

**SAVE THE
AURORA RESERVOIR**



**TOWN
HALL**

APRIL 13, 2024



SOUTHSHORE LIGHTHOUSE

Just the Facts

Information on the potential impact of fracking near the Aurora Reservoir and our community



It's not over!

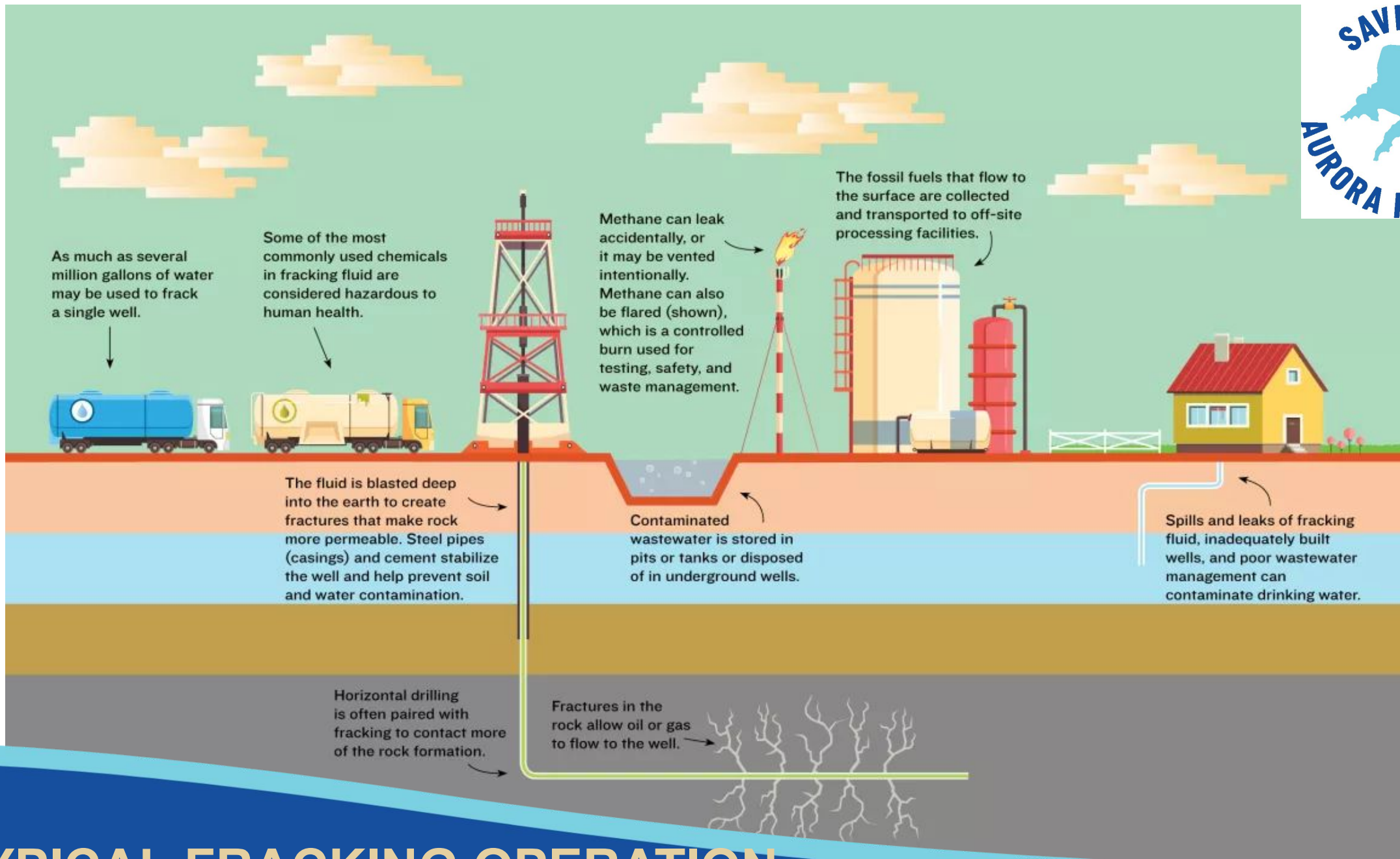
- The major takeaway from this presentation is that this process is not a done deal!
 - We still have a chance to stop this
 - STAR has done amazing work and can benefit even more from your commitment of time and \$\$





General Facts Regarding Fracking

- What is hydraulic fracturing, or fracking?
 - Hydraulic fracturing (fracking) is not like a conventional oil well that you drill down and pump from a pool of oil.
 - Fracking drills downward, and then turns to drill horizontally for up to 6 miles.
 - After drilling it involves explosions to create initial fractures, and then very high-pressure injections to create larger and longer fractures.
 - The “produced water” is permanently contaminated.
 - Water that comes back to the surface can carry toxic fluids, which, if mishandled could negatively impact drinking water, residential basements, and other susceptible infrastructure.
 - **IMPORTANT FACT**
 - *Operators can't completely control where fractures occur. When a fracture extends farther than intended, it can link up with a naturally occurring fault, other natural or man-made fractures, or other wells and then carry fluids to other geological formations, including, potentially, drinking water supplies. Equally concerning, according to the EPA, is the lack of data on how close induced fractures are to underground aquifers. (NRDC)*



As much as several million gallons of water may be used to frack a single well.

Some of the most commonly used chemicals in fracking fluid are considered hazardous to human health.

Methane can leak accidentally, or it may be vented intentionally. Methane can also be flared (shown), which is a controlled burn used for testing, safety, and waste management.

The fossil fuels that flow to the surface are collected and transported to off-site processing facilities.

The fluid is blasted deep into the earth to create fractures that make rock more permeable. Steel pipes (casings) and cement stabilize the well and help prevent soil and water contamination.

Contaminated wastewater is stored in pits or tanks or disposed of in underground wells.

Spills and leaks of fracking fluid, inadequately built wells, and poor wastewater management can contaminate drinking water.

Horizontal drilling is often paired with fracking to contact more of the rock formation.

Fractures in the rock allow oil or gas to flow to the well.

TYPICAL FRACKING OPERATION

Danger of VOC's - Air Quality

- Volatile Organic Compounds (VOCs)
 - VOCs are a group of chemicals that can vaporize into air.
 - Oil and gas operations, such as hydraulic fracturing, also release numerous toxic air contaminants: methane, benzene, toluene, ethylbenzene, and xylene; fine particulate matter (PM2.5); hydrogen sulfide; silica dust; and nitrogen oxides and other volatile organic compounds.
 - Exposure to VOC vapors can cause a variety of health effects, including:
 - Some VOCs are suspected or proven carcinogens.
 - Eye, nose, and throat irritation
 - Headaches and loss of coordination
 - Nausea
 - Damage to the liver, kidneys, or central nervous system.
 - VOCs in air pollution are also a concern because they contribute to the formation of ground-level ozone when they react with nitrogen oxides in the air.



General Risks of Fracking on Community Health

- Air Quality
 - **Increased Emissions**
 - According to the cumulative impacts analysis this project expects to emit 3,997.67 tons of VOCs in 10 years.
 - That equals 399.7 tons or 799,400 pounds (1 ton = 2,000 pounds) per year!
 - For comparison, a car built after 1998 emits ~1.2 grams of VOCs per mile as found by Kennesaw.edu. That means a car driven for 12000 miles produces ~71.43 pounds of VOCs a year. (Save the Aurora Reservoir)
 - If one car (12,000 miles) = 71.43 pounds of VOC per year then 799,400 pounds of VOC created by the CAP is the equivalent of adding 11,191 cars to the roads per year!
 - 11,191 cars driving 12,000 miles per year is equal to 134,292,000 miles driving per year!
 - The distance to Mars 140 million miles
 - **All of this pollution is concentrated in the area around our homes!**



Just the Facts!

- A 2022 paper in *Environmental Health Perspectives* estimated that Pennsylvania children who lived near a fracked oil or gas well during their early years, or whose mothers lived there preconception, had approximately two to three times the odds of developing childhood acute lymphoblastic leukemia compared with children who lived farther from a well.
- A 2023 journal article in *Environmental Research: Health* found that oil and gas air pollution in 2016 resulted in significant health impacts that year, including:
 - 410,000 asthma exacerbations
 - 2,200 new cases of childhood asthma
 - 7,500 excess deaths
 - \$77 billion in total health impacts.
- Worldwide excess deaths related to particulate pollution number as many as 9 million per year



General Risks of Fracking on Community Health

- Drinking Water
 - Fracking operations not only strain water resources but [risk polluting them](#) as well.
 - A 2016 EPA analysis found that while large data gaps and uncertainties make it difficult to fully assess the impact on drinking water, fracking operations can—and do—affect drinking water resources.
 - The activities that pose the biggest threats include spills and leaks of fracking fluids, the injection of fluids into inadequately built wells, and poor wastewater management practices.
 - Spills and leaks can occur throughout the fracking process, including during the transportation of concentrated chemical additives; the mixing and pumping of fracturing fluids; and the storage, transportation, and disposal of used fracturing fluid and wastewater.
 - Both human error and equipment failure can cause spills and leaks, and some spills are known to have reached surface water resources, according to the EPA.

*All facts taken from the Natural Resources Defense Council (NRDC)

www.nrdc.org/stories/fracking-101#what-is



General Risks of Fracking on Community Health

- Water Consumption (Save the Aurora Reservoir)
 - Fracking fluid is 97% water
 - Fracking consumes a massive amount of water.
 - In the United States, the average can run between 1.5 million and 9.7 million gallons of water to frack a single well, according to the USGS.
 - Fracking operations can strain resources in areas where freshwater supplies for drinking, irrigation, and aquatic ecosystems are scarce.
 - Water used for fracturing is too contaminated to return to its source without extensive treatment and so typically is disposed of deep underground, where it is removed from the freshwater cycle.
- The Lowry CAP will have 166 wells and use ~3.5bn gallons of water! (Save the Aurora Reservoir)
 - The Aurora Reservoir holds roughly 10.4 billion gallons
 - Civitas uses more than the industry average using 21 million gallons per well



Just the Facts

A 2023 report from FracTracker Alliance found that Colorado oil and gas fracking companies [doubled their use of fresh water](#) over the last 10 years (from 5 billion gallons in 2013 to more than 10 billion gallons in 2022). Water used per well went from an **average of 2.7 million gallons to 10.9 million gallons** during that period.

Civitas is planning to average 21 million gallons per well - well above the average
This water is permanently removed from the hydrological cycle, a dangerous trend in times of increasing and severe drought.

The water for the CAP will mostly come from Barr Lake, a privately owned reservoir, and the centerpiece of Barr Lake State Park.

Produced water will be trucked off site and will be forced into injection wells in Weld County where they are still permitted. Injection wells of this type are known to cause earthquakes



Specific Dangers to this fracking project?

- **Aurora Reservoir**
 - Reservoir's are complex water systems designed to collect water. Thus, any surface level accidents, spills, or leaks risk contaminating the Aurora Reservoir.
- **Lowry Superfund Site**
 - “Regulators (EPA) expressed concern in May that drilling underneath and near the Lowry Landfill Superfund Site could cause small cracks in bedrock cradling millions of gallons of toxic waste.” -Jennifer Oldham
 - If the Superfund Site is ruptured due to the fracking directly or other seismic activity due to the fracking, it risks introducing millions of gallons of toxic waste into our groundwater.
- **Denver Basin Aquifers**
 - Is the main source of water for the Denver Metro Area. If the Superfund Site is ruptured it runs the risk of contaminating the main source of the water of this region.



How you can help!

- ECMC Public Comments on Lowry Ranch CAP
 - Public comment period open until May 3rd
 - <https://ecmc.state.co.us/permits4.html#/CAP>
 - Please note you need a Google Account to sign in and leave a comment
- Other Ways To Take Action
 - Talk to your neighbors about the project and its risks to our community's water, air, and property values. Direct them to save-the-aurora-reservoir.co.
- Contact your elected officials and ask them to prioritize human health and environment
 - Aurora city – citycouncil@auroragov.org
 - Arapahoe County – commissioners@arapahoegov.com
- Join us on Facebook in our fight to protect our homes from fracking.
 - The most up-to-date information is available on our Facebook page.



THANK YOU BILL!

UP NEXT

Welcome Mike Foote of Sparkman & Foote LLP

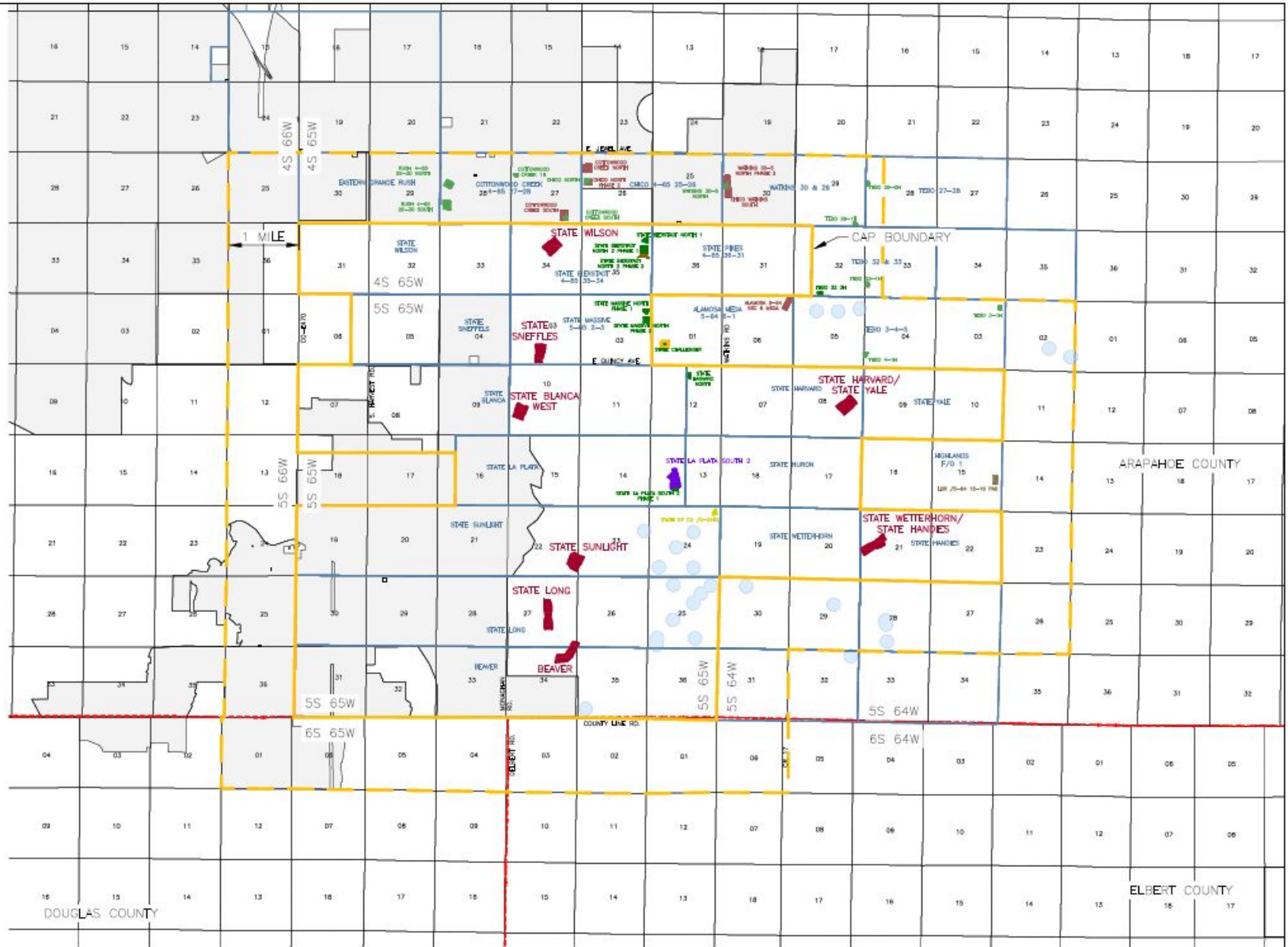




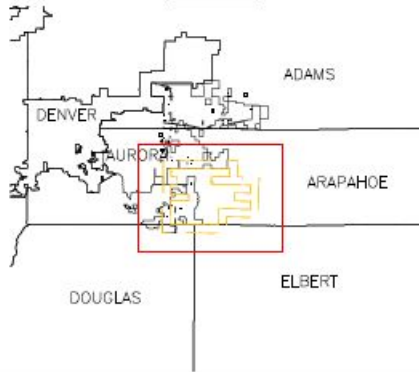
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LEGEND

- CAP BOUNDARY
- CAP BOUNDARY 1 MILE BUFFER
- CITY OF AURORA LIMITS
- CRESTONE DSU
- PLANNED CRESTONE HZ PAD IN CAP
- PLANNED CRESTONE HZ PAD IN CAP BUFFER
- SEEKING PRELIMINARY SITING APPROVAL
- EXISTING CRESTONE HZ PAD WITHIN CAP
- EXISTING CRESTONE HZ PAD WITHIN CAP BUFFER
- EXISTING TRUE OIL HZ PAD WITHIN CAP
- EXISTING RENEGADE OIL HZ PAD WITHIN CAP
- PENDING OGD P CRESTONE HZ PAD WITHIN CAP
- COUNTY BOUNDARY
- NON-OPERATED ACTIVE O&G WELL



KEY MAP



LAMP RYNEARSON
 LAMPRYNEARSON.COM



DESIGNER / DRAFTER
JLP

REVIEWER
MAP

PROJECT NUMBER
0222032

DATE
12/09/2023

SURFACE LOCATION

BOOK AND PAGE

LOWRY RANCH CAP

L. OIL AND GAS LOCATIONS

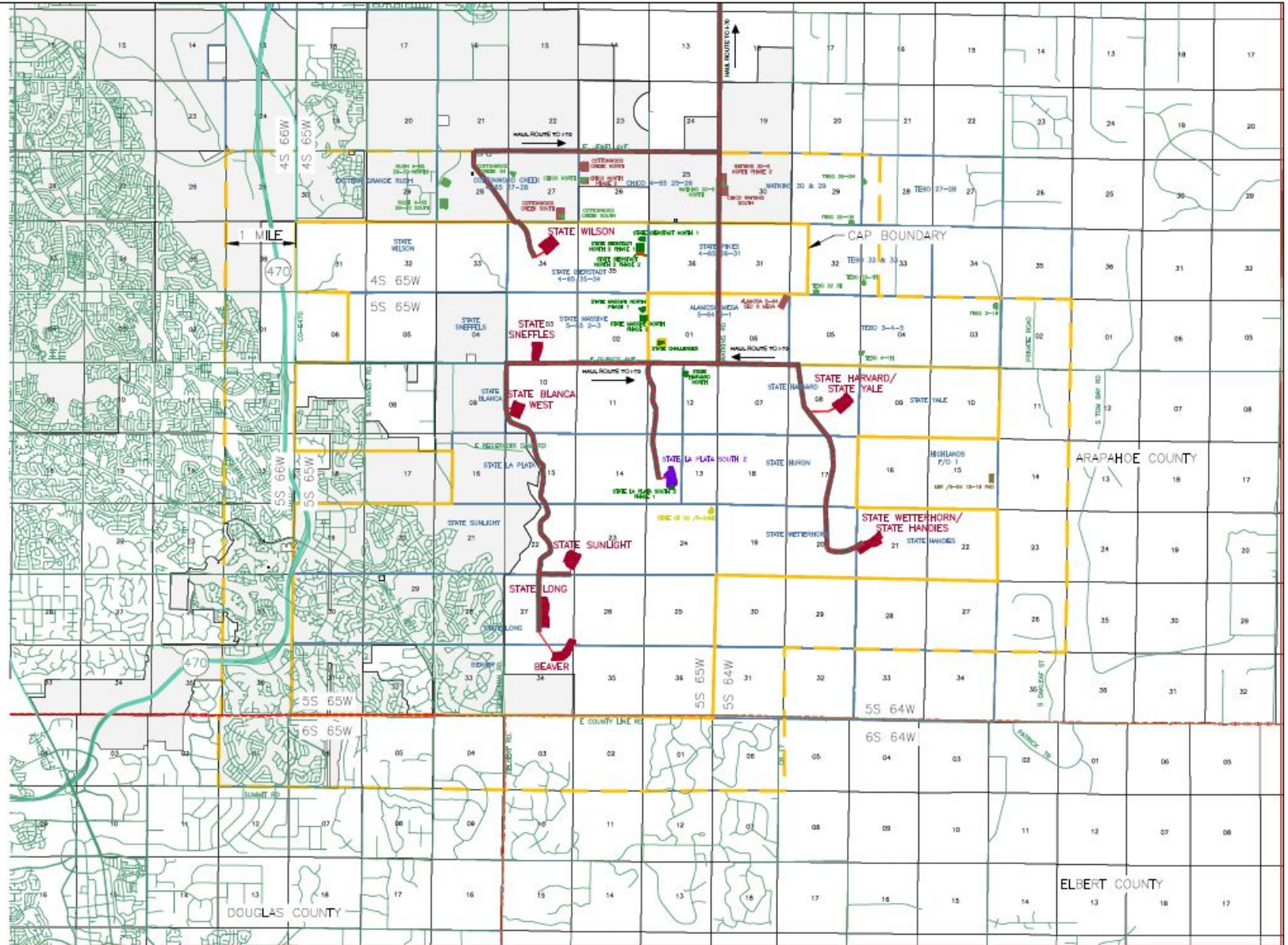
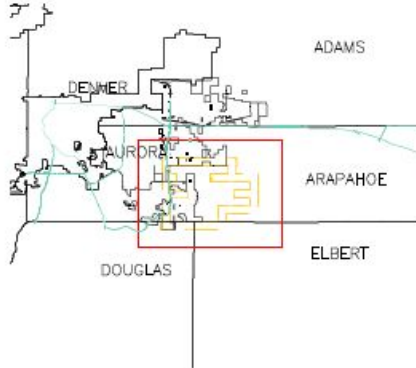
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LEGEND

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- PENDING OGD P CRESTONE HZ PAD WITHIN CAP
- COUNTY BOUNDARY
- CRESTONE HAUL ROUTES
- ACCESS ROAD (CPR)
- INTERSTATE/US HIGHWAY
- CITY/COUNTY ROADS

KEY MAP



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RYNEARSON**

LAMPRYNEARSON.COM



OMEGA, NEBRASKA
1470 W. GARDNER BL. STE. 100
FORT COLLINS, COLORADO
970 S. WASHINGTON ST. STE. 100
KANSAS CITY, MISSOURI
800 STATE ST. STE. 200

DRAWN / DRAFTER
A/J/KSL

REVIEWER
MAP

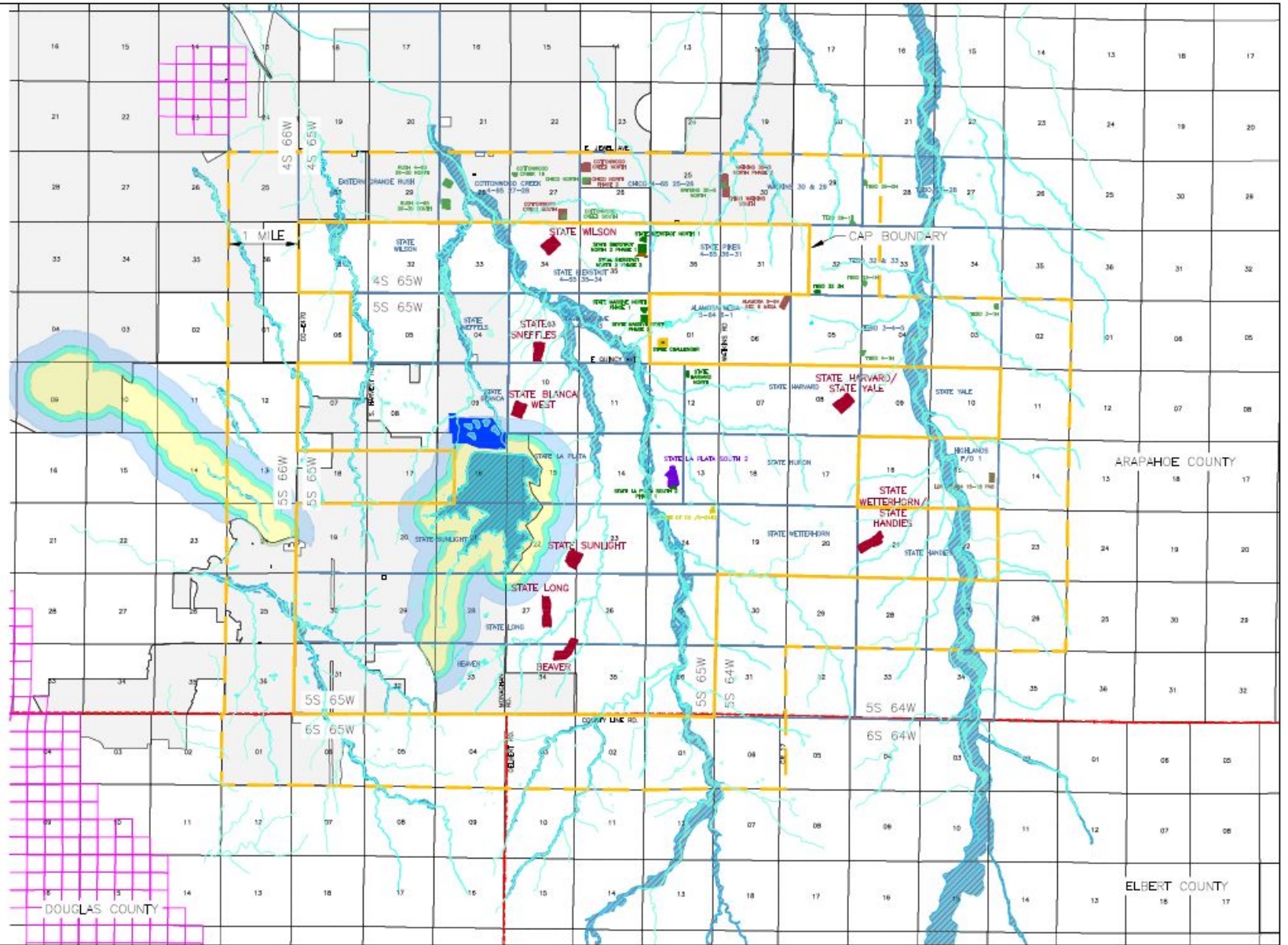
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02220302

DATE
12/08/2023

SURFACE LOCATION

BOOK AND PAGE

LOWRY RANCH CAP B. ROADS



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DESIGNER / DRAFTER	JUP
REVIEWER	MAC
PROJECT NUMBER	0222032
DATE	01/19/2024
SURFACE LOCATION	
BOOK AND PAGE	

LOWRY RANCH CAP K1. WATER MUNICIPAL MAP

L:\Projects\20230101 - Denver Lowry Ranch CAP\0222032\0222032 - MAP K1 - SURFACE AND PLAN - 7/18/2024 2:10:58 PM - M.H.B. - 4/1/21 LAMP RYNEARSON

THANK YOU MIKE FOR ALL YOU ARE DOING!

UP NEXT

Video from Shane Hall (Weld County)

This is what CAN HAPPEN

Shane has been fighting this since 2020

Needless to say it hasn't gotten better



Note how close it is to his property and home







SHANE, THANK YOU FOR SHARING

UP NEXT

Q & A



Q & A

We extracted the top 10 questions from
Facebook



What is this letter from Civitas all about?

They are required to inform mineral rights owners about the CAP and their plans to drill. The requirement includes a public forum advertised in 2 “local” publications. It includes the meeting that was held this week on Zoom



Can we reject giving them our mineral rights?

Yes, but because of forced pooling in Colorado it is immaterial. They have the right to take your rights. There was a bill pending to address and update the Forced Pooling rules to require 90% of respondents rather than the 45% that is the current law



What are the risks of sinkholes and foundation problems to our homes with the drilling?

In theory this is a very unlikely issue, but possible. The drilling is supposed to be at 7-8,000 feet below the surface. That said if they do encounter any unforeseen faults the impact could be significant to things like the reservoir dam but still is unlikely to directly affect your home.



Are there any endangered species that could block them from drilling?

We are investigating this right now via some local groups as well as CPW. Hoping to find nesting pairs as well as an endangered species or two. We filed a CORA request for some recent studies. Check back & let us know if you see any nests of raptors.



How do you use the map tool to find the distance of the drill pad from your house?

Go to Mark's table right over there and he will show you



I would love a “here is what we can control to try to keep this out of our backyard” primer!

This is what today is about. We wanted to share what we have done and what we can all do moving ahead. Pay special attention to the “What Can I Do” material that Marsha will present shortly..

There is a great deal we can do. Please join **US**



Q & A

Lowry Sub Area plan 1.1 requires all new developments to conserve water. How could this be approved if it's not in compliance?

For the same reason that we continue to ignore the EPA mandates on our air. O&G gets special treatment in our state and we can tell you that the **water** for the project is coming from a **private source so isn't counted in the conservation plans**



DUPABLE

SLIDE

Q & A



Hopefully the City/County requires a massive Bond from oil & gas like they do for developers in the event a developer fails to complete an aspect of a project. In this case, when O&G is finished and abandons a well, how clean is the site?

This depends on the state. We have done a poor job to this point of ensuring the industry is responsible for their own messes. The phase out and CLEAN UP bill was an attempt to better address this growing problem in CO



How much does this increase our fire danger?

With any big, industrial project there is more chance of fire than if nothing was done. Fracking does not seem to be a huge fire risk but the current fire plan is not sufficient in our opinion. In case of a fire the Bennett FD is the organization on the hook. We are looking to validate exactly how long response times will be. After the Marshall Fire this is a grave concern for all of us out here on the edge, especially with our high winds and dry conditions.



What can I do to help?

Tell your story and explain to the ECMC why you will be personally affected by this, and oppose the CAP nearby a densely populated area, by following the link to send in your written comment.

Donate to STAR to assist in covering the costs to fight the project.

Purchase merchandise to support STAR and by advertising the organization and fight against the development.



What can I do to help?

Follow the STAR FB page and website to make sure that you are up to date on all action items, especially when hearings are being held and we need people to attend to fight the project.

Tell all of your social network contacts, friends, family and neighbors about this proposed CAP and encourage them to join STAR and help us fight the project being built nearby our homes.

Volunteer for STAR by helping out at events, providing any technical or expert services and by connecting STAR to resources.



Announcements & Closing

Thank you for attending. Please, Please get involved in this righteous cause!



THE THREAT IS REAL.

If this can happen...

So can this.

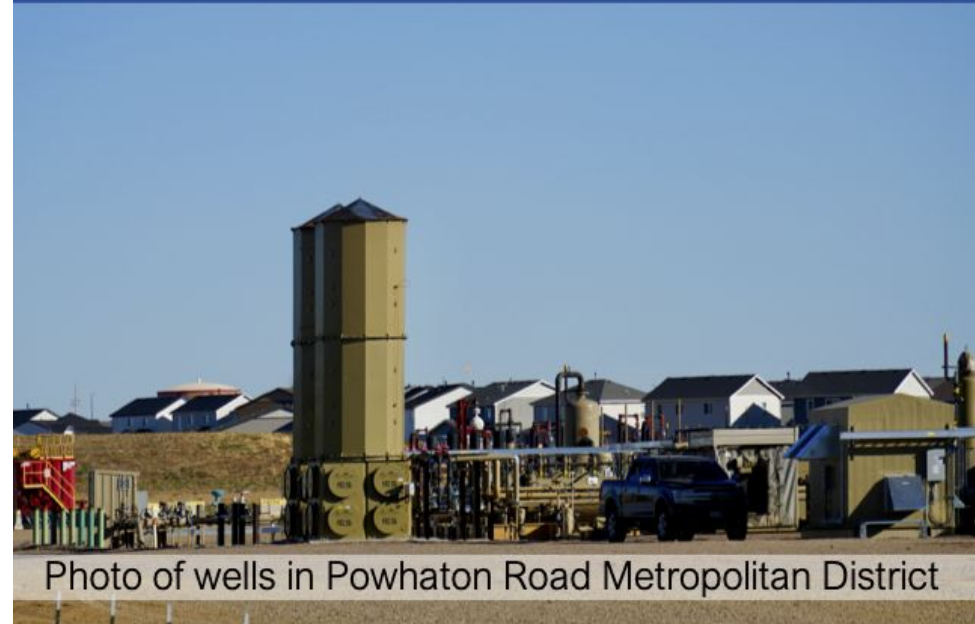


Photo of wells in Powhatan Road Metropolitan District



Imagined view of wells near Altitude Elementary

...BUT IT'S NOT INEVITABLE.



SAVE THE AURORA RESERVOIR

- **\$500** pays for two hours of legal representation.
- **\$250** pays for one hour of legal representation.
- **\$100** helps defray the cost of all the things we do to get the word out, including one-click emails, printed educational materials, and canvassing.

We recommend donating at one of the top two levels. Your generous support is critical as we prepare for upcoming hearings and petition for Affected Party Status.

Stop by our fundraising table to make your donation today!



CHAT CAP

CHAT CAP

Got questions about the Lowry Ranch CAP?
Come to STAR's meetup to ask away!



Thursday 04/18/2024 5:30pm - 7:00pm
Tollgate Crossing Clubhouse
24625 East Bellewood Drive Aurora, CO 80016



AFFECTED PARTY STATUS

AFFECTED PARTY STATUS

Stay tuned to learn of the outcome of
our petition and the potential for a
Local Public Hearing



HEARING DATE TO BE DETERMINED



ACTION ITEMS



ACTION ITEMS CHECKLIST

Submit CAP public comments to the ECMC by May 3rd

Pre-order STAR Merch by 4/15 to get the group discount

Sign up to become an official MEMBER

Save the Date Spring Fling Benefit on May 5th

Sign up to be a Volunteer

Support Us by Donating





STAR BENEFIT

- LIVE MUSIC
- PLANT SALE
- GOOD TIMES WITH THE FAMILY





Spring Fling!

an event to benefit
Save The Aurora Reservoir

Make an impact

Have fun while preserving the pristine beauty of the Aurora Reservoir and nearby communities. All proceeds go to preventing harm from a mega-fracking project at the Reservoir.

Date and Place

- May 5, 2024
11:00 am to 3:00 pm
- Cherry Knolls Park
Centennial, CO 80122

- Music
- Art
- Plant Sale



More Information
<https://save-the-aurora-reservoir.co/>

Pre-order merch by April 15

SPRING FLING



RA RESEN

SAVE THE AURORA RESERVOIR

Thank you for attending



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...BUT IT'S NOT INEVITABLE.