

**League of Women Voters of
La Plata County**

Hydraulic Fracturing

Consensus

Thursday, February 7, 2013

STUDY PURPOSE:

To investigate the impact of the practice of hydraulic fracturing for natural gas, oil, and methane on the State of Colorado and its citizens, and to discern what public policies are in place or need to be in place for this activity.

- [Study subsequently broadened to include drilling, fracking and disposal of waste water related to fracking.]

Committee Members

Nadine Ancel

Deanna Collins

Marilyn Holland

Sue Liefeld

Elaine Slade

Julie Ward

Sally Bellerue, state study co-chair

Stephanie Huss, resource

Marilyn Brown, coordinator

Persons Interviewed

La Plata County Planners:

Damian Peduto,

Courtney Roseberry (LGD)

Drew Simmons

CO Dept of Water Resources

Rege Leach, Division 7 Engineer

Naturopathic Physician - Dr. Lyn Patrick

Oil/Gas Accountability Project - Bruce Baizel, director

La Plata Energy Council - Christi Zeller, Julie Levy

Contacts Made

Josh Joswick

Kathleen Morris, 9-R Schools

Greg Brand, San Juan Basin Health

Chuck Owens, attorney, Wells Group

Kyle Siesser, S. Ute Tribe

Time Frame

- 5/11 Study adopted by state convention
- 9/12 Study materials ready for local LWVs
- 10/12-1/13 Local LWVs present to membership
- 2/15/13 Consensus results to LWVCO
- 3/1/13 State study committee proposes draft position
- 3/13/13 LWVCO Board approval
- 5/11/13 LWVCO Convention acceptance

Special Considerations

- Methane v. natural gas
- Coal bed methane drilling v. shale oil or shale gas
- Jurisdictional issues
- ‘Split estate’ concept
- Exemptions from federal law
 - Halliburton Loophole
 - RCRA Hazardous Waste Regs
 - Superfund Act
- Occupational Safety and Health Act
- FracFocus Chemical Disclosure Registry

Important Players

- Colorado Oil and Gas Conservation Commission (COGCC)
- La Plata County Board of Commissioners
- Local Government Designee
- La Plata County Energy Council
- San Juan Citizens Alliance
- State Review of Oil and Natural Gas Environmental Regs (STRONGER)

LWV Consensus Ground Rules

- Listen thoughtfully, keep an open mind
- Differ with dignity, no personal attacks, keep emotions at bay
- Keep comments short, don't monopolize or interrupt
- Stay focused, no digressions or sidebar conversations
- Ask for clarification if you don't understand something
- There are no stupid questions or opinions
- Wait to speak a second time until everyone who wants to speak has spoken once
- Use 'Parking lot' concept for side issues
- Participation in LWV consensus sessions is open to LWV members only
- <http://www.youtube.com/watch?v=VY34PQUiwOQ>



LWVCO FRACKING STUDY CONSENSUS QUESTIONS

Consensus Question #1: Public Participation

- 1) During the permitting process at the state level for oil and gas operations, public participation through notifications, hearings and similar events should
- A. Be encouraged and expedited
 - B. Remain at the current level or
 - C. Be reduced
 - D. No consensus

Consensus Question #2: Public Participation

- 2) After a well is permitted and there are issues or additional hearings, public participation in hearings and stakeholder meetings should
- A. be encouraged and expedited
 - B. remain at the current level or
 - C. be reduced
 - D. No consensus

Consensus Question #3:
Role of Local Government vs. State
Colorado Oil and Gas Conservation
Commission (COGCC)

- 3) The role of local government in regulating oil and gas operations in the areas of land use and environmental impacts, including traffic and noise should
- A. be enhanced
 - B. remain as it is now, or
 - C. be restricted or limited by state legislation
 - D. No consensus

COGCC Mission Statement

- The mission of the Colorado Oil and Gas Conservation Commission (COGCC) is to foster the responsible development of Colorado's oil and gas natural resources.
- Responsible development results in:
 - The efficient exploration and production of oil and gas resources in a manner consistent with the protection of public health, safety and welfare
 - The prevention of waste
 - The protection of mineral owners' correlative rights
 - The prevention and mitigation of adverse environmental impacts
- The COGCC seeks to serve, solicit participation from, and maintain working relationships with all those having an interest in Colorado's oil and gas natural resources.

COGCC Members

- Director of Department of Natural Resources
- Director of CO Department of Public Health and Environment
- 2 reside west of Continental Divide
- 3 have substantial oil and gas experience
 - (2 must have degree in petroleum geology or engineering)
- 1 government official
- 1 substantial soil conservation or reclamation experience
- 1 engaged in agricultural production and a royalty owner

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Consensus Question #3: Role of Local Government vs. State Colorado Oil and Gas Conservation Commission (COGCC)

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- A. be enhanced
 - B. remain as it is now, or
 - C. be restricted or limited by state legislation
 - D. No consensus

Consensus Question #5: Environmental and Safety Regulation – air quality

- 5) Environmental & safety regulation of air quality during oil & gas operations by local and state agencies should
- A. be strengthened
 - B. remain the same or
 - C. be reduced
 - D. no consensus

Consensus Question #6: Environmental and Safety Regulation – health impacts

- 6) Environmental & safety regulation of health impacts from oil & gas operations by state & local agencies should
- A. be strengthened
 - B. remain the same or
 - C. be reduced
 - D. no consensus

Sources of Potential Health Effects

- BTEX: benzene, ethylbenzene, toluene, xylene
 - Leukemias
 - Bleeding disorders
 - Birth defects
 - Respiratory problems
 - Nervous system problems

Sources of Potential Health Effects (cont.)

- Volatile Organic Compounds (VOCs)
 - Nervous system problems
- Fine particulate matter from flaring of unprocessed gas
 - Heart disease
 - Lung disease
 - Endocrine system disruption

Chemicals Found near Sunnyside School by Bucket Brigade

- Benzene
- Acrylonitrile
- Methylene chloride
- Ethylbenzene

Consensus Question #5: Environmental and Safety Regulation – air quality

- 5) Environmental & safety regulation of air quality during oil & gas operations by local and state agencies should
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• <http://www.youtube.com/watch?v=BqOeQMDPrqg>

Consensus Question #4: Environmental and Safety Regulation – water quality

- 4) Environmental and safety regulation of water quality in oil & gas operations by state and local agencies should
- A. be strengthened
 - B. remain the same or
 - C. be reduced
 - D. no consensus

Fracking and Water Quality

- EPA study on potential impacts of fracking and drinking water resources
- Chemicals in fracking fluids
- Human health concerns

Spills & Releases of Fluids

- Causes of spills
- Regulations and reporting
- Reported spills in CO and La Plata County

Groundwater and Surface Water Contamination

- Contamination in water wells
- Sampling of water wells
- STRONGER report concern
- Fracking impact on animals

Spill Management

- COGCC regulations
- Spill containment and mitigation

Rules and Regulations

- La Plata County not responsible for water quality
- COGCC responsible for protection against ground water contamination by energy production
- Depth of well casing
- Methane in water wells

New Water Quality Regulations

- Pre-drilling
 - Test four water wells
- After completion
 - 2 more samples of each well between 6 and 12 months
 - 2 more samples of each well between 5 and 6 years

Fracking Waste Disposal

- Injection wells
- Earthquakes caused by fracking and/or injection wells

Consensus Question #4: Environmental and Safety Regulation – water quality

- 4) Environmental and safety regulation of water quality in oil & gas operations by state and local agencies should
- A. be strengthened
 - B. remain the same or
 - C. be reduced
 - D. no consensus

Consensus Question #7: Environmental and Safety Regulation – quantity of water

7) The quantity of water (acre feet) used in oil and gas operations should be monitored and transparent.

- A. Agree
- B. Disagree
- D. No consensus

Water Demands in CO (2010)*

Sector	2010 Water Consumed (Acre feet/year)	Percent of State Total
Agriculture	13,981,100	85.5%
Municipal and Industrial	1,218,600	7.4%
Total All Others	1,160,000	7.1%
TOTAL	16,359,700	100%

- Source: *Water Sources and Demand for Hydraulic Fracturing of Oil and Gas Well in CO from 2010 Through 2015*, jointly prepared by CO Division of Water Resources, CO Water Conservation Board, and COGCC

Breakdown of 'All Others'

Sector	2010 Use (Acre-Feet/Yr)	Percent of State Total
Recreation	923,100	5.64%
Large Industry	136,000	0.83%
Thermoelectric Power Generation	76,600	0.47%
Hydraulic Fracturing	13,900	0.08%
Snowmaking	5,300	0.03%
Coal, Natural Gas, Uranium, and Solar Development	5,100	0.03%
Oil Shale Development	0	0.00%
TOTAL All Other	1,160,000	7.1%

Assumptions – CO Future Water Demand

- Demand for new wells will remain relatively flat.
- Number of drilling rigs in state will remain relatively flat.
- Number of wells drilled will remain relatively flat.
- Number of horizontal oil wells drilled will increase approximately 20% each year.
- Number of vertical wells drilled will decrease proportionally with the increase in horizontal wells drilled

Annual Demand 2010-2015

Year	Acre Feet	Growth
2010	13,900 (actual)	-
2011	14,900 (actual)	7.2 %
2012	16,100	8.1 %
2013	16,900	5.0 %
2014	17,800	5.3 %
2015	18,700	5.1%

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Additional Consensus Questions

A. Should each county be encouraged to designate a county health official to oversee health issues related to oil and gas industry activities?

B. Should county personnel have a greater role in the conduct of safety inspections of oil and gas drilling, fracking and disposal? Of producing wells?

Additional Consensus Questions

C. Should the COGCC broaden its focus on fracking chemicals to include those used at all stages of drilling and production wells and well maintenance, rather than just the fracking stage?

D. Should the COGCC be encouraged to rely less on voluntary compliance of the industry and more on more frequent inspections by COGCC staff?

Thank you

- We really appreciated your attentive participation!