



## Agenda

Topic	Presenter	Time (with Q/A)
Welcome/meeting format	Michael Hughes, facilitator	5 minutes
Background/reports completed	Lucinda Smith, Enviro. Services Dept. Director	10 minutes
Property Values Report/ Questions	Lucinda Smith	20 minutes
Understanding Implications of Health Impacts/ Questions	<b>Dr. Stephen Foster</b> , Toxicologist,Geosyntec	55 minutes
Air Monitoring Results /Questions	Cassie Archuleta, Air Resource Specialists	20 minutes
Concluding Remarks /Questions	Michael Hughes	10 minutes



## Goal for Tonight's Meeting

Provide to the public the results of three reports commissioned by the City of Fort Collins

#### Two reports as a result of Ballot Measure 2A

- Evaluation of data availability to "fully study" health impacts
- Evaluation of data availability to "fully study" property values impacts

#### One environmental sampling report

Baseline air quality sampling



Fort Collins Field

Neighborhoods

City Limits

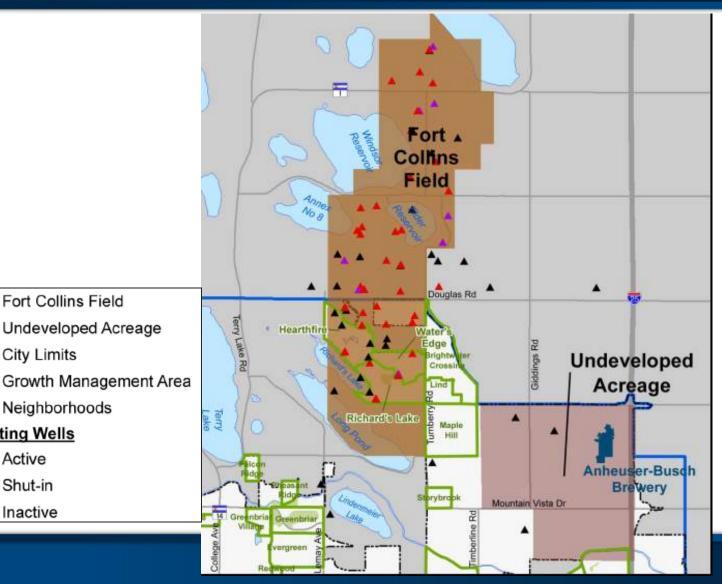
**Existing Wells** Active

Shut-in

Inactive

Undeveloped Acreage

## **Existing Oil & Gas activity** in Fort Collins



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#### Fort Collins Ballot Measure 2A

Citizen initiative, passed by voters November 5, 2013

- What: Imposed a 5-year moratorium on hydraulic fracturing and the storage of its waste products
- Where: Within the City of Fort Collins or on lands under its jurisdiction
- Why: To fully study the impacts of fracking on property values and human health

Voters can lift moratorium during the five year period using a ballot measure, if desired



# Fort Collins Ballot Measure 2A: Lawsuit Status

**December 2013**– Colorado Oil and Gas Association (COGA) filed a civil suit against City of Fort Collins in Larimer County District Court.

**February 2014** – City filed a motion for summary judgment arguing that the moratorium is not preempted.

**August 2014** — District Court declared that the five-year moratorium was preempted by state law; the moratorium became unenforceable.

**February 2015** – The City filed an appeal with Court of Appeals.

March 2015- COGA filed its Answer Brief with the Court of Appeals.

**April 2015** – City filed its Reply Brief with the Court of Appeals.



### **Procuring Outside Expertise**

#### City Council Resolution 2014-025 (March 2014)

Authorized the City Attorney to retain the services of a qualified consultant to recommend the types of studies that should be conducted to fully assess the impacts that hydraulic fracturing and the storage of its waste products may have on human health and property values

#### Authorized to use up to \$50,000

#### 2 consultants hired

- Property values
- Health



## Property Values Report

Who:	Hunsperger and Weston, LTD Englewood, CO
Scope of work:	What is needed to describe potential property values impacts in Fort Collins from fracking (acceptable in a court of law)  • Literature and resources research  • Identify data gaps  • Develop recommendation to fill gaps



## Fracking – as Defined in Ballot Measure 2A Petition

#### Used **fracking definition** from the ballot petition:

"The well stimulation process known as hydraulic fracturing is used to extract deposits (of) oil, gas and other hydrocarbons through the underground injection of large quantities of water, gels, acids or gases; sands or other proppants, and chemical additives, many of which are known to be toxic."



#### **General Observations**

- Nationally, fracking has increased significantly, but study of property values impacts is still catching up
- Most sources recent (last 5-7 years)
  - Much has been written, qualitatively
  - Relatively little credible science in peer-reviewed journals
- Property values impacts can be real, perceived, or anticipated
- Property values impacts can change with time as more information becomes available



#### Sources for Literature Review

- Peer-reviewed journal articles
- Academic papers
- White papers
- Government documents
- Environmental groups
- Industry/trade groups
- News reports from notable news organizations



#### Literature/Resources Research

- 56 sources address impact to property values
- Only 6 sources use empirical evidence to consider property values' impacts (acceptable in a court of law)
- Admissible in court of law:
  - Use of common methods identified in the appraisal literature to study impacts of property values
  - Use of "Uniform Standards for Professional Practice" that provides guidelines for usage



## Empirical studies (6)

- Property values impact from coal bed methane (Bortz, 2001)
- Shale gas production and private water wells (Muehlenbachs, 2014)
- Property values impacts from all oil/gas activity (Boxall, 2005; Integra, 2011)
- Property values with respect to fracking broadly (Throupe, 2013)
- Property values impacts with distance to fracked well locations (Bennett, 2013)



## Empirical studies (6)

- (6) Found adverse impact on property values, depending on:
- Proximity to wells
- Number and density of wells
- (2) Found **positive** impacts on property values:
- If property was medium distance from well (setbacks prevent additional drilling)
- Boost to economy (particularly if wells are further away from property)





- Direct correlation between fracking impacts and property values is sparsely documented in a careful manner
- No sources (explicitly) isolate the impacts of fracking from the larger scope of oil and gas activity
- No sources are specific to Fort Collins



# Potential Future Property Values Concepts to Investigate

#### Types of impacts

- Incremental impacts of fracking above general oil and gas development (e.g., light, noise, traffic or water usage)
- Different impacts of fracking above general oil and gas development (e.g., use of toxic chemicals in fracking fluid, potential groundwater contamination and air emissions)

#### **Various Types of Study Methods**



### **Current Property Values Research**

## National Science Foundation (NSF) Routes to Sustainability for Natural Gas Development

- CU Boulder Coordinates on-going studies
- Expected completion 2018

## Socio-Economic Systems Research includes Qualitative and quantitative methods to:

- Assess community preferences for oil and gas development
- Evaluate the relationship between home prices and oil and gas development



### **Next Steps for City of Fort Collins**

- Implement planned additional environmental sampling (air quality, baseline water quality)
- Continue role of Local Government Designee
- Participate in related state rule-makings

http://www.fcgov.com/oilandgas/





