



Injection Well Moratorium Research

City Council Study Session – September 11, 2018

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Background

- City Council passed new oil and gas regulations on March 10, 2015
 - Regulations did not adequately address injection wells
- Recent increase in oil and gas activity has brought new injection well proposals closer to Brighton
- On June 5, 2018, City Council passed an emergency six month moratorium to study injection wells for possible additional regulation



Injection Wells and Preemption

“There is not a mineral right associated with the injection permit. So, if the County does not approve the site for this well then that decision has primacy.”

--COGCC Director Matt Lepore**

- Position of Weld County is, “Disposal facility siting is under the authority of the local governing body.”

**Videotape recording of the Garfield County Commissioners meeting on 8/19/2016., at 4 hours 12 minutes. Available at: http://garfield-county.granicus.com/MediaPlayer.php?view_id=3&clip_id=1142



What are Class II Injection Wells?

- Class II waste injection wells are used to dispose of “produced water” associated with oil and natural gas production
- “Produced water” is a general term used to refer to water that flows from oil and gas wells:
 - hydraulic fracturing fluids - which may contain chemicals
 - natural waters from the formation - which may contain salts, selenium and hydrocarbons
- Class II injection wells are widely used by the oil gas industry on the Front Range rather than treating and re-using of water



Injection Facility



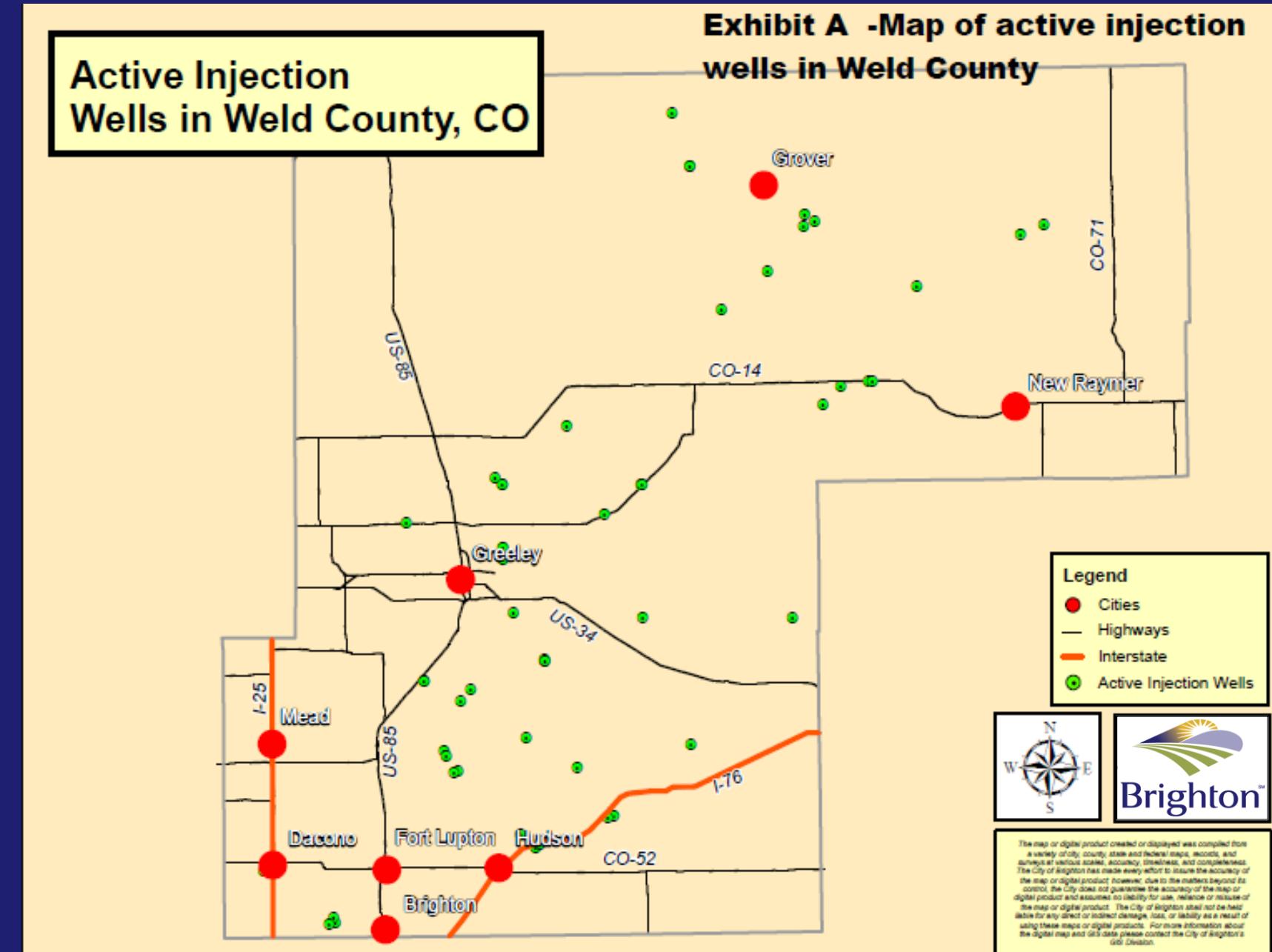
Located in Keenesburg, Colorado





Injection Facilities in Weld County

- 42 Current Facilities
- 9 Additional Facilities in Application at COGCC





Frequently Cited Concerns

- How could injection well facility truck traffic impact Brighton traffic and roads?
- What is the potential risk to Brighton's water quality?
- What is the potential risk to air quality and public health?
- Is there an increased risk of earthquakes?



Traffic Concerns

- A Class II injection facility currently proposed north of Brighton has estimated it will dispose of 420,000 to 1,008,000 gallons of water every day – from 150-200 trucks unloading at the facility *each day*
- 300-400 one-way trips equates to 37-50 trips an hour during an eight-hour workday. The weight and size of water trucks requires more stopping and starting time which could potentially slow Brighton traffic and may impact response times for emergency services
- Loaded water trucks can weigh close to the maximum 80,000 pound limit permitted on Colorado roads
- Because of the weight, the impact of oil and gas water trucks can be as much as 15,000 to 46,000 times that of a passenger car

Water Quality

- 80% of Brighton's water comes from shallow ground water wells
- Produced water contains chemicals from hydraulic fracturing as well as chemicals from the formation that would be harmful if introduced to water supply
- Some of the chemicals used in hydraulic fracturing can be a threat to water quality in *parts per billion*



Spills

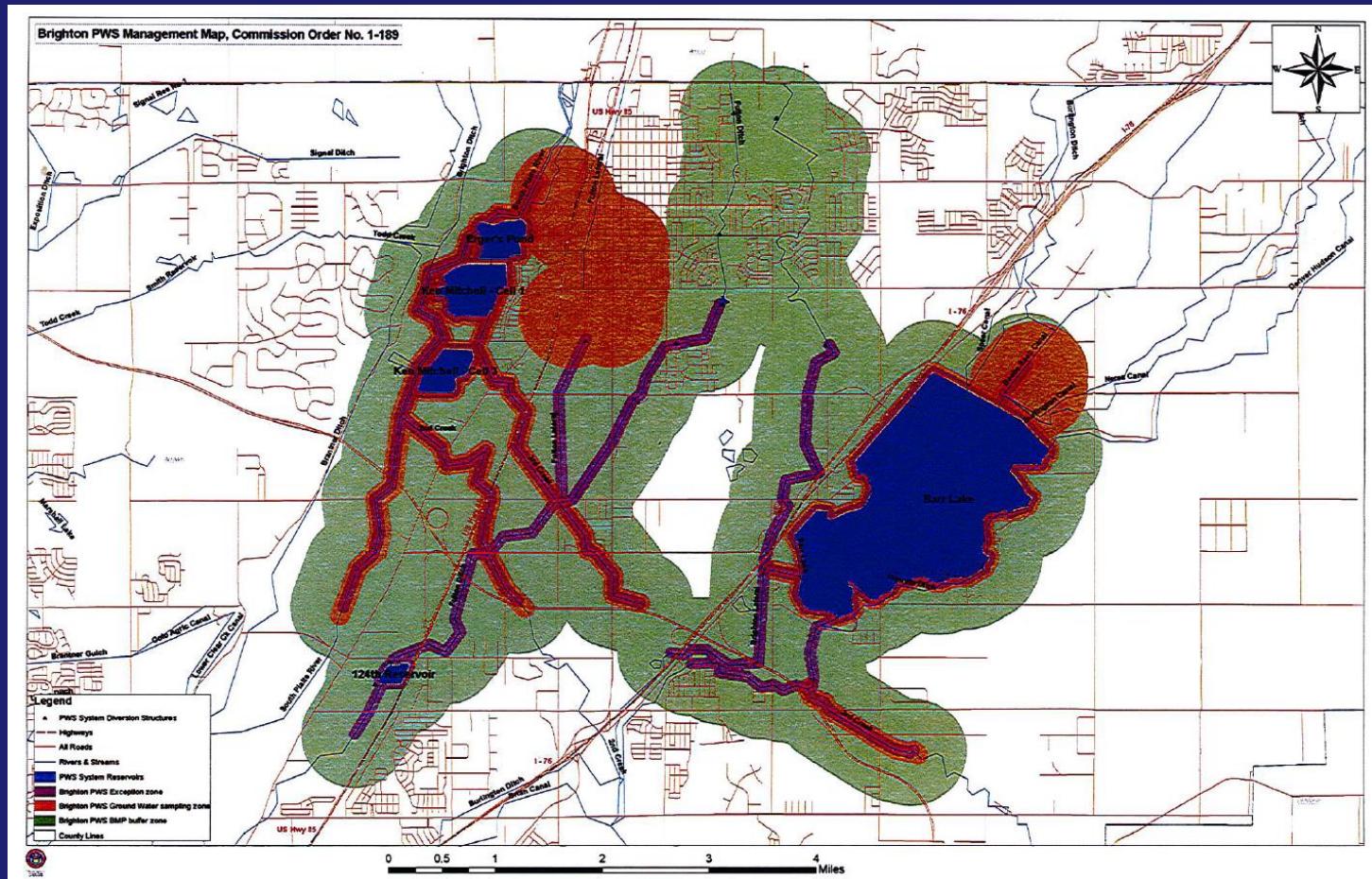
- 614 reportable spills in 2017 resulting in the release of 93,954 gallons of oil and 618,534 gallons of produced water
- Average of 12 spills per week
- Seven reportable spills from NGL injection wells in past three years

Source: COGCC



Public Water Supply Areas

- Brighton has some protections for its water wells and water infrastructure through the COGCC Order passed in 2015
- The Order does not allow any drilling within 500 feet of Brighton's water wells





Air Quality

- The water in produced water storage tanks contain hydrocarbons and can be a source of air pollution – including benzene – a known carcinogen
- Anecdotally, high benzene has been recorded by researchers near injection well facilities



Lightning Strike at an Oil and Gas Waste Facility



Lightning Strike at an Oil and Gas Waste Facility

- There have been four lightning strikes of waste injection facilities recorded in Colorado's Front Range since 2015





Findings and Recommendation

Given the potential impacts to Brighton roads, traffic, water and air quality, and ultimately, the public's health, safety and welfare, it is the opinion of City Staff that **waste disposal injection wells should be prohibited within the City.**

While they may be a necessary part of the oil and gas industry, waste disposal injection facilities should be located in unincorporated and unpopulated areas of the county as the potential negative impacts to residents and businesses outweigh any potential benefits.

Based on feedback from the City Council, City Staff may need time to prepare the requisite documents and may seek an extension of the moratorium (scheduled end date of December 4th).



Questions?