

**The failures of the State of Colorado to prevent or mitigate adverse impacts to it's citizens and the environment.**

➤ **COGCC Safety Rule failure(s)**

# Source(s) of data

- The source of all Colorado oil and gas related information was derived from the COGCC's website and subsequent documentations per specific well API.
- All COGCC data is un-redacted and not interpreted, thus remaining true in its original form and can be found on the COGCC's website. Unless otherwise noted
- Data compilation was conducted from 2011 – present.

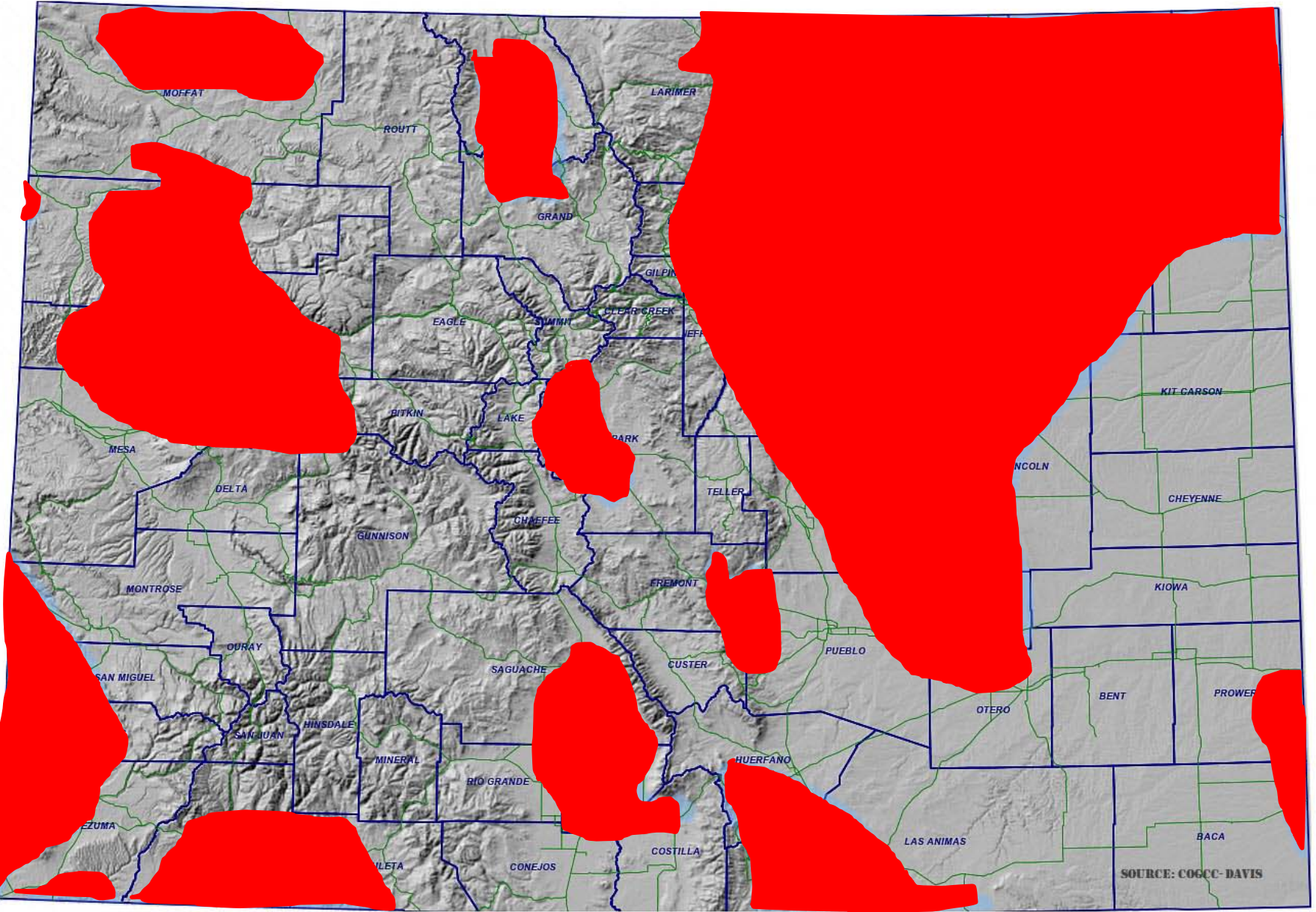
# Types of observed & recorded oil and gas development impacts in Colorado

- ✓ **Ground And Surface Water Contamination/Impacts**
- ✓ **Soil Contamination, Air Contamination**
- ✓ **Drinking Water Impacts**
- ✓ **Aquifer Impacts**
- ✓ **Well – Water Impacts**
- ✓ **Increased noise**
- ✓ **Threats to wildlife**
- ✓ **Traffic enforcement**
- ✓ **Traffic congestion**
- ✓ **Dust**
- ✓ **Badly damaged roads**
- ✓ **Visual blight**
- ✓ **Water infrastructure**
- ✓ **Home value depreciation**
- ✓ **Public complaints**
- ✓ **Unknown health effects**

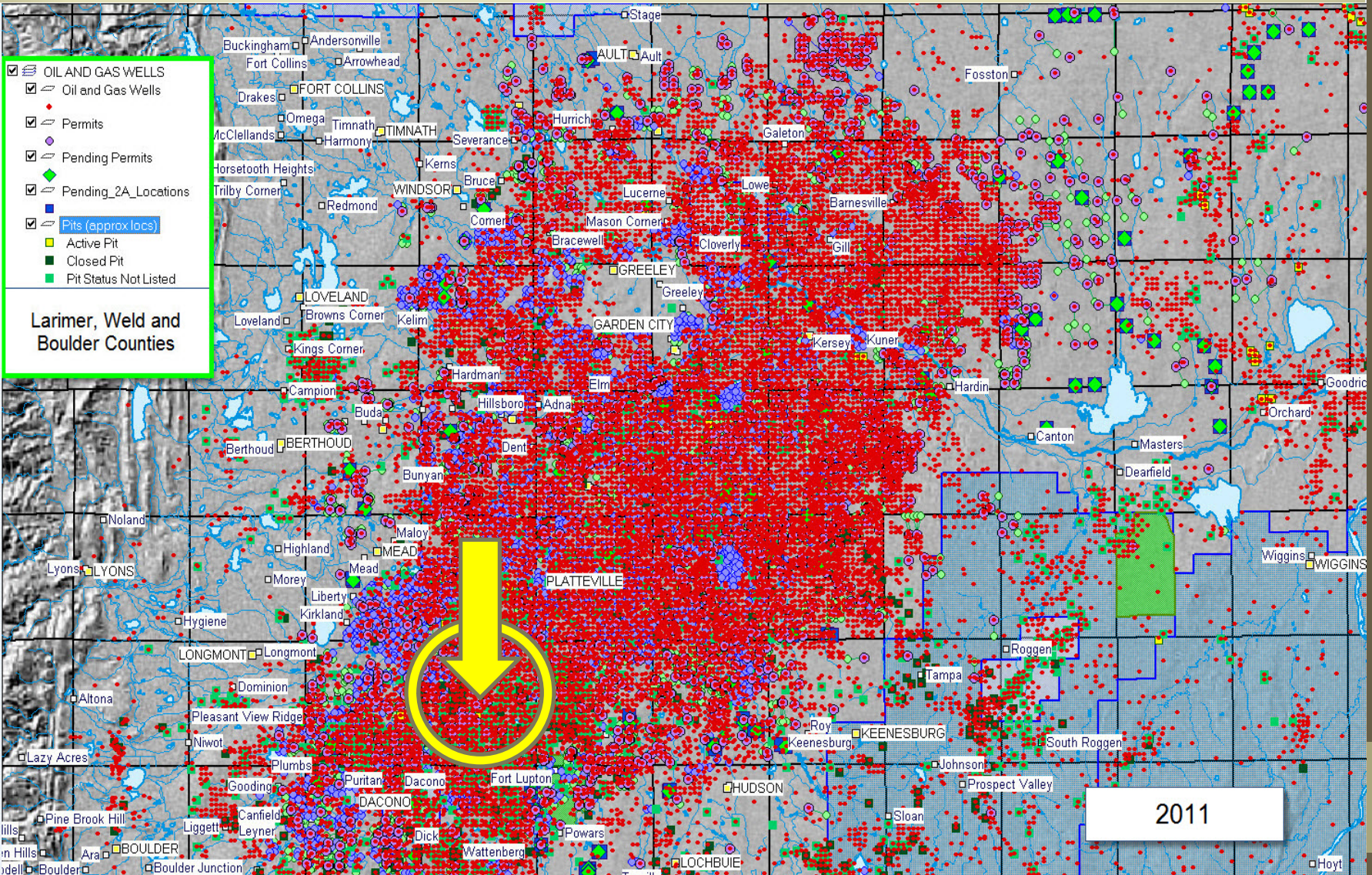
**Health impacts are said to be anecdotal by the State, oil and gas operators and many elected officials with special interest in oil and gas development. The reason they make this statement, is because they have not, and refuse to conduct a good faith, good science, health impact study. Through federal exemptions the burden of all proof has been forced onto the general public.**

**Therefore, I will highlight the various failures they so desperately hide and defend.**

# COLORADO OIL AND GAS BASINS



# Active Well Density Map Weld Counties



>18,000 active wells!

**Oil and gas development in residential areas is far too dangerous and should be prohibited immediately**



Burning VOCs  
120' from house

# Condensate tank and active O&G well 118' from home



There is no possible way for residents to protect themselves against a heavy industry emergency

118'



**Active wellpad  
in the center of  
a public  
recreation area.**

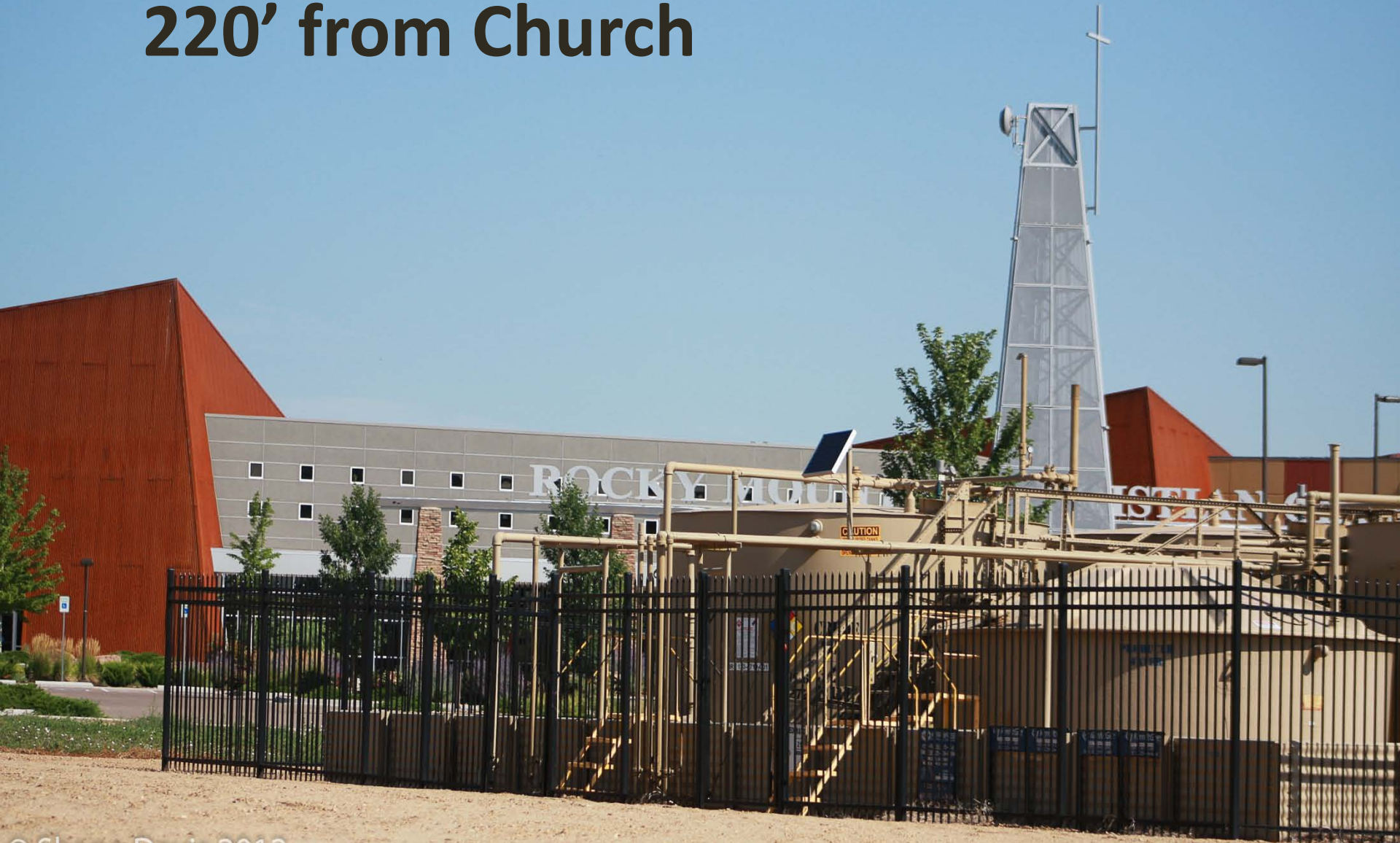
**60' from public  
basketball  
court**



**Active wellpad with 12 well bores and 3 condensate tanks 160' from high density residential development. ~ six tons of hydrocarbon vapors are released every year from the three condensate tanks**



220' from Church



**DANGER**

**HIGH PRESSURE  
EXPLOSIVE VAPORS  
NO SMOKING**

# Colorado Well Count

**129,073 completed wells in Colorado**

**~47,000 wells are actively producing oil and gas**

**~82,000 wells are non-active statuses**

**8% or >4,000 active wells are closer to high density residential areas than the 350' setback mandates**

**~55% of historic wells (abandoned wells) are currently being reentered**

# Colorado Failures

1. **Laramie-Fox Hills Aquifer was contaminated in 2009 with thermogenic methane and toluene from oil and gas operations**
2. **COGCC requests emergency funding for an abandoned well in Florence, CO that is seeping methane into dozens of residential homes at explosive levels**
3. **Numerous homes have been built on top of abandoned wells – many homes have exploded and residents taken to burn centers.**
4. **Nearly 10,000 operator spills have been filed at COGCC**
5. **43% of all spills contaminate groundwater**
6. **Remediation/reclamation of wellpads has not been adequately satisfied by the COGCC**
7. **Radioactive materials have been dumped without permits**
8. **~30% of all wells inspected were found venting methane**
9. **Drilling wastes have been illegally dumped into rivers, streams and waterways**
10. **Over 3,500 public complaints have been filed re: O&G operations**

# Colorado Failures cont...

11. 2003-2012 Weld County, CO - 1.7 million gallons of produced water and oil never recovered from the ground after operator spills. It's still in the environment.
12. 2.4 billion square feet of surface has been contaminated by 1,000 O&G surface spills. Study:1,000 spills in Weld County, CO





175' from home





Active O&G well(s)

HWY 119

Palomero Street

Fire Dept.

public baseball fields

Medical Clinic

Active O&G well(s)

children's playground

Tenderfoot Ave

392'

926'

1,074'

284'

297'

266'

287'

244'

195'

194'

345'

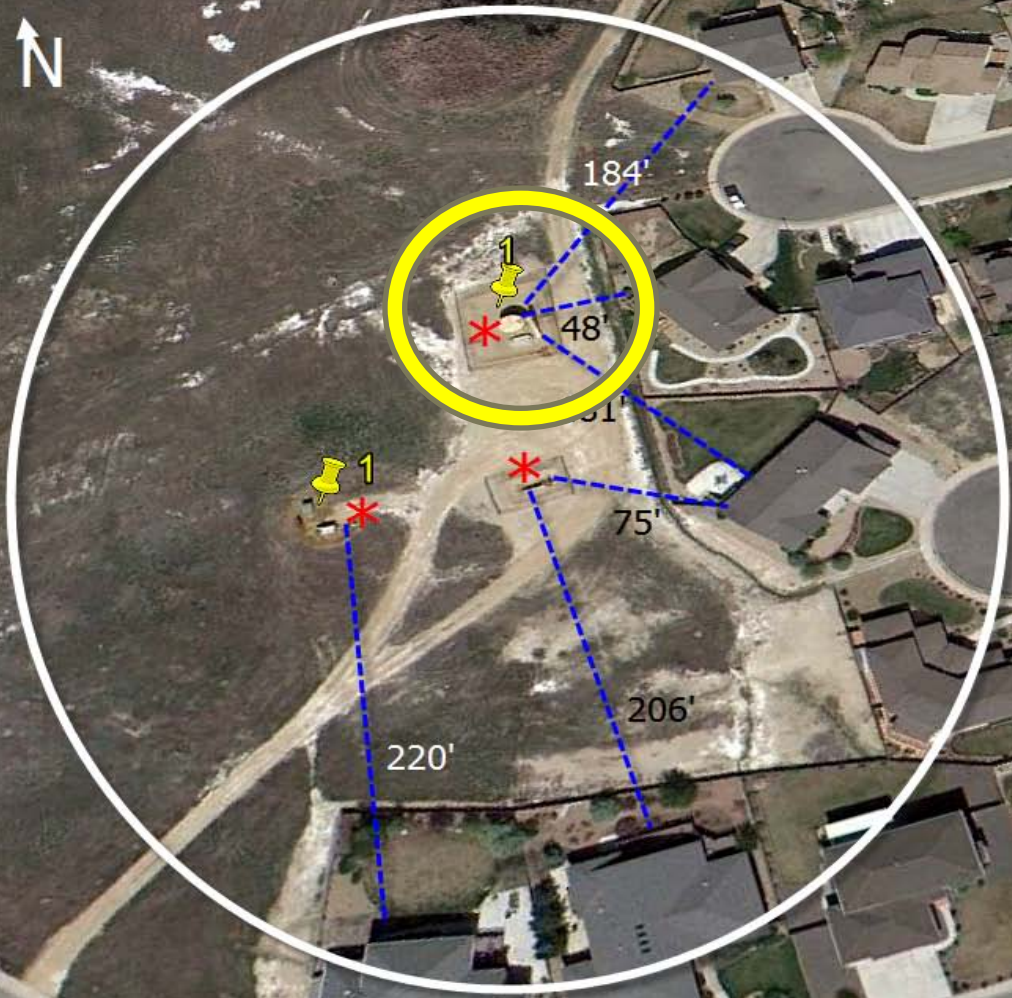
414 ft

# TANK BATTERY

Firestone, CO  
Condensate tank  
~ 118' from nearest home

PRODUCED  
WATER  
LINE





Wood Duck Ct

Merganser Ct

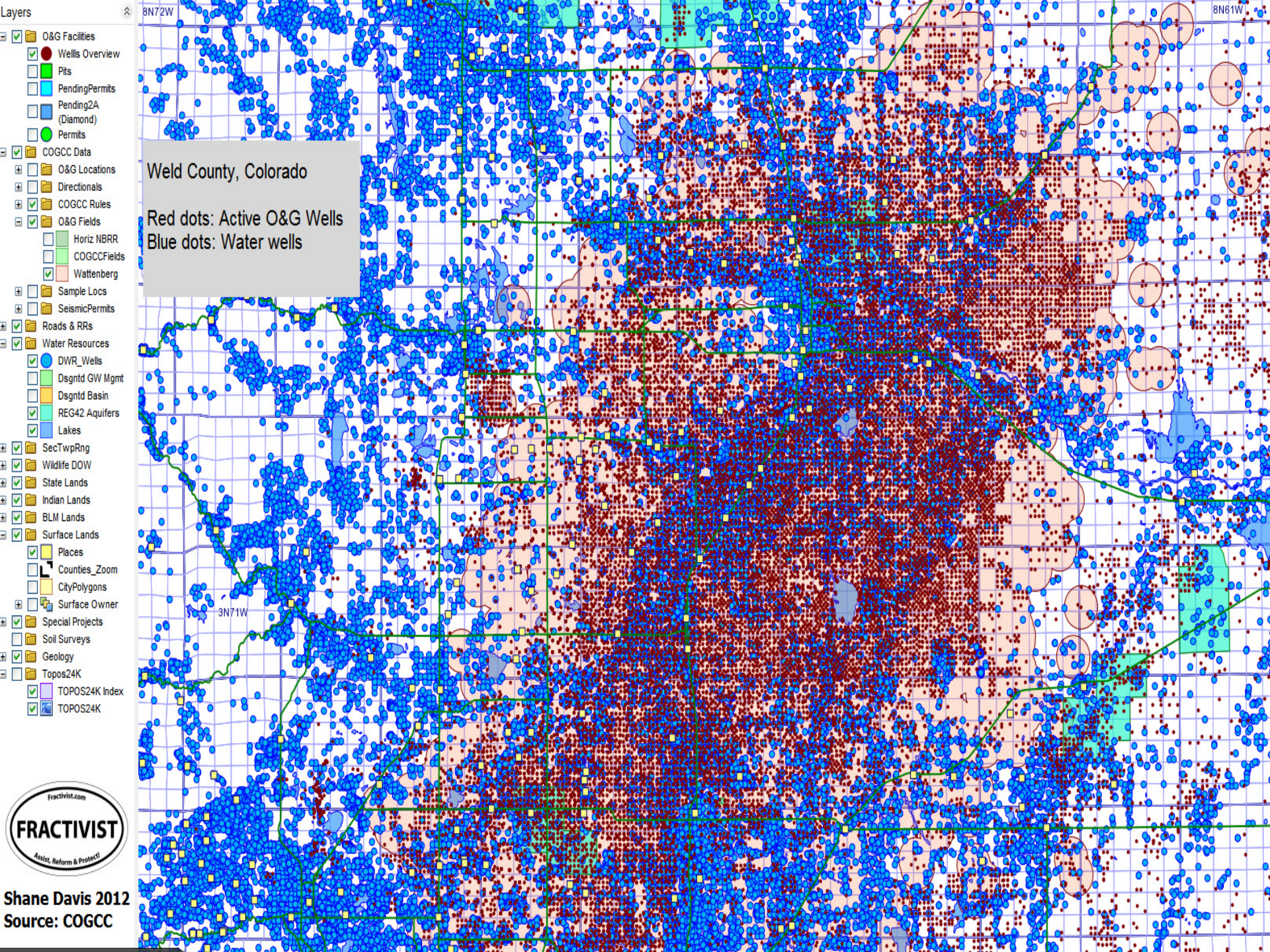
Pintail Way

[ 20 ]

Northern Colorado is in the midst of an unprecedented increase in oil and gas drilling, including fracking, taking place near densely-populated residential areas. A recent analysis by Sierra Club and Clean Water Action found that 44% of all operator spills have caused and are continuing to cause groundwater contamination. 3.1% have caused surface water contamination and 57% of protective berms failed to prevent secondary fluid migrations.

[\[http://www.cleanwateraction.org/files/publications/co/SC-CWA-to-COGA-2-27-2012.pdf\]](http://www.cleanwateraction.org/files/publications/co/SC-CWA-to-COGA-2-27-2012.pdf)

Since the 2008 COGCC Rule change, ground water contaminations have risen by 3.5% and berm failures increased by 3% to 60% of all berms having failed to prevent secondary fluid migration.



Weld County, Colorado

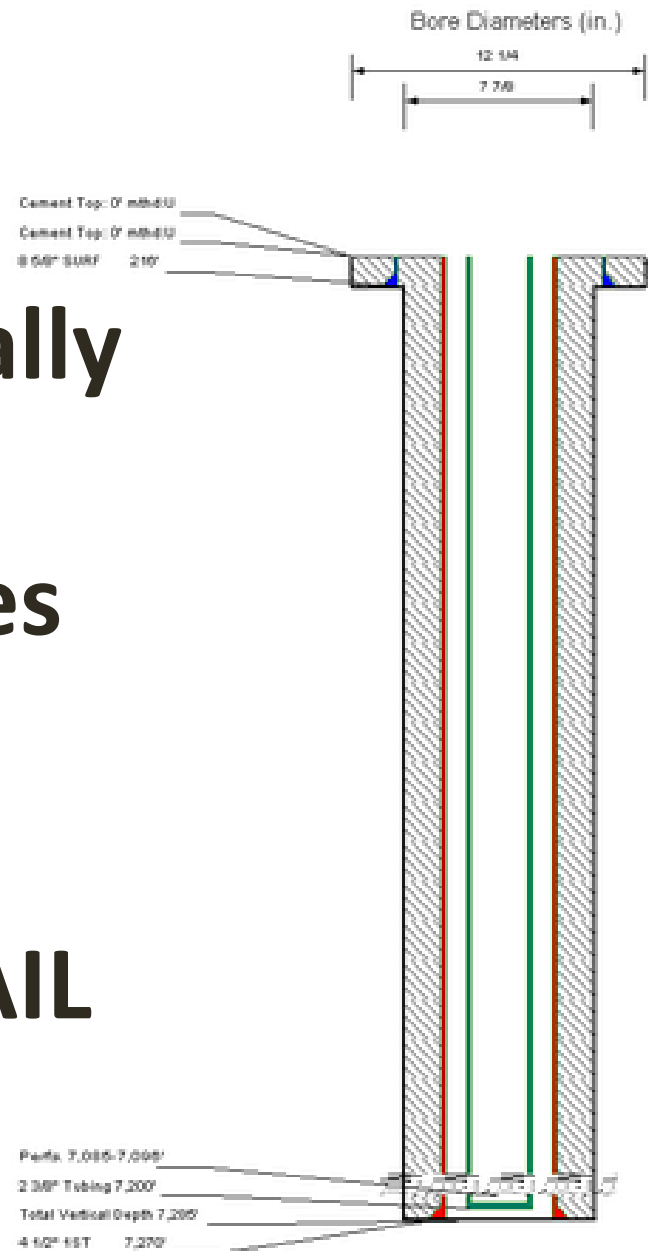
Red dots: Active O&G Wells  
Blue dots: Water wells

- O&G Facilities
- Wells Overview
- Pits
- PendingPermits
- Pending2A (Diamond)
- Permits
- COGCC Data
  - O&G Locations
  - Directionals
  - COGCC Rules
  - O&G Fields
    - Horiz NBRR
    - COGCCFields
    - Wattenberg
- Sample Locs
- SeismicPermits
- Roads & RRs
- Water Resources
  - DWR\_Wells
  - Dsgntd GW Mgmt
  - Dsgntd Basin
  - REG42 Aquifers
  - Lakes
- SecTwpRng
- Wildlife DOW
- State Lands
- Indian Lands
- BLM Lands
- Surface Lands
  - Places
  - Counties\_Zoom
  - CityPolygons
  - Surface Owner
- Special Projects
- Soil Surveys
- Geology
- Topos24K
  - TOPOS24K Index
  - TOPOS24K



Shane Davis 2012  
Source: COGCC

- ✓ **6.5% of all new wellbores fail initially**
- ✓ **60% of all wellbores fail over 20 years**
- ✓ **ALL WELLBORES FAIL OVER TIME**



The protection of human life, public welfare, and the environment are essential factors to be considered by all levels of government when making oil and gas development siting decisions.

The land use planning should include in the siting decisions, the protection of air and water quality, the environment and public welfare.

This request for a rulemaking addresses probable adverse impacts to the environment and human health from oil and natural gas development that uses hydraulic fracturing (“fracking”). The COGCC setbacks are not based on health impact studies, and no apparent scientific data support the COGCC’s claim that the current setbacks prevent or mitigate adverse impacts.



# Aggregate Toxic Emissions

~6CFM methane & hydrocarbon vapor release per actuator per separator

-EnCana

Minor source vs. major source VOC release

Aggregate well-bores per pad would indicate a major hydrocarbon vapor release source.



# Aggregate Toxic Emissions: CAA

Regardless of the number of active onsite wells, Oil and Gas well pads are classified as a 'minor non-point source' of pollution thus 'exempt' from the Clean Air Act.

This exemption needs to be overturned immediately. The State of Colorado needs to immediately recognize that aggregated well pads must be listed as 'major point sources of pollution' and considered in setback decisions.



1999

Erie, CO  
1999 sat image  
Image 1 Of 4

Thomas Reservoir

Harris Ct

McClure Way

40.030687/-105.070538  **ERIE EIGHT E UNIT #2 North Am Resources (PA)**

Weston Cir

Reese Ct

Olin Ct

© 2012 Google  
Image U.S. Geological Survey

447 ft

Erie, CO  
2005 sat image  
2 of 4

Thomas Reservoir

Harris Ct

Shuttleworth Dr

McClure Way

40.030687/-105.070538



ERIE EIGHT E UNIT #2 North Am Resources (PA)

Weston Ctr

Reese Ct

Olin Ct

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447 ft

Image © 2012 DigitalGlobe

Erie, CO  
2011 sat image  
4 of 4

Thomas Reservoir

Harris Ct

Shuttleworth Dr

McClure Way

40.030687/-105.070538

ERIE EIGHT E UNit #2 North Am Resources (PA)

Weston Cir

Reese Ct

Olin Ct

© 2012 Google

447 ft

**Both science and experience in Colorado establish that the COGCC should adhere to its statutory mandate of protecting human health in the conduct of oil and gas operations by:**

- 1) Minimizing fugitive emissions and other toxic chemicals, and**
- 2) Maximizing the distance of natural gas facilities from residences and other public places based on the good science of sound health and environmental impact assessments. These two principles should guide state policy on oil and gas activities in populated areas.**

In addition, there is a **“Setback Loophole”** in the COGCC 600 Series Rules. Rule 603(a) lays out setbacks from various types of development; for example, wells must be sited at least 150 feet from property lines in rural areas, and 350 feet from high density structures.

However, Rule 602(d) states: “Existing wells are exempt from the provisions of these regulations as they relate to the location of the well.” This Setback Loophole allows any ‘completed’ well to be re-entered and re-drilled regardless of proximity to a structure.

**There are approximately 4,000 active oil and gas wells that are closer to residential structures than the COGCC setback mandate of 350'. There are also approximately 82,000 abandoned wells in Colorado, and early statistics show that approximately 55% of abandoned wells are being re-entered and re-drilled, meaning there could eventually be tens of thousands of wells closer to residential structures than the current setback mandates.**

**The Setback Loophole denies the COGCC the power to prevent and mitigate adverse environmental and human health impacts.**



# Colorado has failed!



//END//