius of Cochrane) since March 25, 2008. From August 2001, to 2008, there were only four earthquakes in this area, the largest of which recorded 2.6 on the Richter scale. Oil and gas activity in Lochend using horizontal wells and multiple fracs began in 2009. (Earthquakes Canada, GSC, Earthquake search)

## YOU MAY HAVE HEARD

**X MYTH:** Demonstrated decline in water quality in Lochend.



**✓ FACT:** There is simply no evidence to support this claim. Since 2010, there have been only two operational complaints made by Lochend residents regarding water quality. The first was in 2011 and was found not be related to industry activity. The second complaint was in April of 2014 and pertains specifically to drainage systems and not water quality.

## YOU MAY HAVE HEARD

**X MYTH:** Water has been seen to be contaminated as much as three kilometres from these wells.



**✓ FACT:** There is no evidence to support this claim. In an effort to reassure landowners, LIPG commissioned a water study by Baseline Water Resources Inc. (professional hydro-geologists) to provide LIPG with the information required to assist in the protection and management of groundwater and surface water resources. The initial baseline results of this study will be posted on the LIPG website at [www.lipg.ca](http://www.lipg.ca).

## YOU MAY HAVE HEARD

**X MYTH:** Oil company has ignored me completely.



**✓ FACT:** Since beginning operations in 2009, LIPG companies have conducted numerous face-to-face meetings with various stakeholder groups and impacted landowners and have responded to letters, phone calls and emails. In addition, a dedicated Community Relations phone line with a commitment to respond within 24 hours and phone numbers of Key Contacts from each company are available both on our website ([www.lipg.ca](http://www.lipg.ca)), and in our newsletters. All landowners and interested parties who contact the LIPG are responded to.

## YOU MAY HAVE HEARD

**X MYTH:** Oil companies have deliberately spread frac fluid on the roads.



**✓ FACT:** This statement is false. No LIPG company has spread frac fluid on the road. LIPG member companies have an agreement with Rocky View County to use water as a dust suppressant on area roads. Calcium is mixed with the water and is spread on the road to harden the road surface and reduce dust.

## YOU MAY HAVE HEARD

**X MYTH:** They use flare shields which hide the height of the flame. They don't use incinerators with scrubbers.



**✓ FACT:** In the initial stages of the Lochend development, solution gas was flared as it was deemed uneconomical to conserve due to low volumes and limited pipeline infrastructure. However, today more than 94% of all gas is captured and conserved. The remaining small amount of gas produced during the flowback period is burned in high efficiency incinerators that exceed the AER requirements as defined in Directive 60. LIPG companies have eliminated the use of flares. Scrubbers are only used for sour gas, not for the sweet oil and gas found at Lochend.