



MEMORANDUM

DATE: November 28, 2022
TO: City of Aurora Ward VI residents and interested community members
RE: Proposed oil and gas wells east of Aurora Ward VI

Dear Community Members,

This memo is an update to my August 12, 2022, memo on the same topic. In the past few weeks, we have gained additional information about the proposed project. This memo has been expanded with additional information and also contains answers to many Frequently Asked Questions (FAQs).

Based on questions received to date, we understand that there is significant confusion and concern about this project and also some misinformation being circulated in the community. We would like to highlight three (3) big-picture facts upfront:

- **The City has no authority over the well sites or the wells.** The surface locations of the proposed well sites are outside the City limits of Aurora, in unincorporated Arapahoe County. Neither City Council nor the Oil & Gas Division has approved any wells, and the City is unable to receive any applications because the wells are not under its jurisdiction.
- **There is plenty of time to ask questions and comment. This is not an urgent matter.** No applications have yet been filed with Arapahoe County or the Colorado Oil & Gas Conservation Commission (COGCC). The new information presented in this memo is from documents filed with COGCC for the Lowry Ranch Comprehensive Area Plan (CAP), which has not yet been identified as complete or accepted by COGCC staff. The dual permitting process (State and County) is expected to take two (2) years. The earliest that wells are proposed to begin drilling under Aurora is the first quarter of 2025. There is ample time to understand the issues and provide comments during multiple public comment periods.
- **The City did not sell the land or mineral rights to allow the drilling.** Both the surface land and the minerals east of Ward VI, where the surface well sites are proposed, are part of the former Lowry Ranch, which is owned by the State of Colorado and managed by the State Land Board for the benefit of Colorado public schools. The City does own some mineral interest in Ward VI but has not been presented with a lease to date.

With these things in mind, we encourage you to read the remainder of this document and the FAQs and then reach out to the Oil & Gas Division for more information at any time.

PROJECT SUMMARY


Civitas Resources, through its subsidiary, Axis Exploration, has proposed to drill 164 wells from fourteen (14) well sites in a 25,000-acre area known as the Lowry Ranch. Five (5) of those well sites and 48 wells will be directly east of Aurora Ward VI, including southeast and northeast of Aurora Reservoir. Civitas has applied for a Comprehensive Area Plan with COGCC, known as the Lowry Ranch CAP. The first documents were submitted on October 27, 2022. COGCC has not yet established that the Lowry Ranch CAP documents are complete and ready for review. Once they begin the review, it will likely take over a year for review, public comment, and a public hearing. If approved by Arapahoe County and COGCC, drilling near Aurora Ward VI is not scheduled to begin until 2025.

Axis Exploration began this project by contacting mineral owners with an offer to lease their minerals in advance of drilling. This is standard industry practice, and state law requires an Operator to acquire or lease a minimum of 45% of the minerals within a designated Drilling and Spacing Unit (DSU) prior to applying to drill.

Leasing of mineral interest is a valid business opportunity and is not a scam. Signing an Oil and Gas Lease may provide specific financial benefits to mineral owners and can also obligate you to certain responsibilities. Choosing not to sign may also obligate you to future financial responsibilities if the wells are drilled. As with any legal document, you should request written documents from the leasing company to review, and you may wish to contact an attorney familiar with oil and gas leases prior to signing. You should always fully understand any legal document prior to signing. The City is unable to provide specific legal advice to the community. You do have a choice of whether to sign or not. However, if you do not sign and the Operator is able to obtain 45% of the total minerals within the Drilling and Spacing Unit (DSU), then they have the right under State law to force pool the unsigned minerals. You would then become a part owner of the well.

Please contact me at jmoore@auroragov.org or (303) 739-7676 if you have any questions or would like to discuss this matter in greater detail.

Best Regards,



Jeffrey S. Moore, P.G.
Manager, Oil & Gas Division | City of Aurora

Attached: Detailed information regarding proposed wells east of Ward VI
Attached: Frequently Asked Questions

INFORMATION REGARDING PROPOSED WELLS EAST OF WARD VI

Civitas Resources, Inc. (Civitas) is proposing to drill new oil and gas wells within an area of Arapahoe County called the Lowry Ranch. The Lowry Ranch is approximately 25,000 acres in size and is located adjacent to Ward VI of the City of Aurora (see **Figure 1**). The Lowry Ranch was the former bombing range associated with the military bases in the area, and both the surface and the minerals are owned by the State of Colorado and managed by the State Land Board. Civitas has submitted documents to the Colorado Oil & Gas Conservation Commission (COGCC), which are referred to as the Lowry Ranch Comprehensive Area Plan (CAP).

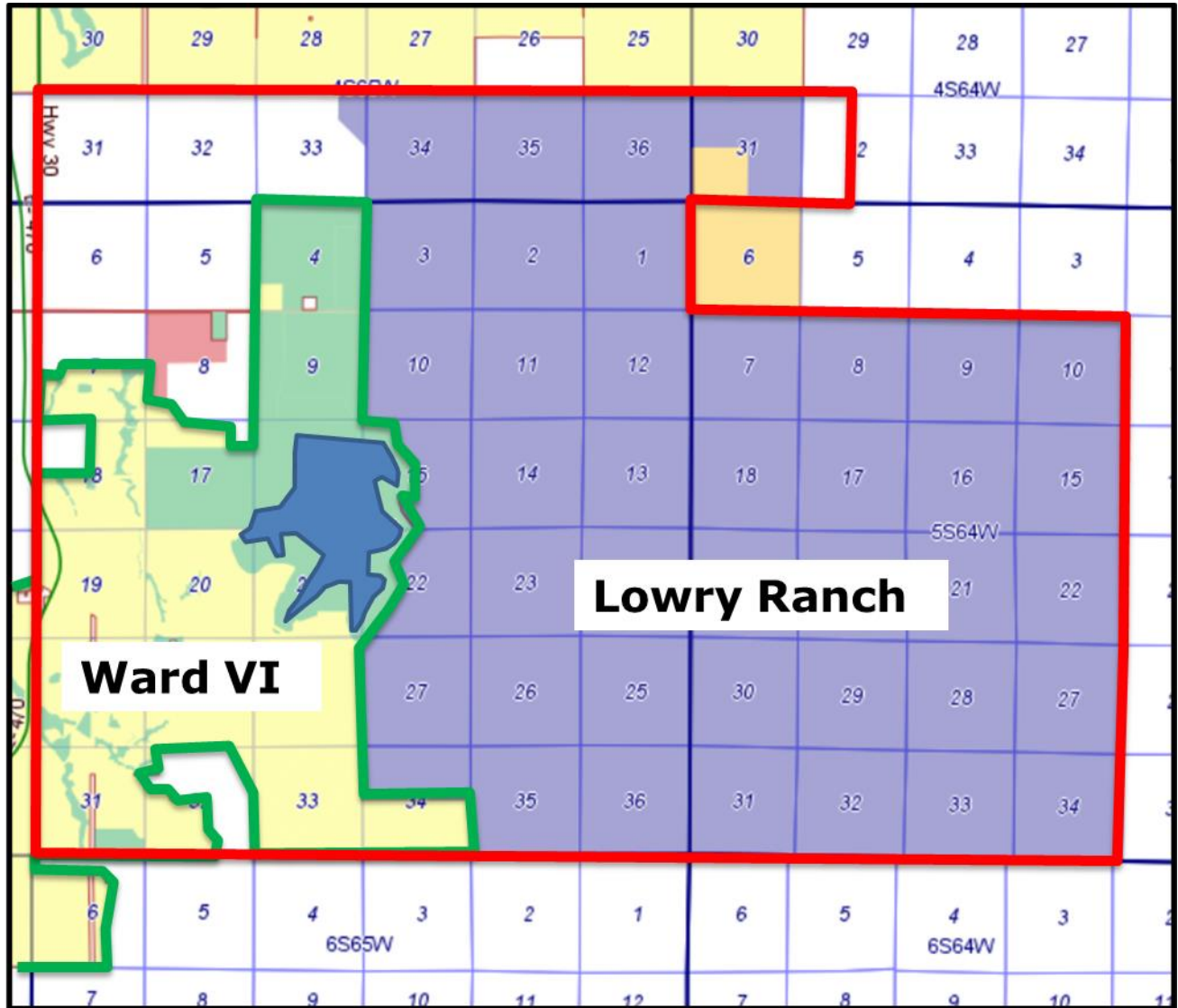


Figure 1: Aurora Ward VI is in green outline, Lowry Ranch CAP is in red outline, and showing Aurora Reservoir. E-470 is on the left edge of the map. Squares are sections of land (1 mile²)

This proposed CAP includes all wells which Civitas proposes within the CAP area. **Figure 2** shows the location of the proposed well sites in dark red polygons throughout the CAP area. Note that there are some well sites already existing in this area.

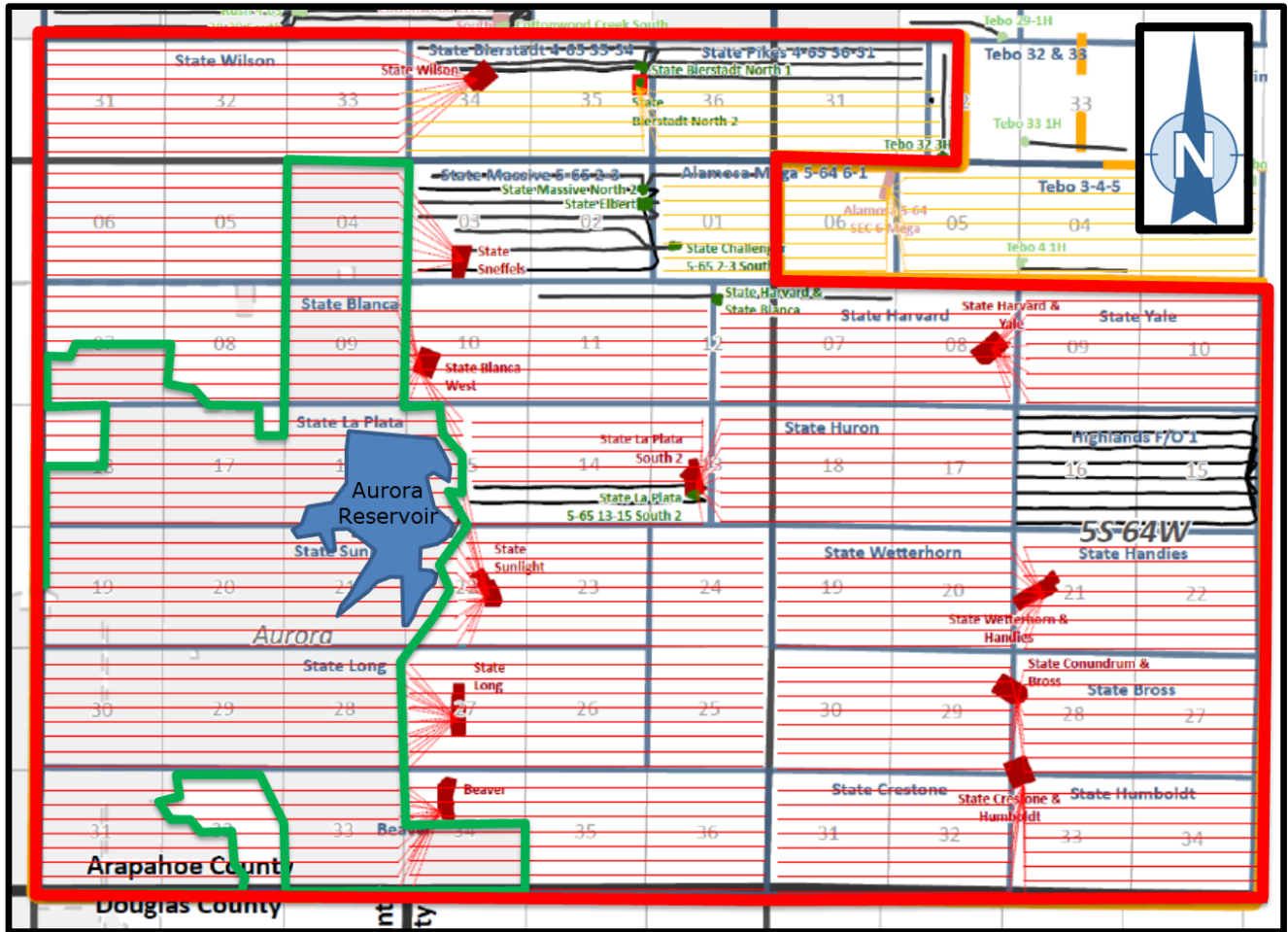


Figure 2: Aurora Ward VI is in green outline, and Lowry Ranch CAP is in red outline. Dark red polygons are the proposed surface locations within the CAP. Red lines, running east-west, are the proposed subsurface wellbore paths. Proposed wells begin at a single surface location, drill down 7,000', then turn parallel to the ground surface (i.e., "horizontal") and drill 2 or 3 miles east or west. There are five proposed well sites immediately east of Ward VI and 48 proposed wells underneath Ward VI.

In Colorado, local jurisdictions such as cities and counties only have authority over the surface well sites and the surface impacts of oil and gas operations within their boundaries. The proposed surface locations of these proposed well sites are outside the City limits of Aurora. Therefore, all permitting will occur through Arapahoe County and the Colorado Oil & Gas Conservation Commission (COGCC). The City has no authority over the surface well sites.

Additionally, all downhole activities, including drilling, completion (including hydraulic fracturing), and the depth and path of each wellbore, are exclusively under the authority of COGCC. No local jurisdiction in Colorado has authority over those activities.

Based on the map of proposed surface locations, all well sites will be further than 2,000 feet from all residences and at least 3,900 feet from Altitude Elementary School. Well sites are proposed to be beyond (further east) the first ridge east of Ward VI. The drilling rig will be visible during the

drilling phase, but afterward, during the 25-year production phase, it is unlikely that the well sites will be visible to most residents.

While the surface well sites will be located outside the Aurora City limits, the subsurface horizontal portion of the wells is proposed to extend westward under Ward VI. Neighborhoods that may be drilled under are shown in **Figure 3**. These wells would be at a depth of 7,000 feet below the surface. Based on similar wells that have been drilled in Aurora, we do not expect any effects to occur at the surface within Ward VI. Again, Aurora has no authority over the subsurface horizontal portion of the wells.

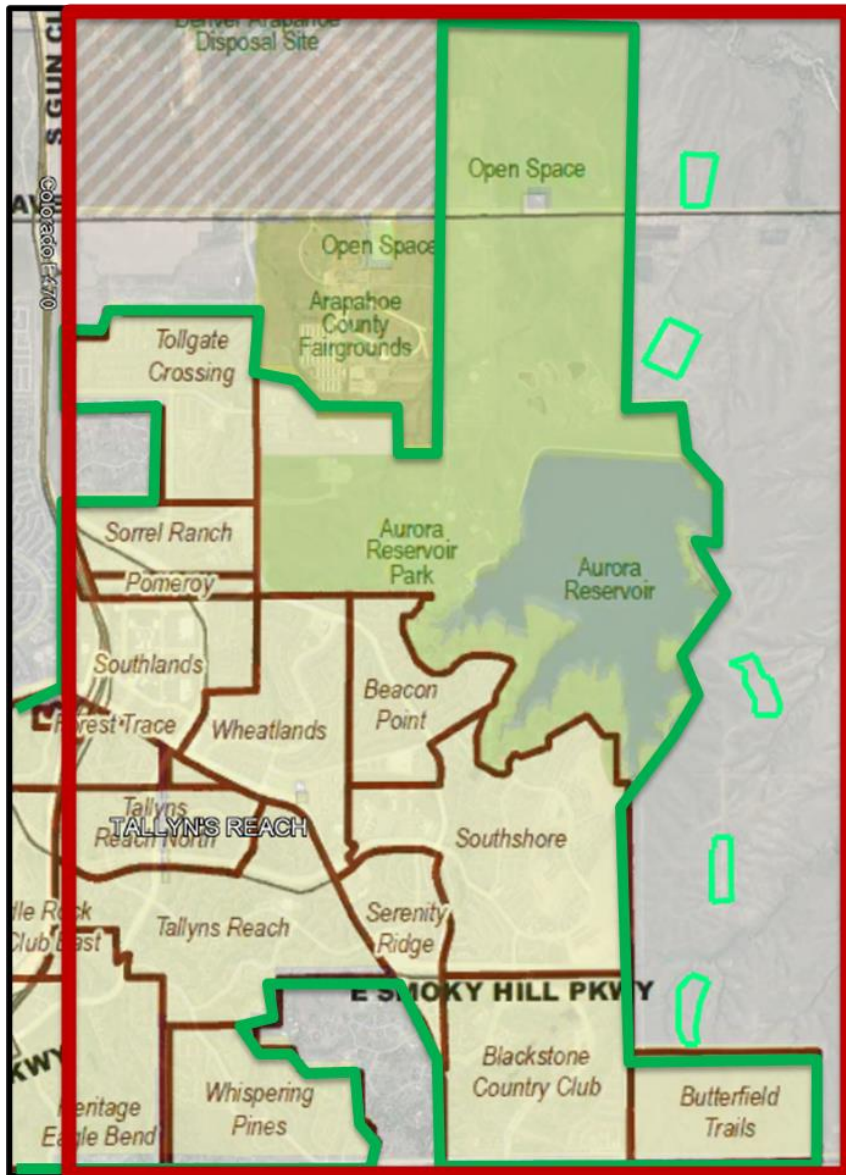


Figure 3: Aurora Ward VI is in green outline, a portion of Lowry Ranch CAP is in red outline. Bright green polygons are the proposed surface locations within the CAP near Aurora. Neighborhoods in Aurora under which wells may be drilled are shown inside the large red rectangle.

FREQUENTLY ASKED QUESTIONS

Topic: Details of the Operator

- **Who is the Operator who will drill the wells, and are they legitimate?**

The name of the parent organization is Civitas Resources, Inc. (Civitas). The website is www.civitasresources.com. Civitas is a publicly traded company on the New York Stock Exchange under the symbol CIVI. Their recent market capitalization was \$5.8 billion. Civitas has multiple subsidiaries, including Crestone Peak Resources, Extraction Oil & Gas, and Axis Exploration.

Crestone Peak Resources currently operates 130 wells within the City limits of Aurora (not in Ward VI). In our experience with them since 2020, we have found their operations to be modern, safe, and efficient. They are very responsive to requests from the Aurora Oil & Gas Division and also from the community.

Civitas has engaged Purple Land Management to handle its mineral leasing.

Topic: Aurora's authority

- **Did Aurora permit these wells?**

No. The proposed wells are not within the City limits of Aurora. The surface locations (Well Sites) are in unincorporated Arapahoe County. As such, the City has no authority to permit the wells since the surface locations are not within our jurisdiction. The surface locations will be permitted through Arapahoe County and the Colorado Oil & Gas Conservation Commission (COGCC). The wells themselves, including the drilling, completion (hydraulic fracturing), and underground wellbore path are under the sole authority of COGCC.

- **So, who approved these wells?**

No permits have been applied for, no permits have been issued, and none are imminent. The total permitting process through Arapahoe County and COGCC is expected to take approximately two (2) years. The only submittal by Civitas is a Comprehensive Area Plan (CAP) application with COGCC. The application was submitted in late October 2022 but has not been officially deemed complete or accepted by COGCC. Once they consider the CAP application complete, they will begin their official review. Based on the length of time COGCC took to review a similarly-sized CAP in Aurora, it is expected to take over a year before any approval of the Lowry Ranch CAP could be granted.

- **If Aurora doesn't have authority over these wells, what is the City's role?**

The City's role, through its Oil & Gas Division, is to provide information to the public about oil and gas development in general, information about this project specifically, and answer questions from community members. The Oil & Gas Division will also gather a working group of staff from relevant City departments to discuss our perspectives and any concerns. These will form the basis for the comments we will make during open public comment periods during the Arapahoe County and COGCC review processes.

- **Has the City leased its mineral rights in this area?**

No. The City does own some mineral rights in Ward VI, and we are working with our Real Property Services group to verify and map our full mineral ownership. We have not yet

received a leasing offer. We City is legally prohibited from declining to enter into a lease. If we decline to sign a lease, then we become a Non-Consenting Working Interest Owner in the well and would be required to pay for our proportionate share of the costs of the well in the future. That would create a situation called an “unfunded liability,” and the City may not enter into that kind of situation because the future cost is unknown and cannot be budgeted.

Topic: Leasing of minerals

- **Is an offer to lease my minerals a scam?**

No. If you own mineral rights, you may lease them to an oil and gas Operator. You should read any legal document presented carefully and seek legal advice before signing if you do not understand the details. Be careful to understand whether the offer is to lease your mineral rights or purchase them. Each is a valid business transaction, but they have different financial considerations.

- **My neighbor received an offer to lease, but I didn't. Why?**

The leasing program has been ongoing since at least June 2022, and there are potentially 3000 mineral owners that must be contacted. It is possible you will still be contacted in the future. If you have questions about your mineral ownership, you may contact Civitas and ask if they plan to send you an offer to lease.

Additionally, the mineral ownership changes from section to section throughout the neighborhoods. In some sections, all homeowners own their minerals. In others, the minerals are owned by a third party, and therefore homeowners would not be contacted. In some neighborhoods, the section line runs through properties. In those cases, it is possible for neighbors across the street and even side-by-side to have different mineral ownership.

- **The deed for my property says nothing about minerals. Why does Civitas think I own the minerals?**

Since the beginning of land ownership in the United States, “property” ownership has always included both the surface and all formations below the surface as deep as solid formations go. The ownership also includes the water and pore space below your property and the air space above it to a certain extent. Therefore, legally, when a property is sold, it is assumed that all these parts are included unless they are specifically excluded. So, paradoxically, if your deed does not mention minerals as being excluded, then you likely own them. If they are listed explicitly, they most likely have been “severed” from the surface property in the past and may now belong to another party, and the deed would indicate that exclusion.

- **I was also contacted by Wolf Royalties about my minerals. Are they the same as Civitas?**

We have heard that Wolf Royalties is also contacting mineral owners to either lease or purchase their minerals. Our understanding is that Wolf Royalties is a valid business but is not affiliated with Civitas. We have no control over their communications and no other information at this time about Wolf Royalty.

- **If Civitas is a big company, why are they only offering \$500 for me to sign the lease form?**

Mineral leasing costs are calculated on a “per acre” basis. The typical residential property in

Ward VI is approximately 0.2 acres in size. Offering \$500 to lease 0.2 acres is equivalent to offering \$2500 to lease 1.0 acre. This is a typical lease rate in our area. Some parcels may be offered more depending on their size and location. You are free to negotiate a different price with Civitas, but they are not obligated to accept your offer.

- **What happens if I don't sign the lease?**

You do have a choice of whether to sign or not. If you do not sign the lease, then you still control your minerals. You will receive an election form asking if you wish to participate as a Working Interest Owner in the wells. That means you would pay your proportionate share of the cost of drilling and participate in the profits. If you also do not sign that form, and the Operator has achieved 45% of the total minerals within the DSU, then they have the legal right to "force pool" your portion. If you are force pooled, then you become a Non-Consenting Working Interest Owner in the well. In that case, there are penalties to you, namely, that the Operator is allowed to recover 200% of their total cost in the drilling of the well before they begin paying you royalty. The royalty paid will be 16% instead of the 18% Civitas is currently offering, and finally, you would then be required to pay for your proportionate share of the costs of operating the well in the future.

- **If I sign the lease, am I liable for incidents or environmental damage?**

You should look for and require language on indemnification in your lease, which will limit your liability or shift the liability to the Operator. If you have specific legal questions about this concept, you should speak with an attorney.

- **How many leases does Civitas need to move forward with the project?**

Per state rules in C.R.S 34-60-116, an Operator must have a minimum of 45% of the total acres within a Drilling and Spacing Unit (DSU) in order to proceed with the applications to drill. The remaining 55% of the mineral interest can be "force pooled" if those mineral owners have not signed a lease by the time drilling is about to begin.

- **Does Civitas have 45% of the minerals within each DSU now?**

Until leases are recorded with the County, only Civitas has the information to answer that question. However, they do have leases on the State minerals under Lowry Ranch. The DSUs include portions in Lowry Ranch and portions in Ward VI of Aurora. Due to this structure, it is possible that they already have the 45% needed.

Topic: Timing and location of the wells

- **If the wells are approved, when will drilling occur?**

According to the schedule provided by Civitas, if approved, the wells near Aurora will begin drilling in the first quarter of 2025. Drilling will continue within the larger Lowry Ranch CAP area through the middle of 2028.

- **Once drilling starts, how long will it last?**

According to the drilling schedule provided by Civitas, each well site will take approximately 6-9 months to drill, complete, and prepare for long-term production. The drilling schedule proposes to begin drilling wells under Aurora throughout 2025, then again from Q3 2026

through Q2 2027, and finally from Q4 2027 through Q2 2028. These dates are subject to change, and the City has no control over drilling schedules.

Topic: Geology

- **What formation is being targeted to produce the oil and gas?**

The target formation is the Niobrara Shale. The Niobrara produces both oil and gas in multiple areas of Colorado and also in Wyoming, New Mexico, and Nebraska. In the area of Ward VI, the target zone within the Niobrara Shale is at a depth of 7,000' below the surface.

- **Will hydraulic fracturing (fracking) be used on these wells, and if so, why?**

Yes. Due to the nature of the permeability and porosity within a shale formation, no oil or gas can be produced without using the fracking process during the completion phase.

- **What is fracking?**

Hydraulic fracturing (fracking) is a highly engineered process of injecting water, sand, and a small volume of other chemicals down a well and into the formation to increase the connection between the formation and the well. This allows faster production of hydrocarbons and a more efficient production process. After the injection is complete, the well is turned on, and most of the water that was injected is then produced back to the surface, collected, and disposed of. The sand remains inside the reservoir to keep the tiny cracks in the formation open to allow the oil and gas to flow into the well.

- **I've heard fracking can cause earthquakes. Will that happen here?**

The United States Geological Survey states, "Most induced earthquakes are not directly caused by hydraulic fracturing (fracking)." They estimate that in Oklahoma, only 2% of earthquakes associated with oil and gas are from fracking. The other 98% are associated with the injection of produced water into deeper formations. There are no injection wells in Aurora or near Ward VI. For more information, see: [Does fracking cause earthquakes? | U.S. Geological Survey \(usgs.gov\)](https://www.usgs.gov/monitoring-assessments/seismicity/fracking-causes-earthquakes)

- **Can our water supply be contaminated by fracking?**

The current water supply that comes to homes in Aurora is mostly from sources in the mountains, not underground aquifers. The multiple aquifers that are below the ground in Aurora are owned by Aurora Water and are preserved for future use. The aquifers under Aurora are not used for the current water supply. For contamination to occur, hydraulic fracturing would have to connect with a major fault that also connects with the shallow aquifers. None exist in Aurora. The shallow aquifers extend down to about 2,000' below the surface. The target formation is the Niobrara Shale at a depth of 7,000' feet below the surface.

- **Can gas or oil escape out of the formation and contaminate other formations if the frack process goes wrong?**

The geology under Ward VI is very stable, and there are unlikely to be any hydrocarbons leaking out of the formation. The Niobrara Shale formation (the target in this area) has normal hydrostatic pressure. This means the pressure underground regularly increases along an expected curve based on depth. In other parts of the state and country, some formations are

over-pressured, which means a greater than normal hydrostatic gradient. Those formations have a greater risk of fracturing outside the zone during completions. There are currently 130 wells within the City limits of Aurora drilled and producing from the Niobrara Shale without incident.

Fracking is a highly engineered process designed to open up the formation so the oil and gas can be produced to the surface. The purpose of every Operator is to sell oil and gas for profit. If hydrocarbons leak outside of the formation, the Operator is unable to profit from the volume that is lost. It is to the Operator's advantage to keep all hydrocarbons inside the formation so they can be produced and sold. Therefore, hydraulic fracturing is designed to be as minimal as necessary to successfully allow the hydrocarbons to be produced.

Topic: Safety and the Environment

- **I've heard that oil and gas drilling is unsafe. What safety measures will Civitas have to follow?**

The starting point is the rules of COGCC. Most experts state that the rules for drilling in Colorado are generally the strictest in the entire United States. Rules cover all aspects of operations, beginning with the construction of the well site. Local rules, such as those from Arapahoe County, in this case, are over and above the state rules through COGCC and must be followed as well. Rules include protection of water resources, air quality, nuisance issues (traffic, dust, etc.), the details of drilling, and many other topics. County and State oil and gas inspectors routinely visit all oil and gas operations to verify compliance with all rules.

- **Will wells actually be drilled underneath the homes in our neighborhood?**

If a neighborhood is within the Lowry Ranch CAP boundary, then yes, wells are being proposed to be drilled underneath the neighborhoods at a depth of 7,000' below the surface. There are many examples in the Front Range area of wells drilled under homes without incident.

- **What about the explosion in Firestone, Colorado, in 2017? Could that happen with these wells?**

The explosion in Firestone was a terrible tragedy that resulted in the death of 2 people. The explosion was caused by a flowline (a small pipe connecting the well to a larger gathering system pipeline) that had been cut and not properly capped. Produced gas migrated through the ground and into the home. Since 2017, COGCC has engaged in a robust process of collecting data on the location of such lines throughout the state. No such flowlines exist in the area of the well sites to be drilled near Aurora. All future flowlines would connect to an active gathering system which would be away from the neighborhoods.

- **Are wells really going to be drilled and fracked underneath Aurora Reservoir? And if so, is the City concerned?**

Wells are proposed to be drilled and fracked under Aurora Reservoir. The City is not concerned about this at this time, based on the information we have, the distance between the reservoir and the wells (7,000 feet), and the geology specific to that area. The City employs geologists and hydrologists who will evaluate the proposed project once official applications have been made.

- **In the case of new homes that are in the process of being built or that the builder will start building soon (in Ward VI), do they have to disclose the new Lowry Ranch wells that are coming (since the locations aren't permitted and approved yet)?**

The City of Aurora has a notification provision in the City Code that requires a builder to notify the first purchaser of a residential lot if that lot is “within the state setback distance.” The COGCC setback is currently 2,000 feet. As currently proposed, all wells will be further than 2,000’ from residences, both now and in the future, so no notification will be required.

Topic: General Questions

- **Will the well sites be located less than 2,000’ from Altitude Elementary School?**

No. COGCC rules do not permit drilling within 2,000’ of any school. The proposed well sites closest to the school are the Beaver Well Site which is approximately 3,900’ from the eastern school boundary, and the State Long Well Site, approximately 4,900’ from the school.

- **How can I provide comments on the applications?**

Public comment periods will be open by Arapahoe County and COGCC in the future. The timing is unknown since no applications have yet been submitted, but possibly in late 2023 or early 2024.

- **Will there be a public meeting/hearing?**

Mayor Pro Tem Bergan, the Aurora City Council Member for Ward VI, has monthly Town Hall meetings where this topic is sometimes addressed. Tallyn’s Reach held a community meeting in October 2022. Other communities/neighborhoods may hold their own meetings. The Aurora Oil & Gas Manager is happy to attend any meetings if invited. Civitas staff have attended in the past and are willing to attend others in the future. No specific meetings are scheduled at this date but are likely to be in 2023. COGCC will hold a public hearing as part of their future review processes, both of the Lowry Ranch CAP and of each individual well site. Arapahoe County may also host a community meeting, but we have no control over that.

- **What notifications will Aurora residents receive?**

Residents may receive notices from Civitas about the timing of different stages of operations in compliance with COGCC and/or Arapahoe County rules. The City of Aurora will provide general notification through its website and Communications Department. We are working on a sign-up option to receive email updates from the City. Arapahoe County will post a notice of the applications on its social media.

- **How will the drilling affect property values?**

There are many factors that affect property values, including local conditions and national conditions. The fact that some homeowners in suburban subdivisions also own minerals is a highly unusual and positive factor. Studies in other areas that attempt to correlate property values with proximity to oil and gas operations likely did not have an example of properties that also owned their minerals. If the wells are drilled and produced, property owners will receive routine royalty payments.

- **Can the City/County/Neighborhoods stop the drilling?**

The City has no authority over the wells and no authority to stop the drilling. Arapahoe County could deny the permits but would be subject to “takings” claims from the Operator. In the United States, mineral rights have greater legal protection than surface rights. Historically, all Colorado cities that have tried to stop drilling have failed, in part, because creating rules that prevent access to property (i.e., mineral interests) requires the jurisdiction to compensate the owner of the property for the value that was taken.

- **Whom do I contact for more information?**

Civitas Resources – for inquiries about leasing Contact Pam Kingery at 303-312-8163 or pkingery@civiresources.com

Civitas Resources – for general inquiries about operations or the Lowry Ranch CAP
www.civitascommunityrelations.com/lowry-ranch-cap
or email LowryRanchCAP@civiresources.com or call (720) 279-9842.

Colorado Oil & Gas Conservation Commission <https://cogcc.state.co.us>

Arapahoe County Oil & Gas www.arapahoegov.com/oilandgas
or www.arapahoegov.com/1456/Major-Planning-Cases

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