

From: [Mark Kamin](#)
To: [Diane Kocis](#); [Cwick, Shaun](#); [megan.adamczyk@state.co.us](#); [John Morgan](#); [jennifer.talbert@sabrina.trask@state.co.us](#); [jeannine.natterman@state.co.us](#); [Planning](#); [Leslie Summey](#); [Jessica Campbell-Swanson](#); [Jeff Baker](#); [Bill L. Holen](#); [Bryan Weimer](#); [Jason Reynolds](#); [Julie Murphy](#); [daphne.Gervais@state.co.us](#); [mimi.larsen@state.co.us](#); [john.hunyadi@state.co.us](#); [jim.kirch@state.co.us](#)
Cc: [Kiefer, Linda](#); [Broughton, Meg](#)
Subject: Re: EPA Response RE: Urgent Intervention Request for Arapahoe, CO
Date: Tuesday, November 7, 2023 3:27:45 PM
Attachments: [2023 11 7 EPA letter responding to Kamin comments signed.pdf](#)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe County, ECMC and CDPHE representatives,

We are forwarding to you the response we just received to our recent EPA inquiry. The EPA has clearly stated that it is the responsibility of both the County and State governments as “primacy agencies to evaluate and disclose the environmental impacts of their actions prior to making decisions regarding any activity related to oil and gas development.”

The attached EPA letter lays out the proactive communication process they have followed since December, 2022 working with our Colorado primacy agencies including their expectations for State and County agency follow-up:

In December, 2022, **Arapahoe County** was notified of the EPA’s concern regarding fracking both under and near the Lowry Landfill Superfund Site (LLSS). Arapahoe County committed “to updating their oil and gas regulations” and “The EPA is following this updating process”.

- The currently proposed amended oil and gas regulations contain no mention of a requirement to perform appropriate evaluations of the environmental impacts of oil and gas activity. This includes both seismic and environmental impacts as well as all factors related to the public health, safety and welfare as well as the environment and wildlife.
 - For credibility, these studies should be conducted by independent 3rd party contractors and must be readily accessible to the public.
- Note: the EPA lumped this requirement to protect the LLSS together with concerns for the Aurora Reservoir Dam and Air Quality impacts.

“In July 2023, the EPA met with the **ECMC** to express concerns about oil and gas development under and near the Site. The EPA requires primacy agencies to evaluate and disclose the environmental impacts of their actions prior to making decisions regarding those actions.”

- The ECMC is currently reviewing the Civitas Lowry Ranch CAP for completeness. This CAP does not include proposals for completing and disclosing the EPA’s stated evaluation requirements.
- Again, these evaluation studies should be conducted by independent 3rd party contractors with complete accessibility to the public.

Therefore, it is the ECMC's responsibility to reject this CAP as incomplete.

The **CDPHE**'s mission is "Advancing Colorado's health and protecting the places where we live, learn, work, and play" with a vision of "A healthy and sustainable Colorado where current and future generations thrive." The CDPHE "implements programs for clean air, clean land, clean water and safe drinking water.

- It is the CDPHE's responsibility to intervene on behalf of the citizens to assure that any proposed CAP properly "evaluate and disclose the environmental impacts of their actions prior to making decisions regarding those actions." This must cover all aspects mentioned above including the LLSS, the Aurora Reservoir & Dam and the potential impacts to air quality.
- The CDPHE must insist that these evaluation studies be conducted by independent 3rd party contractors with complete accessibility to the public.

The responsibility and tasks for each agency are clear and the citizens of Colorado and Arapahoe County are counting on your quick and strong actions to meet our needs.

Thank you for your prompt attention and actions,

Save The Aurora Reservoir (STAR)
350 Colorado
Colorado Rising
climate movement co.

On Tue, Nov 7, 2023 at 10:43 AM Broughton, Meg <Broughton.Meg@epa.gov> wrote:

Dear Mr. Kamin,

Thank you for your recent email to EPA, we appreciate you reaching out. Please find EPA's response attached to this email.

Thank you!

Best,

Meg Broughton

(Pronouns: she, her)

Community Involvement Coordinator

Office of Public Affairs

U.S. EPA Region 8 | Denver, CO

Phone: (303) 312-6139

From: Mark Kamin <markgkamin@gmail.com>

Sent: Monday, October 23, 2023 2:57 PM

To: Kiefer, Linda <Kiefer.Linda@epa.gov>

Cc: Broughton, Meg <Broughton.Meg@epa.gov>; Cwick, Shaun <shaun.cwick@state.co.us>; jeannine.natterman@state.co.us;

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john.hunyadi@state.co.us; jim.kirch@state.co.us

Subject: Urgent Intervention Request for Arapahoe, CO

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Dear Ms. Kiefer,

The Civitas Lowry Ranch Comprehensive Area Plan (CAP) proposed for Oil and Gas Development in Arapahoe County is currently under review for completeness by the ECOM. This CAP poses serious threats to the health, safety and welfare of the residents of Colorado and the environment. It is expected to be submitted to Arapahoe County for consideration as well this month. We are requesting urgent intervention from the EPA to request a pause on the processing of this CAP to allow appropriate objective assessment of the following critical issues:

Seismicity impacts on the Lowry Landfill Superfund Site (LLSS):

Fracking activities involve drilling and explosive technologies, potentially leading to significant low-level seismicity in sensitive areas, including the Lowry Landfill Superfund Site (LLSS) which is operating under the EPA's remedy of "containment". The LLSS, which is unlined, sits directly above four vital aquifers that supply water to a large portion of the Denver metro area. Moreover, the geological composition immediately under the LLSS, and upon which the containment plan depends, includes 70% shale with 30% of various other highly porous materials, as per the USGS/EPA 2000 report¹. This composition, along with identified faults, increases the risk of vertical movement of contaminants if fracking-induced seismic fracturing should occur. In response to initial EPA & CDPHE concerns², Civitas recently agreed to not frack directly under the LLSS³. However, the proposal still includes drilling and fracking up to 0.25 miles from the eastern edge of the LLSS and under the LLSS's 3 mile long toxic plume. In March 2022, the Colorado Geological Society⁴ recommended a 7-mile buffer around the LLSS due to injection-induced seismicity concerns. But, no lateral buffer zone has been proposed for fracking-induced seismicity. The potential impact of fracking-related seismicity on the integrity of the LLSS containment is poorly understood and requires further scientific study. The loss of containment could lead to catastrophic contamination of critical aquifers. It is imperative that objective scientifically-based buffer zones be identified for the LLSS.

Proximity to Aurora Reservoir and Dam:

The drilling and fracking proposed in the CAP also puts nearby communities and the Aurora Reservoir at risk. The Aurora Reservoir's dam, located only 2.2 miles from the LLSS, also has identified growth faults⁵ and the plan includes drilling and fracking directly under the reservoir and dam. If fracking-related seismicity affects the dam's integrity, it could lead to a disastrous dam breach, either above ground or through alluvial paths, spreading hazardous chemicals from the LLSS across the region and into the critical aquifers.

Air Quality and Public Health Concerns:

Denver's air quality has already been ranked as the 7th most polluted for ozone pollution⁶, with widespread failing grades across the region with PM2.5 as an additional concern. The 174 proposed wells are likely to

exacerbate air quality issues, making it challenging to achieve compliance with EPA standards. Additionally, the pollution cloud around wells near reservoirs and our nearly daily precipitation poses threats to water quality. The threats to public health within several miles of well sites is also well documented.

Request for Immediate Action:

We urge the EPA to request a pause on the processing of the CAP and other such applications pertaining to this same geographic area until studies objectively assess:

- The seismic buffer zone required to safeguard the LLSS and its plume.
- The safety of the Aurora Reservoir dam.
- The project's impact on compliance with EPA environmental standards and exposure to hazardous pollutants.

EPA needs to formally review the impact of the project on already existing non-compliance with EPA environmental standards and exposure to hazardous pollutants. In addition, parts of this will require additional authorization to proceed to ensure protection of the public health and safety.

We also kindly request a meeting between the EPA and relevant community stakeholders to discuss these concerns further.

We look to the EPA for its expertise and commitment to safeguarding our community. We appreciate your immediate attention to this matter.

Thank you from the community members represented by

Save the Aurora Reservoir
PSR Colorado - Physicians for Social Responsibility
Lowry Landfill Superfund Site Citizens Advisory Group (LLSF CAG)
climate movement co
350 Colorado
Colorado Rising

References:

1. USGS/USEPA Geologic cross sections and Denver Formation bedrock lithology map at the Denver Radium Operable Unit VIII (Shattuck site) Report 00-041 (2000)
2. EPA Letter to Civitas Resources Dated May-2023
3. Civitas Resources Letter to EPA Dated September 7, 2023
4. Colorado Geological Survey letter to Diane Kocis Arapahoe County Planning Division March 25, 2022
5. CH2M Hill. (1987). Senac Dam Report Appendix B
6. American Lung Association. (2022). State of the Air 2022. Retrieved from <https://www.lung.org/research/sota>

cc: USEPA:

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jim.kirch@state.co.us (Jim Kirch)



REGION 8

DENVER, CO 80202

Sent via email

Ref: SEMD-RBA

Mark G. Kamin

Re: Email dated October 23, 2023 - Urgent Intervention Request for Arapahoe County, Colorado

Dear Mr. Kamin:

Thank you for the October 23, 2023, email to the United States Environmental Protection Agency (EPA) regarding the Civitas (Crestone Peak) Resources' Lowry Ranch Comprehensive Area Plan (CAP) proposed for oil and gas development in Arapahoe County near the Lowry Landfill Superfund Site (Site). The EPA appreciates your concerns.

On September 11, 2023, Civitas (Crestone Peak) Resources committed to not penetrating the subsurface under the Lowry Landfill Superfund Site (Site). Below is an excerpt from the [letter](#).

While there is no evidence that drilling or hydraulically fracturing at a depth thousands of feet beneath the Superfund Site poses any heightened risk of contamination due to the extraction process, Civitas acknowledges that the Lowry Landfill Superfund Site is fundamentally different than nearly all other potential areas considered for oil and natural gas development, and that the unique nature of this particular Superfund Site necessitates and justifies special concessions. After careful consideration of the EPA's concerns and the existing environmental contamination at this Site, Civitas is committing to not penetrating the subsurface under the Superfund Site by limiting the horizontal bores of the State Sneffels wells to approximately 2.25 miles, in order to avoid the Site. This precaution is not due to any risk associated with oil and natural gas development, but a desire to protect the Superfund remedy that is in place and operating effectively. Subsequent regulatory filings to the ECOM will reflect this updated development plan.

The EPA has been proactive in communicating concerns to Civitas (Crestone Peak) Resources, the Bureau of Land Management (BLM), and other regulatory entities regarding fracking near the Site. After a citizen expressed a concern in December 2022 over a proposed oil and gas project in their neighborhood, the EPA contacted Arapahoe County to learn about the proposed Civitas' (Crestone Peak's) Comprehensive Area Plan. Arapahoe County decided to update their oil and gas regulations.

The EPA is following this updating process. Concurrently, the EPA began coordinating information with the Colorado Department of Public Health and the Environment (CDPHE). The EPA garnered support from the City and County of Denver and Waste Management, the owner and operator of the Superfund Site.

On March 27, 2023, the EPA wrote the BLM requesting that BLM limit rights to leasing mineral rights or fracking at or under the Site. Soon after, the EPA met with the BLM to express concerns and understand BLM's decision not to lease the mineral rights under the landfill, and ownership of mineral rights of adjacent properties. In the event BLM elects to conduct a lease or sale of mineral rights, BLM would be responsible for following the NEPA process when applicable. The EPA reviews and publicly comments on other federal agencies' environmental impact statements pursuant to section 309 of the Clean Air Act and NEPA. The EPA may also review environmental assessments prepared by other federal agencies. Additional information about NEPA is available here: <https://www.epa.gov/nepa>.

In May 2023, representatives from the EPA, CDPHE, the City and County of Denver, and Waste Management met with Civitas (Crestone Peak) Resources to discuss the nature of the Superfund site and potential future liabilities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 *et seq.*) often referred to as CERCLA. The Lowry Landfill Superfund site is regulated under the CERCLA federal law.

The laws of the state and county regulate oil and gas operations. In Colorado, there are two state agencies which regulate the CAP – the CDPHE, which implements programs for clean air, clean land, clean water and safe drinking water (more information may be found at <https://cdphe.colorado.gov>), and the Colorado Energy and Carbon Management Commission (ECMC) is the delegated primacy authority for oil and gas operations in the state of Colorado. The mission of the ECMC is to regulate the development and production of the natural resources of oil and gas in the state of Colorado in a manner that protects public health, safety, welfare, the environment and wildlife resources.

In July 2023, the EPA met with the ECMC to express concerns about oil and gas development under and near the Site. The EPA requires primacy agencies to evaluate and disclose the environmental impacts of their actions prior to making decisions regarding those actions.

The ECMC website (<https://ecmc.state.co.us/hearings.html#/information>) has information about upcoming public comment opportunities and how to submit comments, including an open opportunity for preliminary public input into the Civitas (Crestone Peak Resources) Lowry Ranch application for a CAP, which may be in your area of interest. Ms. Megan Adamczyk, Community Relations Liaison for the ECMC, may be a good choice if you would like to speak to someone. She may be reached at megan.adamczyk@state.co.us, (303) 894-2100 x5145, or you may call the general phone number (303) 894-2100 for general questions.

In addition, comments and questions may be emailed directly to the Civitas Resources Contact Dan Harrington at dharrington@civiresources.com. Per the Colorado oil and gas regulations, the project proponent is required to gather public input on oil and gas projects for consideration.

Arapahoe County's website: <https://arapahoegov.com/597/oil-and-gas> has information including a fact sheet on the [Lowry Ranch Drilling Project](#).

Thank you so much for taking the time to share your concerns with me. Emails such as yours and feedback from public meetings are a valuable resource to the decision-makers. We are happy to share your email with our contacts at the ECMC and CDPHE. However, we are not granting a meeting to discuss as the EPA is not a regulator of oil and gas operations in Colorado.

Sincerely,

Linda Kiefer, Project Manager
Remedial Branch
Superfund and Emergency Management Division

cc: Shaun Cwick, CDPHE
Megan Adamczyk, ECMC
Diane Kocis, Arapahoe County
Sabrina Trask, ECMC
John Morgan, ECMC
Jennifer Talbert, CDPHE



November 8, 2023

Arapahoe County
Planning Commission
5334 S. Prince Street
Littleton, CO 80120

Submitted via: DKocis@arapahoegov.com

Dear Planning Commissioners,

The American Petroleum Institute Colorado (API Colorado) appreciates this opportunity to comment on Arapahoe County's phase II process amending its land use planning requirements to address oil and gas exploration and development. The American Petroleum Institute (API) represents all segments of America's oil and natural gas industry. API was formed in 1919 as a standards-setting organization and has developed more than 800 standards to enhance operational and environmental safety, efficiency and sustainability. Its nearly 600 members produce, process, and distribute most of the nation's energy. Member companies are producers, refiners, suppliers, marketers, and pipeline operators as well as service and supply companies that support all segments of the industry.

I. INTRODUCTION

In these comments we will address the proposed regulations item-by-item. However, we have several overarching comments regarding this process. First, we are concerned with the expediency at which the Planning Commission and the Board of County Commissioners are pursuing these amendments. The Planning Commission released its proposed amendments on November 1, 2023. Those proposed amendments are broad in scope and, in many respects, complex and highly technical. The Commission is holding a public comment hearing on November 8, just a week later. In turn, the Board of County Commissioners is scheduled to take up the proposed amendments on November 14, 2023, less than a week later. As just noted, we are deeply concerned that this accelerated schedule is not conducive to a careful and thorough review and consideration of highly technical materials.

Second, API Colorado reiterates that while Senate Bill 19-181 granted local governments substantial authority to regulate surface impacts of oil and gas operations, the Act also imposed a significant qualifier. Regulation, whether adopted at the local or state level, must be reasonable and necessary. As the courts have stated, for an action to be reasonably necessary it must be absolutely needed. See *Mook. V. Board of County Commissioners of Summit County*, 457 P.3d 579 (2020). Just as important, an agency's action must be supported by substantial evidence. The evidence to support an agency's decision must be probative and there must be enough evidence to support a decision. Yet as these comments make clear in the discussion below, so far as API Colorado is aware neither the Commission nor the Board of County Commissioners has disclosed the evidence on which it is basing setbacks that differ from those adopted by the Colorado Energy and Carbon Management Commission (ECMC). The evidentiary record is minimal and the evidence supporting the conclusion that some provisions are absolutely needed appears to be absent. For these reasons, API Colorado urges the Commission and



Board to time to properly develop the record that is essential to justifying new regulations and avoiding confusion that otherwise will accompany adoption of these regulations.

II. SPECIFIC COMMENTS

5.3.6.A. Intent and Applicability. API Colorado appreciates the statement in this section that applications to the County for new oil and gas facilities may be submitted simultaneously with applications to the ECMC and the Colorado Department of Public Health and Environment (CDPHE) and applications to the state agencies may be used to satisfy County submittal requirements. Unfortunately, many of the County's proposed regulations differ materially from ECMC and CDPHE requirements, calling into question the utility of the proposed regulation. We also note that this section of the proposed regulations refers to both new and modified oil and gas facilities, but we were unable to find any further provisions related to modification. Most important, the terms "modify" and "modification" are not defined, leaving operators and the public without clarity of what facility modification may entail.

5.3.6.B. Relationship to State of Colorado Rules. This section acknowledges relevant state laws and rules as well as the proposed rules but then states that the stricter of the two shall apply if they are in conflict. However, the proposed rules provide no guidance for how operators, County staff, or the public would determine which rule is "more stringent." In many cases, that will be a subjective determination in the absence of criteria that alert the regulated public to the proposed regulation's intent.

5.3.6.E.(2)-(3). Neighborhood Meeting. These subsections would increase the scope of residences to be noticed for a neighborhood meeting, and the scope of residences to be notified in application has been increased from one mile to 1.5 miles. The Commission and Board should explain the basis and need for this change.

5.3.6.E(5). Waiver Requests. API Colorado appreciates that the proposed regulations include this subsection on waivers for proposed oil and gas facilities. We also understand and might support some elements of this subsection. For example, it may be reasonable to expect applicants for a change in setbacks to demonstrate that by reason of the use of alternative oil and gas facility design, best management practices, control technologies, or proposed conditions of approval the reduced setback will provide substantially the same protection as the required setback. That provision bears some resemblance to a corresponding ECMC regulatory provision.

Yet the same subsection virtually forecloses the issuance of waivers. It provides that requests, including those for changes in setbacks, "must be justified by specific and extraordinary conditions of the location that make compliance with the particular standard or requirement not reasonably achievable or unnecessary," and must also show that the request will not be detrimental to public health, safety, welfare, or the environment and wildlife. As just noted, the demand that an operator justify that a waiver request for a change in a setback is due to "extraordinary" conditions, that the proposed location is not reasonably achievable, and that the change will not be detrimental effectively negates the utility of this subsection.

Finally, it is not clear how this subsection interrelates with *5.3.6.F(2)(b)*, which allows that a setback may be reduced if the owners of all of the occupied structures or owners of the affected platted lots agree in writing, and with informed consent, agree to a reduced setback. While API Colorado assumes this



provision operates independently of the waiver process, the proposed regulations are unclear on that score.

5.3.6.F(2)(a)(i)-(ii). Setbacks. The proposed regulations include the proposed setback of oil and gas facilities from occupied structures, but then also includes options to select 2,500 feet or 3,000 feet. Also included is an identical provision for setbacks from the boundary of a platted lot smaller than 15 acres. However, the Commission has not made public the scientific studies and analysis the Commission is using to provide an evidentiary basis for whichever setback distance is selected. Neither has the Commission made available nor disclosed the scientific basis for determining if its final decision is reasonably necessary. The studies relied upon by County staff are not probative and certainly do not support the alternative setbacks included in the staff draft. In the absence of new or different data, we would encourage the County to review the existing scientific data and conclusions made by the state.

5.3.6.F(2)(a)(iii). Setbacks. In this provision, the proposed regulations provide a mechanism for reducing a setback distance if such a reduction is approved by the Board of County Commissioners through a Use by Special Review process. An operator would have to establish that the lesser setback will not affect public health, safety, welfare, or the environment and the Board may consider alternative oil and gas facility design, best management practices, control technologies, or whether the operator proposes conditions of approval that will avoid, minimize, or mitigate adverse impacts the affected properties, as well as other enumerated factors.

This provision may provide the Board with flexibility to tailor setbacks to the location being considered. However, we note that this provision will only be efficacious if the Board and staff base their decisions on sound science and testimony from experts in their field.

5.3.6.F(2)(f)(ii). Public Water Reservoir Setbacks. In this and the related paragraphs, the proposed regulations would establish a range of setbacks from existing or planned public water reservoirs. API Colorado fully appreciates the value of potential potable water supplies and the necessity of ensuring their integrity. However, we note two things. First, we are unaware of any scientific evidence or other data that would support the setbacks proposed in these regulations for setbacks from existing and planned reservoirs. Second, we are unclear how an oil and gas location clearly downgradient of a reservoir could endanger that water reservoir's integrity. We suggest that a much-reduced setback may be appropriate in such a circumstance.

5.3.6.F(10). Air Quality Monitoring. As an initial matter, API Colorado emphasizes that the Air Quality Control Commission (AQCC), within CDPHE, has adopted air quality regulations that are among the most stringent in the nation and are frequently updated on an annual basis. In many respects, what the County is proposing is materially different from the state's air quality regulations, effectively creating a second, and different regulatory regime that will complicate and potentially confuse both operators and staff. Moreover, it is unclear whether the County's proposed regulations will make a significant difference in air quality. It is clear that compliance will be difficult, onerous, and expensive.

5.3.6.F(10)(b)(i). Baseline Testing. This paragraph illustrates the comments submitted immediately above. The state already has instituted requirements for baseline monitoring while the proposed regulations differ in material respects. Moreover, the proposed regulation is vague and unclear. For example, the paragraph would require monitoring of "all other possible emissions," including but not limited to an



enumerated list. However, this paragraph creates uncertainty as to what “other emissions” must be monitored.

5.3.6.F(10)(b)(ii). Continuous Air Monitoring. This would require continuous monitoring for at least three years after the last well is completed with no explanation for why such an exorbitantly expensive measure is necessary. It also requires a speciated sampling device that would be activated when monitored levels exceed a “threshold concentration level.” Yet the draft proposal does not specify what “threshold” the County intends to apply.

In addition, the draft proposal defines continuous air monitoring as “sampling on a frequency of at least once per minute every twenty-four hours.” Simultaneous meteorological sampling is also required. It is critical to note at least two concerns about this proposed requirement. First, these monitors produce raw data that is then transferred to independent vendors who use proprietary algorithms to convert the raw data to a usable form. Unless the County contracts with such a vendor, the raw data produced by these monitors have no scientific value. Second, continuous monitors such as this, along with meteorological monitors will produce large amounts of data that must be stored somewhere, almost certainly at substantial cost. The proposed rule does not address this issue.

The proposed rules also state that the operator’s air quality monitoring plan shall meet the minimum requirements of the AQCC Regulation 7, section VI.C. We suggest the County rely upon the AQCC’s Oil and Natural Gas Pre-Production and Early Production Operations monitoring requirements, which are extensive and which both the state and operators are familiar with.

Those regulations require monitoring before and during pre-production and for months after a well is consistently producing. The state rules outline specifically what monitors must be capable of, ensuring that such devices are, in fact, available. The state rules also require monitoring for at least one of the following: VOCs, methane, benzene, or BTEX, or other indicators of hydrocarbon emissions. Additionally, rules require meteorological monitoring and outline the requirements for such devices. Of course, the state rules also prescribe the necessary recordkeeping and reporting requirements. Finally, operators must submit monthly monitoring reports.

In sum, the state rules on monitoring are detailed, specific, clear, and comprehensive. Operators now have experience implementing the state rules and the County has provided no explanation for why a complicated, unclear, expensive substitute needs to be developed to meet its requirements.

5.3.6.F(10)(h). Leak Detection and Repair. Much of our comments respecting air quality monitoring apply equally to the County’s proposal for leak detection and repair. The state has a nation-leading program for leak detection and repair. The County’s proposal acknowledges that. Yet in too many respects the County’s proposal duplicates that program and includes impractical and unnecessary requirements.

For example, the proposal would require that verified public reports of leaks by a member of the public must be reported upon discovery, yet the date of discovery may be days in the past by the time the operator verifies the leak. In addition, many leaks are transient; it may be impossible to verify a leak ostensibly documented by a member of the public, especially if the disclosure by the member of the public is delayed.



Similarly, there are numerous instances where it is impossible to repair every leak, no matter how small, in 72 hours. While many leaks can be repaired by the technician who conducts the LDAR survey, at times an expert is needed to perform the repair. Other times, the equipment may not be readily available and must be ordered. It is not reasonable to require an operator to shut down a facility if a piece of equipment that is needed to repair a leak that does not endanger the public must be ordered. Such a requirement is unworkable and operators in Colorado have established a strong record of detecting and repairing leaks but the County's proposal is unnecessary and unreasonable. Here again, both the state and the Environmental Protection Agency have in place detailed regulatory requirements for LDAR surveys, including timeframes for repairs. It is unclear why the County has developed its own, parallel but different proposal.

5.3.6.F(10)(h)(j). Sampling and monitoring. This paragraph would require continuous monitoring to detect leaks and measure hydrocarbon emissions and monitor meteorological data. Such continuous monitors must be located at four or more sites around the facility. As such, it appears the County is proposing a system that duplicates the continuous monitors discussed above as well as the LDAR requirements. Yet in industry practice the continuous monitors described here are intended to replace LDAR techniques also described above. This duplication of leak detection systems clearly is unnecessary and unreasonable, as well as unduly expensive. The County has not provided any basis of which API Colorado is aware to support such duplicative and expensive systems.

III. CONCLUSION

API Colorado believes that the proposed regulations are not ready for Board consideration. Many provisions, such as setback distances, appear to be arbitrary and unsupported. Other provisions appear to unnecessarily duplicate existing state and federal programs. API Colorado urges the Commission and Board to not approve the proposed amendments and return to the drawing board and engage stakeholders from across the spectrum in a process to take advantage of parties' best ideas and draft regulations that are fair, reasonable, predictable, and necessary.

Sincerely,

A handwritten signature in cursive script that reads 'Alejandra Major'.

Alejandra Major
Associate Director
majora@api.org

From: [Sarah Matsumoto](#)
To: [Diane Kocis](#)
Cc: [Commissioners](#); [Leslie Summey](#); [Carrie Warren-Gully](#); [Jessica Campbell-Swanson](#); [Jeff Baker](#); [Bill L. Holen](#); [Planning](#); [Jason Reynolds](#); [Bryan Weimer](#); [Jared C. Bynum](#); [Marsha Kamin](#); [Mariah Bowman \(Colorado Law Clinics\)](#); [Michael Mccarthy \(Colorado Law Clinics\)](#); [Lizzie Bird \(Colorado Law Clinics\)](#); [juliermhuygen@gmail.com](#); [Jared Bynum](#); [kevchan85@gmail.com](#); [Brent Goodlet](#); [brian@bkmatise.com](#); [Randy Willard](#); [Bobbie@350Colorado.org](#)
Subject: LDC23-004, Oil and Gas Regulations Phase 2 - Save the Aurora Reservoir comment letter for Nov. 8 public hearing
Date: Monday, November 6, 2023 7:36:04 PM
Attachments: [image001.png](#)
[2023-11-06 - STAR Ltr. to Arapahoe Cty. Planning Comn. for Nov. 8 hrg.pdf](#)

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Hello, Ms. Kocis,

Please find attached a comment letter from Save the Aurora Reservoir, et al., concerning the draft proposed Phase 2 Oil and Gas Code amendments that are the subject of the Nov. 8 Planning Commission public hearing. I understand that you received a preliminary version of this letter earlier today; this is the finalized version of that letter. I appreciate your patience and willingness to include these comments in the packet for the Planning Commission in advance of the public hearing. I know you have the monumental task of assembling a lot of materials under a short timeline.

If you, other staff members, or the Planning Commission have any questions, please let us know. I apologize if you receive a duplicate of this email, my initial message returned some addresses as undeliverable so I am trying again.

Thank you,
Sarah

Sarah A. Matsumoto
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Nov. 6, 2023

Re: Comments from Save the Aurora Reservoir, et al. on Case No. LDC23-004, Oil and Gas Regulations Phase 2, Land Development Code Amendment

Submitted via e-mail to Diane Kocis at DKocis@arapahoegov.com

Dear Arapahoe County Planning Commissioners and staff,

On behalf of Save the Aurora Reservoir, et al. please see the comments below for consideration as part of the administrative record before the Arapahoe County Planning Commission (“Planning Commission”) at its November 8, 2023 public hearing. Save the Aurora Reservoir is a community-led group representing southeast Aurora residents dedicated to protecting air and water quality and ensuring that our local and state governments promote public health, safety, welfare, and the environment in their roles as regulators of the oil and gas industry and land use decision makers.

Save the Aurora Reservoir submits these comments out of great concern over the proposed changes to Arapahoe County’s Oil and Gas Code. There are a number of important issues that we believe must be considered in the current phase of regulation amendments. The published proposed amendments go well beyond the originally announced plans for this phase and use industry proposals that effectively water down both old and newly proposed regulations that are critical for the protection of the public health, safety, and welfare. The complete suite of proposals must be properly considered only with the full input of public stakeholders.

At the outset, we have serious reservations about the Planning Commission’s limited transparency and the lack of a meaningful opportunity to fully participate in the Planning Commission’s process. The Planning Commission published its draft proposed amendments late in the day on Wednesday, Nov. 1, giving this project’s many interested stakeholders and members of the public less than a week to fully review and comment in advance of the Nov. 8 hearing. This is only marginally better than the intended publication date of Friday, Nov. 3, which would have given the public two business days (including election day) plus the weekend to review items up for a vote. We hoped for a more inclusive process that would signal a true willingness to hear feedback and concerns from the public and respond accordingly. Instead, we were told on Oct. 16 that staff would not be meeting with stakeholders, and had to scramble to review the draft proposed amendments in an unreasonably short time. This does not instill confidence in the Planning Commission’s process, and we request a more meaningful opportunity for involvement going forward. We appreciate the efforts that Planning Commission staff, the Commissioners, and the County are undertaking to respond to these concerns and ensure that we and other members of the public can be heard.

Relatedly, we request that staff and the Planning Commission add the following items to the regulations for consideration at the Nov 8 meeting. If the items below cannot be added to the 'published' proposed updates in time for the meeting, we request that the Planning Commission bring these items up for discussion at this meeting and formally vote on them as alternate and/or additional amendments, as appropriate, to the currently proposed Phase 2a regulations.

We have outlined below a series of subject areas and recommendations for the draft proposed Phase 2 regulations. Our overarching interest in compiling and submitting these comments is to protect the health, safety, and welfare of those who live, work, and recreate in southeast Aurora. We respectfully urge you to keep these interests in mind as you consider the proposed amendments to the Land Development Code.

1. SETBACKS SHOULD BE BASED ON SCIENCE AND PROTECTIVE OF PUBLIC HEALTH.

Public health and other scientific studies indicate that oil and gas extraction and development pose risks to people living, working, and recreating in proximity to those sites. Regulators charged with protecting public health, safety, and welfare have an obligation to ensure that any permitted extractive industries operate at a distance and in a manner that will not endanger the public. We do not think that the owner or manager of a Designated Outside Activity Area should have authority to consent to a reduced setback, as contemplated by 5-3.6:F.2.c. The delegation of that authority is inconsistent with the County's obligation to prioritize public health and safety.

In light of the tremendous public health risks posed by oil and gas development, we recommend Arapahoe County adopt the following approach:

- a. The regulations should differentiate between Rural and Urban settings as follows:
 - i. 1-mile minimum distance between well pads and areas zoned residential including homes, schools, playgrounds and recreation areas (Designated Outside Activity Areas), etc., with no exceptions or waivers allowed.
 - ii. 1 mile setback with 3000 ft setback waiver allowed with property owner written permission from occupied structures in rural settings only. This is consistent with industry's rationale that they require waiver opportunities for rural areas only.
- b. Address the Wildlife Urban Interface with appropriate fire setbacks and onsite fire mitigation protections requiring approvals from the relevant emergency management and local fire officials.
- c. Ensure safe setbacks from flowlines, gathering lines, transfer lines and waterways as well as off-locations including flowlines, Crude Oil Transfer Lines (COTL), Produced Water Transfer Systems (PWTS) and waterways.
 - i. These are known to have the highest level of both airborne and ground fluid leakages.
- d. 1-mile minimum setback from existing and proposed or planned reservoirs with no loopholes or waivers to protect water from both ground and airborne sources of

contamination. “Planned” reservoirs includes those documented as proposed by the County and affected cities. This is consistent with the need for airborne contamination protection in addition to fluid leaks on the ground.

2. BASELINE AND ONGOING AIR AND WATER QUALITY MONITORING, SAMPLING, AND TESTING SHOULD BE REQUIRED DURING CONSTRUCTION, PRODUCTION, AND CLOSURE.

Environmental monitoring, sampling and testing is essential for industries posing known health risks operating near homes, schools, recreational areas, water sources and other areas of environmental concern. We strongly urge the Planning Commission to require a robust monitoring, sampling, and testing scheme from any permitted operators in Arapahoe County. We recommend the following:

- a. Air emissions should be monitored with state-of-the-art technology at the source from well sites, flowlines, tank batteries and transfer sites, as well as in nearby residential areas, schools, public gathering places and recreation areas by independent third-party contractors approved by the county and paid for by fees from the operators. We recommend that Arapahoe County’s requirements should be at least as protective as the following language adapted from Broomfield regulations (italicized below):
 - i. *The plan shall include monitoring for all potential emissions, including but not limited to, VOCs, Hazardous Air Pollutants (HAPs), BTEX, Hydrogen Sulfide, Oxides of Nitrogen (NOx), Particulate Matter (PM), Fine Particulate Matter (PM 2.5), Carbon Monoxide (CO) and methane (CH4), carbon dioxide (CO2). Operator shall pay for the baseline and ongoing monitoring.*
 - ii. *Protocol, subject to County approval, for air modeling plan to be conducted by third-party consultant [contractor] approved by the County. Protocol must include facility emissions inventories for all GHG emissions, criteria pollutants and hazardous air pollutant standards and air quality impact studies for drilling, completions and production operations based upon proposed equipment use, and operation phases, and any emissions reductions associated with plugging and abandonment. In addition, a protocol must include emissions associated with truck traffic for drilling, completions, production and plugging and abandonment operations. Air modeling shall demonstrate that:*
 - iii. *Emissions from the proposed facilities and associated truck traffic shall not cause or contribute to exceedances of the National Ambient Air Quality Standards;*
 - iv. *Emissions from the proposed facilities comply with federal air quality and odor rules, including EPA's New Source Performance Standards and National Emission Standards for Hazardous Pollutants;*
 - v. *Emissions from the proposed facilities comply with COGCC and CDPHE air quality and odor rules;*

- vi. *Emissions from the proposed facilities comply with city emission control regulations;*
- vii. *Emissions will be below the most protective health-based guidelines, including those used by CDPHE, EPA, California, or others.*
- viii. *An air quality mitigation plan.*
- ix. *An odor mitigation plan that demonstrates how operator will minimize odors, including chemical odors, from its operations and comply with Colorado Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emissions, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, requirements of this chapter, and any other applicable regulations. The plan shall also provide a plan for timely responding to odor complaints, including chemical odors, from the community and for identifying and implementing additional odor control measures to control odors emanating from the oil and gas facility.*
- b. Water source testing should be conducted by qualified, independent, third-party professional contractors approved by the County and paid for by fees from the operator, and include, at minimum, major ions, metals, dissolved gasses & VOCs.
- c. All monitoring and testing results must be available to the community in near real-time, posted to an online, publicly-accessible website database and provided to any member of the public who so requests it in an alternative format (such as mailed paper copies).
- d. Prior to initiating any construction activities, an approved third-party shall independently conduct baseline studies for both air and water quality.
- e. See additional recommended language from Broomfield Air Quality regulations in Section 10 below.

3. BASELINE AND ONGOING SEISMIC STUDIES SHOULD BE REQUIRED.

We remain extremely concerned about the possibility that any extractive activities might be allowed near critical infrastructure, including reservoirs and dams, or hazardous sites, such as Superfund sites. We urge you to require any application to fund an independent assessment of the potential impacts of fracking-induced seismicity on all critical infrastructure and hazardous sites within a ten-mile radius of all well pads. We also recommend ongoing seismic monitoring by County-approved, independent third-party contractors at all critical infrastructure and hazardous sites to assess the actual effects of fracking-induced seismicity, with monitoring initiated one year prior to the start of construction activity to establish effective baselines. In keeping with our earlier recommendation for air and water quality monitoring, we ask that all seismic assessment, monitoring, and testing results and reports must be available to the community in near real-time, posted to an online, publicly-accessible website database and provided to any member of the public who so requests it in an alternative format (such as mailed paper copies).

4. ELECTRIC DRILLING AND FRACKING EQUIPMENT SHOULD BE USED WHEN POSSIBLE.

We are also concerned about the risks posed by the equipment and heavy machinery used in the construction and operation of oil and gas extraction sites. In addition to based safety concerns, we are concerned that vehicle fumes and heavy equipment exhaust could further exacerbate Arapahoe County’s air quality. We ask the Planning Commission to mandate the electrification of all drilling and fracking equipment for all operations that can be electrified. Equipment should be powered off the common power grid and/or renewable sources (not local generators) to lower emissions related to diesel or gas equipment exhaust and to also reduce both smells and noise. Additionally, the operators should bear full responsibility to work with local grid suppliers (e.g., EXCEL) to install or upgrade the local infrastructure to provide the necessary electric power to the well pads and to assume all costs incurred.

5. WASTEWATER INJECTION WELLS MUST BE PROHIBITED IN ARAPAHOE COUNTY.

The wastewater from oil and gas development can contain salts, heavy metals, radioactive material, hydrocarbons from the subsurface, and a number of (generally undisclosed) chemical additives used in the drilling process. Wastewater is often pumped directly into the subsurface into “injection wells” without receiving treatment or specific containment. Oil and gas development wastewater can migrate to nearby surface and groundwaters through leaks, cracks, abandoned wells, and other pathways, introducing toxins and other substances to the receiving waterbody. We find this an unacceptable risk, particularly where the operators are not required to disclose all of the additives and materials used in their extractive processes. In addition, there are well documented seismicity and earthquake side effects from wastewater injection wells. Accordingly, we strongly urge the Planning Commission to fully prohibit wastewater injection wells in Arapahoe County.

6. A DETAILED TRAFFIC MANAGEMENT PLAN MUST BE SUBMITTED AND APPROVED BY THE COUNTY.

The construction and operation of an oil and gas facility can generate impacts like increased traffic and dust. We recommend a thorough traffic management plan that addresses both increased traffic and dust, dust suppression techniques, and fugitive dust, and include requirements at least as protective as the following language adapted from Broomfield’s regulations:

- a. Dust associated with on-site activities and traffic on access roads shall be minimized throughout construction, drilling and operational activities such that there are no visible dust emissions from access roads or the site to the extent possible given wind conditions. No untreated produced water or other process fluids shall be used for dust suppression. The operator will avoid creating dust or dust suppression activities within 300 feet of the ordinary high-water mark of any water body, unless the dust suppressant is water. Sand, silica and similar materials must be properly stored to prevent fugitive particulates. Measures shall be used to control particulates, including proof of*

- compliance with State-required dust control measures and imposition of an opacity requirement as tested using EPA Method 9. Safety Data Sheets (SDS) for any chemical-based dust suppressant shall be submitted to the city prior to use.*
- b. *The plan should include a requirement for minimization of truck traffic to and from the site.*

7. NOISE MONITORING AND MITIGATION PRACTICES MUST FOLLOW ECMC REQUIREMENTS AND MUST ADAPT TO BE MORE PROTECTIVE IF PUBLIC REPORTING OR MONITORING DURING SITE ACTIVITIES SO NECESSITATES.

State-level requirements for noise monitoring and mitigation are a mandatory starting point, but we recommend that the County consider more protective regulations to ensure that public health and quality of life are not impaired. Additionally, if the noise mitigation measures implemented at a particular site are not effective based on community experiences/complaint reporting or other noise monitoring, and more protective measures are necessary, the County should have authority to require an operator to halt site activities until more protective mitigation practices can be implemented.

As a starting point, we suggest the following language from the ECMC (below in italics):

- a. *Maximum Permissible Noise Levels:*
- b. *The allowable noise levels depend on the zone of the surrounding area:*
- i. *Residential/Agricultural/Rural Zone:*
- Daytime (7:00 am to next 7:00 pm): Maximum permissible noise level is 55 dB(A).*
 - Nighttime (7:00 pm to next 7:00 am): Maximum permissible noise level is 50 dB(A).*
- ii. *Commercial Zone:*
- Daytime: Maximum permissible noise level is 60 dB(A).*
 - Nighttime: Maximum permissible noise level is 55 dB(A).*
- iii. *Light Industrial Zone:*
- Daytime: Maximum permissible noise level is 70 dB(A).*
 - Nighttime: Maximum permissible noise level is 65 dB(A).*
- iv. *Industrial Zone:*
- Daytime: Maximum permissible noise level is 80 dB(A).*
 - Nighttime: Maximum permissible noise level is 75 dB(A).*
- c. *The type of land use in the surrounding area is determined by the Director in consultation with the Local Governmental Designee, considering applicable zoning or other local land use designations.*
- d. *Between 7:00 a.m. and the next 7:00 a.m., the noise levels permitted above may be increased by 10 dB(A) for a period not exceeding 15 minutes in any one-hour period.*

- e. *The allowable noise level for periodic, impulsive, or shrill noises is reduced by 5 dB(A) from the levels shown.*
- f. [Omitted; we recommend a less permissive and more targeted noise restriction for operations involving pipeline or gas facility installation or maintenance, the use of a drilling rig, completion rig, workover rig, or stimulation.]
- g. *Measurement Distance:*
 - i. *Sound levels are measured at a distance of 350 feet from the noise source.*
 - ii. *At the request of the complainant, the sound level can also be measured at a point beyond 350 feet that the complainant believes is more representative of the noise impact.*

Remember that noise control is most effective when addressed during the siting and design phase of oil and gas facilities.

We recommend that the regulatory amendments for noise also include the following requirements:

- a. Acoustically insulated housing or cover enclosing the motor or engine;
- b. Noise management plan identifying hours of maximum noise levels, type, frequency, and level of noise, and proposed mitigation measures;
- c. Obtain all power from utility line power or renewable sources;
- d. Utilize the most current equipment to minimize noise impact during drilling, completions, and all phases of operation including the use of "Quiet Fleet" noise mitigation measures for completions, electric drill rigs and tier 4 engines, or the most advanced technology available;
- e. Sound walls around well drilling and completion activities to mitigate noise impacts;
- f. Restrictions on the unloading of pipe or other tubular goods between 6:00 p.m. and 8:00 a.m.;
- g. Any abatement measures required by ECOM for high-density areas, if applicable.
- h. Use of quiet design mufflers (also referred to as hospital grade or dual dissipative) or equivalent.
- i. Industrial operations that cannot meet the ECOM standards shall not operate from 10:00 p.m. to 7:00 a.m.

In amending the regulations, the County should take into consideration relevant information from the U.S. EPA regarding noise impacts to health and welfare. For example, the EPA publication "EPA Identifies Noise Levels Affecting Health and Welfare" and its associated press release provide, "[o]n the basis of its interpretation of available scientific information, EPA has identified a range of yearly Day-Night Sound Levels sufficient to protect public health and welfare from the effects of environmental noise." *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, EPA/ONAC 550/9-74-004, March 1974. When EPA released this document, it noted: "levels of 55 decibels outdoors and 45 decibels indoors are identified as preventing activity interference and annoyance. These levels

of noise are considered those which will permit spoken conversation and other activities such as sleeping, working and recreation, which are part of the daily human condition.” *Id.*

Also, note that the dB(A) weighting scale filters out and discriminates against low frequencies. Because hazardous workplace noise is typically loud and has a lot of low frequency components, it makes sense to measure it in dB(C) and to use both scales in the measurement process.

8. FENCE HEIGHT MUST BE PLANNED FOR MAXIMUM MITIGATION OF VISUAL IMPACTS, NOISE, ODORS, LIGHT AND DUST.

- a. The plan must address: lighting, including requirements at least as protective as the following language adapted from Broomfield’s regulations (below in italics):
 - i. *During all phases of development and operation, operator shall adhere to best management practices to minimize light escaping the facility including making all lighting downward-facing and fully shielding bulbs to prevent light emissions above a horizontal plane drawn from the bottom of the fixture. In doing so, operator shall take topography and location of downhill structures into account in order to avoid shining light into downhill properties. If required by County, during the drilling and completion phases operator shall install a minimum thirty-two foot wall around well pads to reduce light escaping site.*
 - b. *See Maximum Permissible Noise Levels and Mitigation requirements above.*

9. THE ABILITY TO PLAN AND PROTECT THE LOCATIONS OF FUTURE RESERVOIRS MUST NOT BE CONSTRAINED BY A REQUIREMENT TO HAVE THEM EITHER FORMALLY PERMITTED OR COURT ADJUDICATED. THE COUNTY MUST USE BETTER REGULATORY LANGUAGE TO MAINTAIN ITS PROTECTION OF FUTURE INFRASTRUCTURE OPTIONS.

Arapahoe County should ensure that it is able to fully protect the integrity and quality of future infrastructure like reservoirs. The Planning Commission, in particular, should maximize the County’s ability to prevent impairment of future reservoir sites by considering current and future land use needs. The County should not consider its authority in this respect to be limited and should draft regulatory language that maintains protection of future infrastructure options.

10. ARAPAHOE SHOULD BE GUIDED BY OTHER COUNTIES AND MUNICIPALITIES.

Finally, in recognition of our state’s shared air, water, and natural resources, and consistent with the above requests, we strongly recommend the County consider and adopt requirements at least as protective as the following excerpts from Broomfield (below in italics):

Air Quality Regulations of Broomfield:

- (O) Protocol, subject to city approval, for air modeling plan to be conducted by third-party consultant [contractor] approved by the city. Protocol must include facility emissions inventories for all GHG emissions, criteria pollutants and hazardous air pollutant standards and air quality impact studies for drilling, completions and production operations based upon proposed equipment use, and operation phases, and any emissions reductions associated with plugging and abandonment. In addition, a protocol must include emissions associated with truck traffic for drilling, completions, production and plugging and abandonment operations. Air modeling shall demonstrate that:*
- (1) Emissions from the proposed facilities and associated truck traffic shall not cause or contribute to exceedances of the National Ambient Air Quality Standards;*
 - (2) Emissions from the proposed facilities comply with federal air quality and odor rules, including EPA's New Source Performance Standards and National Emission Standards for Hazardous Pollutants;*
 - (3) Emissions from the proposed facilities comply with COGCC and CDPHE air quality and odor rules;*
 - (4) Emissions from the proposed facilities comply with city emission control regulations;*
 - (5) Emissions will be below the most protective health-based guidelines, including those used by CDPHE, EPA, California, or others.*
- (P) Protocol, subject to city approval, for air monitoring plan to be conducted by a qualified third-party contractor approved by the city. Air monitoring plan shall describe how the operator will conduct baseline monitoring within 500 feet and at select nearby receptors of a proposed facility prior to construction and during all phases of development, including drilling, completion and production. The plan shall include monitoring for all potential emissions, including but not limited to, VOCs, Hazardous Air Pollutants (HAPs), BTEX, Hydrogen Sulfide, Oxides of Nitrogen (NOx), Particulate Matter (PM), Fine Particulate Matter (PM 2.5), Carbon Monoxide (CO) and methane (CH4), carbon dioxide (CO2). Operator shall pay for the baseline and ongoing monitoring.*
- (Q) An air quality mitigation plan.*
- (R) An odor mitigation plan that demonstrates how operator will minimize odors, including chemical odors, from its operations and comply with Colorado Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emissions, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, requirements of this chapter, and any other applicable regulations. The plan shall also provide a plan for timely responding to odor complaints, including chemical odors, from the community and for identifying and implementing additional odor control measures to control odors emanating from the oil and gas facility.”*

We also offer Broomfield's air quality regulations as recommendations:

Emission control regulations and air protection requirements. To the extent used, all equipment shall comply with the following:

- a. Electrification from the power grid or from renewable sources of all permanent operation equipment that can be electrified;*
- b. Dry seals on centrifugal compressors;*
- c. Routing of emissions from rod-packing and other components on reciprocating compressors to vapor collection systems;*
- d. Emission controls of hydrocarbon emissions of 98% or better for centrifugal compressors and reciprocating compressors;*
- e. Best management practices during liquids unloading activities including the installation of artificial lift, automated plunger lifts and flares capable of a 98% destruction removal efficiency for hydrocarbon emissions to control any venting. If manual unloading is permitted, operator shall remain onsite during any manual unloading;*
- f. Reduction or elimination of venting during oil and gas maintenance activities such as blowdowns. If it is not feasible to capture or combust emissions during any maintenance activity, including from a well tank, compressor, or flowline the operator shall provide forty-eight hour advance written notice to the city of such proposed venting. Such notice shall identify the duration and nature of the venting event, a description as to why venting is necessary, a description of what vapors will likely be vented, what steps will be taken to limit the duration of venting, and what steps the operator proposes to undertake to minimize similar events in the future. If emergency venting is required, or if accidental venting occurs, the operator shall provide notice to the city of such event as soon as, but in no event longer than, twenty-four hours from the time of the event, with the information listed above and with an explanation as to the cause and how the event will be avoided in the future;*
- g. 98% control of emissions from pigging operations;*
- h. Telemetric control and monitoring systems, including surveillance monitors to detect when pilot lights on control devices are extinguished;*
- i. Operator agrees to participate in Natural Gas STAR program or other voluntary programs to encourage innovation in pollution control at facilities;*
- j. Proof of compliance with state-required dust control measures and imposition of an opacity requirement as tested using EPA Method 9;*
- k. Monitoring as needed to respond to emergency events such as process upsets or accidental releases;*
- l. Operator shall implement emission reduction measures to respond to air quality action day advisories posted by the Colorado Department of Public Health and Environment for the Front Range Area, including minimizing vehicle and engine idling; reducing truck traffic and worker traffic; delaying vehicle refueling; suspending or delaying use of fossil fuel powered ancillary equipment; postponing construction activities; postponing maintenance activities. Within thirty days*

following the conclusion of each air quality action day, operator shall submit a report to the city that details which measures it implemented during that air quality action day;

- m. Shutdown protocols, approved by the city, with notification and inspection provisions to ensure safe shut-down and timely notification to local communities;*
 - n. Ongoing maintenance checks of all equipment to minimize the potential for gaseous or liquid leaks;*
 - o. Minimization of truck traffic to and from the site;*
 - p. No venting other than when necessary for safety. Operator must report any venting to the city within twenty-four hours;*
 - q. No venting or flaring of associated gas from hybrid gas-oil wells (i.e., gas that is co-produced from a well that primarily produces oil), unless during an emergency;*
 - r. Consolidation of product treatment and storage facilities within a facility;*
 - s. Centralization of compression facilities within a facility;*
 - t. EPA reduced emission completions for oil wells. Daily logs documenting reduced emission completions provided to the city;*
 - u. EPA reduced emission completions for gas wells. Daily logs documenting reduced emission completions provided to the city;*
 - v. Closed loop, pitless drilling, completions and production systems;*
 - w. Use of other best management practices as they become available;*
 - x. The use of no-bleed continuous and intermittent pneumatic devices. This requirement can be met by replacing natural gas with electricity or instrument air, or routing the discharge emissions to a closed loop-system or process;*
 - y. A root cause analysis for any Grade 1 gas leaks, as defined by COGCC;*
 - z. Automated tank monitoring and gauging as required by CDPHE;*
 - aa. Compliance with all CDPHE permits, if any, and compliance with all OSHA work practice requirements with respect to benzene.*
- (5) The following may be required based on the size, nature and location of the facility:*
- a. Implementation of tankless production techniques;*
 - b. The use of desiccant gas processing dehydrators or other zero emitting dehydrators;*
 - c. Use of a pressure-suitable separator and vapor recovery unit (VRU) where applicable;*
 - d. Pipeline infrastructure for fresh water shall be constructed and placed into service prior to spudding for delivery of all fresh water to be used during the drilling, completion, production and operations phases;*
 - e. Pipeline infrastructure for produced water, natural gas, crude oil and condensate will be constructed and placed into service prior to the start of any fluid flow from any wellbore;*

(6) *Compliance. The operator shall submit annual reports to the city certifying (a) compliance with these air quality requirements and documenting any periods of material non-compliance, including the date and duration of each such deviation and a compliance plan and schedule to achieve compliance, and (b) that the equipment at the facility continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters. The annual report shall contain a certification as to the truth, accuracy and completeness of the reports, signed by a responsible corporate official. The operator will also provide the city with a copy of any self-reporting submissions that operator provides to the CDPHE due to any incidence of non-compliance with any CDPHE air quality rules or regulations at the facility.*

We wish to emphasize that while we appreciate the urgency with which the County has undertaken this latest round of amendments to the Oil & Gas code, the short time frame for public review and comment on the proposed amendments is problematic. The public and the County staff should be given more time to review and improve the amendments and produce the best regulations possible. The sense of urgency to adopt the amendments as soon as possible before the Civitas permits are submitted is a false urgency. The County can and should pass a moratorium against issuing new Oil & Gas permits until the Oil & Gas Code can be thoroughly and effectively updated to protect public health, safety and welfare.

Thank you for your consideration of our comments, and for your continued focus on protecting the public health, safety, welfare, and environment for the residents of southeast Aurora.

Sincerely,

/s/Sarah A. Matsumoto

Sarah A. Matsumoto

Clinical Associate Professor and

Director, Getches-Green Natural Resources, Energy, and Environmental Law Clinic

University of Colorado Law School

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350 Colorado

Colorado Rising

climate movement co.

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November 7, 2023

VIA EMAIL ONLY—No Original To Follow

Diane Kocis, Arapahoe County Energy Specialist
The Arapahoe County Planning Commissioners
5334 S. Prince St.
Littleton, CO 80120

Dear Ms. Kocis and Commissioners,

Thank you for the opportunity to provide comment on Arapahoe County's ("County") Phase 2 oil and gas regulations ("Phase 2 regulations"). As you know, the Colorado Oil and Gas Association ("COGA") was opposed to many of the recently enacted Phase 1 regulations. Our concerns in our August 8, 2023, letter addressed to Ms. Kocis regarding the Phase 1 regulations remain in full force as applied to the Phase 2 regulations. Indeed, the County's failure to demonstrate its regulations as being reasonable and necessary as required by law is more egregious with respect to Phase 2, which, among other things, proposes to lengthen setbacks from residences, platted lots, designated outside activity areas, and water reservoirs. Regarding Phase 2's proposed water reservoir setbacks, COGA incorporates by reference the entirety of our August 8, 2023, letter as though fully set forth herein. A non-exhaustive list of other issues in the Phase 2 regulations follows.

I. Proposed 2,500 foot or 3,000 foot Setback from Occupied Structures and Platted Lots Smaller than 15 Acres

Page 2 of Staff's report contains a background section justifying the proposed setbacks with two studies: *Evaluating potential human health risks from modeled inhalation exposures to volatile organic compounds emitted from oil and gas operations* (Journal of the Air & Waste Management Association - 2019) and the California Oil and Gas Public Health Rulemaking Scientific Advisory Panel response to the California Geologic Energy Management Division (CalGEM letter - 2021) ("CalGEM Memo"). These documents are irrelevant and unconvincing.

First, as the Staff report readily admits, “Both of those documents predate Colorado’s post Senate Bill 181 air quality rulemaking, which further strengthened protections in Colorado.” The documents therefore do not reflect the current, extremely stringent regulatory framework Colorado operators operate in today. There have been a multitude of rulemakings in the wake of Senate Bill 181 that have strengthened not only air quality rules, but also, among others, water quality, wellbore integrity, and spill prevention and control rules.

Second, the CalGem “study” has critical methodological failings, as found by the CTEH Environmental Consulting Firm’s Scientific Critique (“CTEH Critique”), which is also part of your record. Among the many flaws, the CTEH Critique points out that the CalGEM Memo, “excluded many published studies and publicly available regulatory agency reports, including those from CDPHE [Colorado Department of Public Health and Environment] and ECMC [Colorado Energy and Carbon Management Commission], that provide directly relevant data for regulatory decision-making regarding oil and gas extraction and production in California and Colorado.” CTEH Critique at pg. 2. These relevant data are important, because the CalGEM authors’ “conclusions contradict the health risk findings from measured or modeled air studies near oil and gas operations in Colorado.” *Id.* The reality is that “[t]housands of air samples collected over the past decade, some as close as a few hundred feet from specific oil and gas operations, consistently show compounds of potential concern have been below harmful levels.” *Id.*

The County’s purported support for the Phase 2 regulations is not probative and scientifically rigorous data is being ignored. Further, the proposed “off-ramps”—whether as applied to the proposed setbacks from occupied structures or any of the other Phase 2 setbacks—do not cure the illegality of the presumptive setbacks. The off-ramps create “floors” that at distances that are still unreasonable and unnecessary.

II. Proposed 2,500 foot or 3,000 foot Setback from Designated Outside Activity Area

The County is proposing to increase the setback from a designated outside activity area (“DOAA”) from 2,000 feet to either 2,500’ or 3,000’. Neither distance is necessary or reasonable. Indeed, the state has no setback from a DOAA. If a proposed oil and gas location is within 1,500 feet of a DOAA, then an alternative location analysis is required to be performed, but there is no state setback from a DOAA, and the state’s definition of the same is much more limited. In fact, the state creates DOAAs only upon application and hearing. See ECMC Rule 100 Series-Definitions.

The proposed off-ramp to 1,000’, 1,500’, or 2,000’ feet is also problematic. The County would allow for an administrative setback only if the owner or manager of the DOAA consented to the lesser setback. This gives veto power to the owner or manager, regardless of whether there are public health and safety concerns. Setbacks should be data-driven, not set at the political whim of an owner or manager of a DOAA.

III. Proposed Increased Air Monitoring

The Phase 2 regulations propose that continuous air and meteorological monitoring occur for three years of production operations or, if there are certain receptors within 3,000' of the well site, until all wells are plugged and abandoned (a time period that could be 20-30+ years). These timeframes far exceed what CDPHE requires, which is monitoring for six months of the production phase. Notably, the state's six-month requirement was recently adopted in 2022 after a very robust stakeholder process and extensive scientific scrutiny. It is undisputed that the most impactful phases of development with respect to emissions are drilling and completions. There is no justification for requiring monitoring for the life of production operations when that phase, particularly if production facilities are electrified, involve such low emissions.

Moreover, to the extent the air and meteorological monitoring proposed regulations are based on the studies cited in the Staff report, those studies are unpersuasive for the reasons discussed *supra* in Section I.

IV. Conclusion

No credible evidence supports the conclusion that the Phase 2 regulations discussed above are reasonable or necessary. COGA urges the County to consider Colorado's air sampling studies that were not cited by the CalGEM Memo and the scientific evidence in the ECMC's Mission Change and Wellbore Integrity Rulemakings before recommending the Board of County Commissioners adopt unreasonable and unnecessary regulations. COGA remains a resource if you have any questions. Thank you.

Sincerely,



William Groffy
Director of Regulatory and Legislative Affairs
Colorado Oil and Gas Association

cc (via email): Julia Rhine, Outside Counsel to COGA, jrhine@bhfs.com
Mark Mathews, Outside Counsel to COGA, mmathews@bhfs.com



October 30, 2023

The Arapahoe County Planning Commissioners
5334 S. Prince St.
Littleton, CO 80120

Dear Commissioners,

Thank you for your volunteer service and review of the county's latest draft of the oil and natural gas rules. We appreciated your comments and insights into the Phase 1 rules and believe those rules reflected the vast five-month stakeholder process. As our stakeholder process is shorter in these Phase 2 rules, I wanted to provide some context on these proposed rules as the operator of the Lowry Ranch Comprehensive Area Plan (CAP).

As background, I serve as Civitas' Asset Development Lead for Arapahoe County. I have a Master's degree in Geology, and have been working in the oil and gas industry for the past 22 years. I'm proud to work for the state's first carbon neutral operator and of our industry-leading practices.

We've seen incredible innovations over the last decade, as we further drive down our emissions, reduce our impacts, and improve our safety procedures. Let me start by saying that Civitas' number one goal is the health and safety of the community. We have over 400 employees who live, work, and raise our families here, just like you.

We shared our Lowry Ranch CAP with the County before filing it last year and appreciate the continual collaboration since. After hearing input from the community, we re-worked the plans for three specific sites to significantly increase setbacks relative to residences and the Aurora Reservoir, while balancing the siting requirements of the State Land Board. Those changes were reflected in an Amended CAP application filed earlier this year.

While we don't yet have a draft of the rules on which to specifically comment, we wanted to provide some background of the themes we understand will be presented to you ahead of your November 8 meeting.

Proposed 3,000-ft Setback from Occupied Structures

The debate around setbacks from occupied structures has largely been settled. Since the passage of SB19-181 and the subsequent Mission Change Rulemaking by the Energy and Carbon Management Commission (ECMC), formerly the COGCC, Colorado regulators have established a 2,000-ft setback with the option of variances to lesser setbacks for equally protective practices.

That setback distance was supported, in part, by the 2019 health study conducted by the Colorado Department of Public Health and Environment (CDPHE). It used over 15,000 air samples collected from Colorado oil and natural gas pad sites. It then modeled these samples to

gauge potential health impacts that were “highly conservative, in that these highest-estimated exposures occur when the highest chemical emissions are highly concentrated by ‘worst-case’ meteorological conditions onto a hypothetical person who is outdoors or in a highly ventilated area, which might happen only rarely.” The study found that “chronic exposures during production operations were below guideline levels at the 500-ft distance in all scenarios.” It also concluded that none of the scenarios presented produced observable health impacts and remained within health guidelines.

In 2021, Arapahoe County updated its oil and natural gas regulations to conform to SB19-181 and the Mission Change Rulemaking and adopted a more stringent 2,000-ft setback from the parcel of an occupied structure.

To be clear, Colorado’s oil and natural gas industry has only improved since these studies and continues to drive down emissions. Adding a larger setback at this point fails to recognize those technological advancements and subsequent rulemakings and only leads to diminishing returns. In fact, a 3,000-ft setback would be the largest setback in Colorado leaving the County exposed to litigation.

We understand the county commissioners proposed this distance relying on a 2021 memo prepared for the California Geologic Energy Management Division (CalGEM) that helped inform that agency’s adoption of a 1-kilometer setback (3,200 feet), which is currently on hold pending the result of a statewide referred ballot measure. The memo is unvetted and faulty as described by the enclosed “Scientific Critique of California Oil and Gas Public Health Rulemaking Scientific Advisory Panel Responses to CalGEM Regarding Setbacks.” The critique by CTEH Environmental Consulting Firm helps outline the deficiencies and shortfalls of the memo that challenge the lack of justification for California’s pending setback.

Two key findings from that critique are important for the Planning Commissioners to consider. First, the review acknowledges, “The [CalGEM] memo lacks the scientific rigor that should be required for evidence-based regulatory decision making in Colorado.” Second, it says, “The Panel’s conclusions of ‘evidence of harm at distances less than 1 kilometer’ cannot be directly linked to emissions from oil and gas operations,” and, in fact, “The Panel’s conclusions contradict the health risk findings from measured or modeled air studies near oil and gas operations in Colorado.”

In short, the CalGEM memo is unreliable and a faulty record to rely on to justify a 150% increase to the county’s setback.

Proposed 3,000-ft Reservoir Setbacks

As the commissioners heard this summer during the months-long stakeholder process for Phase 1, we shared that the one-mile setback and the 2,000-ft downgradient setbacks were excessive and not supported by data. The latest proposal to increase the downgradient setback from your recommended 2,000-ft to 3,000-ft goes from excessive to extreme.

As the Colorado Oil & Gas Association (COGA) explained in its letter submitted in August, the proposed reservoir setbacks contradict the experts:

The state’s technical experts in oil and gas, the Energy and Carbon Management Commission (“ECMC” or “Commission”), carefully considered distance from drinking water sources during its “Mission Change” Rulemaking and purposefully adopted an upgradient 1,000’ internal buffer zone—or setback—from surface water supply areas, areas with groundwater under the direct influence of surface water, and Type III Aquifer wells (collectively, “public water systems”). See ECMC Rule 411.a-b. The Commission explained in its Statement of Basis, Purpose, and Specific Statutory Authority (“SBP”) to Rule 411, promulgated in “close consultation” with the Colorado Water Quality Control Division (“WQCD”), that even “larger volume spills or releases are highly unlikely” to migrate 1,000 feet.

As COGA goes on to explain, the water suppliers participated and engaged on this portion of the Mission Change rulemaking. Two notable participants in this cohort that endorsed the 1,000-ft upgradient setback were Arapahoe County Water and Wastewater Authority (“ACWWA”) and Aurora Water. Attempts to increase the expert-endorsed setback by a factor of three simply don’t add up.

We recognize the county is looking to Aurora Water, who owns the Aurora Reservoir, to mirror the city’s one-mile setback guidance. Yet, as you’ll remember, Aurora Water submitted comments saying that a variance process is appropriate, particularly for sites isolated from the reservoir by topography. While the Aurora Water comment letter didn’t recommend a specific setback distance for a gradient variance, it made clear it was an important consideration saying, “...one of the most important considerations from a water perspective is the hydraulic gradient (both surface and subsurface) between the proposed Oil and Gas well and the water reservoir.” The pads at Lowry Ranch CAP are clearly topographically isolated from the Aurora Reservoir, which may be the reason Aurora Water hasn’t asked for any increase in the lowermost setback limit.

As proof, Arapahoe County’s own Lowry Ranch Fact Sheet states, “The City of Aurora is not concerned about this at this time, based on the available information, including the vertical distance between the reservoir and the wells (more than 7,000 feet) and the geology specific to that area.” This has also been confirmed by public comments made by Aurora’s Director of Water Marshall Brown.

The planned reservoirs in question on the State Land Board property are all proposed by the Rangeview Metropolitan District or subsidiaries. According to its comments submitted to the county on July 5, 2023, it found that the 2,000-ft downgradient setback was appropriate and would even go so far as 500-ft “With approval of the reservoir owner or operator...”

Lastly, Dr. Dave Lipson, a Principal Hydrogeologist at HRS Water Consultants, Inc., corroborated that the pads’ location relative to the reservoir is important to consider. As he writes in the enclosed analysis, “Aurora Reservoir is not likely to become contaminated from overland flow of accidental spills at Civitas’ proposed well pads because these sites are far enough away from the reservoir that they appear to be in a different subdrainage basin.”

Additionally, concerns have been raised about the potential for contamination to move through aquifers into the Reservoir. As Dr. Lipson concluded in his study of the area, hydraulic pressure driven by the water in Aurora Reservoir would induce aquifer flow away from, not towards, the Reservoir. This hydrologic reality, combined with the stringent aquifer protection (casing and cementing) measures required by the State of Colorado, will ensure there is no risk of aquifer-driven contamination of the Reservoir.

Proposed Definition of “Planned Reservoir”

The 3,000-ft proposed setback is also being proposed to protect “planned reservoirs.” As the commissioners remember, the Phase 1 rules included a definition of planned reservoir that required the reservoirs be fully permitted, a definition that we and the other stakeholders supported.

We’re unclear why the definition is being changed or why a potential reservoir without water or a clear path to construction would be treated the same as a reservoir with water. To be clear, there is no certainty that the planned reservoirs in the area will ever be constructed, given the vast regulatory hurdles and investment required to construct them. Moreover, reservoir permitting and construction is measured in decades, not years, so even if the planned reservoirs are eventually constructed, oil and gas operations where pre-production activities would be done in months will likely be complete by the time it happens.

The proposed definition saying that a planned reservoir is simply “applied for” could create an arbitrary one-mile setback radius from a dirt field for decades. That simply falls outside of the public interest.

Again, we appreciate your attention to these comments and issues as you help shape the latest draft of the county’s oil and gas rules. We’ve proven over the years to be a willing partner to engage with the County and we’re hopeful to continue that relationship using data and science to guide our protections and regulations so we can continue to provide economic development and additional benefits to the County.

Thank you.

Sincerely,



Dan Harrington
Asset Development Lead

Enclosures:

- Scientific Critique of California Oil and Gas Public Health Rulemaking Scientific Advisory Panel Responses to CalGEM Regarding Setbacks
- Report of Findings: Evaluation of the Vulnerability of Aurora Reservoir to Contamination from Proposed Oil and Gas Operations



Scientific Critique of California
Oil and Gas Public Health
Rulemaking Scientific Advisory
Panel Responses to CalGEM
Regarding Setbacks

KEY TAKEAWAYS

- 1. The memo lacks the scientific rigor that should be required for evidence-based regulatory decision making in Colorado.**
 - The memo is not an objective, comprehensive scientific assessment of the entirety of relevant information.
 - Two years after this memo, CalGEM still has not released a scientific report from which to ground truth the Panel responses.
- 2. The Panel's conclusions are biased.**
 - The Panel did not use well-established, objective methods to review the quality of the scientific evidence for policy decision making.
 - The Panel's conclusions are based on a narrow set of scientific literature and excluded over 20 studies that met their criteria for inclusion.
 - The Panel excluded many published studies and publicly available regulatory agency reports, including those from CDPHE and ECMC, that provide directly relevant data for regulatory decision-making regarding oil and gas extraction and production in California and Colorado.
- 3. Over 75% of the studies cited by the Panel are irrelevant for regulatory decision making in Colorado because they don't represent operations under current regulations.**
 - About 74% of human health effects studies represent over a decade old operating condition across the US.
 - Over 80% of studies were conducted in other states and even other countries, including China and Canada.
- 4. The Panel's conclusions of "evidence of harm at distances less than 1 kilometer" cannot be directly linked to emissions from oil and gas operations.**
 - The studies could not rule out other risk factors that can also cause the effects.
 - The studies compare the health outcomes of those living varying distances from unconventional wellpads as a substitute for exposure, rather than measured exposure directly.
 - The Panel never used established methods that can determine causal relationships between environmental exposures, like emissions from oil and gas operations, and any health effects.
 - This means that these studies cannot directly link oil and gas site emissions to the alleged health outcomes.
- 5. The Panel's conclusions contradict the health risk findings from measured or modeled air studies near oil and gas operations in Colorado.**
 - Thousands of air samples collected over the past decade, some as close as a few hundred feet from specific oil and gas operations, consistently show compounds of potential concern have been below harmful levels.
 - The Holder computer modeling study cited by the Panel showed that at distances of 500 feet from the facility (closer distances were not studied), all chronic non-cancer and cancer risks were below levels of concern.

SUPPORTING INFORMATION

WHY WAS THE CALGEM EXPERT PANEL CONVENED?

In response to mandates outlined in California Assembly Bill 1057 (Chapter 771, Statutes of 2019), to “elevate the protection of public health, safety and the environment”, CalGEM stated the Panel was to:

- Be an “independent public health panel.”
- Provide CalGEM with an analysis of the science “To ensure that the proposed regulations are informed by the most updated, comprehensive scientific understanding.”
- Ensure the Panel “used published scientific research and relevant studies”
- Focus the review “on understanding how these risks intensify in closer proximity to oil production.”
- Develop a public scientific report of their findings for submittal to CalGEM

WHAT WERE THE PANEL’S MAIN CONCLUSIONS IN THE CALGEM MEMO?

The Panel answered a series of questions by CalGEM and drew the following main conclusions:

- There was “a high level of certainty that the epidemiologic evidence indicates that close residential proximity to oil and gas development (OGD) is associated with adverse perinatal and respiratory outcomes.”
- “The totality of the epidemiological evidence provides a high level of certainty that exposure to OGD (and associated exposures) cause a significant increased risk of poor birth outcomes.”
- “We have a high level of certainty in the findings in the body of epidemiological studies for perinatal health outcomes because of the consistency of results across multiple studies that were conducted using different methodologies, in different locations, with diverse populations, and during different time periods.”
- “Concludes with a high level of certainty that concentrations of health-damaging air pollutants, including criteria air pollutants and toxic air contaminants, are more concentrated near OGD activities compared to further away.”
- “Studies consistently demonstrate evidence of harm at distances less than 1 km, and some studies also show evidence of harm linked to OGD activity at distances greater than 1 km.”

WHAT ARE THE MAIN SCIENTIFIC CRITIQUES OF THE PANEL'S CONCLUSIONS?

1. The human health effect studies cited by the Panel as the basis for their conclusions never measured exposures of air concentrations of compounds from OGD at any distance from specific OGD operations in California or any other state.

- All peer-reviewed human health effects studies cited by the Panel used proxies for air concentration exposures to OGD, like proximity to OGD (28 studies) or regional level ambient air concentrations (1 study).
- Associations using proxy exposures can never show that OGD operations caused these health effects because true exposure to air concentrations of compounds associated with OGD cannot be established and there are multiple other factors that could have contributed to the findings.
- The Panel never evaluated existing data sets from measured air concentrations from community air monitoring programs near California OGD operations to determine measured human exposures from OGD operations.
- The Panel assumes that concerns about air pollutant levels from outdated OGD operating methods in other states apply to current operations under regulatory requirements for controlling air emissions in California. For example, the Panel uses multiple studies conducted in Texas and Pennsylvania as their relevant examples for California.
- The Panel assumes that compounds in the air, such as particulate matter, are primarily from oil and gas processing operations, yet it is well known that the compounds the Panel cites come from multiple sources.

2. The Panel's conclusions are in contradiction to other systematic reviews of oil and gas operations and human health effects highlighting inconsistencies in the literature.

- The Los Angeles County Department of Public Health found that "While epidemiological studies have found limited associations between adverse health effects and living near oil and gas operations, high-quality exposure data measured over long periods of time is lacking. Therefore, the epidemiological studies are not able to conclude whether living near oil and gas activities is associated with long-term health impacts."
- The Colorado Department of Public Health and Environment in collaboration with the Pennsylvania Division of Environmental Health Epidemiology published a peer-reviewed scientific study that concluded there was insufficient weight of evidence for most outcomes and limited evidence of health effects including asthma exacerbations and various self-reported symptoms. For all other health outcomes, they noted there was conflicting evidence, insufficient evidence, or lack of evidence.

3. Most of the health effect studies the Panel relied upon are not relevant because they do not reflect oil and gas operations under current Colorado regulations.

- Over the past decade, Colorado has passed multiple bills that require extensive, stringent regulations for emission control technologies and best management practices to reduce air pollution and protect public health, yet the Panel never separated out studies based on these differences compared to other states and countries.
 - About 74% of human health effects studies cited by the Panel represent over a decade old operating condition across the US.
 - Over 80% of studies cited by the Panel were conducted in other states (28 studies) or other countries including China and Canada (2 studies).

4. The Panel wrongly concluded that simply emitting a compound into the air equates to an industry emitting compounds at “health-damaging” levels.

- By assuming that any emissions of a compound into the air represent a risk, the Panel did not apply well-established, scientific methods for determining if an airborne compound or mixture of compounds are present in the ambient air at concentrations that that may result in unacceptable risks.
- The Panel’s conclusions contradict the California Air Resources Board’s (CARB) most recent health risk assessment findings of high priority facilities across California, including many OG facilities.

5. The Panel based their conclusions about exposures and health risks on irrelevant data while ignoring multiple air quality studies on “risk” from oil and gas operations in California and Colorado.

- The Panel reviewed 15 environmental studies related to oil and gas operations, none of which were air risk assessments in California, and some were from other countries such as China.
- Two air risk assessments were from Colorado, and neither showed a high level of evidence for increased risk for long-term adverse health effects.
- One of the two studies from Colorado was the modeling study by Holder et al (2019), which showed the potential for short-term health effects in only a limited set of compounds under extreme worst-case conditions, which the authors state are highly uncertain results that needed further ground-truthing.
- While the Panel cited a publication by one of the Panel members, The Panel excluded a relevant study conducted by the public health experts at CDPHE that was used in Colorado SB181 mission change rulemaking for updating setback distances.
- Additional risk assessments conducted by California and Pennsylvania state public health experts and environmental regulatory agencies were excluded by the Panel, which have shown that compounds emitted by oil and gas operations are unlikely to cause adverse public health risks.
- In fact, several California risk assessments have shown that many other industries have estimated emissions that could result in higher cancer risks than oil and gas operations in California.

6. The Panel neglected to include non-peer reviewed, but relevant, publicly available studies and datasets published by state and local air quality districts and public health agencies to directly evaluate public health risks from oil and gas operations.

- The Panel accused regulatory agency studies of not being high-quality and having limited confidence in the results. However, agency assessments are conducted to adhere to multiple state and local legislative mandates to protect the health of citizens, including the most vulnerable populations, from adverse effects of environmental exposures, including those that may come from oil and gas operations.
- Over the past several years, thousands of air samples collected in community areas during all phases of oil and gas extraction and production, including flowback, and as close as a few hundred feet from wellpads in Colorado, have been collected by CDPHE, local agencies, and other public health experts. None of these studies were used by the Panel to draw their conclusions.

WHAT DO AIR SAMPLING STUDIES IN COLORADO THAT WERE NOT CITED BY THE CALGEM PANEL TELL US ABOUT HEALTH RISKS?

Studies by CDPHE, local health agencies, and third-party air quality and public health experts have measures what oil and gas related compounds are present, how much is in the air, and what are the potential health risks to people that may live at distances even less than 500 feet from a well pad during all operational phases.

- **CDPHE studies** can be found at Oil and Gas and Your Health Website, CDPHE's center of expertise on oil and gas exposure studies and potential public health effects overseen by toxicologists and epidemiologists.
 - Oil and Gas and Health Effects Community Investigations - Well pad specific investigations in response to community member concerns including reported symptoms alleged from exposure to oil and gas emissions.
 - CDPHE community investigations with mobile laboratory adjacent to Livingston well pad operated by Civitas:
 - Drilling
 - All operational phases (including flowback/completions)

One of the most comprehensive studies to date near an oil and gas well pad was the study conducted by CDPHE at the Livingston well pad operated by Civitas (previously Extraction oil and gas). CDPHE parked their mobile lab, the CAMML, near the Livingston well pad and collected over 4,000 hours of air measurements during all pre-production phases. Overall, CDPHE concluded that the air measurements collected near Civitas operations were unlikely to pose short or long-term adverse health impacts to nearby potentially exposed populations.

- **Report on the Evaluation of Benzene by Distance from Wellpad (Dr. Tami McMullin):** This report was provided as part of her testimony for Senate Bill 181. This report examined benzene concentrations from well pads in relationship to setback distances and operational phases at distances 500 feet and greater
- **Civitas Air Sampling and Risk Assessment Studies (CTEH, LLC)**
 - A third-party toxicology firm, CTEH, collected over 500 samples, across 15 well pads, over 100 days, during all phases of development, including flowback, at distances from less than 300 feet to 5,000 feet away.
 - Studies indicate that VOCs that may be emitted from Civitas well pads, in addition to many other sources, were unlikely to result in exposures that could lead to adverse short- or long-term health impacts and therefore, minimizing potential for harm from exposure to VOCs.
 - CTEH’s public health risk findings are consistent with those from Broomfield and CDPHE.
- **ICF Final Report: Human Health Risk Assessment for Oil & Gas Operations in Colorado. 2019**
Ed Carr, Raga Avanasji, Bill Mendez, Graham Glen, John Hader, Tao Hong, Jess Wignal, YiHua Wei, Belle Guelden, Chris Holder, Arsineh Hecobian
 - Exposure modeling for most chemicals indicated that acute exposures were below guideline levels for all hypothetical people and facilities. At the 500-foot distance, for a small number of chemicals (including benzene, toluene, and ethyltoluenes), the highest estimated acute exposures exceeded guidelines by a factor of 10 or more during oil and gas development, particularly during flowback activities at smaller well pads.
 - Those highest predicted acute exposures decreased rapidly with distance from the hypothetical facilities but remained above guideline levels out to 2,000 feet under a relatively small number of oil and gas development scenarios.
 - At the 500-foot distance from the facility, all chronic non-cancer exposures during production activities were below guideline levels, and the average incremental lifetime cancer risk from chronic benzene exposure was 5-in-one million or less (dropping below 1-in-1 million, EPA’s baseline risk, before the 2,000-foot distance.)
- **Exposures and Health Risks from Volatile Organic Compounds in Communities Located near Oil and Gas Exploration and Production Activities in Colorado (U.S.A). 2018**
Tami S. McMullin, Alison M. Bamber, Daniel Bon, Daniel I. Vigil, and Michael Van Dyke
 - Based on the evaluations of existing air data collected in proximity to OG activities across Colorado, airborne VOCs are below levels that are anticipated to cause long-term non-cancer health effects to those living at distances of 500 feet or greater from these activities.
 - The analysis also suggests a low risk of harm from acute exposure to VOCs likely emitted from OG operations for residents at these distances, though this conclusion is tempered by the limited database of relevant air sampling data.

- **A Systematic Review of Epidemiologic Literature Assessing Health Outcomes in Populations Living near Oil and Natural Gas Operations: Study Quality and Future Recommendations. 2019**

Alison M. Bamber, Stephanie H. Hasanali, Anil S. Nair, Sharon M. Watkins, Daniel I. Vigil, Michael Van Dyke, Tami S. McMullin, and Kristy Richardson

WHAT DOES THE HOLDER (2019) PAPER SAY, WHICH IS FREQUENTLY CITED FOR SETBACK DISTANCES?

- In 2019, CDPHE released a report entitled “Human Health Risk Assessment for Oil & Gas Operations in Colorado”. This study used emissions data from oil and gas operations in Colorado to estimate or “model” hypothetical exposures and risks of health impacts from a generic well pad operating in the front range and on the western slope.
- The main findings from the study were:
 1. no elevated risk of chronic health impacts at 500 feet or greater from lifetime exposures to oil and gas related compounds and
 2. under certain modeled worst-case conditions, such as downwind of a well pad during peak emissions during some pre-production phases like flowback, there was elevated risk of short-term health impacts were largely from exposure to benzene, toluene, and ethyltoluenes.
- There were several assumptions that were used in this study, which led to some of the results being highly uncertain, or of questionable relevance to current operations. For example, the study used emission data in 2014-2015, with one study that had open top tanks during flowback, which no longer occurs because of current regulations and technological advances but drove the results showing elevated risks during flowback.
- This study was preliminary and relied on many different assumptions, many that do not occur in current operations. As such, the CDPHE and the authors intended the study to be used for prioritizing further research and risk management decisions.
- Many of the recommendations around further studies that measure these compounds in the air have been implemented by Civitas and other oil and gas companies to ensure that emission levels continue to be reduced.

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Principal Hydrogeologist

Consultants in
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May 10, 2023

Mr. Dan Harrington
Asset Development Lead
Civitas Resources, Inc.
555 17th Street, Suite 3600
Denver, CO 80202

Subject: Report of Findings
Evaluation of the Vulnerability of Aurora Reservoir to
Contamination from Proposed Oil and Gas Operations

Dear Mr. Harrington,

Civitas Resources, Inc. (Civitas) retained HRS Water Consultants, Inc. (HRS) to evaluate the vulnerability of surface water in Aurora Reservoir to hypothetical contamination from the development of proposed oil and gas well pads Civitas has sited near the reservoir. Results of our evaluation indicate that Civitas' proposed oil and gas well pads present little risk to surface water in Aurora Reservoir. The remainder of this letter report discusses background, methods, data relied on, and results.

Background

Aurora Reservoir

Aurora Reservoir is in the City of Aurora (City), Arapahoe County, Colorado and was built in 1990 (Figure 1). It covers an area of 800 acres¹, is 110 feet deep, and has an average surface water elevation of 5,927 feet above mean sea level (ft amsl; Figure 2). The reservoir is a source of drinking water for the

¹ All quantities referred to herein are approximate.

City and is also used for recreation. The water is treated to USEPA and CDPHE drinking water standards before it is distributed to consumers.

Proposed Well Pads

Civitas' proposed well pads are part of the Lowry Ranch Comprehensive Area Plan (CAP) which is a holistic, consultative process for planning and permitting locations for the production of oil and gas by the Colorado Oil and Gas Conservation Commission (COGCC) under Rule 314 (Figure 1). The proposed well pads are located northeast, east, and southeast of Aurora Reservoir. Proposed well pads that are the subject of this evaluation are closest to Aurora Reservoir and named from the north: (1) State Blanca West; (2) State Sunlight; (3) State Long; and (4) Beaver. Civitas has other proposed well pads further north and east in the CAP that are not part of this evaluation (Figure 1). The proposed State Blanca West, State Sunlight, and State Long well pads are located one mile or less from Aurora Reservoir. The proposed Beaver well pad is located 1.5 miles from the reservoir.

Surface Water Hydrology

Aurora Reservoir receives water from Rampart Reservoir through a pipeline and it is also fed by rainfall and snowmelt via Senec Creek, which is classified as intermittent in the USGS National Hydrography Dataset (NHD) and flows north into the reservoir. Other creeks near Aurora Reservoir include Mutchie Creek and Coal Creek east and north of the reservoir, and Murphy Creek to the west (Figure 1). Senec, Murphy, and Mutchie Creeks are tributaries of Coal Creek, they also flow north, and are classified as intermittent in the USGS NHD.

Hydrogeologic Setting

Aurora Reservoir and the Lowry CAP are situated in the Denver Basin (Figure 3). As shown, Denver Basin geologic layers include from top down the Dawson, Denver, Arapahoe, Laramie-Fox Hills, Pierre, and Niobrara Formations. The Dawson, Denver, Arapahoe, and Laramie-Fox Hills formations are used as aquifers and, collectively, extend to a depth of 2,000 feet below ground at Aurora Reservoir. These aquifers are referred to as "Denver Basin Aquifers."

Below the Denver Basin Aquifers lies the Pierre Shale, a dense mudstone and shale formation that is 5,000 feet thick. Below the Pierre Shale is the Niobrara Formation where viable oil and gas resources are found. Oil and gas production in the Lowry CAP will occur below the Pierre Shale, in the Niobrara Formation, 7,000 to 8,000 feet below ground.

Based on these vertical distances, there is little risk that surface water in Aurora Reservoir could be impacted because of induced fractures during well stimulation. The 5,000-foot-thick Pierre Shale functions as a protective barrier between the production zone and shallow water resources.

Methods

Site Visit

We visited Aurora Reservoir and the proposed well pads on March 27, 2023 to visually observe the topography of the well pads relative to the reservoir, and the condition of nearby creeks and watersheds. During the visit, we observed that the ground surface at the proposed well pads sloped away from Aurora Reservoir. Furthermore, there were several hills, i.e., physical barriers, between the proposed well pads and Aurora Reservoir. At some proposed well pads, the reservoir could not even be seen. The watershed was covered with a few inches of snow. The creeks had snow in them but did not appear to be flowing. Based on the site visit, hypothetical fluid spills at the proposed well pads would flow away from Aurora Reservoir.

Surface Drainage Analysis

We evaluated the vulnerability of Aurora Reservoir at a larger scale by analyzing surface drainage patterns in the watershed using publicly available United States Geological Survey (USGS) topographic data. Because surface topography controls the direction of surface fluid flow, this drainage analysis can be used to indicate probable flow directions of hypothetical fluid spills at the proposed pads. Results are shown in Figure 4.

As shown, Aurora Reservoir and the proposed well pads are in the USGS-mapped Coal Creek Watershed. This watershed is defined by a topographic divide that creates a semicircular-shaped drainage basin, or catchment, aligned along Coal Creek and its tributaries. Coal Creek flows northwest into Sand Creek, which is a tributary of the South Platte River. USGS did not map subwatersheds in the Coal Creek Watershed.

To evaluate probable surface drainage patterns at each proposed well pad, we delineated subwatersheds in the Coal Creek Watershed using the USGS topographic data, Streamstats V4.14.0 tool, and Geographic Information System (GIS) mapping software. Results show that Coal Creek Watershed is topographically divided into four subwatersheds aligned along intermittent creeks, that may be called, accordingly: (1) Murphy Creek subwatershed; (2) Senec Creek subwatershed; (3) Mutchie Creek subwatershed; and (4) Coal Creek subwatershed².

The data show that Aurora Reservoir is in a different subwatershed than the proposed well pads (Figure 4). Aurora Reservoir is in Senec Creek subwatershed. The proposed oil and gas well pads subject to this evaluation are in Mutchie Creek subwatershed.

² Note that the USGS-designated “Coal Creek Watershed” and herein-defined “Coal Creek subwatershed” are not the same thing and should not be used interchangeably.

Hypothetical fluid spills at the proposed well pads, to the extent they occur and are uncontained, would therefore flow away from Senec Creek subwatershed and Aurora Reservoir, and would flow toward Mutchie Creek subwatershed. Thus, there is little risk that surface water in Aurora Reservoir could become contaminated by overland surface flow of hypothetical fluid spills at the proposed well pads.

Hydrogeology Analysis

If a hypothetical fluid spill were to occur at a well pad and seep into the ground, it is plausible that groundwater at the well pad could become contaminated and flow toward and contaminate the reservoir. To evaluate this vulnerability, we looked at potential water pressure gradients in the subsurface beneath Aurora Reservoir. Because groundwater flows from high to low water pressures (i.e., along the water pressure gradient), this hydrogeology analysis can be used to indicate probable groundwater flow directions near Aurora Reservoir.

To accomplish this, we compared surface water levels in Aurora Reservoir with nearby groundwater levels in Denver Basin Aquifers. First, water well records within a one-mile radius of the reservoir were obtained from the Colorado Division of Water Resources (DWR) well permit database. Table 1 summarizes the well information, including well type, depth, aquifer, well screen interval, and depth to groundwater among other things. Next, we calculated the average groundwater level in each aquifer based on groundwater levels measured at the time of drilling (Table 1). Then, we plotted average groundwater levels on hydrogeologic cross sections. A hydrogeologic cross section is a graphical plotting tool that can be used to evaluate subsurface water pressure gradients. Two hydrogeologic cross sections are shown in Figures 5 and 6. Please note Figures 5 and 6 were created using USGS topographic data and water well data summarized in Table 1.

As shown on Figures 5 and 6, Aurora Reservoir is underlain by an alluvial aquifer that parallels Senec Creek and its tributaries, which is underlain in turn by the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers. Water wells within a one-mile radius of Aurora Reservoir tap the Denver and Arapahoe aquifers. The water level data show that Aurora Reservoir has a higher water level than any of the aquifers beneath the reservoir, and that water levels in the Denver Basin Aquifers decrease with depth. These results show that the water pressure gradient is downward and away from Aurora Reservoir, which means that groundwater flows away from Aurora Reservoir. This result is unsurprising, because most reservoirs in the Colorado Front Range are artificially filled with surface water, and some of the water stored in the reservoirs seeps into and recharges the groundwater system. Thus, there is little risk that surface water in Aurora Reservoir would become contaminated by subsurface groundwater transport of hypothetical contamination because groundwater flows away from the reservoir.

Figures 5 and 6 also show surface drainage patterns and topographic differences between Aurora Reservoir and the proposed well pads. Figure 5 shows that the proposed State Long and Beaver well pads are separated from Aurora Reservoir by a hill which functions as a physical barrier that will block overland

surface flow of hypothetical fluid spills. Figure 5 also shows that the proposed State Blanca West well pad is topographically downhill from Aurora Reservoir. Figure 6 shows that the proposed State Sunlight well pad is separated from Aurora Reservoir by a hill which functions as a physical barrier to overland flow.

Data Relied On

The following data sources were relied on in this analysis:

- Proposed well pad locations and well construction details provided by Civitas Resources.
- Geologic Maps:
 - *Surface Geology*:
 1. Moore, D.W., Straub, A.W., Berry, M.E., Baker, M.L., and Brandt, T.R. 2001. Surficial geologic map of the Denver 1 degree X 2 degree quadrangle, Colorado. U.S. Geologic Survey
 - *Bedrock Geology*:
 1. Morgan, M.L. 2015. Geologic Map of the Piney Creek Quadrangle, Arapahoe, Douglas, and Elbert Counties, Colorado. Colorado Geologic Survey
 2. Tweto, O. 1979. Geologic Map of Colorado. U.S. Geologic Survey.
- Watershed Boundary: United States Geological Survey National Hydrography Dataset (USGS NHD)
- Water supply wells and monitoring wells: Colorado Division of Water Resources (CDWR) Well Permit Database
- Aerial Images: obtained from ArcGIS based on data from Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community (2013)
- Topographic map: obtained from ArcGIS based on data from USGS (1993).
- Water levels: CDWR Water Level Database (USGS Hydrographs)
- Reservoir stage: CDWR Stage Record (2011-2022)

Conclusions

There is little risk to Aurora Reservoir from contamination due to well stimulation (i.e., hydraulic fracturing) because it will take place in the Niobrara Formation 7,000 to 8,000 feet below the ground, whereas the reservoir is at ground surface and only 110 feet deep. Between the reservoir and the Niobrara Formation lies the 5,000-foot-thick Pierre Formation which consists of dense, practically impermeable shale and mudstone and serves as a 5,000-foot-thick physical barrier between the proposed production zone and the reservoir (Figure 3). Due to the natural geology beneath Aurora Reservoir, it is improbable that induced fractures created in the Niobrara Formation during well stimulation would migrate vertically upward across the full thickness of the Pierre Shale, through the Denver Basin Aquifers and create a hydraulic connection to the reservoir.

There is little risk to Aurora Reservoir from contamination due to overland flow of hypothetical fluid spills at the proposed well pads because the proposed well pads are in different subwatersheds than the reservoir (Figure 4). Hypothetical fluid spills at the proposed well pads, to the extent they occur and could not be contained, would flow away from Aurora Reservoir.

There is little risk to Aurora Reservoir from contamination via groundwater transport if hypothetical fluid spills were to occur at a well pad and seep into the ground because the water pressure in the reservoir is maintained at a higher level than water pressures in the underlying groundwater system. Because the water pressure gradients are away and downward from the reservoir, groundwater flows away from the reservoir. Therefore, there is little to no risk to Aurora Reservoir from contamination via groundwater transport.

Please note this evaluation was based on public and private data available to us at the time of this report. We believe the available data are robust and provide a reasonable basis to support the findings. Should new or additional information become available, we reserve the right to review such information, perform additional analyses, and modify our findings.

Thank you very much for the opportunity to be of assistance. Please contact us if you have any questions or require additional information.

Sincerely,

HRS WATER CONSULTANTS, INC.

David S. Lipson, Ph.D., C.P.G.
Principal Hydrogeologist

Table 1. Water Level Data from DWR Well Permit and Water Level Database

Permit Number/ USGS Well ID	Well Type	Aquifer	Well Depth (ft bgl)	Screen Interval (ft bgl)	Ground Surface Elevation (ft amsl)	Depth to Ground- Water (ft bgl)	Groundwater Elevation (ft amsl)	Average Water Level Elevation (ft amsl)	Measurement Date
SC00506509ACD2	Monitoring Well	Alluvium	15	---	5,781	15	5,766		1993-08-30
SC00506509CAC1	Monitoring Well	Alluvium	25	---	5,818	8	5,810		1993-08-30
SC00506509ACD1	Monitoring Well	Alluvium	20	---	5,781	12	5,769		1983-09-27
SC00506509DD1	Monitoring Well	Alluvium	11	---	5,795	8	5,787		1993-08-30
SC00506504CAD1	Monitoring Well	Alluvium	18	---	5,873	11	5,863	5,832	1993-08-30
51713-MH	Monitoring Well	Alluvium	22	10 - 22	5,841	20	5,821		2013-09-09
313886-	Monitoring Well	Alluvium	31	20 - 30	6,016	9	6,007		2018-12-04
63031-DW	Monitoring Well	Alluvium	27	7 - 27	5,856	26	5,830		2022-02-25
271435-	Monitoring Well	Dawson	40	24 - 39	5,835	27	5,808		2005-10-26
271436-	Monitoring Well	Dawson	60	50 - 60	5,829	--	--		2005-10-21
271437-	Monitoring Well	Dawson	30	20 - 30	5,878	--	--		2005-10-24
271438-	Monitoring Well	Dawson	45	15 - 30	5,858	--	--		2005-10-24
277225-	Monitoring Well	Dawson	51	31 - 51	5,837	--	--		2005-10-20
271443-	Monitoring Well	Dawson	25	15 - 25	5,839	--	--		2005-10-25
313884-	Monitoring Well	Dawson	41	25 - 40	6,033	23	6,010	5,849	2018-12-04
313885-	Monitoring Well	Dawson	41	25 - 40	5,956	24	5,933		2018-11-30
59765-MH	Monitoring Well	Dawson	29	9 - 29	5,823	18	5,805		2019-07-10
271433-	Monitoring Well	Dawson	30	20 - 30	5,865	--	--		2005-10-25
271434-	Monitoring Well	Dawson	35	25 - 35	5,878	23	5,855		2005-10-26
SC005065009ACB	Monitoring Well	Dawson	101	---	5,774	15	5,759		1993-08-30
SC00506509DD2	Monitoring Well	Dawson	113	---	5,809	35	5,774		1993-08-30
SC00506533CCC	Monitoring Well	Denver	677	---	6,001	317	5,684		1950-12-26
28406-F	Water Supply Well	Denver	358	278 - 358	6,069	112	5,957	5,731	1984-06-06
30322-F	Water Supply Well	Denver	1,220	373 - 1,150	5,962	327	5,635		1986-10-30
30323-F	Water Supply Well	Denver	1,235	397 - 1,153	5,962	313	5,649		1986-11-20
30324-F	Water Supply Well	Arapahoe	1,757	1,245 - 1,686	5,963	706	5,257		1986-11-20
30325-F	Water Supply Well	Arapahoe	1,690	1,226 - 1,660	5,962	698	5,264		1986-11-13
30326-F	Water Supply Well	Arapahoe	1,739	1,239 - 1,680	5,963	704	5,259	5,177	1986-12-03
47700-F	Water Supply Well	Arapahoe	1,749	1,110 - 1,664	5,939	953	4,986		1995-08-29
47701-F	Water Supply Well	Arapahoe	1,835	1,345 - 1,760	6,046	928	5,118		1995-08-26

Notes: ft bgl = feet below ground

ft amsl = feet above mean sea level

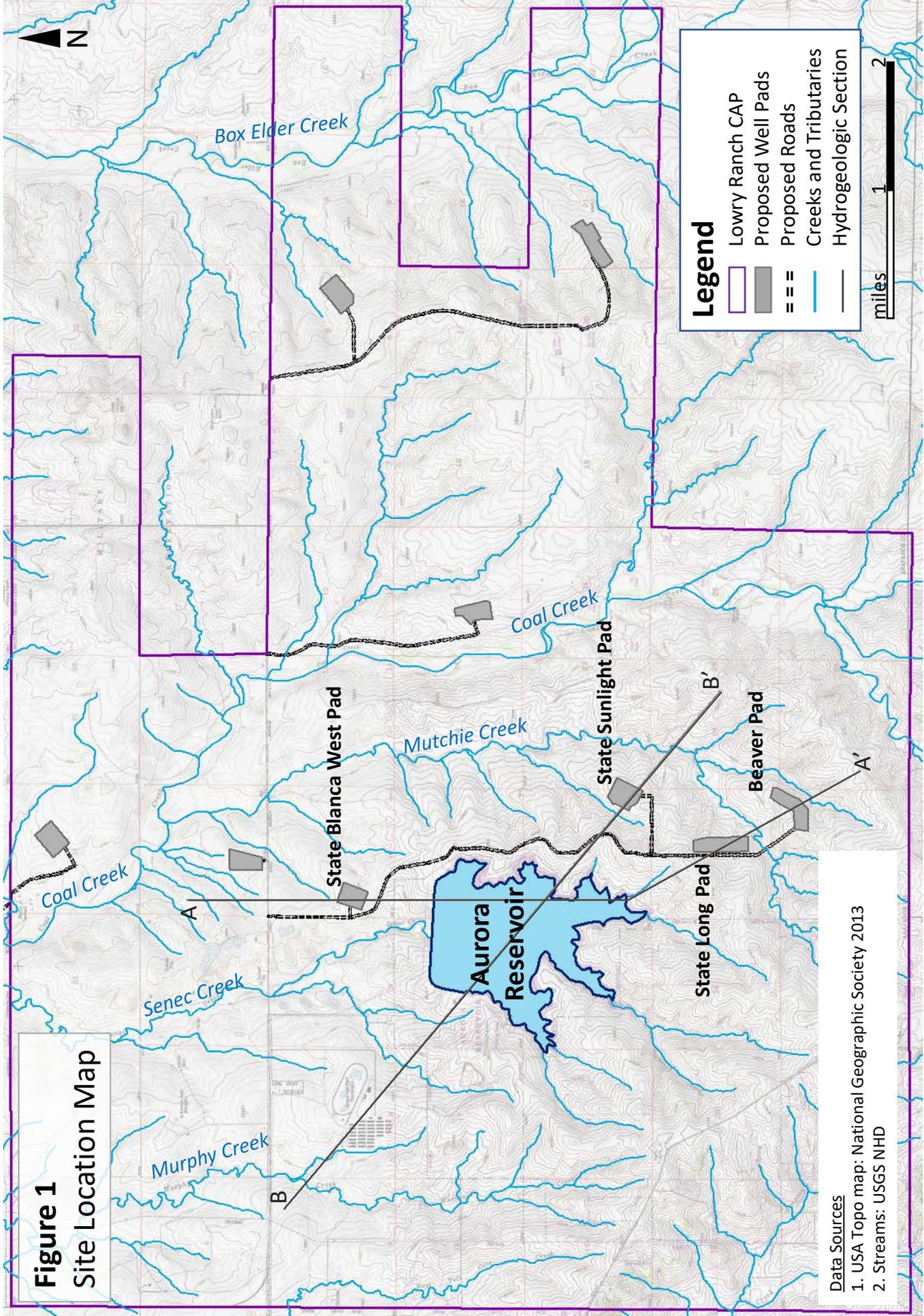


Figure 1
Site Location Map

Legend

- Lowry Ranch CAP
- Proposed Well Pads
- Proposed Roads
- Creeks and Tributaries
- Hydrogeologic Section

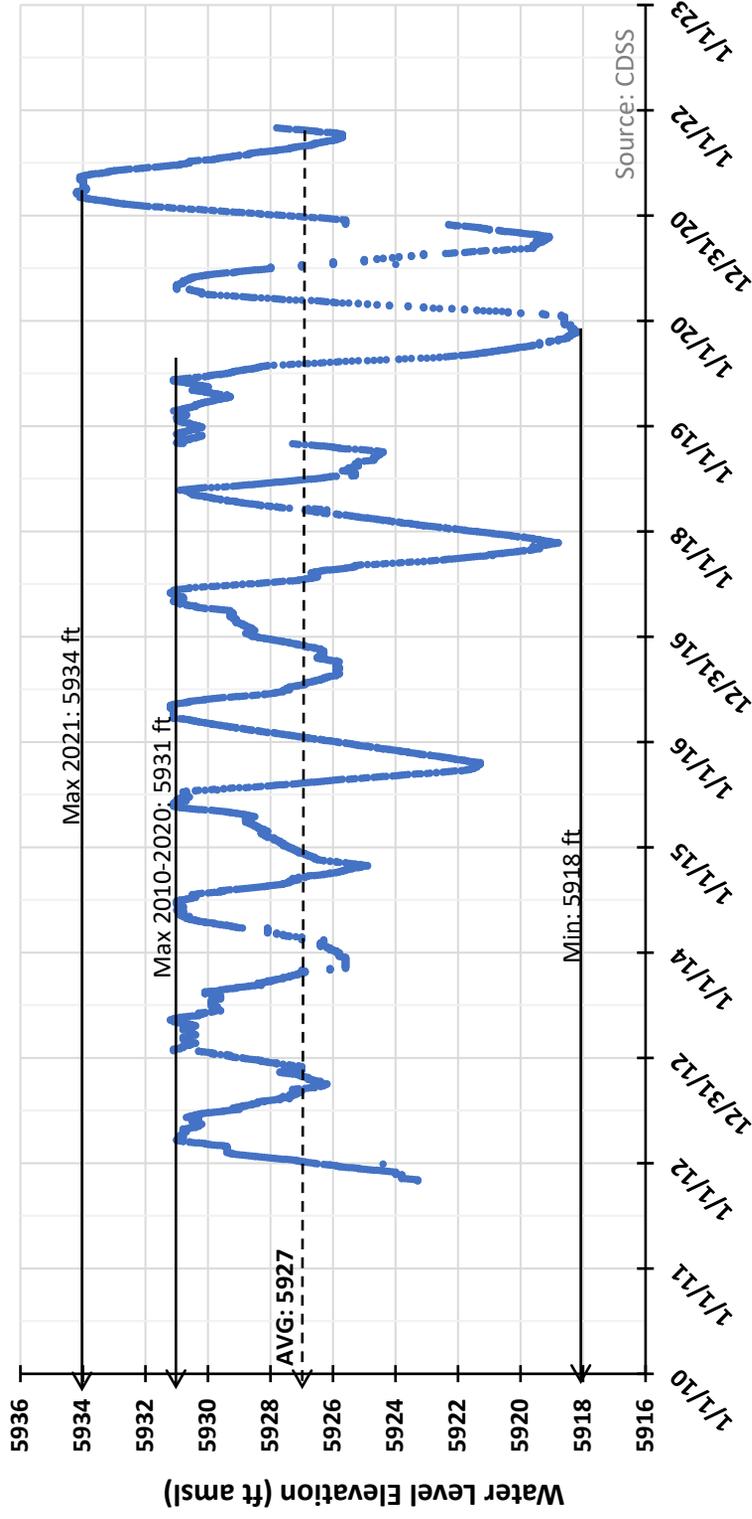
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Data Sources

1. USA Topo map: National Geographic Society 2013
2. Streams: USGS NHD

Figure 2
Aurora Reservoir

Aurora Reservoir Stage



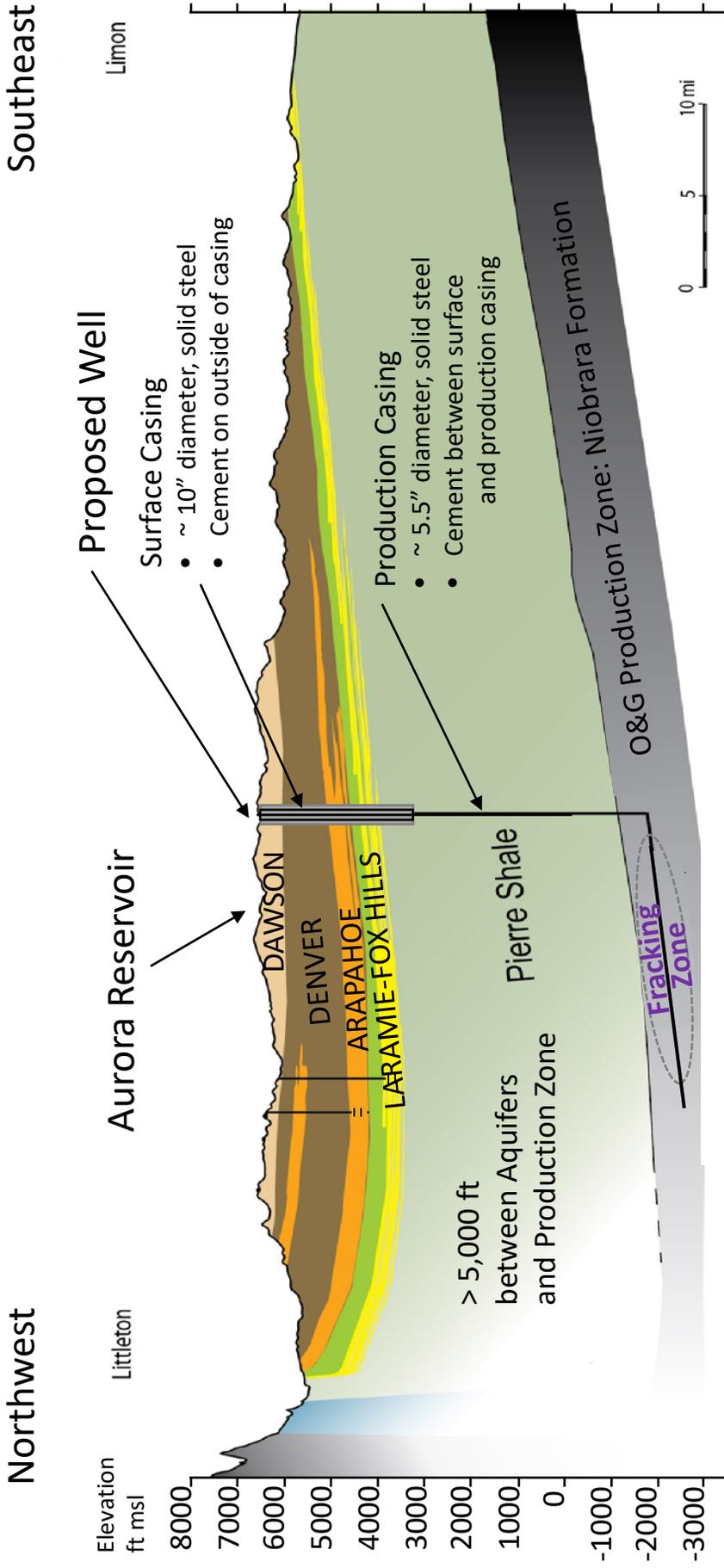
- Completed in 1990
- Area: ~ 800 acres
- Max depth: ~ 100 – 110 ft

Data Sources
 1. CO CDSS
 2. USGS Feature 1947706
 3. Fishermap.org

Figure 3

Geologic Setting

Denver Basin Geology



msl: mean sea level

All locations are approximate

Water Wells

Data Source
After Colorado Geologic Survey, 2011

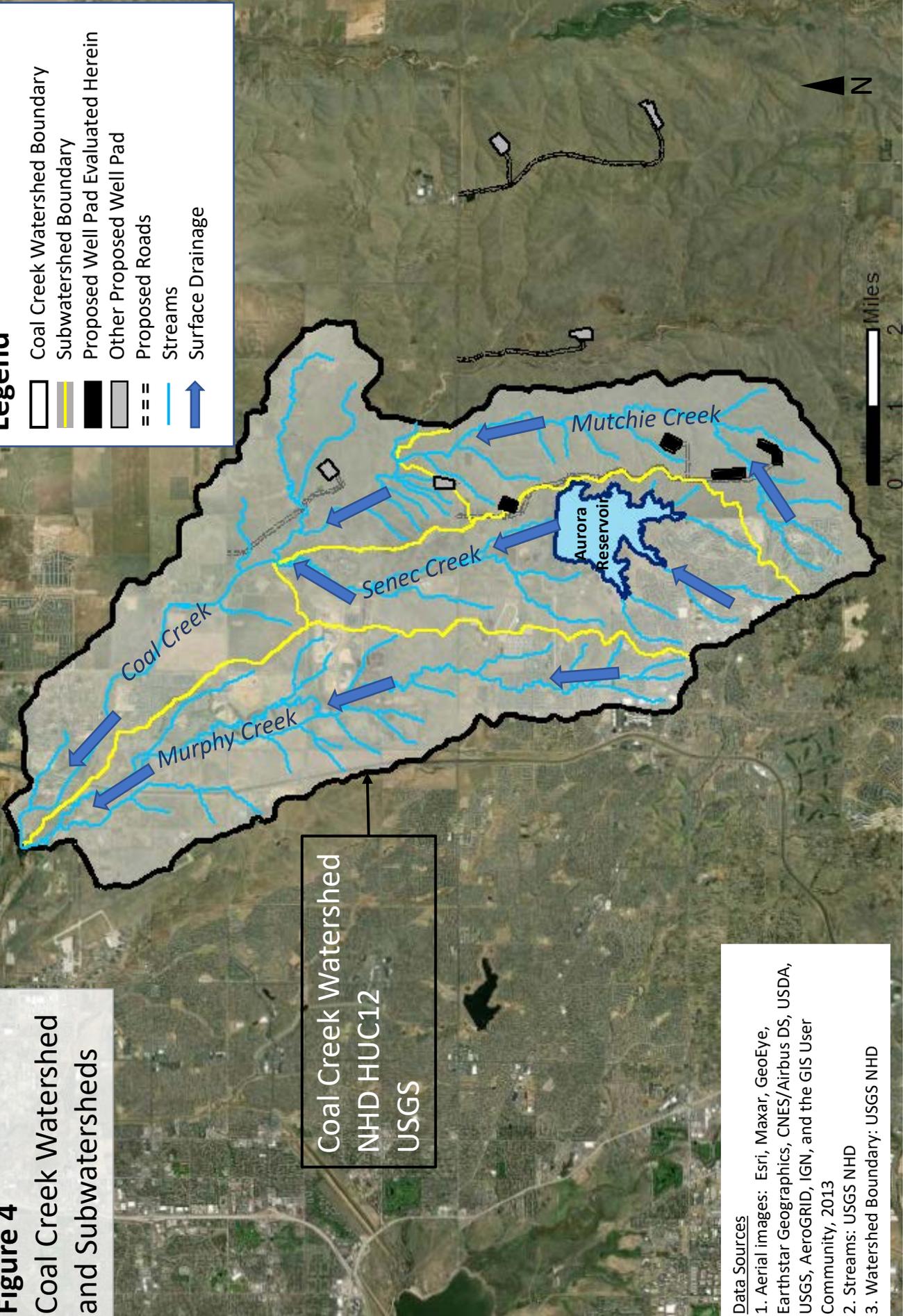
Figure 4

Coal Creek Watershed and Subwatersheds

Coal Creek Watershed
NHD HUC12
USGS

Legend

- Coal Creek Watershed Boundary
- Subwatershed Boundary
- Proposed Well Pad Evaluated Herein
- Other Proposed Well Pad
- Proposed Roads
- Streams
- Surface Drainage



Data Sources

1. Aerial images: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, 2013
2. Streams: USGS NHD
3. Watershed Boundary: USGS NHD

Figure 5
Hydrogeologic Cross Section AA'

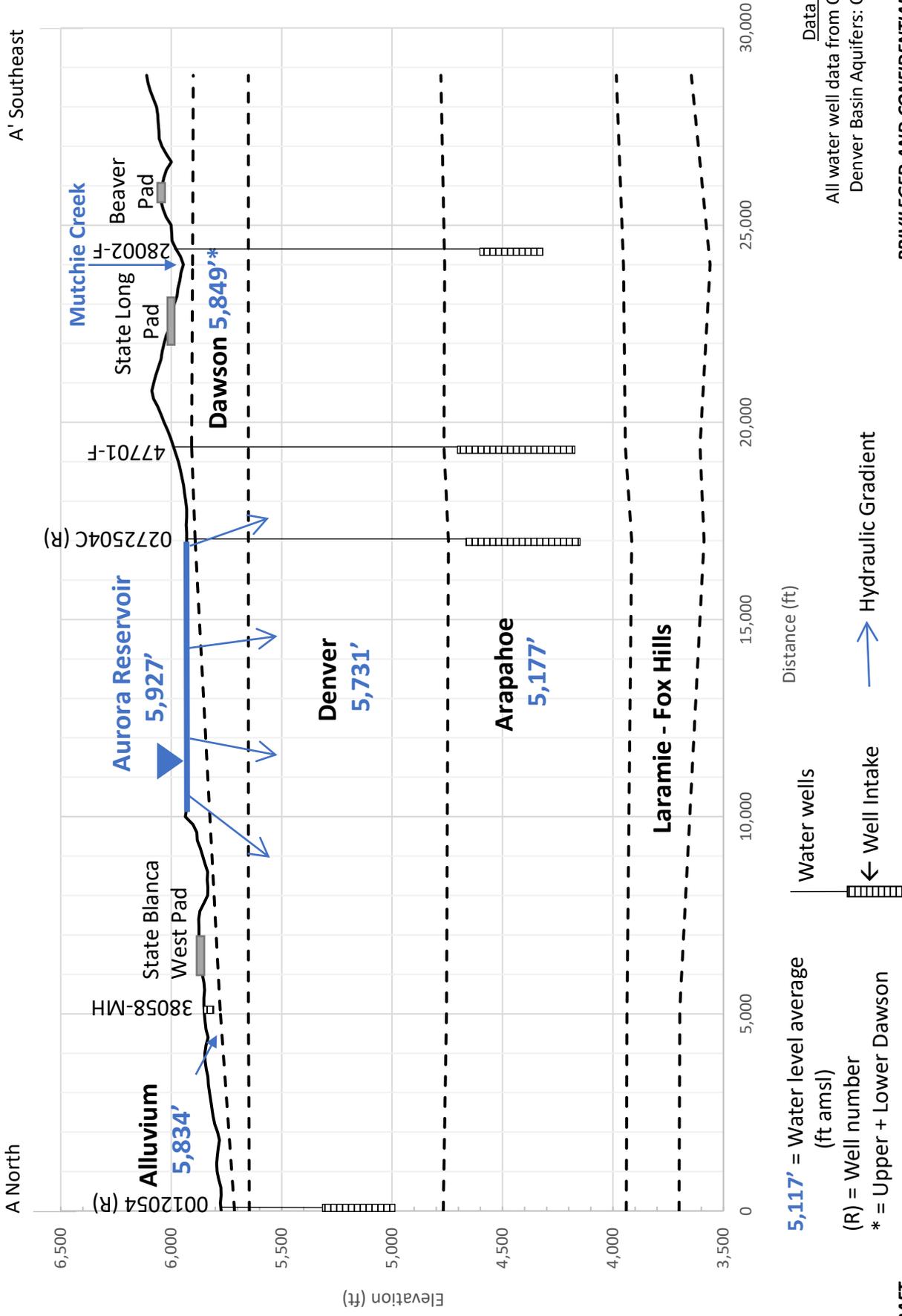
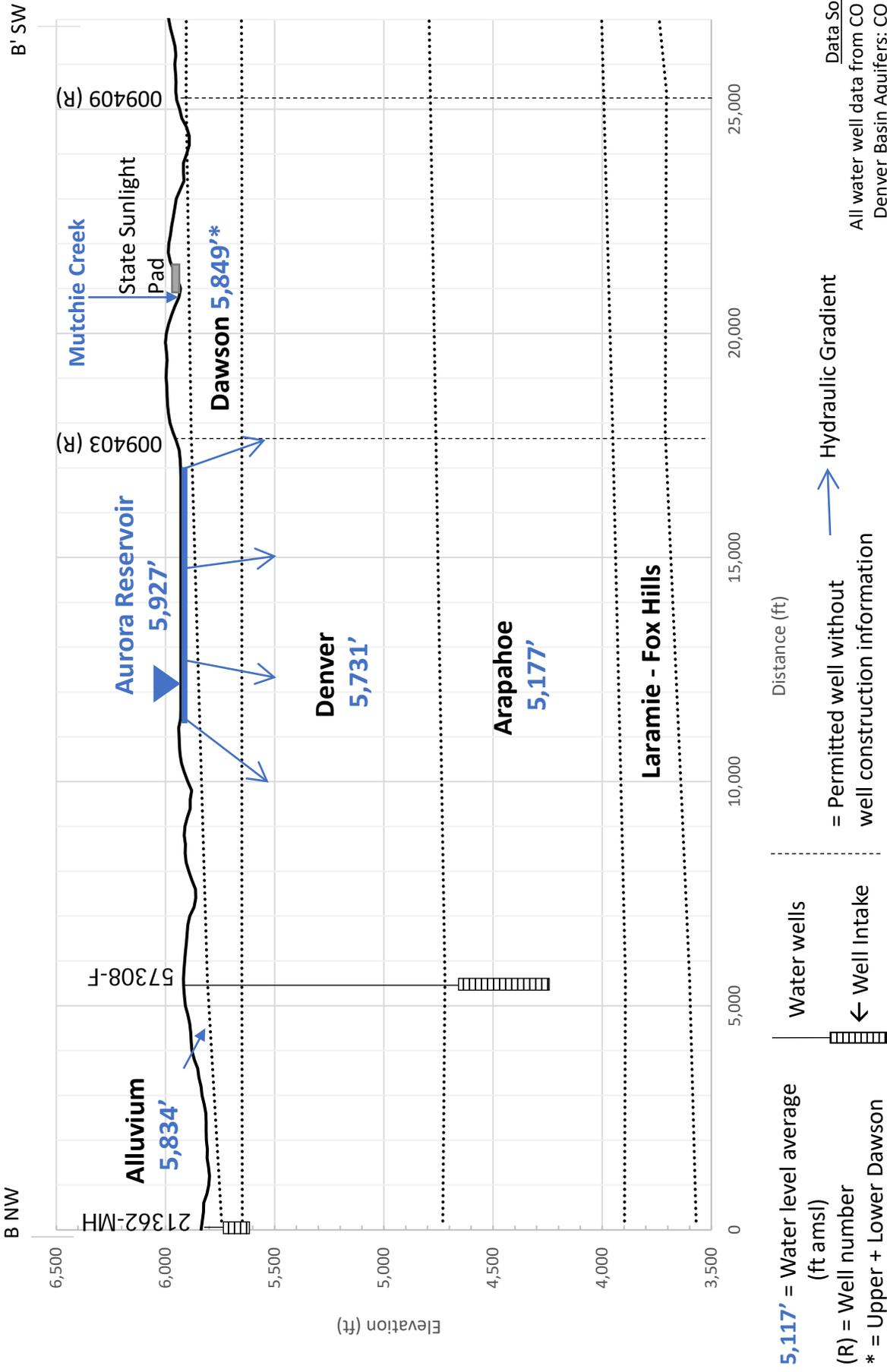


Figure 6
Hydrogeologic Cross Section BB'





November 3, 2023

Arapahoe County Planning Commission
5334 South Prince Street
Littleton, Colorado 80120

Dear Members of the Arapahoe County Planning Commission,

Arapahoe County Public Health (ACPH) appreciates the opportunity to provide comments on Phase II of the proposed Arapahoe County draft Oil and Gas regulations, with a focus on various aspects that include setbacks from occupied structures, platted lots smaller than 15 acres, reservoirs and planned reservoirs, surface waters, operating or closed landfills, designated outside activity areas, continuous air monitoring, additional groundwater monitoring, and surface water monitoring. The framework of our comments below addresses our assessment of the air and water quality portions contained in the draft Phase II Oil and Gas regulation provided by Arapahoe County Public Works and Development to Arapahoe County Public Health.

It is our professional opinion that the existing regulatory frameworks provided by the Colorado Energy and Carbon Management Commission (ECMC), formerly the Colorado Oil & Gas Conservation Commission, and the Colorado Department of Public Health and Environment (CDPHE), in part through the passage of Senate Bill 19-181 in 2019, are comprehensive and effective in addressing the potential health and safety concerns associated with oil and gas operations. These established regulations, informed by local studies, have been designed to protect public health and the environment while accommodating the unique characteristics of Colorado, including geological and meteorological factors. We believe that additional regulations proposed in Phase II, in which some parts replicate existing CDPHE and or ECMC requirements, are not necessary to achieve the intended goals of safeguarding public well-being and environmental integrity already provided in the existing Arapahoe County, CDPHE, and ECMC regulations.

That being said, after review of the Phase II Oil and Gas draft regulations, we found a robust framework of air and water quality monitoring is presented; ACPH understands and supports the desire to respond to community concerns regarding oil and gas operations and the informed balance that must be achieved between responsible energy development, actual potential for health and environmental impacts from the operations, and perceived health and environmental impacts that the community may hold.

Air Quality Management

The requirement for operators to submit an Air Quality Mitigation Plan with their applications demonstrates a proactive approach to minimizing adverse air quality impacts. The inclusion of baseline monitoring before construction is a critical step, providing a reference point to assess potential changes in air quality due to oil and gas operations. Monitoring a wide range of pollutants, including volatile organic compounds (VOCs) and hazardous air pollutants like benzene, is essential to understanding potential health risks associated with these emissions. Requiring high-frequency continuous air monitoring during drilling, completion, and production phases is a proactive measure to detect and respond to emissions in real-time. Monitoring hydrocarbons at a high frequency during drilling and completion activities is particularly important because these phases are associated with higher emissions.

The involvement of a third-party consultant, approved by the County, for baseline and ongoing air sampling adds a layer of objectivity and trust to the monitoring process. Furthermore, the consideration of cumulative impacts on air quality, ground-level ozone, and greenhouse gas emissions aligns with a shared goal of safeguarding the community from

potential long-term health risks. The regulation's emphasis on leak detection and repair using modern technologies like infrared cameras and the reporting of all leaks to the County for immediate response is a key component for preventing harmful emissions and ensuring transparency. The requirement to maintain and report data collected from monitoring and the involvement of independent third-party consultants enhances the credibility and accountability of the monitoring process. Finally, the provisions to reduce emissions on Air Quality Action Advisory Days demonstrate a commitment to public health by taking proactive measures to protect the community during poor air quality events, reflecting a comprehensive approach to air quality management in the oil and gas sector.

The proposed Phase II Arapahoe County regulations for air quality monitoring impose more rigorous and specific requirements for operators than the standard state-level regulations enforced by ECMC and CDPHE:

- **Baseline Testing:** Requiring baseline sampling of air quality at the site of the proposed facility using a continuous monitoring system that detects various parameters, including wind speed, temperature, humidity, and a wide range of air pollutants, is more comprehensive, includes more parameters, and is more specific than state-level requirements.
- **High-Frequency Continuous Air Monitoring:** The requirement for continuous air monitoring during drilling, completion, and production phases with specific monitoring frequencies and pollutant specifications is more detailed and rigorous than what is required at the state level.
- **Leak Detection and Repair:** Requiring the development and maintenance of a Leak Detection and Repair (LDAR) program, including the use of modern leak detection technologies such as infrared (IR) cameras and monthly inspections, and immediate leak reporting is more stringent than standard state-level requirements.
- **Air Quality Best Management Practices:** Requiring specific air quality best management practices such as zero emission desiccant dehydrators, emission controls for glycol dehydrators, and control of emissions during storage tank hydrocarbon liquids loadout goes beyond what is typically required at the state level. State regulations often set general emission standards and may not specify these detailed practices.
- **Continuous Monitoring by Third-Party Consultant:** The requirement for continuous monitoring to be performed by an independent third-party consultant approved by the County and paid for by the Operator is more extensive than state requirements.
- **Alerting Operator of Increases in Air Contaminant Concentrations:** Requiring the continuous monitoring system to alert the operator of increases in air contaminant concentrations is a specific requirement that goes beyond state regulations.
- **Air Quality Action Advisory Days Compliance:** Requiring operators to utilize operational provisions, to the extent practical, to reduce emissions on Air Quality Action Advisory Days posted by CDPHE is an additional layer of oversight beyond what is typically required by state agencies.

Water Quality Management

The Water Quality Monitoring section of the proposed Phase II oil and gas regulations represents a comprehensive and proactive approach to safeguarding groundwater and surface water resources from potential impacts associated with oil and gas operations. Requiring operators to submit a Water Quality Report/Plan as part of their applications demonstrates a commitment to assessing and mitigating potential adverse effects on water quality. The inclusion of a 1/2-mile radius for identifying nearby water wells and the requirement for baseline sampling upon request, along with independent third-party testing and adherence to specific standards, ensure the reliability of data. This approach supports transparency and accountability while providing a reference point for assessing any changes in water quality over time. The requirement for action plans in the event of contamination, involving the County in review and oversight, adds an important layer of protection for water resources. Additionally, the focus on continuous or periodic surface water monitoring and alignment with existing environmental regulations further strengthens the regulations' commitment to protecting water quality. Overall, this section reflects a robust effort to address environmental health concerns related to water quality in the context of oil and gas operations.

The proposed Phase II regulations for groundwater and surface water sampling and monitoring in Arapahoe County appear to exceed what the ECMC and CDPHE typically require for oil and gas operations.

- Water Quality Report/Plan Submission: While environmental impact assessments are required by ECMC, the specific requirement for a Water Quality Report/Plan tailored to Arapahoe County is an additional step.
- Baseline Sampling and Testing: Requiring operators to perform initial baseline sampling and testing of all (rather than a maximum of 4) water sources within a certain radius of the oil and gas facility, upon request by the owner of the water source or land, exceeds standard state-level requirements. While baseline testing is common in the industry, the requirement to sample and analyze water sources based on such requests, and within specific radius criteria, is more extensive. The provision for down-gradient sampling, in case of absence of nearby water sources, is an added layer of protection.
- Water Sampling Frequency: Requiring subsequent sampling and testing every 24 months for the life of oil and gas wells on the facility pad exceeds the typical state-level requirements. Standard practices often call for baseline testing and periodic monitoring, but the specific frequency detailed is more robust.
- Perennial Surface Water Testing: Requiring continuous or periodic monitoring of perennial surface water located within a certain radius of the oil and gas facility and specifying the point of monitoring is more extensive and specific than standard state-level requirements.
- Specific Reference to Local Regulations: The regulations explicitly reference compliance with ECMC Rules 615.e and 913.b.(2), indicating that operators must adhere to both county and state regulations.

We appreciate your commitment to the health and well-being of our community and look forward to working collaboratively to ensure the safety and health of our residents while supporting responsible energy development.

Sincerely,



Jennifer Ludwig
Public Health Director

Dear Arapahoe County Planning Commissioners and staff,

Our community is very concerned about the currently proposed changes to Arapahoe County's Oil and Gas Code. There are a number of important issues that we believe must be considered in the current phase of regulation amendments. The 'published' proposed amendments go well beyond the originally announced plans for this phase and use Oil and Gas industry proposals that effectively water down both old and newly proposed regulations that are critical for the protection of the public health, safety and welfare and they must therefore be properly addressed at this next hearing with the input of public stakeholders.

We are requesting the staff and Planning Commission add the following items to the regulations for consideration at the Nov 8 meeting. If they cannot be added to the 'published' proposed updates in time for the meeting, we are requesting the Planning Commission to bring these items up for discussion at this meeting and to formally vote on them as alternate and/or additional amendments, as appropriate, to the currently proposed phase 2a regulations.

1. GENERAL SETBACKS

- a. The regulations should differentiate between Rural and Urban settings as follows:
 - i. 1 mile minimum distance between well pads and areas zoned residential including homes, schools, playgrounds and recreation areas (Designated Outside Activity Areas), etc., with no exceptions or waivers allowed.
 1. This is consistent with scientific studies of the health effects on all humans living, working and recreating in proximity to fracking well activities.
 2. In addition, the delegation of responsibility in (5-3.6:F.2.c) to entities who are not charged with protection of the public health, safety and welfare is inconsistent with the county's duties to do the same.
 - ii. 1 mile setback with 3000 ft setback waiver allowed with property owner written permission from occupied structures in rural settings only.
 1. This is consistent with O&G rationale that they require waiver opportunities for rural areas only.
- b. Address the Wildlife Urban Interface with appropriate fire setbacks and onsite fire mitigation protections requiring approvals from OEM, Local fire officials, etc.
- c. Ensure safe setbacks from flowlines, gathering lines, transfer lines and waterways as well as off-locations including flowlines, Crude Oil Transfer Lines (COTL), Produced Water Transfer Systems (PWTS) and waterways.
 - i. These are known to have the highest level of both airborne and ground fluid leakages.
- d. 1 mile minimum setback from existing and proposed or planned reservoirs with no loopholes or waivers to protect water from both ground and airborne sources of contamination. The definition of 'planned' must be inclusive of those documented as proposed by the County and affected cities.
 - i. This is consistent with the need for airborne contamination protection in addition to fluid leaks on the ground.
 - ii. In addition, the delegation of responsibility in (5-3.6:F.2.f.ii) to entities who are not charged with protection of the public health, safety and welfare is inconsistent with the county's duties to do the same.

2. AIR AND WATER QUALITY MONITORING, SAMPLING AND TESTING

- a. Air emissions should be monitored with state of the art technology at the source from well sites, flowlines, tank batteries and transfer sites, etc., as well as in nearby

residential areas, schools, public gathering places and recreation areas by independent 3rd party contractors approved by the county and paid for by fees from the operators. Include requirements at least as protective as the following language adapted from Broomfield regulations:

- i. The plan shall include monitoring for all potential emissions, including but not limited to, VOCs, Hazardous Air Pollutants (HAPs), BTEX, Hydrogen Sulfide, Oxides of Nitrogen (NOx), Particulate Matter (PM), Fine Particulate Matter (PM 2.5), Carbon Monoxide (CO) and methane (CH4), carbon dioxide (CO2). Operator shall pay for the baseline and ongoing monitoring.
 - ii. Protocol, subject to County approval, for air modeling plan to be conducted by third-party consultant [contractor] approved by the County. Protocol must include facility emissions inventories for all GHG emissions, criteria pollutants and hazardous air pollutant standards and air quality impact studies for drilling, completions and production operations based upon proposed equipment use, and operation phases, and any emissions reductions associated with plugging and abandonment. In addition, a protocol must include emissions associated with truck traffic for drilling, completions, production and plugging and abandonment operations. Air modeling shall demonstrate that:
 - iii. Emissions from the proposed facilities and associated truck traffic shall not cause or contribute to exceedances of the National Ambient Air Quality Standards;
 - iv. Emissions from the proposed facilities comply with federal air quality and odor rules, including EPA's New Source Performance Standards and National Emission Standards for Hazardous Pollutants;
 - v. Emissions from the proposed facilities comply with COGCC and CDPHE air quality and odor rules;
 - vi. Emissions from the proposed facilities comply with city emission control regulations;
 - vii. Emissions will be below the most protective health-based guidelines, including those used by CDPHE, EPA, California, or others.
 - viii. An air quality mitigation plan.
 - ix. An odor mitigation plan that demonstrates how operator will minimize odors, including chemical odors, from its operations and comply with Colorado Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emissions, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, requirements of this chapter, and any other applicable regulations. The plan shall also provide a plan for timely responding to odor complaints, including chemical odors, from the community and for identifying and implementing additional odor control measures to control odors emanating from the oil and gas facility.
- b. Water source testing should be conducted by qualified independent 3rd party professional contractors approved by the County and paid for by fees from the operator, and include: Major ions, metals, dissolved gasses & VOCs.
 - c. All monitoring and testing results must be available to the community in near real-time, with unfettered online access to the data.
 - d. 1 year of approved 3rd party independently conducted baseline studies for both air and water should be mandated for completion prior to the initiation of construction activities.
 - e. See additional recommended language from Broomfield Air Quality regulations below.

3. SEISMIC STUDIES

- a. Mandatory independent studies to assess the potential impacts of fracking induced seismicity on all critical infrastructure within a 10 mile radius of all well pads, including Superfund sites, Reservoirs and dams, etc.
- b. Seismic monitoring by County approved independent 3rd-party contractors at all critical infrastructure to assess the actual effects of fracking-induced seismicity with monitoring initiated one year prior to the start of construction activity to establish effective baselines.

- c. All monitoring and testing results and reports must be available to the community in near real time, with unfettered online access to the data.

4. ELECTRIC DRILLING AND FRACKING EQUIPMENT

- a. Mandate the electrification of all drilling and fracking equipment for all operations that can be electrified. Equipment should be powered off the common power grid and/or renewable sources (not local generators) to lower emissions related to diesel or gas equipment exhaust and to also reduce both smells and noise.
- b. The operators should bear full responsibility to work with local grid suppliers (e.g., EXCEL) to install or upgrade the local infrastructure to provide the necessary electric power to the well pads and to assume all costs incurred.

5. WASTEWATER INJECTION WELLS MUST BE PROHIBITED IN ARAPAHOE COUNTY

6. A DETAILED TRAFFIC MANAGEMENT PLAN MUST BE SUBMITTED AND APPROVED BY THE COUNTY

- a. The plan must address dust, dust suppression and fugitive dust, including requirements at least as protective as the following language adapted from Broomfield regulations:
 - i. Dust associated with on-site activities and traffic on access roads shall be minimized throughout construction, drilling and operational activities such that there are no visible dust emissions from access roads or the site to the extent possible given wind conditions. No untreated produced water or other process fluids shall be used for dust suppression. The operator will avoid creating dust or dust suppression activities within 300 feet of the ordinary high-water mark of any water body, unless the dust suppressant is water. Sand, silica and similar materials must be properly stored to prevent fugitive particulates. Measures shall be used to control particulates, including proof of compliance with State-required dust control measures and imposition of an opacity requirement as tested using EPA Method 9. Safety Data Sheets (SDS) for any chemical-based dust suppressant shall be submitted to the city prior to use.
- b. The plan should include a requirement for minimization of truck traffic to and from the site.

7. NOISE MONITORING AND MITIGATION MUST FOLLOW ECMC REQUIREMENTS AT A MINIMUM:

- a. The County should address in the regulations the following aesthetics and noise impacts requirements quoted directly from the ECMC:

“The Colorado Energy and Carbon Management Commission (ECMC) has established regulations to control aesthetics and noise impacts during oil and gas operations.

1. Maximum Permissible Noise Levels:

- The allowable noise levels depend on the zone of the surrounding area:
 - Residential/Agricultural/Rural Zone:
 - Daytime (7:00 am to next 7:00 pm): Maximum permissible noise level is 55 dB(A).
 - Nighttime (7:00 pm to next 7:00 am): Maximum permissible noise level is 50 dB(A).
 - Commercial Zone:
 - Daytime: Maximum permissible noise level is 60 dB(A).
 - Nighttime: Maximum permissible noise level is 55 dB(A).
 - Light Industrial Zone:
 - Daytime: Maximum permissible noise level is 70 dB(A).
 - Nighttime: Maximum permissible noise level is 65 dB(A).
 - Industrial Zone:

- Daytime: Maximum permissible noise level is 80 dB(A).
 - Nighttime: Maximum permissible noise level is 75 dB(A).
 - The type of land use in the surrounding area is determined by the Director in consultation with the Local Governmental Designee, considering applicable zoning or other local land use designations.
 - Between 7:00 a.m. and the next 7:00 a.m., the noise levels permitted above may be increased by 10 dB(A) for a period not exceeding 15 minutes in any one-hour period.
 - The allowable noise level for periodic, impulsive, or shrill noises is reduced by 5 dB(A) from the levels shown.
 - ~~Operations involving pipeline or gas facility installation or maintenance, the use of a drilling rig, completion rig, workover rig, or stimulation are subject to the maximum permissible noise levels for industrial zones.~~ [recommended edit added]
2. Measurement Distance:
- Sound levels are measured at a distance of 350 feet from the noise source.
 - At the request of the complainant, the sound level can also be measured at a point beyond 350 feet that the complainant believes is more representative of the noise impact.

Remember that noise control is most effective when addressed during the siting and design phase of oil and gas facilities.”

(End quote from the ECMC regulations)

- b. **The regulatory amendments for Noise should also address the following:**
- i. Acoustically insulated housing or cover enclosing the motor or engine;
 - ii. Noise management plan identifying hours of maximum noise levels, type, frequency, and level of noise, and proposed mitigation measures;
 - iii. Obtain all power from utility line power or renewable sources;
 - iv. Utilize the most current equipment to minimize noise impact during drilling, completions, and all phases of operation including the use of "Quiet Fleet" noise mitigation measures for completions, electric drill rigs and tier 4 engines, or the most advanced technology available;
 - v. Sound walls around well drilling and completion activities to mitigate noise impacts;
 - vi. Restrictions on the unloading of pipe or other tubular goods between 6:00 p.m. and 8:00 a.m.;
 - vii. Any abatement measures required by ECMC for high-density areas, if applicable.
 - viii. Use of quiet design mufflers (also referred to as hospital grade or dual dissipative) or equivalent.
 - ix. Industrial operations that cannot meet the ECMC standards shall not operate from 10:00 p.m. to 7:00 a.m.
- c. In amending the regulations, the County should take into consideration relevant information from the U.S. EPA regarding noise impacts to health and welfare. For example, the following excerpt from “Appendix J: EPA Protective Noise Levels” from EPA publication “EPA Identifies Noise Levels Affecting Health and Welfare”:
- “Appendix J: **EPA Protective Noise Levels**” states:
- “On the basis of its interpretation of available scientific information, EPA has identified a range of yearly Day-Night Sound Levels sufficient to protect public health and welfare from the effects of environmental noise.”

- “levels of **55 decibels outdoors and 45 decibels indoors** are identified as preventing activity interference and annoyance. **These levels of noise are considered those which will permit spoken conversation and other activities such as sleeping, working and recreation, which are part of the daily human condition.**”
- d. Also, note that the dB(A) weighting scale filters out and discriminates against low frequencies. Because hazardous workplace noise is typically loud and has a lot of low frequency components, it makes sense to measure it in dB(C) and to use both scales in the measurement process.
- 8. FENCE HEIGHT MUST BE PLANNED FOR MAXIMUM MITIGATION OF VISUAL IMPACTS, NOISE, ODORS, LIGHT AND DUST.**
- a. The plan must address: lighting, including requirements at least as protective as the following language adapted from Broomfield County regulations:
- i. Lighting. During all phases of development and operation, operator shall adhere to best management practices to minimize light escaping the facility including making all lighting downward-facing and fully shielding bulbs to prevent light emissions above a horizontal plane drawn from the bottom of the fixture. In doing so, operator shall take topography and location of downhill structures into account in order to avoid shining light into downhill properties. If required by County, during the drilling and completion phases operator shall install a minimum thirty-two foot wall around well pads to reduce light escaping site.
- b. See Maximum Permissible Noise Levels and Mitigation requirements above.
- 9. THE ABILITY TO PLAN AND PROTECT THE LOCATIONS OF FUTURE RESERVOIRS MUST NOT BE CONSTRAINED BY A REQUIREMENT TO HAVE THEM EITHER FORMALLY PERMITTED OR COURT ADJUDICATED. THE COUNTY MUST USE BETTER REGULATORY LANGUAGE TO MAINTAIN ITS PROTECTION OF FUTURE INFRASTRUCTURE OPTIONS.**

In addition, consistent with the above requests, we strongly recommend the County consider and adopt requirements at least as protective as the following excerpts from Broomfield’s regulations.

Consider the following language from the Air Quality Regulations of Broomfield::

- (O) Protocol, subject to city approval, for air modeling plan to be conducted by third-party consultant [contractor] approved by the city. Protocol must include facility emissions inventories for all GHG emissions, criteria pollutants and hazardous air pollutant standards and air quality impact studies for drilling, completions and production operations based upon proposed equipment use, and operation phases, and any emissions reductions associated with plugging and abandonment. In addition, a protocol must include emissions associated with truck traffic for drilling, completions, production and plugging and abandonment operations. Air modeling shall demonstrate that:
- (1) Emissions from the proposed facilities and associated truck traffic shall not cause or contribute to exceedances of the National Ambient Air Quality Standards;
 - (2) Emissions from the proposed facilities comply with federal air quality and odor rules, including EPA’s New Source Performance Standards and National Emission Standards for Hazardous Pollutants;
 - (3) Emissions from the proposed facilities comply with COGCC and CDPHE air quality and odor rules;
 - (4) Emissions from the proposed facilities comply with city emission control regulations;
 - (5) Emissions will be below the most protective health-based guidelines, including those used by CDPHE, EPA, California, or others.

- (P) Protocol, subject to city approval, for air monitoring plan to be conducted by a qualified third-party contractor approved by the city. Air monitoring plan shall describe how the operator will conduct baseline monitoring within 500 feet and at select nearby receptors of a proposed facility prior to construction and during all phases of development, including drilling, completion and production. The plan shall include monitoring for all potential emissions, including but not limited to, VOCs, Hazardous Air Pollutants (HAPs), BTEX, Hydrogen Sulfide, Oxides of Nitrogen (NOx), Particulate Matter (PM), Fine Particulate Matter (PM 2.5), Carbon Monoxide (CO) and methane (CH4), carbon dioxide (CO2). Operator shall pay for the baseline and ongoing monitoring.
- (Q) An air quality mitigation plan.
- (R) An odor mitigation plan that demonstrates how operator will minimize odors, including chemical odors, from its operations and comply with Colorado Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emissions, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, requirements of this chapter, and any other applicable regulations. The plan shall also provide a plan for timely responding to odor complaints, including chemical odors, from the community and for identifying and implementing additional odor control measures to control odors emanating from the oil and gas facility.”

Another useful Air Quality Section from Broomfield:

Emission control regulations and air protection requirements. To the extent used, all equipment shall comply with the following:

- a. Electrification from the power grid or from renewable sources of all permanent operation equipment that can be electrified;
- b. Dry seals on centrifugal compressors;
- c. Routing of emissions from rod-packing and other components on reciprocating compressors to vapor collection systems;
- d. Emission controls of hydrocarbon emissions of 98% or better for centrifugal compressors and reciprocating compressors;
- e. Best management practices during liquids unloading activities including the installation of artificial lift, automated plunger lifts and flares capable of a 98% destruction removal efficiency for hydrocarbon emissions to control any venting. If manual unloading is permitted, operator shall remain onsite during any manual unloading;
- f. Reduction or elimination of venting during oil and gas maintenance activities such as blowdowns. If it is not feasible to capture or combust emissions during any maintenance activity, including from a well tank, compressor, or flowline the operator shall provide forty-eight hour advance written notice to the city of such proposed venting. Such notice shall identify the duration and nature of the venting event, a description as to why venting is necessary, a description of what vapors will likely be vented, what steps will be taken to limit the duration of venting, and what steps the operator proposes to undertake to minimize similar events in the future. If emergency venting is required, or if accidental venting occurs, the operator shall provide notice to the city of such event as soon as, but in no event longer than, twenty-four hours from the time of the event, with the information listed above and with an explanation as to the cause and how the event will be avoided in the future;
- g. 98% control of emissions from pigging operations;
- h. Telemetric control and monitoring systems, including surveillance monitors to detect when pilot lights on control devices are extinguished;
- i. Operator agrees to participate in Natural Gas STAR program or other voluntary programs to encourage innovation in pollution control at facilities;
- j. Proof of compliance with state-required dust control measures and imposition of an opacity requirement as tested using EPA Method 9;

- k. Monitoring as needed to respond to emergency events such as process upsets or accidental releases;
 - l. Operator shall implement emission reduction measures to respond to air quality action day advisories posted by the Colorado Department of Public Health and Environment for the Front Range Area, including minimizing vehicle and engine idling; reducing truck traffic and worker traffic; delaying vehicle refueling; suspending or delaying use of fossil fuel powered ancillary equipment; postponing construction activities; postponing maintenance activities. Within thirty days following the conclusion of each air quality action day, operator shall submit a report to the city that details which measures it implemented during that air quality action day;
 - m. Shutdown protocols, approved by the city, with notification and inspection provisions to ensure safe shut-down and timely notification to local communities;
 - n. Ongoing maintenance checks of all equipment to minimize the potential for gaseous or liquid leaks;
 - o. Minimization of truck traffic to and from the site;
 - p. No venting other than when necessary for safety. Operator must report any venting to the city within twenty-four hours;
 - q. No venting or flaring of associated gas from hybrid gas-oil wells (i.e., gas that is co-produced from a well that primarily produces oil), unless during an emergency;
 - r. Consolidation of product treatment and storage facilities within a facility;
 - s. Centralization of compression facilities within a facility;
 - t. EPA reduced emission completions for oil wells. Daily logs documenting reduced emission completions provided to the city;
 - u. EPA reduced emission completions for gas wells. Daily logs documenting reduced emission completions provided to the city;
 - v. Closed loop, pitless drilling, completions and production systems;
 - w. Use of other best management practices as they become available;
 - x. The use of no-bleed continuous and intermittent pneumatic devices. This requirement can be met by replacing natural gas with electricity or instrument air, or routing the discharge emissions to a closed loop-system or process;
 - y. A root cause analysis for any Grade 1 gas leaks, as defined by COGCC;
 - z. Automated tank monitoring and gauging as required by CDPHE;
 - aa. Compliance with all CDPHE permits, if any, and compliance with all OSHA work practice requirements with respect to benzene.
- (5) The following may be required based on the size, nature and location of the facility:
- a. Implementation of tankless production techniques;
 - b. The use of desiccant gas processing dehydrators or other zero emitting dehydrators;
 - c. Use of a pressure-suitable separator and vapor recovery unit (VRU) where applicable;
 - d. Pipeline infrastructure for fresh water shall be constructed and placed into service prior to spudding for delivery of all fresh water to be used during the drilling, completion, production and operations phases;
 - e. Pipeline infrastructure for produced water, natural gas, crude oil and condensate will be constructed and placed into service prior to the start of any fluid flow from any wellbore;
- (6) Compliance. The operator shall submit annual reports to the city certifying (a) compliance with these air quality requirements and documenting any periods of material non-compliance, including the date and duration of each such deviation and a compliance plan and schedule to achieve compliance, and

(b) that the equipment at the facility continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters. The annual report shall contain a certification as to the truth, accuracy and completeness of the reports, signed by a responsible corporate official. The operator will also provide the city with a copy of any self-reporting submissions that operator provides to the CDPHE due to any incidence of non-compliance with any CDPHE air quality rules or regulations at the facility.

Finally, while we appreciate the urgency with which the County has undertaken this latest round of amendments to the Oil & Gas code, the short time frame for public review and comment on the proposed amendments is problematic. We had less than one week to read the draft proposed amendments and prepare our comments on them. This significantly impacted our ability to fully prepare and present our comments and recommendations regarding the proposed amendments. The public and the County staff should be given more time to work on the amendments and produce the best regulations possible. The sense of urgency to adopt the amendments as soon as possible before the Civitas permits are submitted is a false urgency. The County can and should pass a moratorium on Oil & Gas permits until the Oil & Gas code can be thoroughly and effectively updated to protect public health, safety and welfare.

TO: Arapahoe County Planning Commission
Diane Kocis, Energy Specialist, DKocis@arapahoegov.com
FROM: League of Women Voters of Arapahoe and Douglas Counties
Julie J.R. Huygen, 25280 E Ottawa Dr, Tallyn's Reach, Aurora
DATE: November 7, 2023
SUBJECT: Draft Oil and Gas Amendments (Phase 2)

Colorado Senate Bill 19-181 directs Arapahoe County as a local government to regulate the surface impacts of oil and gas operations “to protect and minimize adverse impacts to public health, safety, and welfare and the environment.” (SB 19-181, Sec. 4, amending Colorado Revised Statutes, 29-20-104, (1)(h)) Furthermore, Colorado law states, “A local government’s regulations may be more protective or stricter than state requirements.” (Colorado Code Sec. 34-60-131 (2022)) Arapahoe County officials have indicated an intent for the County’s oil and gas regulations to be the most protective, or strictest, in the state. On behalf of the **League of Women Voters of Arapahoe and Douglas Counties** (LWVADC) and as a resident, homeowner, and taxpayer of Arapahoe County, I provide the comments below on the County’s Draft Oil and Gas Amendments (Phase 2). (Attachment 2 Draft Oil Gas Code Amendments1101.pdf)

The members of LWVADC are residents of Arapahoe and Douglas Counties who are committed to empowering voters and defending democracy. As a part of the League of Women Voters of Colorado (LWVCO), we also support the following:

- Measures that promote the wise and balanced use of water in Colorado
- Measures to reduce air pollution
- Responsible land use planning
- Environmentally sound policies that reduce energy growth rates
- Safeguards in the production, transportation, use, treatment, disposal, and storage of hazardous materials
- Policies that enhance public participation in the permitting and monitoring of oil and gas operations in the state (LWVCO, Where the League Stands, <https://lwvcolorado.org>)

DUE PROCESS AND COUNTY PROCEDURES

We urge you to slow down. The residents of Arapahoe County deserve **due process – notice and the opportunity to be heard** – as the County continues its work on updating the regulations that govern oil and gas development. (Land Development Code, Sec. 5-3.6, Use By Special Review – Oil and Gas Facilities) With our commitment to empower voters and our support for public participation in oil and gas development decisionmaking, we applaud the County for providing the month of June for residents to review the proposed Phase 1 changes to Sec. 5-3.6, which were drafted in April and May after the March moratorium decision. The Planning Commission conducted its deliberations in a series of meetings in July and August. The Board of County Commissioners (Board) then had two months to consider the issues before holding a public meeting and voting on the Phase 1 changes in October.

We must admonish the County for providing less than one week for residents to review the draft Phase 2 amendments, which were assembled in less than three weeks. Also, we note that the County website fails to provide information about how and by when to submit written

comments. (arapahoeco.gov/oilandgas) The Planning Commission's sole meeting to consider the amendments is on November 8th, and then the Board will decide on November 14th. This two-week rush job for the entire process of the Phase 2 amendments fails in comparison to the five-month process of the Phase 1 changes. **Two weeks are simply and wholly inadequate for residents to provide meaningful input on the amendments, for the Planning Commission to conduct a sufficient review, and for the Board to make educated choices.** Not only are residents denied due process on matters that will directly impact public health, safety, and welfare and the environment, but the Planning Commission and the Board are deprived of the opportunity to make fully informed decisions. Moreover, there is no need to rush. On the contrary, it is essential to slow down and act deliberately, as the County did in Phase 1 and beginning with an accurate and comprehensive draft of the amendments from the Public Works and Development Department (PWD), which is not the current starting point for Phase 2.

SCHEDULE: We recommend the following schedule that ensures Phase 2 is both efficient and effective:

No later than November 15 – Draft Phase 2 amendments are revised and published online with information on how and by when to provide written comments.
(arapahoeco.gov/oilandgas)

November 30 – Written comments are due.

December 19 – Planning Commission conducts public hearing to consider draft amendments.

January 23 – Board of County Commissioners conducts public hearing to consider draft amendments.

Note: this schedule includes time for the PWD to compile written comments and to prepare Planning Commission recommendations for the Board's consideration.

MORATORIUM: Relatedly, we request that the County impose a moratorium on accepting new applications for Oil and Gas Facilities until the entire amendment process is complete and the fully updated Sec. 5-3.6 is published. This is a matter of fundamental fairness both to the applicants who should have knowledge and understanding of all of the requirements they must satisfy and to the County's residents who deserve to know the standards to protect public health, safety, and welfare and the environment that the applicants must meet and the County must uphold.

PROPOSED CHANGES

Below are our proposed changes to the County's Draft Oil and Gas Amendments (Phase 2) (Draft Amendments). (Attachment 2 Draft Oil Gas Code Amendments1101.pdf) **We ask that the Planning Commission consider these changes and make a recommendation on each one so that the Board of County Commissioners can consider and make a decision on each change.** If the Planning Commission does not consider our proposed changes, we still ask that the Commission vote on each, at least as an alternate or additional change, so that the Board can make comprehensive decisions on the Phase 2 amendments.

The regulatory excerpts below are from the County's Draft Amendments. The existing language of Sec. 5-3.6 is black, the County-drafted amendments are red, and our recommended changes

are blue and use ~~strikethrough~~ for deletions and underline for additions. Note that, for the convenience of the Planning Commission and subsequent Board’s reviews, we are presenting our proposed changes in numerical order based on the section numbering. The changes are not presented in order of priority or importance.

A. INTENT AND APPLICABILITY

1. The intent of this Section 5-3.6 is to describe the approval process and approval criteria to locate an Oil and Gas Facility in unincorporated Arapahoe County and to regulate the surface impacts of an Oil and Gas Facility’s operations ~~to such extent as is reasonable and necessary in a reasonable manner and~~ to protect public health, safety, and welfare and the environment in accordance with the authority provided under ~~SB19-181~~Senate Bill 19-181. Pursuant to Colorado Code Sec. 34-60-131 (2022), Arapahoe County has regulatory authority over oil and gas development and the County’s regulations, including this Section 5-3.6, may be more protective or stricter than state requirements.

...

~~No person, firm or corporation shall establish, construct, or build a new Oil and Gas Facility, or modify an existing Oil and Gas Facility subject to the provisions of this Code, without first having obtained required land use approval(s) and permits as required by this Code. An applications to the County for a new Oil and Gas Facilityies, may be submitted simultaneously with the Colorado Energy and Carbon Management (ECMC) permitting process to the County only after the ECMC has determined that the relevant Oil and Gas Development Plan is complete and the ECMC Director has approved the ECMC Form 2C. So long as they meet County requirements, application submissions to the ECMC or Colorado Department of Public Health and Environment (CDPHE) may be used to satisfy County application submittal requirements. An application to the County for a new Oil and Gas Facility will not be approved unless and until the ECMC has approved the relevant Oil and Gas Development Plan. All references in this Section 5-3.6 to an “Oil and Gas Development Plan” refer to the relevant Oil and Gas Development Plan submitted by the applicant, or operator, to the ECMC.~~

D. ADMINISTRATIVE APPROVAL CRITERIA

3. Environmental/Public Health and Safety Impacts: The proposed Oil and Gas Facility must be designed to protect ~~against~~ and to minimize adverse impacts to public health, safety, and welfare and to the environment ~~and wildlife...~~

DISCUSSION: Where Senate Bill 19-181 is cited, the Sec. 5-3.6.A.1. language should be adjusted to reflect accurately the language of the bill. The added citation to Colorado Code Sec. 34-60-131 (2022), which specifies local governments’ authority to regulate oil and gas development and permits local regulations to be more protective than the State’s, clarifies the scope of the County’s regulatory authority, which is not limited by State regulations.

The added references to the ECMC and Oil and Gas Development Plans facilitate a logical sequencing of ECMC actions for an oil and gas development project and County actions for an Oil and Gas Facility that is a part of such a project. Logical sequencing minimizes the risk of the

County approving a Facility and then having to re-visit the decision if the ECMC does not approve the overarching Oil and Gas Development Plan.

E.2. NEIGHBORHOOD MEETING

- a. Prior to submitting an application to Arapahoe County, the applicant shall conduct a neighborhood meeting to describe and take neighbors' input on the proposed Oil and Gas Facility and relevant ECMC Oil and Gas Development Plan. The applicant shall include the neighbors' input with the Oil and Gas Facility application submitted to the County. The applicant shall send written notification by U.S. Mail of the meeting to the Planning Division and to all property owners of record, all occupied residences if occupants are different from record owners, and all registered homeowners' associations and metropolitan districts for residential subdivisions where any portion of the owner's, occupant's, or platted subdivision's boundary is inside or within one **and a half (1.5)** miles of the proposed Oil and Gas Development Plan Comprehensive Area Plan (CAP), or project, boundary or facility pad boundary. Meetings may be conducted in person or utilizing an electronic virtual or remote meeting platform or both. Notice of the meeting must be sent no less than 15 days prior to the scheduled meeting date.

- b. At said meeting, the applicant must provide information concerning the Oil and Gas Development Plans for the specific CAP and facility, including the timing and phasing of construction, drilling and completion, the planned access route(s), and mitigations planned to address air, water, noise, light, odor, traffic, and visual impacts. The applicant must also provide information concerning the Emergency Response Plan (ERP), facility-specific Emergency Action Plan (EAP), and Tactical Response Plan (TRP). The applicant shall include with its application for the proposed facility a summary of the neighborhood meeting, a copy of the written notification of the meeting, an audio-visual or audio recording of the meeting or verbatim transcript of the meeting, the meeting agenda, any materials presented or provided at the meeting by the applicant, any other document prepared and made available for the meeting, and the list of attendees, including names and addresses, from the sign-in sheet(s). To satisfy this Neighborhood Meeting requirement, the meeting must take place no earlier than twelve (12) months and no later than one (1) month before the application for an Administrative Use by Special Review for an Oil and Gas Facility is submitted to the County.

E.3. APPLICATION NOTICE REQUIREMENTS

- a. The applicant shall provide written notification by U.S. Mail to all property owners of record, all occupied residences if occupants are different from record owners, and all registered homeowners' associations and metropolitan districts for residential subdivisions where any portion of the owner's, occupant's, or platted subdivision's boundary is inside or within one **and a half (1.5)** miles of the proposed CAP boundary or pad boundary of the proposed Oil and Gas Facility that an application for an Administrative Use by Special Review for an Oil and Gas Facility, will be filed with the County. The Notice of Application shall meet the format prescribed by the County; must include information about the Oil and Gas Development Plan, proposed CAP, and all Oil and Gas Facilities within the CAP, instructions on how to obtain further information, and information about providing public comment(s) to and attending public meeting(s) held

[by the County](#); and shall be mailed at the time of filing the application with the County. The property owners of record shall be those identified in the County Assessor's property records. The Planning Division will provide the applicant with the names and addresses of the homeowners' associations [and metropolitan districts](#). The applicant shall determine whether a residence is occupied by someone other than the owner and shall be responsible for [notifying](#) such occupants.

DISCUSSION: The recommended additions to the existing Neighborhood Meeting and Application Notice requirements are necessary in order to fulfill the requirements' intent of respecting **Arapahoe County residents' right to due process, or notice and opportunity to be heard on a matter directly and negatively impacting their homes, schools, and neighborhoods**. Limiting the neighborhood meeting and application notice to "neighbors" living within one or even one and a half miles of a specific facility pad in unincorporated Arapahoe County renders the meeting and notice ineffective when the facility is a small part of an Oil and Gas Development Plan for unconventional oil and gas drilling, or fracking, and a large CAP, or area to be fracked. This is especially true if the CAP covers already developed, zoned-residential areas of the County, where people currently live, work, and attend school. The recommended additions would make the Neighborhood Meeting and Application Notice requirements more substantive and more effective and are necessary to recognize and respect residents' right to due process.

Our proposed expansion of the Neighborhood Meeting and Application Notice requirements makes them sufficient to satisfy County residents' right to due process. Furthermore, the expansion makes them **the only opportunity for all residents to be informed of and heard on an oil and gas development project that affects public health, safety, and welfare and the environment and, especially if the project involves fracking, directly impacts their families, homes, and schools**. In other words, the ECMC does not extend due process to people whose home or property will be fracked; it is incumbent on the County to do so for County residents.

We submitted this proposed change during Phase 1, and both the Planning Commission and the Board expressed interest in expanding the Neighborhood Meeting and Application Notice requirements to provide sufficient due process to directly impacted County residents. We also note that the Board identified the inadequacy of the Neighborhood Meeting requirement as early as March 21, 2023. However, the only change-language to expand the requirement (from one to one and a half miles) was not considered by the Planning Commission and thus could not be approved by the Board. Instead, the Board could only direct that the change, albeit minor, be considered in Phase 2. Thus, **we are making the specific request that the Planning Commission vote on this proposed change and all of our proposed changes so that the Board can consider and vote on this proposed change and all of our proposed changes**.

F.2. SETBACKS

First and foremost, we urge that all setbacks be one mile with no exceptions.

As with all of our proposed changes, we ask that the Planning Commission vote on a one-mile setback with no exceptions so that the Board can consider and vote on a one-mile setback with no exceptions.

- a. All Oil and Gas Facilities shall be located at least:
- i. One mile ~~[2,000 (no change) or 2,500 or 3,000]~~ feet from the nearest boundary of any lot with an occupied structure as measured from the pad boundary.
 - ii. One mile ~~[2,000 (no change) or 2,500 or 3,000]~~ feet from the nearest boundary of any area zoned for residential use a platted lot smaller than 15 acres in area as measured from the pad boundary.
 - v. One mile ~~[2,000 (no change) or 3,000]~~ feet from the nearest boundary of a Designated Outside Activity Area as measured from the pad boundary.
 - vi. One mile ~~[2,640 (no change) or 3,000]~~ feet from the nearest property line of an operating or closed landfill as measured from the pad boundary.
 - vii. One mile ~~Outside of a from the edge of any~~ 100-year floodplain, domestic water well, and ~~or at least [500 (no change) or 1,000] feet from~~ the edge of any perennial surface water body ~~that is not a public water reservoir~~, the ordinary highwater mark of any perennial or intermittent stream, or the edge of any riparian area, whichever is the greater distance, as measured from the pad boundary. ~~Nothing in this setback shall be interpreted as modifying any specific requirement for a greater setback for stream, surface water or riparian areas established with CPW, unless CPW has waived or modified the setback from the stream, surface water, or the riparian area following~~ in accordance with ~~ECMCEGEC~~ Rules 309 and 1202.

DISCUSSION: As support for a one-mile setback, we highlight the findings and conclusions provided by the California Oil and Gas Public Health Rulemaking Scientific Advisory Panel to the California Geologic Energy Management Division by letter dated October 1, 2021. (California Department of Conservation, Geologic Energy Management Division, conservation.ca.gov/calgem/Documents/public-health/Public%20Health%20Responses_FINAL%20ADA.pdf)

We have focused our review on epidemiological studies carried out in multiple oil and gas regions, including **Colorado**, which has a similar regulatory context as California... Our Panel concludes with a high level of certainty that the epidemiologic evidence indicates that close residential proximity to OGD [oil and gas development] is associated with **adverse perinatal and respiratory outcomes**... [T]he totality of the epidemiological evidence provides a high level of certainty that exposure to OGD (and associated exposures) cause a significant increased risk of poor birth outcomes...

Noise pollution, odors, and landscape disruption are inherent to OGD. Investigations in other oil and gas states have noted **radioactivity** on particles downwind from unconventional oil and gas wells and in sediment downstream of water treatment plants that treat waste from conventional as well as unconventional oil and gas operations... The wells, valves, tanks and other equipment used to produce, store, process and transport petroleum products at both unconventional and conventional OGD sites are associated with **emissions of toxic air contaminants, hazardous air pollutants and other health-damaging non-methane VOCs**. Diesel engines used to power on-site equipment and trucks at unconventional and conventional OGD sites directly emit health-damaging hazardous air pollutants, fine particulate matter (PM_{2.5}), nitrogen oxides and volatile organic compounds (VOCs). Many VOCs and nitrogen oxides are precursors to ground level ozone (O₃) formation, another known health harming pollutant. Hazardous

air pollutants that are known to be emitted from OGD sites include **benzene, toluene, ethylbenzene, xylenes, hexane and formaldehyde—many of which are known, probable or possible carcinogens and/or teratogens and which have other adverse effects for non-cancer health outcomes...**

Existing epidemiologic studies were not designed to test and establish a specific “safe” buffer distance between OGD sites and sensitive receptors, such as homes and schools. Nevertheless, studies consistently demonstrate evidence of harm at distances less than 1 km, and some studies also show evidence of harm linked to OGD activity at distances greater than 1 km... Because air pollutant concentrations and noise levels decrease with increasing distance from a source, adequate setbacks can reduce harm to local populations by reducing exposures to air pollutants and noise directly emitted from the OGD activities. However, setbacks do not reduce harms from OGD contributions to regional air pollutant levels, such as secondary particulate matter and ozone, or greenhouse gases, such as methane, which are nearly always co-mingled with health-damaging air pollutants... (Citations omitted.)

We also bring to your attention the public comment provided by a **Cherry Creek School District** official at the Board of County Commissioner’s meeting of April 11, 2023. The comment has direct relevance to the recommended setbacks from occupied structures, including schools. The official explained that the Cherry Creek School District declined Civitas’ offer to lease the School District’s mineral rights for the Lowry Ranch fracking project because of the dangers posed to students and their health, welfare, and learning by fracking. He further explained that, contrary to the assertions of a commenter at the Board’s meeting of March 28, 2023, the Cherry Creek School District would see no direct economic benefit from the Lowry Ranch fracking project or any future oil and gas development approved by Arapahoe County because of how education and school district funding is managed at the state level.

There is no scientific data that establishes a safe distance between an Oil and Gas Facility and people and the places where they live, work, attend school, and enjoy outdoor recreation. Instead, we have to rely on the greatest and thus most protective setback distance that has direct relevance to County-approved Oil and Gas Facilities: the one-mile, no-exceptions setback for the Aurora Reservoir. **With no scientific data to support any lesser setback when the setback must protect public health, safety, and welfare and the environment, it would be illogical and unreasonable for the County to establish anything other than a one-mile, no-exceptions setback.**

F.2.b.-F.2.d. LESSER SETBACKS

There should be no provisions for lesser setbacks. Lesser setbacks fail to protect public health, safety, and welfare and the environment. Therefore, we recommend Sections F.2.b.-F.2.d. be deleted in their entirety.

As with all of our proposed changes, we ask that the Planning Commission vote on deleting these three sections in their entirety so that the Board can consider and vote on deleting them in their entirety.

ALTERNATIVE: If there must be consideration of lesser setbacks – which we totally oppose – no lesser setback should be less than 3,280 feet, or one kilometer, which should be the absolute minimum setback and does not protect public health, safety, and welfare and the environment from known and studied dangers.

- b. The ~~one mile s2,000-foot setbacks~~ from ~~a lot with an~~ occupied structures or ~~an area zoned for residential use platted lots~~ referenced in subparagraphs 5-3.6.F.2.a.i and ii above may also be reduced to a lesser setback:
- i. If the owner(s) of ~~all of~~ the occupied structure(s) ~~and lot(s) with an occupied structure~~ or all owners of the affected ~~area zoned for residential use platted lots~~ agree in writing to a lesser setback ~~in response to a request for informed consent made in accordance with ECMC requirements for informed consent~~, and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below ~~[500 (no change) or 1,000]~~ **3,280** feet; or
 - ii. If, as shown on the Oil and Gas Facility Operations Plan submitted with the application, any and all wells, tanks, separation equipment, compressors and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than ~~the distance of the one-mile required setback~~ **2,000 feet** from the nearest occupied structure(s) ~~and lot(s) with an occupied structure~~ or all affected ~~areas zoned for residential use platted lots~~; or
 - iii. ~~If a lesser setback is requested by the operator and The platted lot and occupied structures setback as measured from the pad boundary may be reduced below [2,000, 2,500, or 3,000] feet if an Oil and Gas Facility application that includes a lesser setback is submitted, it must be~~ approved by the Board of County Commissioners through the Use by Special Review process provided in Section 5-3.4 of the Land Development Code. For approval of any lesser setback under this subparagraph, ~~in addition to the criteria set forth in Section 5-3.4~~, the Operator must establish that the lesser setback as proposed will provide substantially equivalent protection to ~~thea 2,000-foot~~ **one-mile** setback ~~requirement~~ and that granting the lesser setback will not adversely impact public health, safety, or welfare or the environment. In reviewing the proposed lesser setback, the Board of County Commissioners shall consider the extent to which the operator provides an alternative Oil and Gas Facility design, best management practices, control technologies, or proposes conditions of approval that will be effective to avoid, minimize, or mitigate adverse impacts on the affected properties, considering:
 - (a) geology, technology, and natural ~~or added man-made~~ features, hazards or topography;
 - ~~(a)(b) (b):~~ the location and use of occupied structures, ~~lots with an occupied structure, and areas zoned for residential use~~ and proximity to those structures, ~~lots, and areas; and~~ **and**
 - ~~(b)(c) (c):~~ the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas ~~facility location;~~ **and**
 - ~~(c)(d) (d):~~ the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location.

- iv. However, in no case may the ~~2000-foot one-mile~~ setback from occupied structures, lots with an occupied structure, or areas zoned for residential use ~~platted lots~~ be reduced below ~~[500 (no change) or 1,000 or 1500]~~ 3,280 feet.
- c. The setbacks from a Designated Outside Activity Area may be reduced with the consent of the owner ~~or manager~~ of the Designated Outside Activity Area, but in no case may the setback be reduced below ~~[3,280, 2,000 or 1,500 or 1,000]~~ feet for a Designated Outside Activity Area.
- d. Provided that the Oil and Gas Facility remains entirely outside the boundary of any 100-year mapped floodplain, the setback from a perennial surface water body that is not a public water reservoir, the ordinary highwater mark of any perennial or intermittent stream, or the edge of any riparian area may be reduced in accordance with the provisions of Section 5-3.6.E.5 and provided that the reduction in setback is supported by an independent third-party professional engineering consultant with appropriate wetlands expertise or an independent third-party Wetlands Scientist, retained and paid for by the operator, and provided such reduction is consistent with any requirement of CPW and is not otherwise opposed by CPW. However, in no case may the setback be reduced below ~~3,280~~ 500 feet.

F.2.e. REVERSE SETBACKS

- e.e. Reverse Setbacks: No new occupied structure shall be constructed or new area zoned for residential use less than:
 - i. ~~One mile~~ 250 feet from an existing Oil and Gas well, facility pad, or facility of any status (permitted but not drilled yet, drilling, completing, producing, active gas storage, injecting, shut-in, temporarily abandoned, dry and abandoned, or ~~that was plugged and abandoned prior to 2014~~).
 - ii. ~~One mile~~ 150 feet from a plugged and abandoned oil and gas well or remaining equipment from an oil and gas well that was plugged and abandoned ~~in~~ from 2014 ~~or later~~ onward.

DISCUSSION: Reverse setbacks should be one mile, no less than other setbacks. As explained above, lesser setbacks fail to protect public health, safety, and welfare and the environment. For new construction that necessitates a regulatory provision for a reverse setback, the County has already established the preference for oil and gas development over (surface) property development by approving the location of an Oil and Gas Facility and allowing it to be built there. The County and later property owners and developers are thereafter bound to maintaining the minimum setback of one mile for new construction.

As with all of our proposed changes, we ask that the Planning Commission vote on (1) the alternative of lesser setbacks no less than 3,280 feet and (2) one-mile reverse setbacks so that the Board can consider and vote on them.

F.2.f. WATER RESERVOIR SETBACKS

As with all of our proposed changes, we ask that the Planning Commission vote on a one-mile setback with no exceptions for water reservoirs so that the Board can consider and vote on a one-mile setback with no exceptions for water reservoirs.

- f. **Public** Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:
- i. ~~At least one mile (5,280 feet) from existing or planned public water and permitted water reservoirs with a capacity of 100 acre/feet or more and used or to be used for a potable water supply, or at least the setback distance established by the governmental authority responsible for the particular public water reservoir, whichever distance is greater. unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case the setback shall be 2,000 3,000 feet.~~ The water reservoir setback shall be measured from the Oil and Gas Facility's pad boundary to the nearest high watermark of the reservoir or as mapped on reservoir plans approved with permitting for a planned ~~and permitted~~ reservoir.
 - ii. ~~The [downgradient reservoir and planned reservoir setback may be reduced below 3,000 feet] if approved through the Use by Special Review process provided in Section 5-3.4. For approval of a lesser setback under this subparagraph, in addition to the criteria set forth in Section 5-3.4, the Operator must establish the following criteria: 1. The owner or operator of the reservoir does not object to the lesser setback; 2. Due to topography or other special condition of the site location, the lesser setback is necessary to allow for safe construction, installation, or operations at the Facility; 3. Alternative Oil and Gas Facility design, best management practices, control technologies, and/or proposed conditions of approval proposed for the Facility will be effective to avoid, minimize, or mitigate adverse impacts upon such drinking water sources, and that with such mitigative measures, the lesser setback as proposed will provide substantially equivalent protection as the setback requirement; 4. That granting the lesser setback for the Facility as proposed and designed will not adversely impact public health, safety, or welfare or the environment; and 5. No setback may be reduced below [1,500 or 2,000] feet.~~
 - iii. ~~The one-mile reservoir and planned reservoir setback for an Oil and Gas Facility (not downgradient) may be reduced if approved through the Use by Special Review process] provided in Section 5-3.4. For approval of a lesser setback under this subparagraph, in addition to the criteria set forth in Section 5-3.4, the Operator must establish the following: 1. The owner or operator of the reservoir does not object to the lesser setback; 2. There is no evidence of any hydrological connection to the reservoir or planned reservoir; 3. Due to topography or other special condition of the site location, the lesser setback is necessary to allow for safe construction, installation, or operations at the Facility; 4. Alternative Oil and Gas Facility design, best management practices, control technologies, and/or proposed conditions of approval proposed for the Facility will be effective to avoid, minimize, or mitigate adverse impacts upon such drinking water sources, and that with such mitigative measures, the lesser setback as proposed will provide substantially equivalent protection as the one mil setback; 5. That granting the lesser setback for the Facility as proposed and designed will not~~

~~adversely impact public health, safety, or welfare or the environment; and 6. No setback may be reduced below 3,000 feet.~~

DISCUSSION: In Colorado and the western United States, there is no more important natural resource than water. The Aurora Reservoir is the water source for hundreds of thousands of Arapahoe County residents; it must be clean, secure, and protected. **The City of Aurora has established a one-mile reservoir setback with no exceptions.** (Aurora City Code, Sec. 135-4(b)(4)c., *in toto*, “Setbacks from reservoirs. Operator shall site the oil and gas location a minimum of one mile from all existing or planned reservoir sites.”) With the Aurora Reservoir at issue, Arapahoe County should and must provide at least the same protection on the Reservoir’s eastern shores as the City of Aurora does on the Reservoir’s western shores.

Similar to the protection of a one-mile setback for occupied structures, residential areas, and landfills, **a one-mile setback for water reservoirs protects above and below the surface.** It protects groundwater from contamination through cracks and fissures and surface water from contamination through leaks and spills as well as by air pollutants. It also protects reservoirs as recreational and wildlife areas from noise and light pollution, odors, dust, and landscape disruption. Lesser setbacks fail to protect public health, safety, and welfare and the environment and fail to protect public water reservoirs.

The addition regarding a “governmental authority responsible for the particular public water reservoir” covers the situation of an applicant seeking to build in Arapahoe County an Oil and Gas Facility that impacts a non-County water reservoir protected by a setback that is established by that governmental authority and is greater than one mile.

G. APPROVAL/DENIAL/CONDITIONS OF APPROVAL

1. Action to Approve, Conditionally Approve or Deny
The PWD Director may approve, approve with conditions, or deny an Administrative Use by Special Review application for an Oil and Gas Facility if subsection G.4. below has not been invoked. Written notice of the decision shall promptly be provided to the applicant and made available to the public, and, if denied, the notice shall include a statement of the reason(s) for denial.
4. ~~PWD Director’s Discretion to~~ Referral to the Board of County Commissioners
In lieu of the PWD Director making a decision on an application, the Director has the discretion to refer any application for Administrative Use by Special Review or amendment thereto to the Board of County Commissioners for its consideration and decision at a public hearing. In addition, any member of the Board, or any Arapahoe County Commissioner, may require that any application or amendment thereto be referred to the Board for its consideration and decision at a public hearing. In ~~such the~~ event of a referral, the Board shall make its determination based upon the requirements of this Section, Arapahoe County Land Development Code, and Colorado state law. ; however, unless waived by the Board, compliance with the notice requirements set forth in Section 5-3.4.C.2. is required prior to the Board hearing. At such public hearing, the Board may approve, approve with conditions, or deny the application.

H. ADMINISTRATIVE AMENDMENT

If the Applicant or the Operator proposes changes from an approved application for an Oil and Gas Facility, the plans approved through the Administrative Use by Special Review, including but not limited to any changes in the source or location of water to be used by the Oil and Gas Facility, the type and size of equipment on the Ffacility, or visual mitigation measures, the Applicant is required to submit an amendment to the approved application and address Administrative Use by Special Review plans showing the proposed changes. The PWD Director may approve, conditionally approve, or deny the proposed amendment in accordance with the provisions of this Section 5-3.6. The application for the proposed amendment must meet all requirements of this Section 5-3.6. The proposed amendment will be reviewed by PWD staff and, as needed for the review of the application, PWD Staff may require additional information from the Applicant. The amended application will need to meet all requirements of this Section and be approved in writing. The PWD Director may approve, conditionally approve, or deny the proposed amendment in accordance with the provisions of this Section 5-3.6 if the Director approved the original application. If the Board of County Commissioners BOCC approved the original application or approved the original application on appeal, as a USR, or by reason of its otherwise having been referred elevated to the BOCC for decision under this Section 5-3.6, the proposed amendment shall be referred to the Board BOCC for consideration and decision following a public hearing as provided in Section 5-3.6.G.4 above. The PWD Director may exercise the his or her discretion to refer elevate any proposed amendment application to the Board BOCC for consideration and decision as provided in Section 5-3.6.G.4 above. In addition, any member of the Board, or any Arapahoe County Commissioner, may require that any proposed amendment application be referred to the Board for consideration and decision following a public hearing. Upon recommendation of PWD Staff, the PWD Director may waive the need for amendment of the Administrative Use by Special Review or other BOCC approved Oil and Gas Facility permit provided that the proposed change is found to be minor, with no material effect to or departure from the original approval, and without the potential for surface impacts to public health, safety, welfare, the environment at the Facility site.

DISCUSSION: The proposed changes provide discretionary authority for the Board to consider and decide Oil and Gas Facility applications and amendments without diminishing the discretionary authority of the PWD Director to refer applications to the Board for decision. These changes help ensure **a transparent decisionmaking process** in which Oil and Gas Facility applications of great interest and concern to County residents are considered and decided by their elected representatives after public hearings, not by a single unelected official behind closed doors.

ADDITIONAL CONCERNS

In addition to the specific changes we propose above, we support the changes proposed by Save The Aurora Reservoir, including but not limited to the following topics: **fire prevention; water and air testing and monitoring; noise mitigation; seismic studies; and an explicit prohibition on wastewater injection wells to which we add a total ban on open-pit storage.** We also recommend a requirement to detail **how the applicant will source, transport, and store freshwater and store and transport wastewater.** A detailed water plan is all the more important when the Oil and Gas Facility is a small part of a large Oil and Gas Development Plan

for fracking, which requires millions of gallons of freshwater and generates millions of gallons of toxic wastewater.

CONCLUSION

The LWVADC concludes our comments on the Phase 2 Draft Amendments with our thanks for your service as well as for your time, attention, and consideration of our proposed changes. We urge you to **(1) immediately extend the timeline for Phase 2 and thereby recognize Arapahoe County residents' right to due process in the crucial matter of oil and gas regulations and (2) vote on all of our proposed changes so that the Board of County Commissioners can consider and vote on all of our proposed changes.** These two basic administrative and procedural steps will vastly improve your vital work of protecting our health, safety, and welfare and our environment.

You may contact me at julierimhuygen@gmail.com or (720) 261-3218 with any comments or questions.



October 30, 2023

Arapahoe County
Board of County Commissioners
5334 S. Prince Street
Littleton, CO 80120

Submitted via: DKocis@arapahoegov.com

RE: Proposed Oil and Gas Setback Amendments

Dear Commissioners,

The American Petroleum Institute Colorado (API Colorado) respectfully submits the following comments on the proposed oil and gas regulations put forth by Arapahoe County (the county). API Colorado appreciates the efforts by the county to consider stakeholder feedback and we look forward to continuing to work with county staff on this matter.

The American Petroleum Institute (API) represents all segments of America's oil and natural gas industry. API was formed in 1919 as a standards-setting organization and has developed more than 800 standards to enhance operational and environmental safety, efficiency and sustainability. Its nearly 600 members produce, process, and distribute most of the nation's energy. Member companies are producers, refiners, suppliers, marketers, and pipeline operators as well as service and supply companies that support all segments of the industry.

As the county considers revisions to setbacks, we find it difficult to provide robust and substantive feedback when the county is requesting stakeholder input prior to the release of the draft rules. Nonetheless, when the state considered similar measures, API Colorado was actively engaged throughout that extensive rulemaking and we submit comments based on that experience. As API Colorado has noted, when a local government exercises its Senate Bill 181 powers, it must be both necessary and reasonable and designed to minimize and mitigate impacts that cannot be avoided. Equally important, in any regulatory undertaking, a governmental entity must provide a basis for its proposed regulations.

Colorado continues to boast some of the most stringent regulations in the oil and natural gas industry. Following the passage of Senate Bill 181, the Colorado Energy and Carbon Management Commission (ECMC), and multiple other state agencies, continue to undertake a myriad of rulemakings to protect public health, safety, welfare, the environment and wildlife resources. Throughout the process of amending current county rules, API Colorado has continued to encourage alignment with ECMC rules. The county's review of setbacks is no different.

We are unaware of any scientific justification for increasing the state's existing setback regulations. Studies completed by the Colorado Department of Public Health and Environment (CDPHE) have



demonstrated that setbacks do not need to be increased in order to protect public health.¹ The ECMC developed current setbacks through a rulemaking which involved an extensive stakeholder process and expert testimony. In the absence of new or different data, we would encourage the county to review the existing scientific data and conclusions made by the state.

It is also important for the county to consider the potential impact any increase setback requirement could have on property owners. API Colorado notes several concerns with the proposed setback provisions that raise legal concerns. Increased setbacks could economically strand numerous existing assets and deter future investment in the county. We would also like to remind the Board that in 2018, Colorado voters expressed their disapproval for increased setbacks with more than half of Colorado voters opposing Proposition 112. If passed, the measure would have increased setbacks statewide to 2,500 feet. The same was true in Arapahoe County, where 55% of voters did not support increasing setbacks.

API Colorado appreciates the county's consideration of regulations in place and those still forthcoming through rulemakings and ask that data and science be at the forefront of any decisions made by the county. We also look forward to providing additional comments on the proposed regulations once they are available for review and working with the county and its staff in developing standards for safe and reliable operations.

Sincerely,

A handwritten signature in cursive script that reads 'Alejandra Major'.

Alejandra Major
Associate Director
majora@api.org

¹ Colorado Department of Public Health and Environment, "Assessment of Potential Public Health Effects from Oil and Gas Operations in Colorado," February 21, 2017, CDPHE
<https://drive.google.com/file/d/0B0tmPQ67k3NVVFc1TFg1eDhMMjQ/view?resourcekey=0-6GnSmpvWj5qHhQl-Ezg05g>

ICF, "Final Report: Human Health Risk Assessment for Oil & Gas Operations in Colorado," October 17, 2019
https://drive.google.com/file/d/1pO41DJMXw9sD1NjR_OKyBJP5NCb-AO0l/view

From: [Mark Kamin](#)
To: [Diane Kocis](#)
Subject: Correction to the Oct 10, 2023 Hearing
Date: Sunday, October 22, 2023 4:59:17 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Diane,

Hello Diane,

As I mentioned to you previously, I am providing an update to comments made at the Oct 10, 2023 hearing on the subject of the Proposed Oil and Gas Regulations, specifically the testimony of Michael Wurzman, for your reference.

In his testimony Mr. Wurzman mistakenly described a USGS report¹ as referring to 7000 feet of impermeable rock underlying the Denver Basin being 30% sandstone, claystone, etc. What he meant was that the report was describing the fragile uppermost level of bedrock underlying much of the Denver region including the Lowry Landfill Superfund Site (LLSS). This thin upper bedrock layer was identified by the EPA as the primary containment mechanism preventing downward migration of toxic chemicals from the LLSS into our precious aquifers.

This 'bedrock', that contains 30% sandstone channels, etc., is described in this paper as follows:

“With the essentially horizontal character of these sandstone channels, vertical movement of contaminants will occur readily... if significant vertical fracturing connects channels.”

It is this potential for fracturing due to nearby fracking-induced seismicity that could result in loss of containment under the Lowry Landfill Superfund Site that should be a significant concern for the county. The original remedy of containment for the LLSS did not anticipate the potential future introduction of fracking-induced seismicity and its potential for causing a catastrophic failure of the proposed remedy.

The EPA has already requested no fracking under the LLSS and secured a commitment from Civitas. However, the EPA, even though concerned, does not currently have the authority to establish an appropriate buffer zone outside of the LLSS.

Therefore, it is imperative that the county insist on studies prior to the approval of any fracking in the area to establish robust, scientifically based buffer zones around the LLSS.

Note that this is contrary to the claims of Civitas who claims we are all protected by a 7000 foot layer of impermeable rock that lies below the aquifers since they have ignored the more dangerous issues that lie directly above the aquifers.

The same kind of studies must be performed for the Aurora Reservoir and its Dam, which are potentially subject to premature failure from the fracking induced seismicity, especially with the knowledge of pre-existing growth faults under the dam area².

Thank you,

Mark

Mark Goldsmith Kamin

1. Otton, J.K., 2000, Geologic cross sections and Denver Formation bedrock lithology map at the Denver Radium Operable Unit VIII (Shattuck Site): U.S. [Geological Survey Open-File Report 2000-41, iv, 19 p](#)
2. CH2M Hill, 1987, Senac Dam Report Appendix B

Reference & Citation Request Response for Commissioner Jessica Campbell-Swanson 1st Two Bullets & Seismic Issues

First Bullet: Residential Setbacks

Webb, E., Hays, J., Dyrszka, L., Rodriguez, B., Cox, C., Huffling, K., & Bushkin-Bedient, S. (2016). **Potential hazards of air pollutant emissions from unconventional oil and natural gas operations on the respiratory health of children and infants**. *Reviews on Environmental Health*, 31(2), 225-243. doi:10.1515/reveh-2014-0070

[https://eplanning.blm.gov/public_projects/nepa/68426/102904/125954/Webb 2016 Pot hazards of air pollutant emissions ...on children and infants.pdf](https://eplanning.blm.gov/public_projects/nepa/68426/102904/125954/Webb%202016%20Pot%20hazards%20of%20air%20pollutant%20emissions%20...on%20children%20and%20infants.pdf)

Quotes from pgs 12-13:

- “Setback distances from UOG [Unconventional Oil & Gas] development are intended to protect the health and safety of residents (148), including infants and children.”
- “**We recommend that at a minimum, one-mile setbacks** should be established between drilling facilities and occupied dwellings such as schools, hospitals, and other dwellings where infants and children might spend a substantial amount of time.”
- “**Reducing ozone levels near UOG potentially improves children’s health and decreases school absenteeism**. In the CHS, the largest long-term study of the health effects of children’s chronic exposures to Southern California’s air pollution to date, reductions in ambient ozone levels in Southern California between 1990 and 1999 reduced school absences by 2.8 million (152). A more recent Webb et al.: Hazards of UOG emissions on children’s and infants’ respiratory health 13 estimate found a reduction of 1 million absences annually if more strict ozone standards were put in place (153).” [comment: these absences are just for Southern California schools!]
- “**We strongly recommend policies that strengthen disclosure and transparency about chemicals used in UOG**....Disclosure of chemicals is critical to be able to understand the full scope of respiratory health effects for infants and children...In a 2011 study by Colborn et al. (157), the authors evaluated possible health impacts of chemicals used in UOG and found that over 80% of these chemicals are linked to negative respiratory impacts (n=353).”

From UC Anschutz (Colorado)

McKenzie, L. M., Allshouse, W., & Daniels, S. (2019). **Congenital heart defects and intensity of oil and gas well site activities in early pregnancy**. *Environment International*, 132doi:10.1016/j.envint.2019.1050671

Department of Environmental and Occupational Health, Colorado School of Public Health, University of Colorado Anschutz Campus, Aurora, CO, USA
Department of Pediatrics, University of Colorado School of Medicine, University of Colorado Anschutz Campus, Aurora, CO, USA

[Covers a wide variety of **Congenital Heart Defects (CHDs)** looking at both **2-mile and 10-mile distances from O&G**] (aortic artery and valve (AAVD), pulmonary artery and valve (PAVD), conotruncal (CTD), or tricuspid valve (TVD) defect

Please Read Results Summaries Pgs 5-9

PG 1: “This study provides further evidence of a positive association between maternal proximity to O&G well site activities and several types of CHDs, particularly in rural areas.”

Pg 3: “Based on associations observed with adverse health outcomes in previous studies, a **10-mile buffer** represents a conservative geographic area of interest that could plausibly affect exposure” [therefore this study explored effects out **10 miles and also includes additional data for 2 mile buffers**]

Pg 5: “Both crude and adjusted estimates indicate an increase in odds of maternal exposure to O&G well site activities in the second gestational month, as represented by IA-IDW [intensity adjusted inverse distance weighted] well counts, in births with any CHD”... **Congenital heart defects were 1.4 ... times more likely than controls** ... Similarly, both crude and adjusted estimates indicate an increase in odds of maternal exposure to O&G well site activities in the second gestational month, as represented by IA-IDW well counts, in births with a CTD or PAVD. **Births with a CTD were 1.5 ... times more likely** than controls in the medium and high exposure groups, respectively, compared to the least exposed group... **Births with a PAVD were 1.4 ...and 1.7 ... times more likely** than controls in the medium and high exposure groups, respectively, compared to the least exposed group... While both crude and adjusted estimates indicate **increased odds of births with AAVDs and TVDs with increasing maternal exposure to O&G** well site activities in the second gestational month”

Pg 6: “In our evaluation of a **2-mile buffer zone** around the maternal residence in the second month of gestation, we observed **similar results for AAVDs, stronger associations for CTDs and TVDs** ...”

“**We observed positive associations between odds of a birth with a CHD and maternal exposure to O&G well activities**, as represented by IA-IDW [intensity adjusted inverse distance weighted] well counts, in the second gestational month. The odds of a birth with any type of CHD increased from the low to high exposure group.

In rural areas, odds of a birth with an AAVD, CTD, or TVD were 2.6–4.6 times more likely than controls in the high exposure group compared to the low exposure group. In urban areas, we did not observe associations between odds of a birth with an AAVD, CTD, or TVD. In the subset of births for which we were able to find the maternal address in the second gestational month, odds of a birth with a PAVD were 2.5 times more likely than controls in the high exposure group.“

Pg 10: “This study provides further evidence of a positive association between maternal proximity to O&G well site activities and several types of CHDs, particularly in rural areas and in areas with high densities of air pollution sources not associated with O&G activity.”

Weisner ML, Allshouse WB, Erjavac BW, Valdez AP, Vahling JL, McKenzie LM. **Health Symptoms and Proximity to Active Multi-Well Unconventional Oil and Gas Development Sites in the City and County of Broomfield, Colorado.** Int J Environ Res Public Health. 2023 Feb 1;20(3):2634. doi: 10.3390/ijerph20032634. PMID: 36767999; PMCID: PMC9915243. International Journal of Environmental Research and Public Health, 20(3), 2634DOI: 10.3390/ijerph20032634
<https://www.mdpi.com/1660-4601/20/3/2634>
Broomfield Oil and Gas Health Survey:
<https://www.broomfieldvoice.com/oil-and-gas-health-survey>

Pg 11: respondents living within 1 mile of a multi-well UOGD site in CCOB (City and County of Broomfield) reported greater frequencies of upper respiratory and acute response symptoms in the past 14 days than respondents living more than 2 miles from the sites. Respondents living within 2 miles of a UOGD site also reported that their children experienced greater frequencies of lower respiratory, GI and acute response symptoms in the past 14 days as well as a greater number of total symptoms, in adjusted models.

Shonkoff, S. B. C., Morello-Frosch, R., Casey, J. A., Deziel, N., DiGiulio, D. C., Foster, S., Harrison, R., Johnston, J., Kloc, K., McKenzie, L., McKone, T., Miller, M., Polidori, A. (2021). **Response to CalGEM Questions for the California Oil and Gas Public Health Rulemaking Scientific Advisory Panel.** California Geologic Energy Management Division (CalGEM)

Pg 1: “Our Panel concludes with a high level of certainty¹ that the epidemiologic evidence indicates that close residential proximity to OGD is associated with

adverse perinatal and respiratory outcomes ... "It should also be noted that adverse perinatal outcomes, including preterm births, low birth weight, and small-for-gestational age births increase the risk of mortality and long-term developmental problems in newborns... as well as longer term morbidity through adulthood"

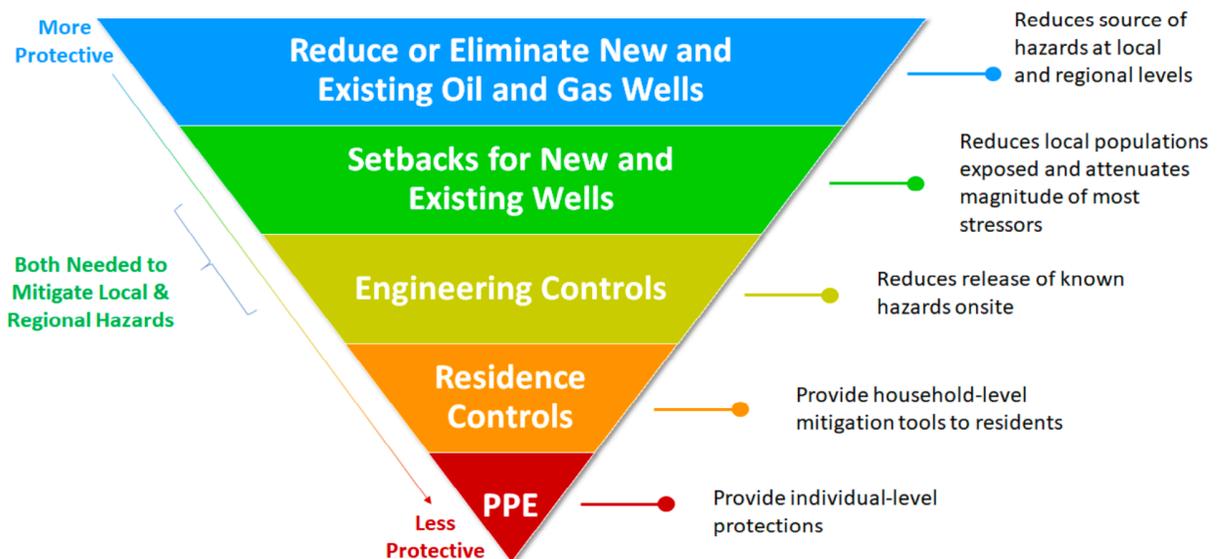
Pg 2: "We have a **high level of certainty in the findings** in the body of epidemiological studies for perinatal health outcomes because of the consistency of results across multiple studies that were conducted using different methodologies, in different locations, with diverse populations, and during different time periods

Pg 4: "**Many criteria air pollutants** (e.g., particulate matter, ozone, nitrogen oxides) and hazardous air pollutants emitted from OGD have a well-established body of scientific literature indicating that exposure to these pollutants causes an increased risk of development and exacerbation of respiratory disease"

Pg 9: "**PM_{2.5} and nitrogen oxides emissions result from the use of diesel-powered equipment and trucks** and hazardous air pollutants such as benzene, toluene, thylbenzene and xylene (BTEX) occur naturally in oil and gas formations, regardless of the type of extraction method employed. **Noise pollution, odors, and landscape disruption are inherent to OGD.** Investigations in other oil and gas states have noted **radioactivity on particles** downwind from unconventional oil and gas wells (Li et al., 2020b) and in **sediment downstream of water treatment plants** that treat waste from conventional as well as unconventional oil and gas operations"

Pg 11: "The authors documented **higher concentrations of PM_{2.5}, NO₂, VOCs, and O₃** at air quality monitoring sites **within 4 km of pre-production OGD well sites** (i.e., wells that were between spudding and completion) and **2 km of production OGD well sites**" [Note: 4 km = 2.5 miles, 2 km = 1.25 miles]

Pg 12: "Figure 3. **Hierarchy of strategies to reduce or eliminate public health harms for OGD activities.** Note: the use of the term "wells" includes the ancillary infrastructure used to develop, gather and process oil and gas in the upstream oil and gas sector.



Pg 13: If the development of oil and gas is to continue, **the greatest health benefits would be gained from a strategy that includes the next two controls in the hierarchy depicted in Figure 3**: the elimination of new and existing wells and ancillary infrastructure within **scientifically informed setback distances and the deployment of engineering emission controls and associated monitoring approaches** that lead to rapid leak detection and repair for new and existing wells and ancillary infrastructure. Because air pollutant concentrations and noise levels decrease with increasing distance from a source, adequate setbacks can reduce harm to local populations by reducing exposures to air pollutants and noise directly emitted from the OGD activities. However, setbacks do not reduce harms from OGD contributions to regional air pollutant levels, such as secondary particulate matter and ozone, or greenhouse gases, such as methane, which are nearly always co-mingled with health-damaging air pollutants (Michanowicz et al., Forthcoming). Engineering controls that reduce emissions at the well site are also necessary to reduce these harms.

Engineering controls include **cradle-to-grave noise and air pollution emission mitigation controls on OGD infrastructure** including new, modified and existing infrastructure, and proper abandonment of legacy infrastructure, prioritizing those nearest to residential sites and schools and those associated with the highest emissions, leaks and other environmental hazards.

However, engineering controls can fail and engineering solutions may not be available for or economically feasible to handle all of the complex stressors generated by OGD, including multiple sources and types of air pollution, noise pollution, light pollution, water pollution, and other stressors. **Therefore, neither setbacks or engineering controls alone are sufficient to reduce the health hazards and risks from OGD activities -- both approaches are needed in tandem.**

Pg 15: “Avol et al. (2001) demonstrated that **children in southern California who moved to communities with higher air pollution levels had lower lung function growth rates than children who moved to areas with lower air pollution levels.** Gauderman et al. (2015), examining the impact of reductions in PM_{2.5} and nitrogen dioxide in the Los Angeles air basin, found that **children who grew up after air quality improvements had less than ½ the chance of having clinically low lung function results.**”

Pg 16: **“In an analysis of noise exposure reductions. Based on sound levels measured and/or modeled across the US together with an EPA exposure- response model for levels exceeding EPA standards, Swinburn et al. (2015) found that a 5-dB noise reduction scenario in communities with noise exceeding EPA standards would reduce the prevalence of hypertension by 1.4% and coronary heart disease by 1.8%.”**

Gonzalez, D.J.X., Francis, C.K., Shaw, G.M., Cullen, M.R., Baiocchi, M., & Burke, M. (2021). **Upstream oil and gas production and ambient air pollution in California.** Science of The Total Environment

“*Conclusion.* **Adjusting for geographic, meteorological, seasonal, and time-trending factors, we observed higher concentrations of ambient air pollutants at air quality monitors in proximity to preproduction wells within 4 km and producing wells within 2 km.** [Note: 4 km = 2.5 miles, 2 km = 1.25 miles]”

“These findings indicate that proximity to wells is an appropriate metric for air pollution-related exposures in population health studies.”

Dzhambov, A. M., & Lercher, P. (2019). **Road Traffic Noise Exposure and Birth Outcomes:** An Updated Systematic Review and Meta-Analysis. International Journal of Environmental Research and Public Health, 16(14), 2522doi:10.3390/ijerph161425221

Pg 15: Conclusions: “We found “moderate” quality evidence that increasing maternal exposure to road traffic noise during pregnancy may be associated with lower birth weight of her newborn.”

Koutrakis, P., Dominici, F., et al. (2022). **Living near or downwind of unconventional oil and gas development linked with increased risk of early death.** Harvard T.H. Chan School of Public Health. Nature Energy1
 Published: January 27, 2022

Summary Only: <https://www.hsph.harvard.edu/news/press-releases/living-near-or-downwind-of-unconventional-oil-and-gas-development-linked-with-increased-risk-of-early-death/>

Entire paper: “Exposure to unconventional oil and gas development and all-cause mortality in Medicare beneficiaries,” Longxiang Li, Francesca Dominici, Annelise J. Blomberg, Falco J. Bargagli-Stoffi, Joel D. Schwartz, Brent A. Coull, John D. Spengler, Yaguang Wei, Joy Lawrence and Petros Koutrakis, Nature Energy, January 27, 2022, doi: 10.1038/s41560-021-00970-y

“**The closer to UOGD wells people lived, the greater their risk of premature mortality**, the study found. Those who lived closest to wells had a statistically significant elevated mortality risk (2.5% higher) compared with those who didn’t live close to wells. **The study also found that people who lived near UOGD wells as well as downwind of them were at higher risk of premature death** than those living upwind, when both groups were compared with people who were unexposed.”

Allshouse, W. B., McKenzie, L. M., Barton, K., Brindley, S., & Adgate, J. L. (2019). **Community Noise and Air Pollution Exposure During the Development of a Multi-Well Oil and Gas Pad.** Environmental Science & Technology

“Unconventional oil and gas development (UOGD) in the United States is increasingly being conducted on **multi-well pads (MWP) and in residential areas**. We measured air pollution, noise, and truck traffic during four distinct phases of UOGD: drilling, hydraulic fracturing, flowback, and production. We monitored particulate matter (PM2.5), black carbon (BC), A-weighted (dBA) and C-weighted (dBC) noise using real-time instruments on 1 and 5-minute timescales, and truck traffic for 4-7 days per phase at a **large 22-well pad sited in a residential area of Weld County, Colorado.** “

“Hydraulic fracturing, which requires frequent truck trips to move supplies and diesel engines to power the process, had the highest median air pollution levels of PM2.5 and BC and experienced the greatest number of heavy trucks per hour compared to other phases. Median air pollution was lowest during drilling at this MWP, possibly because an electric drill rig was used. **The equivalent continuous noise level (Leq) exceeded guidelines of 50 dBA and 65 dBC** for A-weighted and C-weighted noise, respectively, during all development phases. Our data show that **these multiple stressors are present around the clock at these sites**, and this work provides baseline measurements on likely human exposure levels near similarly sized MWPs.” [Multi-Well Pads]

The following is an awesome Reference Paper and Source of Info by PSR:

“Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking and Associated Gas and Oil Infrastructure (Eighth Edition),” Concerned Health Professionals of New York, Physicians for Social Responsibility, April 2022

Holder, C., Hader, J., Avanasia, R., Hong, T., Carr, E., Mendez, B., Wignall, J., Glen, G., Guelden, B., & Wei, Y. (2019). **Evaluating potential human health risks from modeled inhalation exposures to volatile organic compounds emitted from oil and gas operations.** Journal of the Air & Waste Management Association, 70(3), 324-336doi:10.1080/10962247.2019.1680459

This **Colorado based** article discusses their findings on **the dangers of 2000 foot setbacks or less.**

Willis, M. D., Hill, E. L., Kile, M. L., Carozza, S., & Hystad, P. (2022). **Associations between residential proximity to oil and gas extraction and hypertensive conditions during pregnancy**: a difference-in-differences analysis in Texas, 1996–2009. International Journal of Epidemiology, 51(2), 525–5361
 Published: 13 December 2021

Results:

A Pennsylvania study suggests links between fracking and asthma, lymphoma in children - August 16, 2023

https://apnews.com/article/fracking-pennsylvania-health-environment-research-79dd7cfb9b3799e628b0c3667f30dcc4?fbclid=IwAR30uNMiOw68G3jrJgWbknihsndJ3EjV_nEJUJcuRfveGMrBMGd9mmeasAo

Children who lived closer to natural gas wells in heavily drilled western Pennsylvania were more likely to develop a relatively rare form of cancer, and nearby residents of all ages had an increased chance of severe asthma reactions, researchers said in reports released Tuesday evening.

The taxpayer-funded research by the University of Pittsburgh adds to a body of evidence suggesting links between the gas industry and certain health problems.

In the reports, the researchers found what they called significant associations between gas industry activity and two ailments: asthma, and lymphoma in children, who are relatively rarely diagnosed with this type of cancer.

In the cancer study, researchers found that children who lived within 1 mile (1.6 kilometers) of a well had five to seven times the chance of developing lymphoma compared with children who lived 5 miles (8 kilometers) or farther from a well.

For asthma, the researchers concluded that people with the breathing condition who lived near wells were more likely to have severe reactions while gas was being extracted compared with people who don't live near wells

Here is a list of further cite-able research publications:

Publication: Environmental Science and Technology:
Title: Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development
Distance: 1650 feet

Quote: "...regional scale air quality studies suggest that oil and gas operations are a significant source of ambient benzene and alkanes on the northern Colorado Front Range."

Distance: .5 miles

Quote: "People living within 1/2 mile of a multiwell pad complained of odors during well completions in Garfield County, CO, and 81% of respondents to a self-reporting survey in active shale gas development areas in Pennsylvania reported odors."

Publication: Annual Review of Public Health

Title: Hazardous Air Pollutants Associated with Upstream Oil and Natural Gas Development: A Critical Synthesis of Current Peer-Reviewed Literature

Distance: 500 feet

Quote: "The study found that within 152 m (~500 feet) of active oil and gas development, the cancer risk estimate was 8.3 cases per 10,000 individuals, **greatly exceeding the US EPAs upper threshold for acceptable risk** (1 excess case in 10,000)."

Publication: Environmental Health Perspectives

Title: **Unconventional Oil and Gas Development Exposure and Risk of Childhood Acute Lymphoblastic Leukemia: A Case–Control Study in Pennsylvania, 2009–2017**

Distance: **6,561 feet**

Quote: "Children between the ages of two and seven living near gas wells in four heavily fracked counties of southwestern Pennsylvania are two to three times more likely to be diagnosed with acute lymphoblastic leukemia."

EPA Petitioned to Require Accurate Measurement of Smog-Causing Pollution From Flares at Four Colorado Oil, Gas Well Pads - August 8, 2023

Center for Biological Diversity. (2023, August 7). EPA Petitioned to Require Accurate Measurement of Smog-Causing Pollution From Flares at Four Colorado Oil, Gas Well Pads. Retrieved from Center for Biological Diversity.

<https://biologicaldiversity.org/w/news/press-releases/epa-petitioned-to-require-accurate-measurement-of-smog-causing-pollution-from-flares-at-four-colorado-oil-gas-well-pads-2023-08-07/>

The smog pollution caused by these facilities is linked to [human health problems](#) like asthma attacks, cardiovascular issues and premature death. Those most at risk include older adults, children and people who work outdoors. The harm smog does to plants can [damage](#) entire ecosystems and reduce biodiversity.

Nitrogen pollution is also tied to a range of [health problems](#), including increased risk of lung and heart disease, diabetes, birth problems, cancer and even death. **This**

pollution also leads to excess nitrates in drinking-water supplies and soils, causing toxic algal blooms and harm to plants and wildlife.

“Without actual testing to ensure that oil and gas facilities are limiting pollution as the law requires, permitting becomes a rubberstamping paperwork exercise,” said Micah Parkin, executive director of 350 Colorado. **“The oil and gas industry needs to be held accountable for the damage it does to Colorado’s communities, air and water.”**

Even though people are required to get their vehicle exhaust systems inspected to limit air pollution, **the vast majority of permits issued to Colorado’s oil and gas industry do not require regular testing to ensure pollution from flares is not exceeding legal limits.**

“Colorado doesn’t have enough inspectors to ensure that gas companies are accountable to permit levels,” said Chandra Rosenthal, Rocky Mountain office director for Public Employees for Environmental Responsibility. **“Requiring upfront testing is an easy fix for EPA regional administrator KC Becker and will guarantee that the permits matter.”** “

Second Bullet: Reservoir and Water Setbacks & Related Issues

Publication: Research performed For **Garfield County**

Title: **Review of Phase II Hydrogeologic Study**

Thyne, G. (n.d.). **Review of Phase II Hydrogeologic Study Prepared for Garfield County.** Retrieved from Academia.edu

Pg 1: **“There is a temporal trend of increasing methane in groundwater samples over the last seven years that is coincident with the increased number of gas wells installed in the Mamm Creek Field.”**

“Concurrent with the increasing methane concentration there has been an increase in groundwater wells with elevated chloride that can be correlated to the number of gas wells. Chloride is derived from produced water.”

“Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing” by Stephen G. Osborn, Avner Vengosh, Nathaniel R. Warner, and Robert B. [Jackson](#)¹. **[The paper discusses the systematic evidence for methane contamination of drinking water associated with shale-gas extraction](#)**¹. The study was conducted in aquifers overlying the Marcellus and Utica shale formations of northeastern Pennsylvania and upstate New York¹. The paper was published in 2011¹.

“Methane concentrations were detected generally in 51 of 60 drinking-water wells (85%) across the region, regardless of gas industry operations, but **concentrations were substantially higher closer to natural-gas wells** (Fig. 3). **Methane concentrations were 17-times higher on average (19.2 mg CH₄ L⁻¹) in shallow wells from active drilling and extraction areas than in wells from nonactive areas (1.1 mg L⁻¹ on average; P < 0.05; Fig. 3 and Table 1).** **The average methane concentration in shallow ground- water in active drilling areas fell within the defined action level (10–28 mgL⁻¹) for hazard mitigation recommended by the US Office of the Interior (13), and our maximum observed value of 64 mg L⁻¹ is well above this hazard level (Fig. 3).”**

We believe that **systematic and independent data on groundwater quality, including dissolved-gas concentrations and isotopic compositions, should be collected before drilling operations begin in a region**, as is already done in some states. Ideally, **these data should be made available for public analysis**, recognizing the privacy concerns that accompany this issue. Such baseline data would improve environmental safety, scientific knowledge, and public confidence. Similarly, **long-term monitoring of groundwater and surface methane emissions during and after extraction would clarify the extent of problems and help identify the mechanisms behind them**. **Greater stewardship, knowledge, and—possibly—regulation are needed to ensure the sustainable future of shale-gas extraction.**

"Oil and gas companies say that down gradient drilling will prevent contamination, but **scientific research (Osborn, et al, 2011) says that air-born contaminants can and do make their way into drinking water supplies.**

DiGiulio, D. C., & Jackson, R. B. (2016). **Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming, Field**. *Environmental Science & Technology*, 50(8), 4524-4536. [DOI: 10.1021/acs.est.5b04970](https://doi.org/10.1021/acs.est.5b04970)

This refers to the impact of fracking activity on groundwater:

Underground Sources of Drinking Water (USDWs)

“Concentrations of major ions in produced water samples outside expected levels in the Wind River Formation, leakoff of stimulation fluids into formation media, and likely loss of zonal isolation during stimulation at several production wells, indicates that **impact to USDWs has occurred. Detection of organic compounds used for well stimulation in samples from two monitoring wells installed by EPA, plus**

anomalies in major ion concentrations in water from one of these monitoring wells, provide additional evidence of impact to USDWs and indicate upward solute migration to depths of current groundwater use.”

Kassotis CD, Tillitt DE, Davis JW, Hormann AM, Nagel SC. **Estrogen and androgen receptor activities of hydraulic fracturing chemicals and surface and ground water in a drilling-dense region.** Endocrinology. 2014 Mar;155(3):897-907. doi: 10.1210/en.2013-1697. Epub 2013 Jan 1. Erratum in: Endocrinology. 2015 Nov;156(11):4374. PMID: 24424034.

<https://pubmed.ncbi.nlm.nih.gov/24424034/>

Of the 39 unique water samples, 89%, 41%, 12%, and 46% exhibited estrogenic, antiestrogenic, androgenic, and antiandrogenic activities, respectively. Testing of a subset of natural gas drilling chemicals revealed novel antiestrogenic, novel antiandrogenic, and limited estrogenic activities. The Colorado River, the drainage basin for this region, exhibited moderate levels of estrogenic, antiestrogenic, and antiandrogenic activities, suggesting that higher localized activity at sites with known natural gas-related spills surrounding the river might be contributing to the multiple receptor activities observed in this water source. **The majority of water samples collected from sites in a drilling-dense region of Colorado** exhibited more estrogenic, antiestrogenic, or antiandrogenic activities than reference sites with limited nearby drilling operations. Our data suggest that **natural gas drilling operations may result in elevated endocrine-disrupting chemical activity in surface and ground water.**

EPA Petitioned to Require Accurate Measurement of Smog-Causing Pollution From Flares at Four Colorado Oil, Gas Well Pads - August 8, 2023

The smog pollution caused by these facilities is linked to [human health problems](#) like asthma attacks, cardiovascular issues and premature death. Those most at risk include older adults, children and people who work outdoors. The harm smog does to plants can [damage](#) entire ecosystems and reduce biodiversity.

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“Without actual testing to ensure that oil and gas facilities are limiting pollution as the law requires, permitting becomes a rubberstamping paperwork exercise,” said

Micah Parkin, executive director of 350 Colorado. **“The oil and gas industry needs to be held accountable for the damage it does to Colorado’s communities, air and water.”**

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Here are some articles related to the seismic effects of fracking operations along with their full citations and quotes:

“A new approach to managing earthquake risk from fracking” by Josie Garthwaite, published on Stanford News on April 27, 2020. The citation for this article is: Garthwaite, J. (2020, April 27). A new approach to managing earthquake risk from fracking. Stanford News. Retrieved from Stanford News.

<https://news.stanford.edu/2020/04/27/new-approach-managing-earthquake-risk-fracking/>

“The pressure creates small earthquakes that break the rock, forcing open existing fractures or creating new ones. Petroleum then flows more easily out of the cracked rocks and into the well. **“The goal is to make many tiny earthquakes, but sometimes they are larger than planned,”** said study co-author William Ellsworth, a geophysics professor at Stanford’s School of Earth, Energy & Environmental Sciences (Stanford Earth).”

“Earthquake size offers a rough proxy for how much damage can be expected, and it’s a measure that regulators and operators can monitor in real-time. **The problem is quakes of the same size can present very different risks from one location to another** due to differences in population density. “A project located in a virtually uninhabited area of west Texas would pose a much lower risk than a similar project located near a city,” Ellsworth explained.

In addition, **geological factors including earthquake depth, fault geometry and local soil conditions can influence how an earthquake’s energy – and potential to do damage – becomes amplified or peters out as it travels underground. All of this context is key to honing in on a tolerable amount of shaking and establishing traffic-light thresholds accordingly.”**

“Fracking and Seismic Activity” by Frank A. Verrastro, Lisa Hyland and Molly Walton, published on CSIS on January 12, 2012. The citation for this article is: Verrastro, F. A., Hyland, L., & Walton, M. (2012, January 12). Fracking and Seismic Activity. CSIS. Retrieved from CSIS.

<https://www.csis.org/analysis/fracking-and-seismic-activity>

“Under the right conditions, every time pressure is applied or reduced from an underground rock formation there is at least a small risk of a seismic result... According to the recent report by the Secretary of Energy Advisory Board Shale Gas Production Subcommittee, tiny micro earthquakes can be triggered during shale gas development;”

“Understanding the link between fracking and earthquakes” by Alison Auld, published on Phys.org on September 4, 2019. The citation for this article is: Auld, A. (2019, September 4). Understanding the link between fracking and earthquakes. Phys.org. Retrieved from Phys.org.

<https://phys.org/news/2019-09-link-fracking-earthquakes.html>

“The team of seismologists and geophysicists from Dalhousie University and the University of Calgary conducted a new study aimed at understanding the physical mechanisms of **earthquakes “induced” by hydraulic fracturing, a widely used method to stimulate extraction of hydrocarbons from the ground.**

They wanted to understand why these events were occurring, in spite of laboratory measurements suggesting they shouldn’t happen in the type of shale rock undergoing stimulation.

What they found is that the injection of fracturing fluids can lead to a slow slip on a fault. That can gradually put enough strain on another, distant section of the fault to cause it to slip suddenly and produce an earthquake.”

“Hydraulic fracturing involves pumping a mixture of water, sand and chemicals into a well bore under high pressure to create fractures in reservoir rocks to exploit them for oil and gas.

“This is an important new milestone for understanding earthquakes caused by hydraulic fracturing,” says study co-author Dr. David Eaton, a professor in the University of Calgary's Department of Geoscience.

Dr. Eyre said that based on the research team's model, corroborated by field observations and by physics-based mathematical modeling, **the earthquake initiates on a distant part of the fault where friction conditions are unstable.**

"In the case we studied, the earthquake occurred hundreds of meters above the hydraulic fracturing zone," Dr. Eyre said.

Previous studies have suggested that fault slip in shale formations targeted by fracking occurs too slowly to produce an earthquake. **But the new research found that this slow slip can alter the conditions on the fault a distance away from the site of fracking and cause a distant quake."**

"Assessing the effect of hydraulic fracturing on microearthquakes", published on ScienceDaily on August 17, 2022. The citation for this article is: ScienceDaily. (2022, August 17). Assessing the effect of hydraulic fracturing on microearthquakes. ScienceDaily. Retrieved from ScienceDaily.

"Study ties fracking to another type of earthquakes" by Jules Bernstein, published on Phys.org on August 10, 2023. The citation for this article is: Bernstein, J. (2023, August 10). Study ties fracking to another type of earthquakes. Phys.org. Retrieved from Phys.org.

<https://www.sciencedaily.com/releases/2022/08/220817114225.htm>

Vermilyen, John P., and Mark D. Zoback. **"Hydraulic Fracturing, Microseismic Magnitudes, and Stress Evolution in the Barnett Shale, Texas, USA."** Paper presented at the SPE Hydraulic Fracturing Technology Conference, The Woodlands, Texas, USA, January 2011. doi: <https://doi.org/10.2118/140507-MS>

<https://onepetro.org/SPEHFTC/proceedings-abstract/11HFTC/All-11HFTC/SPE-140507-MS/150022>

"We found that slickwater fracturing does generate a log-linear distribution of microearthquakes, but that it creates proportionally more small events than natural earthquake sources. Finding considerable variability in the generation of microearthquakes, we have used the magnitude analysis as a proxy for the "robustness" of the stimulation of a given stage. **We have found that the conventionally fractured well and the two alternately fractured wells ("zipperfracs") were more effective than the simultaneously fractured wells ("simulfracs") in generating microearthquakes.**

We also found that the later stages of fracturing a given well were more successful in generating microearthquakes than the early stages. This increase in microearthquake activity in the latter frac stages corresponded with an increase in the instantaneous shut-in pressure (ISIP). The net ISIP increase was most pronounced in the simulfrac wells and least pronounced in the zipperfrac wells."

“Study ties fracking to another type of earthquakes” by Jules Bernstein, published on Phys.org on August 10, 2023. The citation for this article is: Bernstein, J. (2023, August 10). Study ties fracking to another type of earthquakes. Phys.org. Retrieved from Phys.org.

<https://phys.org/news/2023-08-fracking-earthquakes.html>

“New research confirms fracking causes slow, small earthquakes or tremors, whose origin was previously a mystery to scientists. The tremors are produced by the same processes that could create large, damaging earthquakes.”

“Fracking is the high-pressure injection of fluids underground to extract oil and natural gas.”

“It has been known for some time that fracking can produce larger earthquakes.

To keep faults from slipping underground and producing them, or tremors, one option would be to stop fracking. As this is unlikely, Ghosh says it is important to monitor these activities to understand how rocks are being deformed by them, and to track the movement of fluids after injection.

Modeling experiments can be and are performed to help companies determine fluid injection pressures that should not be exceeded. Staying within these limits helps ensure that the fluids will not migrate towards large faults underground, triggering damaging seismic activity. However, not all faults are mapped.

“We can only model this type of experiment when we know there is an existing fault. It is possible there are faults we do not know of, and in those cases, we cannot forecast what will happen,” Ghosh said.”



November 3, 2023

Arapahoe County Planning Commission
5334 South Prince Street
Littleton, Colorado 80120

Dear Members of the Arapahoe County Planning Commission,

Arapahoe County Public Health (ACPH) appreciates the opportunity to provide comments on Phase II of the proposed Arapahoe County draft Oil and Gas regulations, with a focus on various aspects that include setbacks from occupied structures, platted lots smaller than 15 acres, reservoirs and planned reservoirs, surface waters, operating or closed landfills, designated outside activity areas, continuous air monitoring, additional groundwater monitoring, and surface water monitoring. The framework of our comments below addresses our assessment of the air and water quality portions contained in the draft Phase II Oil and Gas regulation provided by Arapahoe County Public Works and Development to Arapahoe County Public Health.

It is our professional opinion that the existing regulatory frameworks provided by the Colorado Energy and Carbon Management Commission (ECMC), formerly the Colorado Oil & Gas Conservation Commission, and the Colorado Department of Public Health and Environment (CDPHE), in part through the passage of Senate Bill 19-181 in 2019, are comprehensive and effective in addressing the potential health and safety concerns associated with oil and gas operations. These established regulations, informed by local studies, have been designed to protect public health and the environment while accommodating the unique characteristics of Colorado, including geological and meteorological factors. We believe that additional regulations proposed in Phase II, in which some parts replicate existing CDPHE and or ECMC requirements, are not necessary to achieve the intended goals of safeguarding public well-being and environmental integrity already provided in the existing Arapahoe County, CDPHE, and ECMC regulations.

That being said, after review of the Phase II Oil and Gas draft regulations, we found a robust framework of air and water quality monitoring is presented; ACPH understands and supports the desire to respond to community concerns regarding oil and gas operations and the informed balance that must be achieved between responsible energy development, actual potential for health and environmental impacts from the operations, and perceived health and environmental impacts that the community may hold.

Air Quality Management

The requirement for operators to submit an Air Quality Mitigation Plan with their applications demonstrates a proactive approach to minimizing adverse air quality impacts. The inclusion of baseline monitoring before construction is a critical step, providing a reference point to assess potential changes in air quality due to oil and gas operations. Monitoring a wide range of pollutants, including volatile organic compounds (VOCs) and hazardous air pollutants like benzene, is essential to understanding potential health risks associated with these emissions. Requiring high-frequency continuous air monitoring during drilling, completion, and production phases is a proactive measure to detect and respond to emissions in real-time. Monitoring hydrocarbons at a high frequency during drilling and completion activities is particularly important because these phases are associated with higher emissions.

The involvement of a third-party consultant, approved by the County, for baseline and ongoing air sampling adds a layer of objectivity and trust to the monitoring process. Furthermore, the consideration of cumulative impacts on air quality, ground-level ozone, and greenhouse gas emissions aligns with a shared goal of safeguarding the community from

potential long-term health risks. The regulation's emphasis on leak detection and repair using modern technologies like infrared cameras and the reporting of all leaks to the County for immediate response is a key component for preventing harmful emissions and ensuring transparency. The requirement to maintain and report data collected from monitoring and the involvement of independent third-party consultants enhances the credibility and accountability of the monitoring process. Finally, the provisions to reduce emissions on Air Quality Action Advisory Days demonstrate a commitment to public health by taking proactive measures to protect the community during poor air quality events, reflecting a comprehensive approach to air quality management in the oil and gas sector.

The proposed Phase II Arapahoe County regulations for air quality monitoring impose more rigorous and specific requirements for operators than the standard state-level regulations enforced by ECMC and CDPHE:

- **Baseline Testing:** Requiring baseline sampling of air quality at the site of the proposed facility using a continuous monitoring system that detects various parameters, including wind speed, temperature, humidity, and a wide range of air pollutants, is more comprehensive, includes more parameters, and is more specific than state-level requirements.
- **High-Frequency Continuous Air Monitoring:** The requirement for continuous air monitoring during drilling, completion, and production phases with specific monitoring frequencies and pollutant specifications is more detailed and rigorous than what is required at the state level.
- **Leak Detection and Repair:** Requiring the development and maintenance of a Leak Detection and Repair (LDAR) program, including the use of modern leak detection technologies such as infrared (IR) cameras and monthly inspections, and immediate leak reporting is more stringent than standard state-level requirements.
- **Air Quality Best Management Practices:** Requiring specific air quality best management practices such as zero emission desiccant dehydrators, emission controls for glycol dehydrators, and control of emissions during storage tank hydrocarbon liquids loadout goes beyond what is typically required at the state level. State regulations often set general emission standards and may not specify these detailed practices.
- **Continuous Monitoring by Third-Party Consultant:** The requirement for continuous monitoring to be performed by an independent third-party consultant approved by the County and paid for by the Operator is more extensive than state requirements.
- **Alerting Operator of Increases in Air Contaminant Concentrations:** Requiring the continuous monitoring system to alert the operator of increases in air contaminant concentrations is a specific requirement that goes beyond state regulations.
- **Air Quality Action Advisory Days Compliance:** Requiring operators to utilize operational provisions, to the extent practical, to reduce emissions on Air Quality Action Advisory Days posted by CDPHE is an additional layer of oversight beyond what is typically required by state agencies.

Water Quality Management

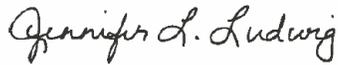
The Water Quality Monitoring section of the proposed Phase II oil and gas regulations represents a comprehensive and proactive approach to safeguarding groundwater and surface water resources from potential impacts associated with oil and gas operations. Requiring operators to submit a Water Quality Report/Plan as part of their applications demonstrates a commitment to assessing and mitigating potential adverse effects on water quality. The inclusion of a 1/2-mile radius for identifying nearby water wells and the requirement for baseline sampling upon request, along with independent third-party testing and adherence to specific standards, ensure the reliability of data. This approach supports transparency and accountability while providing a reference point for assessing any changes in water quality over time. The requirement for action plans in the event of contamination, involving the County in review and oversight, adds an important layer of protection for water resources. Additionally, the focus on continuous or periodic surface water monitoring and alignment with existing environmental regulations further strengthens the regulations' commitment to protecting water quality. Overall, this section reflects a robust effort to address environmental health concerns related to water quality in the context of oil and gas operations.

The proposed Phase II regulations for groundwater and surface water sampling and monitoring in Arapahoe County appear to exceed what the ECMC and CDPHE typically require for oil and gas operations.

- Water Quality Report/Plan Submission: While environmental impact assessments are required by ECMC, the specific requirement for a Water Quality Report/Plan tailored to Arapahoe County is an additional step.
- Baseline Sampling and Testing: Requiring operators to perform initial baseline sampling and testing of all (rather than a maximum of 4) water sources within a certain radius of the oil and gas facility, upon request by the owner of the water source or land, exceeds standard state-level requirements. While baseline testing is common in the industry, the requirement to sample and analyze water sources based on such requests, and within specific radius criteria, is more extensive. The provision for down-gradient sampling, in case of absence of nearby water sources, is an added layer of protection.
- Water Sampling Frequency: Requiring subsequent sampling and testing every 24 months for the life of oil and gas wells on the facility pad exceeds the typical state-level requirements. Standard practices often call for baseline testing and periodic monitoring, but the specific frequency detailed is more robust.
- Perennial Surface Water Testing: Requiring continuous or periodic monitoring of perennial surface water located within a certain radius of the oil and gas facility and specifying the point of monitoring is more extensive and specific than standard state-level requirements.
- Specific Reference to Local Regulations: The regulations explicitly reference compliance with ECMC Rules 615.e and 913.b.(2), indicating that operators must adhere to both county and state regulations.

We appreciate your commitment to the health and well-being of our community and look forward to working collaboratively to ensure the safety and health of our residents while supporting responsible energy development.

Sincerely,



Jennifer Ludwig
Public Health Director

11/8/23 AM

From William Donovan, Professional Engineer, for Oil and Gas – via email

Sixty-two substances that are likely emitted, though not exclusively, from oil and gas operations were identified as priority substances for analysis. More than 10,000 air samples that measured these substances in regions of Colorado that have substantial oil and gas operations were combined. These data were used to estimate potential air exposures to people living near oil and gas operations (defined as 500 feet or greater from an oil and gas site). These exposures were compared to standard short- and long-term health-based reference values (i.e. “safe” levels) related to cancer and non-cancer effects.

- The screening health risk assessment of these substances found:

- o All measured air concentrations were below short- and long-term “safe” levels of exposure for non-cancer health effects, even for sensitive populations.

- o The concentrations of a small number of substances (benzene, formaldehyde, acetaldehyde) in the air surrounding oil and gas operations were 4-5 times lower than standard short- and long-term health-based reference values for non-cancer effects.

- o The concentrations of the other substances were 5-10,000 times lower than the standard short- and long-term health-based reference values for non-cancer effects.

- o Cancer risks for all substances were within the “acceptable risk” range established by the U.S. EPA.

- o Although well within the acceptable risk range for cancer and non-cancer effects, benzene, acetaldehyde and formaldehyde had the highest estimated risk levels and are high priority for continued monitoring.

- o Overall, available air monitoring data suggest low risk of harmful health effects from combined exposure to all substances.

69 Colorado Department of Public Health & Environment, Assessment of Potential Public Health Effects from Oil and Gas Operations in Colorado, February 21, 2017, <https://naturalgassolution.org/wp-content/uploads/2017/08/Assessment-Potential-Public-Health-Effects-Oil-Gas-Operations-Colorado.pdf> [Assessment-Potential-Public-Health-Effects-Oil-Gas-Operations-Colorado.pdf \(naturalgassolution.org\)](https://naturalgassolution.org/Assessment-Potential-Public-Health-Effects-Oil-Gas-Operations-Colorado.pdf)

From: [Kim Lynch](#)
To: [Diane Kocis](#); [Jason Reynolds](#); [Ava Pecherzewski](#)
Subject: FW: Comments for Phase 2 Oil and Gas regulations amendments
Date: Friday, November 3, 2023 8:58:26 AM
Attachments: [image001.png](#)

For Wed. Public HEaring

With gratitude,



KIM LYNCH

Planning Technician | PWD Planning Division
6924 S Lima St., Centennial, CO 80112
720-874-6650

From: Hayley Young <HYoung@bjsurvey.net>
Sent: Thursday, November 2, 2023 7:12 PM
To: Planning <planning@arapahoegov.com>
Subject: FW: Comments for Phase 2 Oil and Gas regulations amendments

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Planning Commission, my written comment is below, my family also intends to call in. Oil and gas industry has constantly denied data and proven dangers. Civitas is lying to the public now, blatantly stating on their website that their plan will not affect the reservoir, when they know it will, it is simply that it is difficult to prove beyond reasonable doubt. Same with the seismic relation, effect of chemicals long-term, and property value impact. They have proven themselves to be an untrustworthy and unethical industry and it is unfair to allow them to be able to trample the rights of citizens to have clean air and water, which are the most primitive needs for survival. The right to clean air and water should have been written in the bill of rights, but that foresight wasn't present because this threat to our liberty did not exist at that time. Instead, we have let companies like Civitas become more powerful than our own government. Civitas will not even keep the money earned locally as their largest investor is Canadian.

Thank you for your time, I hope you consider my suggestions below and do all you can to protect yourselves and the citizens you represent/taxpayers,
Hayley

Hayley Young, PE & PLS (CO), LEED AP ND
B&J Surveying, Inc. | Direct 303-850-0559 ext. 113
6841 South Yosemite Street, Suite 100, Centennial, CO 80112

From: Hayley Young
Sent: Thursday, November 2, 2023 6:58 PM

To: DKocis@arapahoegov.com

Subject: Comments for Phase 2 Oil and Gas regulations amendments

Dear Diane,

The following comments are for both the Planning Commission (November 8th at 6:30 PM at 6958 S Lima St, Centennial CO) and the Board of County Commissioners (November 14th, 9:30 AM at 5334 S Prince St, Littleton, CO) hearings:

- The threat to water alone from numerous angles should render the current plan infeasible in an area at risk of being able to provide water to its citizens in coming decades. The seismic risk to both the Aurora Reservoir dam and the Lowry Landfill which could easily pollute the Denver Aquifer Basin would cause a national emergency which taxpayers will be forced to fund. The billions of gallons of clean water that will be used for fracking is devastating for future generations threatened with a water crisis.
- The plan will lead to significant losses for the County and its citizens. Areas with fracking are undesirable to live in and will reduce property values over time in addition to insurmountable health issues. Drilling is also known to incur costs by causing damages to roads and cracks in foundations.
- The area proposed for fracking development is surrounded by future residential development, but buyers and homeowners are not notified of the future condition. This is dishonest and harmful to human rights.
- I do not think it is at all appropriate to call the Lowry development a comprehensive plan. Long-term impacts and considerations are neglected in this plan. Any cradle to grave system is not comprehensive.
- Inevitable long-term damages and effects are guaranteed and not something that the industry will pay for as is the case with all oil and gas development including the Lowry Landfill Superfund site. I would suggest an amendment to require a fully comprehensive health and property value impact not based on completely erroneous probabilities like what Civitas has sighted.
- Oil and gas has not paid for the environmental crises they have caused, instead, it continues to be an incredibly lucrative industry that could have been replaced with renewables, but they wish to keep a broken system for the sake of profit. The energy plan should be shifted. If fracking is inevitable, it should be moved away from the sensitive water resources and then used to fund and replaced with renewables.

If we're looking a few short decades out to when our children will be at the forefront of dealing with this issue, the industry will have made and spent their money while Aurora Reservoir and the surrounding area of Arapahoe County will be left with permanent problems. There is no accurate value for fully cleaning up and restoring the area to its previous condition because that would be impossible, but I would suggest that cost be accounted for upfront, and the industry should also be responsible for ensuring that more renewables are brought online during their mining occupancy of the land. I can see the potential for profits and development to be invested into a plan that is sustainable long term. In my opinion, all oil and gas sites should have a final termination plan that includes being fully capped and cleaned and converts the sites to renewables. We need to convert to regenerative planning that gives hope for a future. I suggest a more thorough analysis of the seismic risk on Lowry Landfill and the Aurora Reservoir dam as I do not think that even a mile setback is safe,

which is no where close to being met right now. There also needs to be baseline monitoring of contaminants as many of the chemicals that will be introduced to the community if this plan continues have compound effects that will damage the health and livelihood of citizens. The plan needs to be reevaluated to consider all parts of the system.

Thank you for your time,
Hayley

Hayley Young, PE & PLS (CO), LEED AP ND
B&J Surveying, Inc. | Direct 303-850-0559 ext. 113
6841 South Yosemite Street, Suite 100, Centennial, CO 80112

From: [JB Condill](#)
To: [Diane Kocis](#)
Subject: Comments
Date: Tuesday, November 7, 2023 8:29:26 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Diane,

This is too much, too fast and lacks any concept of due process.

This need to stop, and then proceed with a true stakeholder outreach program.

I am also not understanding how Phase 2 and Phase 2B are different. It seems like most everything is being addressed in this very rushed Phase 2.

Thank you.

JB Condill
Renegade Oil & Gas
303 680-4725

On Thursday, November 2, 2023 at 05:01:05 PM MDT, Diane Kocis <dkocis@arapahoegov.com> wrote:

Hello Stakeholders,

In my email last night I stated that the Planning Commission hearing for the proposed Phase 2 Oil & Gas rules amendments would be held at Lima Plaza in Centennial – however the Planning Commission hearing will be held at the County's Administration building, in the East Hearing Room at **5334 S. Prince St, Littleton, CO 80120** as listed in the attached I-70 Scout newspaper notice.

Please send me any comments on the proposed rules and I will distribute them to the Planning Commission.

Do let me know if you have any questions and thank you for your involvement in our process.

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist

Arapahoe County Planning Division

dkocis@arapahoegov.com

From: Diane Kocis

Sent: Wednesday, November 1, 2023 8:40 PM

To: Diane Kocis <DKocis@arapahoegov.com>

Subject: Arapahoe County posted the draft proposed Phase 2 regulations amendments to the Legistar website and also on the County's Oil & Gas webpage

Hello Stakeholders,

Arapahoe County has posted the draft proposed Phase 2 Oil and Gas regulations amendments to the Legistar website, found under the Planning Commission's agenda, and also on the County's Oil & Gas webpage. The link to the County's Oil & Gas webpage is below.

Phase 2 has a very short timeline (basically 3 weeks) so staff wasn't able to meet with any stakeholders. There will be a Phase 2b, starting after the Board of County Commissioners' hearing for Phase 2 on November 14th that will continue into the spring of 2024. Phase 2b will include amendments to the air quality and water quality portions of the rules we expect to be approved by the Board of County Commissioners on November 14th and reverse setbacks, as well as new financial assurance rules. There will be an active stakeholder outreach program for Phase 2b.

You will note that the setbacks in the just-posted draft rules have more than one option. I'd like to explain that the different proposed setbacks have more than one option in each category because we were directed to provide more than one option for the Planning Commissioners to vote on.

Please contact me with any questions and send me your comments. I will get your comments to the Planning Commissioners for their votes on November 8th, at 6:30 PM or as soon after as possible, in the Arapahoe Room of Lima Plaza, 6954 S. Lima St, in Centennial, 80112 (behind the Motor Vehicles office). (We have moved the location back to its normal location at Lima Plaza, rather than holding it at the Administration Building in Littleton). The Planning Commission usually meets on Tuesday evenings, but to avoid interference with Election Day, the hearing has been moved to November 8th.

I have attached the newspaper notices for both the Planning Commission (November 8th at 6:30 PM at 6958 S Lima St, Centennial CO) and the Board of County Commissioners (November 14th, 9:30 AM at 5334 S Prince St, Littleton, CO) hearings for your reference, that detail the times, dates and location of the Planning Commission and Board of County Commissioners hearings. Please let me know if you have any questions.

I encourage all stakeholders to attend the hearings, either in person or remotely (instructions for remote participation are in the newspaper notices) and to send me comments before the hearings.

Thank you very much for participating in our process.

https://www.arapahoeco.gov/your_county/county_departments/public_works_and_development/oil_and_gas/index.php

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist

Arapahoe County Planning Division

dkocis@arapahoegov.com

Terri Maulik

From: 2023@paulvaroutsos.com
Sent: Sunday, November 5, 2023 12:43 PM
To: Diane Kocis
Subject: Re: Arapahoe County posted the draft proposed Phase 2 Oil and Gas regulations amendments to the Legistar website and also on the County's Oil & Gas webpage - see link below

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,

I am worried these proposed changes do not go far enough. I would like to see greater setbacks (beyond 3,000 feet) available as an option to be voted on by the commissioners.

A stricter setback of greater than 3,000 feet is backed by science like the 2017 study by Rabinowitz and co-authors

(<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fehp.niehs.nih.gov%2Fdoi%2F10.1289%2Fehp.1307732&data=05%7C01%7Cdkocis%40arapahoegov.com%7Cbabbd44363904fb7b76f08dbde375ffb%7C57d7b626d71d47f684c1c43bda19ba16%7C0%7C0%7C638348102019088111%7CUnknown%7CTWfpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCi6Mn0%3D%7C2000%7C%7C%7C&sdata=KH3Gvi9AaxgRT9kI8%2F4oYo2kRrJa7ogOsjZ9j%2B%2Fh8%3D&reserved=0>) that found an increased number of reported upper respiratory symptoms and skin conditions among residents who lived 1km, or 3,200 feet from Oil and gas operations. The current setback amendments stop at 3,000 feet despite this. It is therefore reasonable and necessary according to publicly available research to increase our current setbacks beyond 3,000 feet and therefore should be listed as an option to be voted on.

Water quality monitoring is also necessary as research shows that oil and has related chemicals make their way into local water supplies. For example, Dr. Christopher Kassotis, Assistant Professor of Environmental Health Sciences and Pharmacology at Wayne State University has studied this phenomenon extensively in Colorado and found in several studies

quote:

"Natural gas drilling operations may result in elevated endocrine disrupting chemical activity in ground water and surface water."

He then built on this study (and others) in the following years and repeatedly found that these chemicals have negative health impacts on mice when they are exposed to concentrations of these chemicals commonly found in drinking water near oil and gas operations.

In addition to these findings Christopher Kassotis and coauthors published an article titled "The Regulation of Endocrine-Disrupting Chemicals to Minimize Their Health Impacts." In this article they state quote:

"Endocrine-disrupting chemicals (EDCs) are substances generated by human industrial activities that are detrimental to human health through their effects on the endocrine system. Poorly defined and unenforced policies can increase human exposures to EDCs, thereby contributing to human disease, disability, and

economic damage. Researchers have shown that policies and interventions implemented at both individual and government levels have the potential to reduce exposure to EDCs."

As county commissioners, you have the power to implement such interventions at the government level. Please vote with your conscious to increase setbacks and require better water quality monitoring to protect our health and safety.

Thank you.

Paul

On 2023-11-01 22:57, Diane Kocis wrote:

> Hello Stakeholders,

>

> Late today Arapahoe County posted the draft proposed Phase 2 Oil and

> Gas regulations amendments to the Legistar website, found under the

> Planning Commission's agenda, and also on the County's Oil & Gas

> webpage. The link to the County's Oil & Gas webpage is below, at the

> bottom of this message.

>

> Phase 2 has a very short timeline (basically a little over 3 weeks) so

> staff wasn't able to meet with any stakeholders. There will be a

> Phase 2b, starting right after the Board of County Commissioners'

> hearing for Phase 2 on November 14th that will continue into the

> spring of 2024. Phase 2b will include amendments to the air quality

> and water quality portions of the rules we expect to be approved by

> the Board of County Commissioners on November 14th and reverse

> setbacks, as well as new financial assurance rules and other topics.

> There will be an active stakeholder outreach process for Phase 2b.

>

> You will note that the setbacks in the just-posted draft rules have

> more than one option. I'd like to explain that the different proposed

> setbacks have more than one option in each category because we were

> directed to provide more than one option for the Planning

> Commissioners to vote on.

>

> Please contact me with any questions and send me your comments. I

> will get your comments to the Planning Commissioners for their votes

> on November 8th (which will be at 6:30 PM or as soon after as

> possible, in the Arapahoe Room of Lima Plaza, 6954 S. Lima St, in

> Centennial, 80112, behind the Motor Vehicles office. (We have moved

> the Planning Commission hearing back to its normal location at Lima

> Plaza, rather than holding it at the Administration Building in

> Littleton). The Planning Commission usually meets on Tuesday

> evenings, but to avoid interference with Election Day, the hearing has

> been moved to November 8th.

>

> I have attached the newspaper notices for both the Planning Commission

> (November 8th at 6:30 PM at 6958 S Lima St, Centennial CO) and the

> Board of County Commissioners (November 14th, 9:30 AM at 5334 S Prince

> St, Littleton, CO) hearings for your reference, that also detail the

> times, dates and locations of the Planning Commission and Board of

> County Commissioners hearings. Please let me know if you have any

> questions.
>
> I encourage all stakeholders to attend the hearings, either in person
> or remotely (instructions for remote participation are in the attached
> newspaper notices) and to send me comments before the hearings.
>
> You have been bcc's on this message to protect your privacy. If you
> receive more than one of these emails it's because you contacted us
> more than once. I apologize for any inconvenience related to the
> repetition.
>
> Thank you very much for participating in our process.
>
> https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.arapahoeco.gov%2Fyour_county%2Fcounty_departments%2Fpublic_works_and_development%2Foil_and_gas%2Findex.php&data=05%7C01%7Cdkocis%40arapahoegov.com%7Cbabb44363904fb7b76f08dbde375ffb%7C57d7b626d71d47f684c1c43bda19ba16%7C0%7C0%7C638348102019088111%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IjEhaWwiLCJXVCI6Mn0%3D%7C2000%7C%7C%7C&sdata=tVdKDhjKWgB9ubokXkYoPESwaigX1HbavdtYgqKCNYc%3D&reserved=0
>
>
> I am working a hybrid schedule with in-office days and remote work
> days. Email is the best way to reach me but you can also reach me on
> my County cell phone at 720-425-0422.
>
> Diane Kocis
>
> Energy Specialist
>
> Arapahoe County Planning Division
>
> dkocis@arapahoegov.com

From: [Jeff Baker](#)
To: [Diane Kocis](#)
Subject: FW: "Super-emitting" oil wells near Denver are releasing 142% more pollution per hour than state average, CSU study finds - The Colorado Sun
Date: Tuesday, October 24, 2023 8:20:40 AM

FYI...

From: Dennis Markovchick <dennis.markovchick@gmail.com>
Sent: Monday, October 23, 2023 7:35 PM
To: Commissioners <Commissioners@ArapahoeGov.com>
Cc: Alexis Schwartz <alexis.schwartz@sierraclub.org>
Subject: "Super-emitting" oil wells near Denver are releasing 142% more pollution per hour than state average, CSU study finds - The Colorado Sun

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

<https://coloradosun.com/2023/10/23/methane-emissions-super-emitting-oil-gas-adams-county/>

Commissioners,

A cautionary story that Arapahoe County should take seriously. We should not allow oil and gas options near where people live. One mile setback distances are necessary.

Thank you in advance for your thoughtful consideration.

Best Wishes,
Dennis Markovchick
dennis.markovchick@gmail.com
303-829-3943

From: [Sonia-Skakich Scrima](#)
To: [Commissioners](#)
Cc: [Diane Kocis](#)
Subject: correction to public comments and a plea for priority follow up
Date: Wednesday, October 11, 2023 3:18:32 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Commissioners,

Thank you for conducting multiple public hearings on the issues related to Arapahoe oil and gas regulation. I submitted written comments yesterday that suggested a resolution amendment that was not accepted, but the **2 urgent action items (in red below) remain important to prevent preventable harms from the Lowry CAP project, one to protect health and safety from toxic emissions, one to prevent impacts to the Lowry Landfill Super Fund site that would present catastrophic threats to site integrity and to area and state water reserve security.**

I urge to please take the time to re read the two suggestions today and take steps towards implementing them as soon as possible !

Thank you for your dedication to uphold public health and safety.

Sincerely,
Sonia Skakich-Scrima, M.A.

**PROTECTION OF PUBLIC HEALTH AND SAFETY *DEMANDS* AMENDMENTS
TO OCT 10 2023
ARAPAHOE OIL & GAS RESOLUTION!**

Dear Arapahoe County Commissioners,

Protection of public health and safety is the primary mission of governance. Sadly, alarmingly, the proposed changes do not adequately reflect that mission, failing to require terms and programs that would substantially reduce the myriad serious risks to public health and safety posed by the heavy industry of fracking for oil and gas.

In my previous, fully referenced, written comments to you, I have detailed the serious risks that fracking operations pose to health and safety. They can be characterized as 2 types:

- 1. Rare but serious risks, with often catastrophic and irreversible impact** (such as fires, explosions, induced seismicity, water contamination)
- 2. Common, inherent risks of operations with serious and sometimes irreversible harms** (such as “allowed” toxic emissions combined with high toxic emissions incidents, producing acute respiratory, neurologic, skin and gastrointestinal harm, and chronic exposure to which is associated with leukemia (cancer of the blood) in children, birth defects, fatal cardiac

conditions in those over 50).

Two CO counties have done due diligence regarding risk assessment and risk reduction strategies, Broomfield and Boulder. Boulder has implemented the strongest risk reduction strategies allowed under CO law, and has not faced successful legal challenge for them. There is no excuse for Arapahoe County Commissioners to not demonstrate the same strong level of commitment to the public health and safety of its residents, when it has a ready-made model to review and implement!

Protection of public health and safety demands that you *amend* tonight's resolution as follows, to:

Order urgent review of Boulder's oil and gas regulations and to propose expedited inclusion of terms and policies that are more protective of public health and safety in Arapahoe regulations, including ordering of independent air monitoring by the county of toxic emissions that provides continuous, publicly accessible readings and is carried out using Boulder's criteria and system capacities.

Independent air monitoring of toxic emissions (modelled on Boulder's system) is **critical** for public health and appropriate regulation:

It identifies excess toxic emissions in real time and issues alerts to residents so that they can take protective measures (that are especially important for children, pregnant women, the elderly, and those with compromised respiratory health)

AND it alerts the Operator to the excess emissions for immediate rectification, to document the cause and the preventative actions to be taken to avoid repeat incidents, and provides documentation of violations that is enforceable. Even the little town of Erie has committed itself to defending public health by conducting independent air monitoring. With the expansion of fracking in Arapahoe it is high time that Arapahoe do so.

Additionally, Arapahoe Commissioners should be requesting that COGCC hold urgent rulemaking to restrict fracking operations (well sites and lateral drilling arms)

- 1. Near or under toxic hazard sites and their toxic plumes (such as the Lowry Landfill Super Fund Site), requiring an evidence based setback that would include hydrogeologic assessment of existing faults in the area that increase the likelihood of creation of new contaminant pathways to aquifers or waterways. Civitas' revised .25 mile setback of drill arms from the Super Fund site is not an evidence based setback and cannot assure safety. Moreover, drilling arms are planned under the toxic site plume, which is located above a suspected growth fault and could create intersecting contaminant pathways that impact the aquifers as well.**
- 2. (SHOULD HAVE READ): Near bodies of water, over aquifers, unless hydrogeologic assessment of geologic stability/faulting in the area are carried out, to assure that new fracturing will not create contamination to bodies of nearby water and aquifers. For example, there is identified faulting under the Aurora Reservoir, which increases such risk.**

References re area geologic faulting :

-CDPHE White Paper: Groundwater Containment Remedy Technical Considerations Lowry Landfill Superfund Site 2015

-USGS/US EPA Geologic cross sections and Denver Formation bedrock lithology map at the Denver Radium

Operable Unit VIII (Shattuck site) Report 00-041 (2000)

-Davis, T.L. and Weimer, R.J., 1976. Late Cretaceous Growth Faulting, Denver Basin, Colorado. In Professional Contributions of Colorado School of Mines, Studies in Colorado Field Geology, Edited by Rudy C. Epis and Rober J. Weimer, Number 8, November 1976, pages 280 through 300)

Thank you for your consideration and dedication to public health and safety. (Attached below are my previous comments on these issues to you, with their additional information and references.)

Sincerely,
Sonia Skakich-Scrima
15011 E Arkansas Dr
Aurora CO 80012 tel 303 917 5160



1800 GLENARM PLACE

SUITE 1100

DENVER, CO 80202

Phone 303.861.0362

WWW.COGA.ORG

June 29, 2023

VIA EMAIL – NO ORIGINAL TO FOLLOW

ATTN:

Diane Kocis, Arapahoe County Energy Specialist (DKocis@arapahoegov.com)

RE: Colorado Oil & Gas Association Comment to Draft Arapahoe County Oil and Gas Regulations

Dear Diane Kocis:

The Colorado Oil & Gas Association (“COGA”) appreciates the opportunity to provide comments on Arapahoe County’s (“County”) proposed amendments (“Draft Regulations”) to the County’s oil and gas regulations. COGA looks forward to providing additional, constructive input as the County moves forward in drafting and ultimately adopting new regulations in accordance with state law. As explained below, COGA is concerned that, among other things, the Draft Regulations are unnecessarily restrictive and create impractical requirements not grounded in scientific need. COGA encourages the County closely to examine our attached redline of the Draft Regulations for additional detail and input beyond what is contained herein, as this letter does not exhaust COGA’s concerns.

I. The Proposed 1-Mile Setbacks Requirements Are Overly Restrictive

The Draft Regulations’ one mile setback from existing or planned water reservoirs found in Section 1-1.F.2.d. (“Water Reservoir Setback”) is not reasonable or necessary to protect public health, safety, welfare, or the environment and wildlife resources. The Water Reservoir Setback requirements go well beyond the extremely rigorous rules already adopted by the state’s technical experts in oil and gas, the Colorado Oil and Gas Commission (“COGCC” or “Commission”)¹ and may carry unintended consequences. While COGA recognizes that local governments have the

¹ COGA recognizes that COGCC will change its name to the Energy and Carbon Management Commission (“ECMC”) effective July 1, 2023. Any future references to ECMC are inclusive of references to COGCC/the Commission herein.

authority to regulate the surface impacts of oil and gas development more stringently than the state, this authority is not unfettered. Local government surface impact regulations must still be reasonable and necessary.²

a. The Water Reservoir Setback Is Not Supported by Science

COGA is concerned by the Water Reservoir Setback because it is unreasonable, unnecessary, and not supported by science. During the COGCC “Mission Change” Rulemaking, the COGCC, in close consultation with the Water Quality Control Division (“WQCD”), amended prior Rule 317B into current Rule 411 and set a conservative setback from surface water supply areas. Under Rule 411.a.(2)i. operators may not conduct any new surface disturbance within an area between 0 and 1,000 feet hydraulically upgradient from the water source. The Statement of Basis, Purpose, and Specific Statutory Authority (“SBP”) to Rule 411 explains the Commission’s finding that even “larger volume spills or releases are highly unlikely” to migrate 1,000 feet. Based on this finding, arrived at after extensive consideration of scientific literature and party testimony on top of consultation with the WQCD, “[t]he Commission accordingly adopted the 1,000 foot internal buffer to provide a reasonably protective margin of error to protect public health from potential spills and releases.” There is no COGCC setback for oil and gas facilities downgradient of surface waters.

COGA also takes issue with the language providing that the Water Reservoir Setback “may be” reduced with approval of the reservoir owner or operator. First, this gives the reservoir owner and operator too much authority. The setback should be based on hydrological science, not the whim of a reservoir owner or operator. Second, should a variation of this language persist in future regulation drafts, there is no reason why approval should not automatically reduce the setback. This draft language states that the setback permissively “may” be reduced, but doesn’t explain under what circumstances it would not be reduced.

A setback of at minimum one mile for an upgradient oil and gas facility is an illegal, unsupported policy choice, and a downgradient oil and gas facility setback is likewise egregious and improper. Instead, the County should adopt language to clarify an upgradient setback of 1,000’—as is consistent with COGCC and WQCD findings—and allow downgradient oil and gas operations to proceed within 1,000’ where hydrologic data supports a lesser setback.

² Local governments have the authority to regulate “the surface impacts of oil and gas operations in a *reasonable manner* to address matters specified in this subsection (1)(h) and to protect and minimize adverse impacts to public health, safety, and welfare and the environment.” C.R.S. § 29-20-104(1)(h) (emphasis added). Local government regulation is limited to that which is “necessary and reasonable” to protect or minimize the previously stated impacts. *Id.*

b. Planned Water Reservoirs Should Not Be Included in the Water Reservoir Setback Provision

COGA is concerned that the Water Reservoir Setback purports to apply to “planned” water reservoirs in addition to existing reservoirs. A planned reservoir may never come into being. Or, the reservoir’s construction timeline might be such that an oil and gas operator could drill and complete wells before the reservoir is even constructed. Including planned reservoirs in the Water Reservoir Setback is an unnecessary provision that is not reasonable to protect future reservoir owners’ and operators’ interests. Once a planned reservoir becomes an existing reservoir, it will qualify for consideration under the Water Reservoir Setback provision. This is reasonable and still serves to protect existing reservoirs as the County intended.

As an alternative to the County’s Draft Regulations, COGA recommends that the County adopt the language it has provided for Section 1-1.1.F.2.d. See Exhibit A. This would create a 1,000’ setback from existing water reservoirs and provides for a lesser setback to be considered where geologic features support that a lesser setback is appropriate. This language is consistent with COGCC’s changes to current Rule 411 and represents the combined wisdom of the COGCC and WQCD. It would provide heightened protections for water reservoirs that are in keeping with scientific evidence without imposing undue burdens on Colorado’s energy sector.

II. The Provision Finding Violations under Federal and State Law Is Duplicative

COGA finds the provision in Section 1-1.1.B. to be unreasonable and unnecessary. This provision allows the County to prosecute violations of state and federal law and is problematic because it could easily lead to duplicative and inconsistent enforcement actions. The County is the proper arbiter of its rules, whereas other state and federal agencies are the appropriate entities to determine whether there has been a violation of their respective schemes and what the outcome should be. The County lacks insight into state or federal agencies’ enforcement policies and cannot prosecute violations with the nuance expected of those laws’ seasoned experts. Foisting this responsibility on to the County runs a palpable risk that its enforcement actions will not be in keeping with the desires of the state and federal bodies in charge of overseeing the applicable laws’ enforcement. COGA also observes that the language uniquely purports to allow the County to enforce state and federal law, whereas in the many other instances where the County’s regulations refer to state and federal law, the County never purports to give itself enforcement of the same.

III. The Access Road Standards Need Common-Sense Exceptions

The criteria for when alternative access roads are required Draft Section 1-1.1.F.11.b. are vague. The criteria’s ambiguity could lead to unnecessary surface disturbance to construct a secondary access road that is unnecessary to ensure that

traffic can circulate in the event of an emergency at an oil and gas facility. COGA encourages the County to adopt the alternative language it has provided for Section 1-1.1.F.11.b. See Exhibit A. This language has been proposed to reflect the intent of this provision, which is to ensure an emergency at an oil and gas facility does not impede general traffic circulation.

Conclusion

COGA is proud the Colorado oil and gas industry leads the technological and safety advancements that make our state a national and global leader in developing the resources we use every day. The state's rules and regulations have set a high bar for our employees and companies to protect public health, safety, welfare, the environment, and wildlife, while also preserving jobs and opportunities for tens of thousands of Coloradans and their families. Going beyond the state's rules without a demonstration of their need and reasonableness flouts the law. COGA encourages the County to revise its Draft Regulations in a manner consistent with state law, that is, to revise the provisions discussed herein and in the attached such that they are reasonable, necessary, and supported by available science.

Thank you for your consideration of our comments and the included redline of the proposed regulations.

Sincerely,



William Groffy
Director of Regulatory and Legislative Affairs
Colorado Oil and Gas Association

cc (via email): Julia Rhine, Outside Counsel to COGA, jrhine@bhfs.com
Mark Mathews, Outside Counsel to COGA, mmathews@bhfs.com

25809269.1



June 29, 2023

VIA EMAIL – NO ORIGINAL TO FOLLOW

Diane Kocis, Arapahoe County Energy Specialist (DKocis@arapahoegov.com)

RE: Civitas Resources, Inc’s Comments to Draft Arapahoe County Oil and Gas Regulations

Dear Ms. Kocis,

Civitas Resources, Inc. (“Civitas”) thanks you for your continued work and welcomes this opportunity to comment on Arapahoe County’s (“County”) proposed amendments to Chapter 5 of the County’s Land Use Development Code (“Code Amendments”). Civitas’s constituent companies have years of experience operating in the County and have forged strong community and philanthropic bonds here. As the state’s first carbon neutral operator, Civitas looks forward to continuing to operate responsibly and efficiently in the County for years to come and offers its comments to the Code Amendments below with that in mind.

Civitas supports the County’s desire to protect water resources. However, the proposed one-mile setback from existing or planned water reservoirs found in Draft Section 1-1.F.2.d. (which should not be revised to include additional types of water sources beyond reservoirs) has no basis in hydrologic and technological realities. Specifically, as the Colorado Oil and Gas Conservation Commission¹ (“COGCC”) found when promulgating the setback from surface water supply areas in COGCC Rule 411, spills and releases are “highly unlikely” to migrate 1,000 feet from well locations, even in the case of “larger volumes” of spills or releases.

The proposed one-mile reservoir setback, which is over five times the state’s already conservative analogous setback, is unnecessary to protect water quality and public health because, in the unlikely event of a spill escaping pad containment, fluids cannot be reasonably expected to travel that distance, especially if the oil and gas facility is downgradient of the reservoir or is otherwise isolated by topography from the reservoir. Moreover, the risk that a spill or release capable of leaving an oil and gas facility and migrating into a water source will occur has been drastically minimized over the past few years because of improved industry best management practices and heightened state requirements. Relevant requirements include, among others, stringent wellbore integrity rules and heightened rules regarding secondary containment.

Civitas also notes that extending setbacks to reservoirs that are “planned” is problematic. Reservoir permitting and construction is a decades-long process that requires significant capital backing and approvals from numerous agencies. Applying broad setbacks from water

¹ The COGCC will be renamed as the Energy and Carbon Management Commission on July 1, 2023.

bodies that may never be built, and whose construction may lie decades in the future after oil and gas operations are concluded if they are, is over-restrictive and does not fairly balance stakeholders' land use entitlements.

Civitas is also concerned by Draft Section 1-1.1.B., which purports to grant the County authority to prosecute violations of state and federal law. The County does not have authority to enforce state or federal law. Had it the authority, the County attempting to enforce state or federal law may lead to duplicative and inconsistent enforcement actions. Moreover, Civitas notes that Draft Section 1-1.1.B would be an outlier to the rest of the County's Code in that the Code frequently requires operators/applicants of all sorts of uses to comply with state and federal law, yet not in one single instance does the Code provide that the County will enforce state and federal law. It is unreasonable and unnecessary to treat the oil and gas industry differently from other uses.

Civitas recommends modification of Draft Section 1-1.1.F.11.b. to ensure that unnecessary and unreasonable surface disturbance and damage associated with secondary access does not occur on private property. A mandatory second access road should not be regularly required. If an Operator evaluation determines that a residential building owner's access may be affected by an emergency at an oil and gas facility, then the Operator should have the ability to address this evaluation during the permitting process with County Staff and in consultation with Emergency Responders. The Code Amendments language should be clarified to make this distinction.

In addition to our specific comments herein, Civitas also endorses the comments of the Colorado Oil & Gas Association and their associated redline of the Code Amendments.

Civitas looks forward to continuing its participation in the County's regulatory update process and anticipates providing additional comments, either in writing or at public hearing as the process continues. Thank you for your consideration of our comments. Please let us know if you have any questions regarding our positions.

Sincerely,



Dan Harrington
Asset Development Lead
Civitas Resources

cc: Jost Energy Law, P.C. – Jamie Jost



*Maxwell Blair
Regulatory Manager
GMT Exploration Company LLC
4949 S. Niagara St. Suite 250
Denver, Colorado 80237
720-862-4503
mblair@gmtexploration.com*

June 29, 2023

Re: 2023 Draft Oil and Gas Rules

Dear Arapahoe County,

GMT values the opportunity to provide written comment on the proposed amendments to Arapahoe County Oil and Gas Regulations. As discussed at the industry stakeholder meeting on 6/15/23, GMT would appreciate some clarifications to the proposed text to ensure the adopted regulations are clear to applicants, staff, and the public. I have attached a redlined version of the draft regulations that were published on the County website. I believe these minor changes will help improve the clarity of the proposed changes.

Additionally, I would like to provide comments on the information that was shared at the stakeholder meeting regarding Aurora Water and Pure Cycle Corporation facilities.

Reservoir Setbacks:

We learned that Aurora Water is encouraging the County to adopt new setbacks from reservoir facilities. We believe the existing State setbacks are adequately protective of existing and future reservoirs. Aurora Water has confirmed that these reservoirs are hydraulically isolated from the surrounding lands, which limits the potential for surface contamination from all sources, including oil and gas development. The Colorado Oil and Gas Conservation Commission (COGCC) has numerous rules in place to prevent and limit the potential of surface spills from oil and gas facilities.

Water Facilities definition:

The County has indicated that Aurora Water provided comments that would expand the definition of infrastructure.

“facilities to include Water infrastructure should include water treatment/purification facilities, water mains, wells, and reservoirs.”

We believe the water providers have since clarified their comments, and do not wish for Arapahoe County to adopt a setback from water wells. In any event, Arapahoe County should not adopt this language and should not establish a setback for these types of facilities or infrastructure. There is no risk posed by oil and gas development to these types of facilities. There are currently no State setbacks from any of these facilities, and no known cases of damage

caused by development. If Arapahoe County adopts this proposed definition, it would eliminate large areas of the County from Oil and Gas development.

Setback distances:

The County has received comments suggesting three new categories of setbacks from oil and gas facilities to water infrastructure. However, no party has demonstrated a need for these setbacks. We suggest that Arapahoe County should rely on the existing State rules that are designed to avoid, minimize, and mitigate environmental impacts from oil and gas development, including water resources.

If you have any questions or require additional information, please feel free to contact me for more information. I look forward to continuing to work with the County on these regulations.

Sincerely,

GMT Exploration Company LLC

Maxwell Blair

Maxwell Blair
Regulatory Manager

Encl(1)

Arapahoe County Rule Amendments
Comments of Renegade Oil & Gas Company, LLC
June 29, 2023

General

This rulemaking is completely unnecessary (as will any Phase II rulemaking) as the concerns of the County and interested parties can be addressed through Conditions of Approval attached to an individual application as necessary.

Arapahoe County, in conjunction with the State of Colorado, have regulations that are more than protective of the public interest.

Definition of Water Infrastructure

The attempt by the water providers to expand this definition is a huge overreach and, given the condensed timeframe that this process has adopted, wholly unfair to the stakeholders.

What started out as knee-jerk reactions to oil and gas drilling near some neighborhoods and the Aurora Reservoir has devolved into a power grab. As stated above, current regulation of the industry is more than protective.

And once the Civitas drilling sites are applied for, approved and drilled, we don't believe this situation will ever occur again, as there are no more reservoirs in Arapahoe County.

Crypto-Mining

The definition read at the Industry Stakeholder meeting on June 15, 2023 should be scrapped. The minutiae of how bitcoin is earned is wholly irrelevant to this topic.

A definition of what occurs on an oil and gas location can be as simple as, "Electric Generation for Onsite Computing." This covers cryptocurrency mining, cloud services and other remote computing operations.

Handwashing Supplies

Including this in land use rules and regulations doesn't pass the smell or giggle test and reeks of nannyism. Oil and gas drilling companies have been providing for the onsite needs of their employees for many decades. Codifying this degree of micromanagement is ridiculous.

Comments from Other Industry Stakeholders

While we have not reviewed the specific comments, based upon the discussion at the Industry Stakeholder meeting, Renegade generally supports the comments of other industry stakeholders.



June 29, 2023

Arapahoe County
Board of County Commissioners
5334 S. Prince Street
Littleton, CO 80120

Submitted via: DKocis@arapahoegov.com

RE: Proposed Oil and Gas Amendments

Dear Commissioners,

The American Petroleum Institute Colorado (API Colorado) respectfully submits the following comments on the proposed oil and gas regulations put forth by Arapahoe County (the county). API Colorado appreciates the efforts by the county to consider stakeholder feedback and we look forward to working with county staff and commissioners on this matter.

The American Petroleum Institute (API) represents all segments of America's oil and natural gas industry. API was formed in 1919 as a standards-setting organization and has developed more than 800 standards to enhance operational and environmental safety, efficiency and sustainability. Its nearly 600 members produce, process, and distribute most of the nation's energy. Member companies are producers, refiners, suppliers, marketers, and pipeline operators as well as service and supply companies.

Our state continues to be home to some of the most stringent regulations in the oil and gas industry. API Colorado encourages alignment with the Colorado Oil and Gas Commission's (COGCC) rules including the use of consistent definitions, standards, and practices. Clear guidance and feasible requirements help ensure operators can continue to meet those requirements in an efficient and effective manner. Many of the recommendations currently set forth by the county are duplicative of those put forth by the COGCC. Left in its current form, operators could face unclear and duplicative standards. For these reasons, API Colorado suggests the following revisions.

A. Intent and Applicability

Senate Bill 19-181 provided local government with additional authority over oil and gas operations, and we remind the county that its authority is limited to surface impacts and must be both necessary and reasonable. We want to thank the county for its acknowledgment of this and for including the reasonable and necessary provisions in its draft regulations. API Colorado also appreciates the county's efforts to facilitate business development while protecting public health, the environment, and wildlife.



D. Administrative Approval Criteria

5. Facilities on Arapahoe County Owned Property

The county requests an alternative location analysis (ALA) for operations that take place on county property. We note COGCC permitting rules already require alternative location analyses in many cases including proximity to water sources. To meet these requirements, operators typically evaluate multiple alternative locations. We recommend the county rely on the ALA requirements put in place by the COGCC to prevent unnecessary duplication, or at a minimum, work to ensure the county's ALA requirements align with the COGCC's requirements. Additionally, COGCC's rules provide multiple opportunities for local governments to collaborate with the COGCC on things such as alternative analyses, and we strongly encourage the county to avail itself of those opportunities.

Additionally, the proposed rules note that when an ALA demonstrates non-county-owned land is technically feasible and can meet requirements, the application on county land will be denied. However, a location that is technically feasible may also have negative characteristics. For example, another location may be in proximity to residential building units or high priority habitat. While such a site may be technically feasible, its selection may be less protective of public health and the environment than a site on county property. Instead, API Colorado suggests that the county work with COGCC and operators to identify sites that are both technically feasible and minimize adverse impacts.

E. Administrative Process

2. Neighborhood Meeting and 3. Application Notice Requirements

The proposed provisions require notices to be sent to property owners and occupants within one mile of a proposed site. However, we note that the frequency of tenant turnover may make it difficult for operators to acquire the most recent tenant names and addresses. We ask that the county allow alternative forms of notification outside of U.S. mail to help mitigate these challenges. API Colorado also notes the onus falls on the operator to determine if someone other than the homeowner occupies a property, which may be difficult to ascertain.

F. Standards Required for Oil and Gas Facilities

2. Setbacks

Draft regulations set a 2,000 ft. setback from the nearest boundary of a platted lot on properties smaller than 15 acres. In these cases, this could constitute a setback from a residential building at a much greater distance than 2,000 ft., which may limit the county's and operators' ability to identify feasible locations.

2.b.iii. Variances

While we appreciate the county's efforts to allow variances for setbacks, we note the analysis needed to determine substantial equivalent protections is highly technical and one that is already conducted by the COGCC. Rather than duplicating efforts, we suggest that the county rely on, and participate in, COGCC's process.

2.d. Water Reservoir Setbacks

Currently, the proposed setback requirement extends to existing and planned reservoirs. We note it is inherently difficult to determine what reservoirs may be planned. Therefore, we suggest that this provision be limited to existing reservoirs. API



Colorado also seeks justification for the setback distance being set at one mile. This far exceeds any other setback requirements in the state of which we are aware.

3. Health and Safety Requirements

f. Reportable Chemicals

This provision requires operators to provide the Office of Emergency Management (OEM) and the fire district with a list of all reportable chemicals on site. We seek further clarification on this provision, specifically the extent of this requirement.

m. Incident Reporting

API Colorado recommends further clarification around what defines an emergency. Due to the broad and subjective nature of the current language, "all emergencies" and "all reportable incidents", we recommend the county define an emergency as an incident requiring immediate medical attention.

We ask the county to consider the regulations set forth by the state as it continues its efforts. API Colorado appreciates the opportunity to provide comments on these proposed changes, and we look forward to working with the county and its staff in developing standards for safe and reliable operations.

Sincerely,

A handwritten signature in black ink that reads 'Alejandra Major'. The signature is written in a cursive, flowing style.

Alejandra Major
Associate Director
majora@api.org

Ava Pecherzewski

From: William Donovan <Donovan@petroleum-eng.com>
Sent: Thursday, June 29, 2023 10:34 PM
To: Diane Kocis
Cc: Pritchett, Ron
Subject: RE: Will you have any written comments on our handful of O&G rules to submit before midnight tonight?

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Oil and Gas Regulators of Arapahoe County,

I have lived in Colorado and Arapahoe County for most of my adult life. Colorado is a great place to live; we want the best for Colorado, specifically Arapahoe County. Your objectives in regulating oil and gas operations are commendable, but your approach is, at best hostile and counter-productive. First, the mineral estate is just as much property as the surface estate. Still, these proposed regulations are not about safety, clean water, or clean air but an attempt to prevent access and beneficial use of property owners to their property. I might posit that the oil and gas industry contributes as much or more to the betterment of Arapahoe County than the gaming, cannabis, and alcohol industries, which have a less stringent and hostile regulatory environment.

There has been a remarkable revolution in oil and gas operations in the last few years. The proposed regulations should embrace this new paradigm instead of proposing more stringent setback requirements. Please consider setting aside 40 acres zoned for oil and gas development in the center of every five square miles. There are 805 square miles in Arapahoe County. Thirty-two, 40-acre zoned oil and gas sites would be sufficient to exploit every prospective oil and gas reservoir in Arapahoe County. That is a total of two square miles or 0.25% of Arapahoe County's surface zoned for oil and gas development. After the Marshall fire, Ron Pritchett and I calculated that the drill pad in the center of five square miles and in the burn scar could generate as much as \$600 million in severance taxes to the local taxing districts, including the County. Of course, oil and gas is a risk industry, and tax revenue is not certain until the wells are depleted. As the Planning Commission, you would be tasked to determine these zoned areas. Also, surface owners willing to be in these zoned oil and gas areas could be compensated from a percentage of proceeds. This concept is not new; Union Pacific Rail Road gave "phantom overrides" to surface owners with some conditions. I believe the stipulations were the proximity to the well pad, home ownership, and that the home was the owner's principal residence.

The access road standards and alternative access could be better thought out and are cost-prohibitive. It is galling that this proposal reached this level without one whit of risk analysis. Remember, a massive drilling rig that weighs hundreds of tons was moved on the access road. Also, how many Colorado drilling accidents required an alternative road, and was the alternative road built to such load requirements? Let us look to data-driven solutions. If you think you have an orphaned well problem now, try restoring land with a road built to these requirements.

Finally, I have lived on a drilling rig as a permanent staff. All the permanent support staff are provided trailers with potable water, bathrooms, and toilets. The drilling crews and the temporary service providers use the porta-potties and have access to hand washing. The roughneck wives would raise hell if their loved ones came home with greasy and dirty hands. This is a regulation in search of a problem. A visit to a drilling rig for your staff might be in order.

I am a licensed Professional Engineer in the State of Colorado. I take my charge, which is “3.1.1 - Primary Obligation of Licensees. Licensees shall at all times recognize that their primary obligation is to protect the safety, health, property, and welfare of the public.” seriously. Please contact me if you have any questions. Thank you for your time and consideration.

- ✓ One-mile setbacks from existing and planned reservoirs (unless downgradient conditions can clearly be demonstrated);
 - ✓ Access road standards to match current fire code standards;
 - ✓ Alternative emergency access roads for pads located in areas with only one way in and one way out;
 - ✓ Handwashing supplies for workers at oil and gas sites;
 - ✓ Allow natural gas-powered cryptocurrency mining as an accessory use to oil and gas facilities; and (property rights)
 - ✓ Additional application information, including a project narrative, photo simulations and documentation of floodplain, wetlands and riparian area boundaries. (zoning)
- Operation of oil and gas facilities in compliance with all applicable federal, state and local laws and regulations. (leave for lawyers)

William (Bill) S. Donovan
8232 S Peninsula Dr
Littleton, CO 80120
(720) 351-7470
donovan@petroleum-eng.com

COLORADO GEOLOGICAL SURVEY

1801 Moly Road
Golden, Colorado 80401



Matthew L. Morgan
State Geologist and
Director

July 3, 2023

Diane Kocis
Energy Specialist
Arapahoe County Planning Division
DKocis@arapahoegov.com

**Subject: Review of Proposed Phase 1 Land Development Code Oil and Gas Amendments
Arapahoe County, CO**

Dear Diane:

The Colorado Geological Survey has reviewed the proposed Phase 1 Land Development Code Oil and Gas Amendments that will be discussed at a stakeholders Teams meeting on Friday, July 14, 2023.

I don't see anything in the redlines that CGS would object to, but I do recommend rethinking the revision to Section F. Standards Required for Oil and Gas Facilities, 2. Setbacks, b. iii.

"If an Oil and Gas Facility application that includes a lesser setback is submitted, it must be approved by the BOCC through the USR process..."

I am concerned that this could be construed to mean that approval is mandatory, which I don't think is the intent. I think reviewed would be better here than approved.

If you have questions or require further review, please call me at (303) 384-2643, or e-mail carlson@mines.edu. See you on the Teams meeting next Friday.

Sincerely,

A handwritten signature in black ink, appearing to read "Jill Carlson".

Jill Carlson, C.E.G.
Engineering Geologist



COLORADO
Division of Water Resources
Department of Natural Resources

July 6, 2023

Diane Kocis
Arapahoe County Public Works and Development
Transmitted via email: DKocis@arapahoegov.com

RE: Phase I Oil and Gas Rules

Dear Diane Kocis:

We have reviewed the information provided by email on July 3, 2023, regarding the proposed Phase I Oil and Gas Rules. To the extent that water is used for oil and gas operations such water must be from a source that can legally be used for that purpose. Therefore the County may want to consider whether to also request the source of water for the Oil and Gas facility as part of the Application process.

Should you have any questions, please contact me at this office at 303-866-3581 x8265 or joanna.williams@state.co.us

Sincerely,

Joanna Williams, P.E.
Chief of Water Supply, Designated Basins



From: Fury - CDPHE, Kate <kate.fury@state.co.us>
Sent: Wednesday, July 5, 2023 2:36 PM
To: Diane Kocis <DKocis@arapahoegov.com>
Cc: cdphe_oghealth@state.co.us
Subject: Re: Can you think of anyone at CDPHE who would review our Phase 1 proposed rules (see below)

Hi Diane,

We generally do not provide comments on proposed local government regulations, although we do provide assistance during development, as time permits.

Sorry I don't have better news for you.

Kate

On Mon, Jul 3, 2023 at 6:34 PM Diane Kocis <DKocis@arapahoegov.com> wrote:

Hi Kate,

I've been asked by my managers to get CDPHE written comments on our proposed Phase I Oil & Gas rules in the form of a letter on CDPHE letterhead. Can you think of anyone at CDPHE (WQ or elsewhere) who would be willing to provide comments? If CDPHE has no comments, that's fine too, as long as that is on letterhead. I've also copied the CDPHE Oil & Gas concerns email address.

Below are the Phase 1 proposed rules topics and I've attached the rule redlines, in case you want to see the text.

Relationship to State of Colorado Rules:

The Operation of a Facility in violation of any applicable federal, state, or other local law or regulation that results in adverse or negative surface impact(s) on or to public facilities and services, water quality and source, noise, vibration, odor, light, dust, air emissions and air quality, land disturbance, reclamation procedures, cultural resources, emergency preparedness and coordination with first responders, security, or traffic and transportation shall constitute a violation of the Land Development Code which may be enforced by law as other violations of the Land Development Code.

Neighborhood Meeting:

The applicant shall send notification of the meeting to the Planning Division and to all property owners of record, all occupied residences if occupants are different from record owner, and all registered homeowners' associations for residential subdivisions where any portion of the platted subdivision's boundary is within one mile of the proposed facility pad boundary.

Additional Application Information:

Applications shall include an application narrative, photosimulations of the view of the well pad from nearby properties and documentation of floodplain, wetlands and riparian area boundaries.

Application that includes a lesser Setback:

If an Oil and Gas Facility application that includes a lesser setback is submitted, it must be and approved by the Board of County Commissioners through the Use by Special Review process.

Reservoir Setbacks: (Don't know if you'd use Aurora Reservoir as a source of water to fight fires).

At least one mile from existing or planned water reservoirs, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback may apply. With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.

Post-Incident Meeting:

In addition to the formal incident report, a post-incident meeting shall be required with County staff. The date, time and location of the post-incident meeting shall be determined by the Public Works and Development Director.

Access Road Standard:

Prior to commencing construction of the Oil and Gas Facility, the Operator shall connect the site via an access road designed to support an imposed load of 80,000 pounds that will accommodate emergency response vehicles such as, but not limited to, law enforcement, emergency command vehicles (cars/SUVs), ambulances, hazardous materials response vehicles, water tenders, and fire apparatus during construction and operation of new tank batteries, new drilling activity and reworks or recompletions of existing wells, unless a local fire department or fire district agrees in writing to a different or lesser standard for the access road.. Access roads shall be constructed to be at minimum least twenty (20') feet wide with at least six (6") inch road base

Second part:

If an Oil and Gas Facility site incident could prevent emergency access on public or private roads, the Operator shall construct an alternative access road meeting these standards.

Post-Incident Meeting:

In addition to the formal incident report, a post-incident meeting shall be required with County staff. The date, time and location of the post-incident meeting shall be determined by the Public Works and Development Director.

Handwashing Facilities:

Operator shall provide hand washing facilities meeting Arapahoe County Public Health Department requirements at portable restrooms during drilling and completion operations.

And, crypto-mining, or data centers, will be allowed on oil and gas pads, by adding it as an approved use in our Land Use table of the Land Development Code.

Here is our definition of Crypto-Mining:

Cryptocurrency Mining The operation of specialized computer equipment for the primary purpose of adding, securing, or verifying transactions to a peer-to-peer network, also known as a blockchain, or mining one or more blockchain-based cryptocurrencies (a form of electronic currency). This activity typically involves large networks of decentralized computer servers that work together around the world to perform calculations and solve algorithms as part of the development and maintenance of a blockchain which is a type of distributed virtual ledger maintained on a peer-to-peer network. Typical physical characteristics of cryptocurrency mining include specialized computer hardware; the use of equipment to cool the hardware and operating space; and high density load electricity use.

Thanks in advance for whatever CDPHE can provide.

Sincerely,

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist

Arapahoe County Planning Division

dkocis@arapahoegov.com

Notes from Meeting with Lynn Robbio- Wagner 6-29-23. Arapahoe County Public Health re Stakeholder Input

- Shared a quick look at Citizen and Industry comments
- Discussed letters from EPA and CDPHE about drilling under LLSS unlined cells.
- Per Lynn: Civitas could volunteer not to drill under the unlined cells. The might risk being named as a as a responsible party if anything happened.
- RE Civitas already moved pads further from reservoirs, but typography limitations and State Land Board constraints (SLB has a 3-tiered O&G requirements, see below) and SLB has cultural constraints re Indian heritage so it's not possible to move pads further from reservoirs. Whoever owns the dams could agree to a lesser setback- this might be in the current AC regulation.
- SLB's 3 tiers for O & G development: Financial benefit to O & G lease if they choose to develop on land already disturbed. i. e. Cheaper to develop on land that's been disturbed, then land that's somewhat disturbed and (most expensive) land that's not disturbed. SLB has cheaper development fees for disturbed areas. Lynn might have the SLB guidance document and will forward it. As a side note: An Indian burial site was discovered near Powhattan and County Line/Pine (just west of the entrance of Black Stone in 2019. <https://sentinelcolorado.com/Otrending/aurora-construction-workers-discover-remains-of-centuries-old-native-american-man/>)
- EPA, CDPHE, WM and Denver Attorneys are discussing liability of drilling and how it may effect superfund site.
- Could there be a new language or a Condition of Approval on the Civitas permit approvals for no drilling under unlined cells? Such as no development under unlined hazardous material pits such as Lowry?
- On the Lowry Bombing range the remedial action has been for unexploded ordinances 20 mm rounds and up. O & G development should have a plan for if they unearth any ordinance and a notification to locals, CDPHE and Feds. This would be good to add a requirement to O & G regulation as well.
- RE a water well setback in the proposed rules, a OWTS has a setback of 100 ft setback well to septic system. It is currently measured from the well head on the surface – there is a large water well protection factor in the measurement since the water is drawn from the depth of the well. i.e. 400 feet, 600 feet or for instance 1000 ft.
- RE crypto-mining: Lynn asked, are they using CO-GEN plants? Are they going to use 16 cylinder engines (used at compressor sites and also at the LLSS Gas to Energy plant) run data center engines? If so, who is going to permit the use of the engine? The data center or the O & G facility? And who applies for the use by special review? If the data center has to permit and meet Title 5 requirements, it might not be profitable. The gas is used to fuel/fire the engines that makes the electricity for the data center is what this sounds like but I could be wrong since this is a new concept. Diane mentioned that Ed from Renegade said that Amazon and Google are interested in using natural gas at well pads to run their data centers.
- Lynn said most data centers have air permits for the backup generators and they are permitted on their potential to emit if ran 365 days for 24 hours. It is unknow how they will be affected by new air quality rules at this time.

15151 E. Alameda Parkway, Ste. 3600
Aurora, Colorado 80012
303.739.7370



Arapahoe County Planning Commission,

Thanks for your interest in Aurora's perspective on setback requirements between Oil and Gas activity and our critical water infrastructure. Aurora has existing setback requirements that we have applied in Operator Agreements and Aurora City Code (Chapter 135 - Oil and Gas Manual).

Aurora requires a 1-mile setback from all existing or planned reservoir sites and a 500 foot setback from a Water Source or Critical City Infrastructure. Critical Infrastructure has been defined to include "all existing or planned critical public utility infrastructure, including all source water pipelines, potable waterlines (16" diameter and greater), sanitary sewer pipelines (24" diameter and greater), storm sewer pipelines (or box culverts) greater than 36", water tanks, pump stations, lift stations, and bridges. Water Sources focuses on floodways, as defined by FEMA, and permanent City underground storage facilities. Water Sources does not currently include large City potable water supply wells, but the City is contemplating making that addition. The Aurora requirements were established to be conservatively protective, and the review process includes the ability for the applicant to apply for variances from the criteria based on providing appropriate data on site-specific conditions.

We understand that there have been some questions regarding the 1-mile setback from existing or planned reservoirs. Aurora established these criteria to be protective in all situations and therefore included a variance process to be able to consider smaller setbacks where they may be appropriate. While there may be multiple conditions that should be evaluated for any Oil and Gas well siting, one of the most important considerations from a water perspective is the hydraulic gradient (both surface and subsurface) between the proposed Oil and Gas well and the water reservoir. Another important consideration for planned reservoirs would be the state of the planning (is it a concept, has permitting been completed, has it been designed, etc.). For a proposed Oil and Gas well that is clearly downgradient from a water reservoir, Aurora Water would consider a setback of less than 1-mile based on site-specific data.

Please let me know if you have any questions.

Thanks.

A handwritten signature in blue ink, appearing to read "M. Brown".

Marshall Brown,
General Manager of Aurora Water



July 5, 2023

Ms. Diane Kocis
Energy Specialist
Arapahoe County Planning Division
Via email: dkocis@arapahoegov.com

Re: Oil & Gas Regulations

Dear Ms. Kocis;

Rangeview Metropolitan District would like to forward comments on the proposed setback requirements for Oil & Gas activities in unincorporated Arapahoe County:

- Rangeview supports the one-mile setback from existing or Planned water reservoirs, unless the applicant can demonstrate that the Oil & Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback may apply.
- With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.

In addition to the reservoir setback requirements, Rangeview supports a 500-foot setback requirement from existing and planned Water Infrastructure, defined as “water wells, water storage facilities, pump stations, lift stations, treatment facilities, maintenance facilities, water fill stations, diversion structures, and data communication infrastructure”. Rangeview appreciates the County’s review of setback requirements for Water Infrastructure and supports the ability for an applicant to apply for variances to these set back limits with site-specific conditions which may apply in a case-by-case basis.

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark Harding", is written over a light blue horizontal line.

Mark Harding
President

5-3.6. Use By Special Review – Oil and Gas Facilities

A. Intent and Applicability

1. The intent of this Section 5-3.6 is to describe the approval process and approval criteria to locate an Oil and Gas Facility in unincorporated Arapahoe County and to regulate the surface impacts of an Oil and Gas Facility's operations to such extent as is reasonable and necessary to protect public health, safety, and welfare and the environment in accordance with the authority provided under SB19-181. Any Oil and Gas Facility and related site preparation or development, including any such Facility that requires a Colorado Oil and Gas Conservation Commission ("COGCC") permit, shall not be located, constructed, or operated within the unincorporated jurisdiction of Arapahoe County without first obtaining Administrative Use by Special Review or Use by Special Review approval in accordance with the Arapahoe County Land Development Code, regardless of the zone district or category in which the operation will be located. If permitted in accordance with the requirements of the Arapahoe County Land Development Code, Oil and Gas Facilities are allowed in all zone districts, including Planned Unit Developments, subject to obtaining all required Federal, State, or other Local permits and approvals, and also subject to continued compliance with the requirements for the Oil and Gas Facility and the operations thereof as set forth in this Land Development Code, unless and to the extent waived or otherwise exempted pursuant to this Land Development Code.
2. The Administrative Use by Special Review process available as provided under this Section 5-3.6 shall apply only to an "Oil and Gas Facility" as defined in Chapter 7-2 of this Land Development Code.
3. Nothing in this Section of the Land Development Code is intended to waive or modify any applicable provision of the Arapahoe County Regulations Governing Areas and Activities of State Interest (1041 Regulations).
4. All Oil and Gas development authorized by this section shall comply with applicable provisions of the Arapahoe County building and engineering standards, including but not limited to, the Floodplain Regulations, the Building Code, the Grading, Erosion, and Sediment Control (GESC) Manual, the Stormwater Management Manual, the Stormwater Ordinance, and the Infrastructure Design and Construction Standards.

B. Relationship to State of Colorado Rules

To the extent that there are differing standards or any conflict between an Arapahoe County requirement and any State of Colorado law, regulation or rule, the stricter standard or law, regulation or rule shall apply.

C. Relationship to Section 5-3.4 of the Land Development Code

1. This Section provides for an Administrative Use by Special Review process for Oil and Gas Facilities, so that if an applicant meets administrative approval criteria, as set forth in this Section 5-3.6, and obtains approval pursuant to the process set forth herein, then separate approval under Section 5-3.4.B (Use by Special Review) of this Land Development Code is not required.
2. As an alternative to the Administrative Use by Special Review process set forth in this Section for approval to locate a proposed Oil and Gas Facility in unincorporated Arapahoe County, an applicant may submit an application in compliance with Section 5-3.4 (Use by Special Review), except to the extent modified in 5-3.6.J of this Section. Any Oil and Gas Facility approved through the USR process in Section 5-3.4 as modified by Subsection J of this Section 5-3.6 shall be subject to and operate in compliance with the Operational Standards specified in subsection F of this Section 5-3.6.
3. This Section, and Section 5-3.4 for a USR application if applicable, shall govern all applications for a permit to locate, construct or operate an Oil and Gas Facility, including wells, well pads, access roads and other related infrastructure, within the unincorporated jurisdiction of Arapahoe County. These regulations do not apply to pipelines, gathering systems or transmission lines. Pipelines,

gathering systems and transmission lines are governed by the Use by Special Review process outlined in 5-3.4 and by the Arapahoe County 1041 Regulations.

D. Administrative approval criteria

In order to obtain Administrative Use by Special Review approval for an Oil and Gas Facility, an applicant shall first satisfy the following Administrative Review Criteria:

1. Satisfy Submittal Requirements: The application and exhibits for the Administrative Use by Special Review must satisfy all applicable submittal requirements in this Section 5-3.6 and in the Development Application Manual.
2. Compliance with Land Development Code Requirements: The proposed Oil and Gas Facility must comply with all siting and design requirements and standards specified in this Section 5-3.6.
3. Environmental/Public Health and Safety Impacts: The proposed Oil and Gas Facility must be designed to protect against and minimize adverse impacts to public health, safety, and welfare and to the environment. The Oil and Gas Facility must address and mitigate any site-specific conditions that, by reason of oil and gas operations at that location, present a risk of adverse impacts to the public health, safety, or welfare, or to the environment. Approvals may be conditioned in accordance with these regulations to the extent necessary and reasonable to protect the public health, safety, or welfare and the environment.
4. Emergency Service Providers: The Oil and Gas Facility applicant must provide a commitment to serve (“will serve”) letter from the authority having jurisdiction for providing emergency services (fire protection and emergency medical services) for that facility, or if no authority has jurisdiction, provide proof of a contract for emergency services from an emergency services provider with the ability to provide such emergency services.
5. Facilities on Arapahoe County Owned Property: For Oil and Gas Facilities proposed on Arapahoe County owned property, including open space property, the applicant shall provide an Alternative Location Analysis (ALA) for the proposed location that meets the requirements of Rule 304(b)(2)(C). as adopted by the Colorado Oil and Gas Conservation Commission in its Rules and Regulations, as amended from time to time. In the event such ALA demonstrates that a location not on County owned property is technically feasible and can meet the requirements of this Land Development Code for approval, the application for location on County owned property may be denied. In the event the ALA demonstrates that no location other than on the County property is technically feasible, the application shall be processed as a USR in accordance with the provisions of Section 5-3.4 and Section 5-3.6.J of the Land Development Code.

E. Administrative process

1. Application Process
 - a. Applications for an Administrative Use by Special Review for proposed Oil and Gas Facilities will follow the application process outlined in Section 5-2.1.B of the Land Development Code, Common Procedures for an Application.
 - b. Once a complete application has been submitted, County staff will refer the application for review to the various divisions of the PWD and other Arapahoe County Departments or Offices, as deemed appropriate. An application may require and will be referred for review to outside agencies such as Colorado Parks and Wildlife (CPW), any life-safety providers, adjacent jurisdictions, local public health department, the U. S. Army Corps of Engineers, and others as may be deemed appropriate.
 - c. The applicant shall provide a written response to all staff and referral agency comments.
 - d. Upon completion of the referral process and acceptance of the final copy of the complete application and exhibits by the PWD, the application materials will be forwarded for final review to the PWD Director.
2. Neighborhood Meeting

Prior to submitting an application to Arapahoe County, the applicant shall conduct a neighborhood meeting to describe and take neighbors’ input on the proposed Oil and Gas Facility. The applicant shall send notification of the meeting to the Planning Division and to property

owners and registered homeowners' associations within one mile of the proposed facility pad boundary. Meetings may be conducted in person or utilizing an electronic virtual or remote meeting platform. Notice of the meeting must be sent no less than 15 days prior to the scheduled meeting date. At said meeting, the applicant must provide information concerning the development plans for the specific facility, including the timing and phasing of construction, drilling and completion, the planned access route, and mitigations planned to address noise, light, odor, traffic, and visual impacts. The applicant shall include with its application for the proposed facility a summary of the neighborhood meeting and the list of attendees from the sign-in sheet(s).

3. Application Notice Requirements

- a. The applicant shall provide written notification by U.S. Mail to all property owners of record, all occupied residences if occupants are different from record owner, and all registered homeowners' associations for residential subdivisions where any portion of the platted subdivision's boundary is within one mile of the pad boundary of the proposed Oil and Gas Facility that an application for an Administrative Use by Special Review for an Oil and Gas Facility, will be filed with the County. The Notice of Application shall meet the format prescribed by the County and shall be mailed at the time of filing the application with the County. The property owners of record shall be those identified in the County Assessor's property records. The Planning Division will provide the applicant with the names and addresses of the homeowners' associations. The applicant shall determine whether a residence is occupied by someone other than the owner and shall be responsible for such occupants.
- b. Within five (5) days of filing its application with Arapahoe County, the applicant shall also post a sign listing the case number and type of case (Oil and Gas Facility), the phone number of the Planning Division, and the distance from the sign to the facility. The sign shall meet the format specified in Section 5-2.2.A.3 of the Land Development Code and it shall be posted for a period of at least fourteen (14) consecutive days. The sign shall be posted adjacent to and off the shoulder of the County road or other public highway, and at or near the intersection of the proposed facility's access road and the public road, outside of the right-of-way or at such other location acceptable to and approved by Planning Division staff.

4. Application Submittal Requirements Found in the Development Application Manual (DAM)
Applications for an Administrative Use by Special Review or for a Use by Special Review for an Oil and Gas Facility shall also comply with all relevant submittal requirements as set forth in the Development Application Manual.

5. Waiver Requests

An applicant may apply for a waiver or modification of the following requirements for a proposed Oil and Gas Facility: 1) neighborhood meetings, 2) the burying of temporary water lines at driveway and gravel road intersections, visual mitigation, or 4) any other matter specifically identified as being eligible for a waiver or modification in this Section 5-3.6. A request to waive or modify a regulation shall be made in writing at the time of application and will be evaluated on the merit of the individual request. Requests must be justified by specific and extraordinary conditions of the location that make compliance with the particular standard or requirement not reasonably achievable or unnecessary and a showing that granting the request will not be detrimental to public health, safety, or welfare or the environment and is not otherwise inconsistent with the intent and purpose of the standard or requirement. A request under this Section 5-3.6.E.5 shall be submitted to the Director of Public Works and Development for decision. The applicant may appeal that decision to the Board of County Commissioners as provided in Section 5-3.6.G.7, below. A request for a waiver for a proposed Oil and Gas Facility will be decided in accordance with the provisions of this Section 5-3.6.E.5 and is not processed through the procedures for variances specified in Section 5-5.4 of this Land Development Code or subject to review by the Arapahoe County Board of Adjustment.

F. Standards Required for Oil and Gas Facilities

1. Regular Meetings

The Operator of any Oil and Gas Facility approved under this Section 5-3.6 or as a Use by Special Review as provided herein shall meet with the Director of Public Works and Development or his or her designee annually to monitor and discuss pertinent issues associated with the Operator's Facility or Facilities operating in the unincorporated territory of the County. At such Regular Meetings, the Operator and the Director or his or her designee will discuss the Operator's updated development plans, required reporting and recordkeeping, updates to the field-wide Emergency Response Plan (ERP), the facility-specific Emergency Action Plans (EAP) and Tactical Response Plans (TRP), outstanding training requirements, any health and safety issues, and potential implementation of new technology. An annual meeting may be conducted as a field visit to the Operator's Facility or Facilities and may be conducted more often than annually if desired by the Operator. Additional meetings in any one year may be required as necessary to address incidents, operational issues, or other issues related to the Facility or Facilities.

2. Setbacks

a. All Oil and Gas Facilities shall be located at least:

- i. 2,000 feet from any occupied structure as measured from the pad boundary.
- ii. 2,000 feet from the nearest boundary of a platted lot smaller than 15 acres in area as measured from the pad boundary.
- iii. 200 feet from any adjacent property's boundary line as measured from the pad boundary.
- iv. 100 feet from public rights-of-ways as measured from the pad boundary.
- v. 2,000 feet from a Designated Outside Activity Area as measured from the pad boundary.
- vi. 2,640 feet from the nearest property line of an operating or closed landfill as measured from the pad boundary.
- vii. Outside of a 100-year floodplain or at least 500 feet from the edge of any perennial surface water body, the ordinary highwater mark of any perennial or intermittent stream or the edge of any riparian area, whichever is the greater distance, as measured from the pad boundary, unless CPW has waived or modified the setback from the stream, surface water, or the riparian area following in accordance with COGCC Rules 309 and 1202.
- viii. All access roads shall be at least 250 feet from a residential or non-residential property line, excluding light or heavy industrially zoned properties.

b. The 2000 feet setbacks from occupied structures or platted lots referenced in subparagraphs 5-3.6.F.2.a.i and ii above may also be reduced to a lesser setback:

- i. If the owner(s) of the occupied structure(s) or all owners of the affected platted lots agree in writing to a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below 500 feet; or
- ii. If, as shown on the Oil and Gas Facility Operations Plan submitted with the application, any and all wells, tanks, separation equipment, compressors and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than 2,000 feet from the nearest occupied structure or all affected platted lots; or
- iii. If an Oil and Gas Facility application that includes a lesser setback is submitted and approved by the Board of County Commissioners through the Use by Special Review process provided in Section 5-3.4 of the Land Development Code. For approval of any lesser setback under this subparagraph, the Operator must

establish that the lesser setback as proposed will provide substantially equivalent protection to a 2,000 foot setback and that granting the lesser setback will not adversely impact public health, safety, or welfare or the environment. In reviewing the proposed lesser setback, the Board of County Commissioners shall consider the extent to which the operator provides an alternative Oil and Gas Facility design, best management practices, control technologies, or proposes conditions of approval that will be effective to avoid, minimize, or mitigate adverse impacts on the affected properties, considering:

- (a) geology, technology, and natural features, hazards or topography; (b). the location and use of occupied structures and proximity to those structures; and
 - (b) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location.
 - (c) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location.
- iv. However, in no case may the 2000 feet setback from occupied structures or platted lots be reduced below 500 feet.
- c. Reverse Setbacks: No new occupied structure shall be constructed less than:
 - i. 250 feet from an existing Oil and Gas well of any status (permitted but not drilled yet, drilling, completing, producing, active gas storage, injecting, shut-in, temporarily abandoned, dry and abandoned, or plugged and abandoned prior to 2014).
 - ii. 150 feet from a plugged and abandoned oil and gas well or remaining equipment that was plugged and abandoned from 2014 onward.
 - d. Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:
 - i. At least one mile from existing or planned water reservoirs, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback may apply.
 - ii. With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.
3. Health and Safety Requirements
- a. The Operator must submit an initial facility-specific Emergency Action Plan (EAP) and an initial facility-specific Tactical Response Plan (TRP) with an application for any new Oil and Gas Facility. The initial EAP and the initial TRP shall be forwarded to the County Office of Emergency Management ("OEM") for approval. Provided that an Administrative Use by Special Review or full USR has been approved for the proposed Oil and Gas Facility and provided that OEM has approved the initial EAP and the initial TRP and further provided that required engineering permits have been obtained from Arapahoe County, the applicant or other Operator may commence construction of the pad and access road for the proposed Oil and Gas Facility. After the pad and access road have been constructed, the Operator shall prepare ArcGIS Shape files for the well pad and access road. The Operator shall prepare and provide to OEM a detailed EAP and a detailed TRP, which incorporate the ArcGIS information for OEM's review and approval prior to commencing any drilling at the site. OEM shall review and approve or deny approval of the detailed EAP and TRP within two weeks of submission by the Operator. The initial and detailed EAP and TRP shall follow the templates as specified in the DAM.
 - b. The EAP and TRP shall be updated annually and whenever there is any change in or need to change any of the content of the EAP or TRP, such as but not limited to, the addition or subtraction of chemicals used or stored on site.

- c. The Operator shall coordinate with the fire district having jurisdiction at the facility in establishing evacuation routes in the event of an emergency at the facility. Evacuation route considerations will include any occupied structures, platted lots, critical infrastructure, public facilities, schools, or other high-occupancy buildings that are within proximity to the oil and gas facility, and routes shall be based on guidance from the fire district and OEM.
- d. The Operator shall provide and maintain 24-hour contact information for the Operator and maintain 24-hour contact information for all contractors and subcontractors working at the facility. Operator shall provide all such contact information to the County upon request.
- e. The Operator shall maintain a Hazardous Materials Inventory Statement for all hazardous materials on site at the facility and shall provide the Statement to the fire district having jurisdiction at the facility and OEM on an annual basis.
- f. The Operator shall provide OEM and the fire district having jurisdiction at the facility with a list of all reportable chemicals used or stored on each site from the time of construction to abandonment of the facility. The list of chemicals will be updated whenever new chemicals are added or removed, and such updated list shall be provided promptly to OEM.
- g. Upon reasonable advance notice, no less than 8 hours, to the Operator, the Operator shall provide access to the fire district having jurisdiction over the facility and to County staff for inspection of the Oil and Gas Facility to determine compliance with applicable provisions of this Land Development Code, fire codes, and public safety standards.
- h. The Operator shall mark all wells and all well pads with directional signage in a conspicuous place at or near the intersection of the access road with the public road, from the time of initial drilling until final abandonment. The Operator shall maintain signs in a good and legible condition and shall replace damaged or vandalized signs within fourteen (14) days. Directional signs shall be placed at locations and shall contain directions sufficient to advise emergency crews where drilling or completion is taking place.
- i. A sign with the Operator's 24/7 contact information, COGCC complaint website, shall be placed at the entrance to the Oil and Gas Facility. All signage content shall follow COGCC regulations for such signage, except to the extent that COGCC regulations are inconsistent with the above stated County signage content requirements.
- j. The Operator shall repair any damages to County infrastructure or property caused by Operator's activities or omissions, or that is caused by any emergencies that occur at the facility, in compliance with the Operator's Road Damage Agreement.
- k. Training
 - i. The Operator shall conduct a coordinated training exercise with OEM and the fire district having jurisdiction at the facility for at least one well pad every year. If the Operator's standard well pad design layout changes, then an additional coordinated training exercise will be conducted that year and every time the standard pad design changes.
 - ii. Key personnel at an Oil and Gas Facility are required to complete the National Incident Management System (NIMS) training courses IS-100.C and IS-700.B prior to commencement of drilling operations at the Oil and Gas Facility. Key personnel shall include those employees of the Operator and any field consultants who are team leads or equivalent having supervisory authority over any of the oil and gas operations conducted at the Facility. OEM may also specify additional specific training requirements pertinent to the proposed Facility that will be required for key personnel prior to the start of drilling. The Operator shall provide to County certificates of completion of the NIMS trainings required in this paragraph at least one week prior to the start of drilling and shall provide certificates of completion for any new or replacement key personnel at a Facility within one month of the person commencing work at the Facility.

- I. Fire Prevention and Procedures
 - i. The Operator shall work directly with the fire district having jurisdiction over the facility to determine if existing response capabilities are adequate to serve the site. If additional response capabilities are deemed necessary by fire district having jurisdiction over the facility, the operator will work with the fire district having jurisdiction to provide additional fire suppression or emergency response assets needed. The operator will provide the identified assets to the fire district having jurisdiction to maintain and control for emergency response unless otherwise agreed upon in writing by both parties. The need for these additional assets shall be judged on a case by case basis per well pad and may be viewed in terms of the cumulative impact of overall oil & gas development within the fire district having jurisdiction.
 - ii. No open burning, except flaring, shall occur on the site of any Oil and Gas Facility.
- m. Incident Reporting
 - i. All emergencies shall be reported to 911 immediately upon discovery, and as soon as reasonably possible to Office of Emergency Management and the County Local Government Designee (LGD). In the case of an emergency situation where a delay caused by reporting would endanger public health, safety, welfare, or the environment or wildlife, the initial notice may be given orally. Formal incident reports are required for, but not limited to, the following incidents: spills, releases, uncontrolled release of pressure, loss of well control, vandalism, terrorist activity, fires, explosions, detonations, lightning strikes, any accidental or natural event that damages equipment, accidents resulting in fatalities, significant injuries or chemical exposures, or any condition or occurrence that threatens or harms safety on any of the Operator's facilities, including pipelines. Formal written incident reports for all reportable incidents shall be submitted to the Office of Emergency Management, the fire district having jurisdiction at the facility, and the County LGD within three (3) calendar days of the incident. When in doubt as to whether the incident is reportable, the Operator will contact the County LGD.
 - ii. The Operator shall submit copies of any initial and supplemental spill report filed with the COGCC to the County LGD, OEM, and the fire district having jurisdiction at the facility, as well as any associated remediation reports, all within three calendar (3) days of filing with the COGCC. Those copies may be submitted electronically, if electronic submission is available.
- n. Spill and Release Reporting
 - i. The Operator shall provide a copy of the Spill Prevention, Control and Countermeasures (SPCC) Plan for each facility, prepared in compliance with 40 CFR Part 112 (as amended), to the fire district having jurisdiction at the facility and to OEM prior to the start of production. The Operator shall also provide to the fire district and OEM a listing of hazardous chemicals used on site if required by the Emergency Planning and Community Right-to-Know Act (42 USC 11001, *et seq.* as amended) and related regulations. If the holding capacity of any planned on-site equipment or storage tank is changed from what is identified in the SPCC or if the listing of hazardous chemicals is changed from what was identified in the SPCC, the Operator shall update the SPCC and provide the update to the fire district with jurisdiction over the Facility, to OEM and to the LGD.

- ii. The Operator shall make available at each well pad and shall require its field staff or contractors to carry, spill response kits capable of mitigating small to mid-size spills (5 to 50 gallons).
 - iii. Operator shall submit all reports required under COGCC Rule 912.b to OEM, the fire district serving the facility, and to the LGD. Spill containment and treatment does not relieve the Operator of any spill incident reporting obligations required under these or other applicable federal, State, or local law or regulations.
 - iv. The Operator will install automated safety systems on all new facilities. Each system will include a Surface Safety Valve (“SSV”) or wellhead master control valve, installed before the commencement of the production phase and connected to the production tubing at the surface. The SSV or wellhead master control valve shall be capable of remotely shutting the well in should upset conditions be detected. The SSV will have documented, quarterly testing to ensure functionality per manufacturer’s specifications. The Operator shall maintain and keep the quarterly testing results records for at least three years and said records shall be made available to the County upon request by the PWD Director.
 - o. Operator shall provide hand washing facilities meeting Arapahoe County Public Health Department requirements at portable restrooms during drilling and completion operations.
4. Lightning Response
- a. If damage is sustained to any portion of a facility due to a lightning strike, the entire facility shall be shut in immediately and inspected by the Operator prior to restarting operations at the facility.
5. Secondary Containment for Onsite Storage Tanks
- a. Secondary Containment is required around aboveground produced water and crude oil storage tanks and shall be constructed of steel berms with synthetic liners or earthen berms constructed of compacted soil and armored with cobbles. Secondary containment shall be of sufficient capacity and effective to contain at least 1.5 times the volume of the largest tank.
 - b. Secondary containment is required around any other aboveground storage tanks or containers of any liquid substance other than fresh water on well pads, and specifically including but not limited to solvents, methanol, fuels, coolants, antifreezes, or lubricants or lubricating oil, and shall have sufficient capacity and be effective to contain at least 1.5 times the volume of the largest tank.
 - c. All secondary containment shall be inspected for evidence of discharge weekly by the Operator or their contractors and within 48 hours of any precipitation event sufficient to reduce the capacity of the secondary containment to less than 1.5 times the volume of the largest tank. Such accumulated precipitation must be removed within 24 hours of an inspection.
 - d. The Operator shall keep written records of secondary containment inspections and shall maintain such for at least three (3) years; the Operator shall make such records available to the County upon the written request of the PWD Director.
6. Disposal of Drill Cuttings
- a. Drill cuttings must be disposed offsite at least twice weekly, at a State-approved solid waste facility. No onsite disposal is allowed.
7. Pad Surface
- a. The surface of a pad shall be paved with either crushed granite or gravel, in a sufficient amount to eliminate mud-tracking offsite and to comply with the County’s Grading Erosion and Sediment Control regulations.
8. Number of Tanks and Tank Separation Requirements
- a. All oil and produced water storage tanks shall be spaced at least 3 feet apart.

- b. No Oil and Gas Facility shall be permitted to have more than a combined total of nine (9) oil, produced water and/or condensate tanks, or a total Facility capacity of no more than 6750 barrels.
9. Groundwater Baseline Sampling and Monitoring
- a. The Operator shall, at its own cost, perform initial baseline sampling and testing of all water sources located within one-half (1/2) mile radius of Oil and Gas Facility if requested by the owner of such water source or owner of land upon which such water source is located. If no water sources are available in a one-half mile radius of the proposed Facility, the Operator shall sample and analyze up to two (2) down-gradient water sources in a one-mile radius of the proposed Facility. The written results of such baseline testing shall be provided to the requesting property owner, COGCC and to the County.
 - b. Water sampling and testing shall be performed in accordance with the standards and requirements specified in COGCC's Rule 615 a. through f. and as amended from time to time, except for 615 b. (2) and 615 c. (1).
 - c. The requirement to test a well upon request does not apply if the water well has already been tested by any Operator and the Operator is able to furnish such results to County or if access is denied.
 - d. The Operator shall sample, on a one-time basis, down-gradient and perennial surface water within a one-half (1/2) mile of a proposed well pad prior to the construction phase.
 - e. The Operator shall provide a letter notice to all owners of properties within a one-half (1/2) mile radius of the proposed pad with a water well listed in the State of Colorado Division of Water Resources database, to inform those water well owners of the opportunity to have their water wells sampled prior to drilling.
 - f. For all water sources for which the Operator has performed initial baseline sampling at the request of the property owner in accordance with these regulations, the Operator shall also perform subsequent sampling and testing of such water sources on the schedule specified in and in accordance with COGCC Rule 615 d. The written results of such subsequent testing shall be provided to the requesting property owner, COGCC and to the County.
10. Noise Mitigation Requirements
- a. Noise emitted from the facility pad shall not exceed 60 dBA or 65dBC, measured at the nearest property line of the property with the nearest occupied structure. These noise levels, as measured, constitute the Maximum Permissible Limit of noise that may be allowed to emanate off site from the Oil and Gas Facility.
 - b. During the hours between 7:00 AM and 7:00 PM, the maximum permissible noise levels may be increased 10 dB(A) for a period not to exceed 15 minutes in any 1-hour period. The increase is permissible only for a 1-hour period during any 12 hours.
 - c. The Operator may apply for a modification or waiver to exceed the Maximum Permissible Limit in accordance with and subject to the standards in Section 5-6-3.6.E.5 above where the Oil and Gas Facility is proposed to be located in an area with existing ambient background noise levels that are at or above the Maximum Permissible Limit or if proposed for an area that is sufficiently remote from any property with an occupied structure or any High Priority Habitat, provided that the lack of High Priority Habitat is supported by recommendation of CPW. The Operator may also apply for a waiver in accordance with and subject to the standards in Section 5-6.3.6.E.5 of the requirements below to prepare a noise survey and noise mitigation plan for a pad site that will not contain any oil and gas wells and will not be drilled or fracked.
 - d. The Operator shall conduct an ambient noise survey for each proposed well pad no more than 90 days prior to application in order to establish baseline noise levels for the site, and the Operator shall also conduct noise modeling for the well pad to simulate noise during drilling and completion.
 - e. The noise surveys and the noise modeling shall be used to create a Noise Mitigation Plan for the site for keeping sound emissions from the site within the Maximum Permissible Limit. The Noise Mitigation Plan shall describe noise mitigation practices, equipment, strategies,

infrastructure, or other strategies to be used and implemented at the Oil and Gas Facility in order to comply with the Maximum Permissible Level of noise emanating from the Facility. The Operator shall update the Noise Mitigation Plan for any changes in equipment that may reasonably be expected to affect the ambient noise levels at the site or if the Facility is not constructed within two (2) years of the date of the County's Administrative Use by Special Review or Use by Special Review approval for the Facility. The Noise Mitigation Plan shall also be updated if any new occupied structure is constructed within 2,000 feet of the pad boundary, between the time of Administrative Use by Special Review or Use by Special Review approval of the Facility and the commencement of drilling. The Operator shall provide the updated Noise Mitigation Plan and implement any strategies identified in the updated plan prior to putting such new equipment into operation or prior to commencing construction of the Facility as applicable.

- f. If the noise modeling indicates that noise levels for either or both A-Scale (dBA) and C-Scale (dBC) noise for drilling and completion will exceed the Maximum Permissible Level at the property line of any property with an occupied structure, where that structure is within 2,000 feet of the pad, additional noise mitigation measures will be required as necessary to achieve the Maximum Permissible Level.
 - g. If the noise modeling indicates that drilling or completion activity or production equipment on a well pad without noise mitigation will exceed the Maximum Permissible Limit, notwithstanding other mitigations that may be proposed in the Noise Mitigation Plan, sound walls shall be constructed prior to both drilling and completion commencing.
 - h. The Noise Mitigation Plan shall address noise/vibration through sound walls and other practices such as, but not limited to, utilizing electric equipment, Tier 4 diesel engines, installing mufflers or covers on noisy equipment or the use of Quiet Fleet™, or similar noise mitigation. If sound walls will be required for mitigation of noise during completion, they shall be erected prior to drilling.
 - i. Additional mitigations, as necessary to achieve the compliance with the Maximum Permissible level, must be described and used by the Operator if C-scale noise levels are increased to the larger of either (i) 5db over ambient or (ii) 65 dBC at the property line of the property upon which the nearest occupied structure exists. The County may require larger setbacks and/or sound walls or other structures on a case-by-case basis for mitigation of C scale noise, based on data from the noise model.
 - j. The Operator shall follow the most recent and most appropriate BMPs to reduce noise related to drilling and completion.
 - k. Tubular goods may not be unloaded from 8 PM to 7 AM unless there are no occupied structures within 2,640 feet
 - l. Engine idling shall be minimized.
 - m. The Operator shall provide a 24-hour contact number for noise complaints on the facility sign required in section 5-3.6.F.3.h, as well as the COGCC's complaint hotline number.
11. Access Road Standards
- a. Prior to commencing construction of the Oil and Gas Facility, the Operator shall connect the site via an access road designed to support an imposed load of 80,000 pounds that will accommodate emergency response vehicles such as, but not limited to, law enforcement, emergency command vehicles (cars/SUVs), ambulances, hazardous materials response vehicles, water tenders, and fire apparatus during construction and operation of new tank batteries, new drilling activity and reworks or recompletions of existing wells, unless a local fire department or fire district agrees in writing to a different or lesser standard for the access road..
 - b. Access roads shall be constructed to be at minimum twenty (20') feet wide with at least six (6") inch road base
 - c. The Operator shall maintain such access roads in good condition and suitable for emergency vehicle use until such time as the Oil and Gas Facility has been plugged and abandoned.

- d. If an Oil and Gas Facility site incident could prevent emergency access on public or private roads, the Operator shall construct an alternative access road meeting these standards.
 - e. Best efforts will be made to improve inadequate access to existing tank battery sites identified by the fire district or County as determined through service calls and demonstrated problems of access to the site.
 - f. The County and/or appropriate emergency response agency may conduct spot inspections of access roads to ensure that emergency access in accordance with this section is maintained.
12. Odor Mitigation
- a. The Operator shall prevent odors migrating offsite during drilling through the use of low-odor Category III drilling fluid, unless a waiver or modification is allowed under 5-3.6.E.5 of these regulations
 - b. The Operator shall use closed-loop systems in place of open pits.
 - c. The Operator shall proactively respond to and address odor complaints.
 - d. The Operator may be required to address odor complaints with additional measures such as wiping down drill pipe, increasing mud additives, using filtration systems, enclosing shale shakers and frequently transporting drill cuttings offsite for disposal.
13. Site Lighting
- a. All site lighting shall be directed downward and inward to prevent light spill outside the pad.
 - b. Wherever possible, lights will be mounted on the inside of the sound wall.
 - c. Any lights not concealed by a sound wall must be IES (Illuminating Engineering Society) full cutoff or shielded/screened to minimize the amount of light leaving the pad
 - d. During the production phase, site lighting shall be turned off between the hours of 10:00 PM and dawn. Motion-sensing lights may remain active during those hours.
 - e. Upon receipt of a lighting complaint and review by the Planning Division, the Operator may be required to address lighting complaints within 24 hours of the Planning Division's review of the complaint, with additional mitigation measures.
14. Visual Mitigation
- a. Well pads within 1,320 feet of a property line of a property containing an occupied structure, a platted lot, or a parcel of 40 acres or smaller, shall be designed with some form of visual mitigation, to include but not be limited to, low-profile production equipment, opaque fencing, berming, or landscaping.
 - b. Landscaping or fencing around the perimeter of the pad shall be installed within one year of the first well's completion. The screening shall be designed to minimize visual impacts from adjacent properties and the nearest streets.
 - c. Production pads shall be maintained free of vegetation, except such vegetation as may be required for interim reclamation or Arapahoe County GESC regulation requirements, and shall be maintained free of rubbish and debris. For the purposes of this Visual Mitigation regulation only, a production pad may exclude the reclaimed area, approved through a County-issued GESC permit.
 - d. Storage of equipment not associated with the on-going oil and gas operations at a specific pad is prohibited on that pad.
 - e. Privacy or solid fencing shall be Class 5 – Solid Fencing as defined in section 4.3 of the Land Development Code, at least 8 feet high and painted or stained with natural wood colors.
 - f. Whenever possible, the Operator shall use existing natural contours and existing vegetation to conceal the site from view.
 - g. Whenever possible, the Operator shall minimize the size and number of tanks and equipment installed or maintained on a production pad. When available, as provided below, use of pipelines to reduce the size and number of tanks and equipment maintained on a production pad is encouraged.
15. Locks/Emergency Access Hardware
- a. The Operator shall provide approved emergency access hardware for any locked facility gates or access points.
16. Traffic Mitigation and Reduction Measures

- a. The Operator shall make best efforts to schedule its traffic to limit heavy truck traffic on County roads during peak commuting hours and during school bus hours and shall comply with any restrictions established in accordance with the Road Damage Agreement.
 - b. The Operator shall use pipelines for the transport of produced water and hydrocarbon liquids from the well pad, wherever available.
 - c. To reduce traffic associated with the Operator's drilling and completion activities, the Operator is allowed to use temporary surface lines for transportation of water needed during drilling and completion or Modular Large Volume Tanks (MLVTs) for storage of water needed during drilling and completion. Provided that the MLVT is located on or contiguous with the Oil and Gas Facility pad, the MLVT may be approved with the Administrative Use by Special Review application or by amendment to an approved Administrative Use by Special Review. The Operator may use County Road Right-of-Way, and County drainage culverts, where practical, for the laying and operation of temporary water lines on the surface, provided that the County's Engineering Services Division approves the locations of the temporary water lines through a street-cut/right-of-way permit issued in accordance with the Arapahoe County Infrastructure Design and Construction Standards. The Operator will bury temporary water lines at existing driveway and gravel road crossings, unless the PWD Director approves an alternative to burying the lines in accordance with section 5-3.6.E.5 above.
 - d. Prior to commencing construction of an Oil and Gas Facility, the Operator shall execute a Road Damage Agreement for the site or shall have executed a field wide Road Damage Agreement for all sites within the County. Such agreement shall be in a form approved by and acceptable to the County.
 - e. Consistent with the Road Damage Agreement, the Operator shall provide the County with a truck access route for evaluation and approval by the County. The County may require a route that minimizes impact on nearby residents and/or a particular County roadway.
17. Wildlife, Wetlands, Riparian Areas and Stream Channel Measures
- a. The Operator shall implement the recommendations of Colorado Parks & Wildlife (CPW) that address any site-specific site conditions. unless a waiver or modification is approved in accordance with Section 5-3.6.E.5 above.
 - b. Wetlands boundaries shall be determined by a Professional Wetland Scientist (PWS) and those boundaries shall be indicated on the Administrative Use by Special Review plan.
 - c. Crossings of defined streambed and banks (stream channels) by flowlines and pipelines must be bored underneath and not trenched.
 - d. All crossings of riparian areas by flowlines and pipelines shall be bored under, starting 500 feet from the edge of the riparian area. All crossings of riparian corridors by access roads will be constructed with culverts, approved by Engineering Services Division.
 - e. The Operator shall avoid constructing in CPW-mapped High Priority Habitats (HPH) to the maximum extent possible. If an operator elects to construct in an HPH polygon, then they will be subject to minimization and/or mitigation measures as specified in COGCC's 1200 Series Rules, as well as any applicable CPW recommendations.
 - f. Fencing that bisects streams is prohibited.
18. Floodplains/Floodways Restrictions
- a. Storage of hazardous or floatable materials in the floodplain is prohibited.
 - b. Oil and Gas facilities shall not be located in a floodplain. Access roads, and underground pipelines and flowlines are permitted to cross floodplains provided that they are designed to meet Arapahoe County Floodplain Regulations and the Infrastructure Design and Construction Standards or other applicable Engineering Standards and those crossings are in accordance with a floodplain Development permit issued by the Arapahoe County Floodplain Administrator in accordance with Section 5-4.3 of the Land Development Code.
19. Notification of Commencement of Geophysical Exploration/Seismic Testing, Construction, Drilling, Completion, and Flaring
- a. The Operator shall provide advance written notice to the Planning Division of the projected commencement of geophysical exploration/seismic testing; the construction phase, drilling

phase, and completion phase of each new well; and each workover one week prior to the start of each phase.

- b. Flaring shall be reported to the County LGD via email or text message prior to flaring whenever possible, or during the flaring event. An updated notice will only be required if the commencement of any phase is delayed more than one week from the original date indicated in the notice.

20. New Technologies

The County may require modifications to equipment for drilling, completion, or production operations to incorporate new technologies for reduction of noise, odor, dust or for mitigating other surface impacts caused by the Oil and Gas Facility or its operations if such new technologies are technologically sound, economically practical, and commercially available to the Operator.

21. Compliance With Laws and Regulations

The Oil and Gas Facility shall be operated in compliance with all applicable federal, state, and local laws and regulations.

G. Approval/Denial/Conditions of Approval of Administrative Use By Special Review/Appeal

1. Action to Approve, Conditionally Approve or Deny

The PWD Director may approve, approve with conditions, or deny an Administrative Use by Special Review application for an Oil and Gas Facility. Written notice of the decision shall promptly be provided to the applicant, and, if denied, the notice shall include a statement of the reason(s) for denial.

2. Revocation of Approval

Approval may be revoked, after notice of the grounds for such proposed revocation and a hearing before the Arapahoe County Board of County Commissioners, if the Operator fails to meet or fails to continue to meet any requirements of this Land Development Code or any Conditions of Approval governing the installation and operation of an Oil and Gas Facility. The hearing will be conducted as a general business item at a regular meeting of the Board of County Commissioners. At said hearing, the Planning Division shall present evidence of the grounds for revocation of the approval and the Operator shall be afforded the opportunity at such hearing to present evidence in response to the proposed revocation. The Operator may appeal the Board of County Commissioners' decision in accordance with Rule 106(a)(IV) of the Colorado Rules of Civil Procedure.

3. Recordation

Arapahoe County Public Works & Development shall record the approved permit for an Administrative Use by Special Review or for a Use by Special Review under Section 5-3.4 of the Land Development Code and the approved site plan in the Office of the Arapahoe County Clerk and Recorder within 30 days of the approval. The applicant shall pay any recordation fees.

4. PWD Director's Discretion to Refer to the Board

In lieu of the PWD Director making a decision on an application, the Director has the discretion to refer any application for Administrative Use by Special Review or amendment thereto to the Board for its consideration and decision at a public hearing. In such event, the Board shall make its determination based upon the requirements of this Section; however, unless waived by the Board, compliance with the notice requirements set forth in Section 5-3.4.C.2. is required prior to the Board hearing. At such public hearing, the Board may approve, approve with conditions, or deny the application.

5. Expiration of Approval

- a. An approval of the Administrative Use by Special Review, as delineated in the application, shall automatically expire three (3) years after the date of recordation, unless the facility is already substantially commenced by the drilling of at least one well on a pad.
- b. For good cause shown, the Planning Division Manager or designee may grant a time extension to the expiration date stated in this Section for up to one year, upon a written request by the applicant. Such request shall be submitted in writing to the Planning Division Manager no less than sixty (60) days before the date of expiration of the approval.

- c. The Board may, for good cause shown, grant an additional extension for an additional one-year period.
 - d. If drilling of a well is not completed within the time allowed under the original permit or any extension granted pursuant to this Section 5-3.6.G.5, the approval shall lapse and a new application is required. After a lapsed approval, the Oil and Gas Facility may be constructed, completed, or produced only in compliance with the Land Development Code in effect at the time of the new application.
6. Permits Required Prior to Commencement of Operations
- a. If applicable under the Land Development Code or other Arapahoe County code or regulation, an Access Permit issued under the Infrastructure Design and Construction Standards, a GESC Permit, a Roadway Damage Agreement and Oversize/Overweight Vehicle Permit shall be required prior to the development of an Oil and Gas Facility. A Floodplain Development Permit shall be required prior to any work within a floodplain. A Building Permit may be required prior to construction of structures or the erection of equipment within the Oil and Gas Facility in accordance with the Arapahoe County Building Code.
7. Appeal of Decision on Application for Administrative Use by Special Review
- a. An applicant may appeal the Public Works and Development Director's denial of an application for an Administrative Use by Special Review for an Oil and Gas Facility, denial of a waiver request, or any conditions of approval, to the Board of County Commissioners for a *de novo* hearing. The Applicant must file the appeal within fourteen (14) calendar days of the date of the PWD Director's decision by submitting a letter of appeal to the Planning Division Manager. Thereafter, the matter will be scheduled on the next available agenda of the Board, following public notice required by Section 5-3.4.C.2. At such hearing, the Board may affirm, reverse, or modify the decision of the PWD Director, based upon the criteria set forth in this Section 5-3.6.

H. Administrative Amendment

If the Applicant or the Operator proposes changes from the plans approved through the Administrative Use by Special Review, including but not limited to any changes in the source or location of water to be used by the Oil and Gas Facility, the type and size of equipment on the facility or visual mitigation measures, the Applicant is required to submit an amendment to the approved Administrative Use by Special Review plans showing the proposed changes. The PWD Director may approve, conditionally approve, or deny the proposed amendment in accordance with the provisions of this Section 5-3.6. The proposed amendment will be reviewed by PWD staff and, as needed for the review of the application, PWD Staff may require additional information. The amended application will need to meet all requirements of this Section and be approved in writing. If the BOCC approved the original application on appeal, as a USR, or by reason of its otherwise having been elevated to the BOCC for decision under this Section 5-3.6, the proposed amendment shall be referred to the BOCC for consideration and decision following public hearing as provided in Section 5-3.6.G.4 above. The PWD Director may exercise his or her discretion to elevate any proposed amendment to the BOCC for consideration and decision as provided in Section 5-3.6.G.4 above. Upon recommendation of PWD Staff, the PWD Director may waive the need for amendment of the Administrative Use by Special Review or other BOCC approved Oil and Gas Facility permit provided that the proposed change is found to be minor, with no material effect to or departure from the original approval, and without the potential for significant surface impacts to public health, safety, welfare, or the environment at the Facility site.

I. Transfer/Sale of Facilities to a New Operator

The Operator must notify the Planning Division in writing within seven days of the closing of any transfer of an Oil and Gas Facility or Facilities to a different Operator or other successor owner. Prior to commencing any operations at the site of the transferred Oil and Gas Facility, the new Operator or successor owner must first provide the following to the County:

1. Letter(s) authorizing the transfer of the Oil and Gas Facility operation as approved through the original Administrative Use by Special Review or Use by Special Review approval for the Facility to the new Operator and the new Operator's written acceptance of responsibility for the operations at the Oil and Gas Facility and agreement to abide by all terms and conditions of the Administrative Use by Special Review or Use by Special Review approval.
2. The Operator must meet with the LGD to discuss any pertinent issue relative to the new Operator's assumption of operations of the Oil and Gas Facility, including plans for development of pipeline installation to serve the Oil and Gas Facility.
3. An updated Emergency Action Plan (EAP) and Tactical Response Plan (TRP), two weeks prior to the transfer, with contact information for at least two employees of the new Operator.

J. Non-Administrative Approval Process

Use by Special Review approval for an Oil and Gas Facility may also be requested through the process described in Section 5-3.4 of this Code, subject to the following modifications:

1. Plan Format

The site plan shall comply with the requirements of the Development Application Manual, Non-Administrative Use by Special Review for Energy Facilities. In addition, the final document shall be submitted in both paper and electronic forms instead of Mylar, notwithstanding the requirements for a Use by Special Review contained in the Development Application Manual.

2. Criteria and Standards

In addition to the criteria set forth in Section 5-3.4 of the Land Development Code, an application for Use by Special Review for an Oil and Gas Facility will also be evaluated under the criteria specified in Section 5-3.6.D above and shall comply with the Standards specified in Section 5-3.6.F above, and shall be operated in compliance with the requirements of this Section 5-3.6. In addition, the provisions of Section 5-3.6.G.1 through 7 shall apply to an Oil and Gas Facility approved as a Use by Special Review. Also, Section 5-3.6.I shall apply to the transfer of any Oil and Gas Facility approved by a Use by Special Review.

3. Expiration of Approval

An approval of a Use by Special Review shall automatically expire three (3) years after the date of recordation, unless the facility well pad is already substantially commenced by drilling of at least one well. The Operator may request and extensions as described in Section 5-3.6.G.5 above.

K. COGCC and County Approvals Required

Development of an Oil and Gas Facility shall not commence until and unless any required permits from the State or County, and a Use by Special Review (administrative or non-administrative) from the County, have both been approved. Prior to construction, the Operator must submit proof of any insurance and bonding that are required or may be required by these rules.

From: [Nathan Fogg](#)
To: [Diane Kocis](#)
Subject: RE: was asked to reach out to you again, for any comments (or a No Comments reply) to our Phase 1 proposed amendments to our O&G rules adopted in 2021
Date: Tuesday, July 11, 2023 12:39:41 PM

Diane: Here some thoughts in the indented bullets

- Relationship to State of Colorado Rules:

The Operation of a Facility in violation of any applicable federal, state, or other local law or regulation that results in adverse or negative surface impact(s) on or to public facilities and services, water quality and source, noise, vibration, odor, light, dust, air emissions and air quality, land disturbance, reclamation procedures, cultural resources, emergency preparedness and coordination with first responders, security, or traffic and transportation shall constitute a violation of the Land Development Code which may be enforced by law as other violations of the Land Development Code.

 - No comments

- Neighborhood Meeting:

The applicant shall send notification of the meeting to the Planning Division and to all property owners of record, all occupied residences if occupants are different from record owner, and all registered homeowners' associations for residential subdivisions where any portion of the platted subdivision's boundary is within one mile of the proposed facility pad boundary.

 - No Comments

- Additional Application Information:

Applications shall include an application narrative, photosimulations of the view of the well pad from nearby properties and documentation of floodplain, wetlands and riparian area boundaries.

 - Can we add WUI boundaries to the list?

- Application that includes a lesser Setback:

If an Oil and Gas Facility application that includes a lesser setback is submitted, it must be and approved by the Board of County Commissioners through the Use by Special Review process.

 - No comments

- Reservoir Setbacks:

At least one mile from existing or planned water reservoirs, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback may apply. With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.

 - No Comments

- Post-Incident Meeting:

In addition to the formal incident report, a post-incident meeting shall be required with County staff. The date, time and location of the post-incident meeting shall be determined by the Public Works and Development Director.

- No Comments

- Access Road Standard:

Prior to commencing construction of the Oil and Gas Facility, the Operator shall connect the site via an access road designed to support an imposed load of 80,000 pounds that will accommodate emergency response vehicles such as, but not limited to, law enforcement, emergency command vehicles (cars/SUVs), ambulances, hazardous materials response vehicles, water tenders, and fire apparatus during construction and operation of new tank batteries, new drilling activity and reworks or recompletions of existing wells, unless a local fire department or fire district agrees in writing to a different or lesser standard for the access road.. Access roads shall be constructed to be at minimum least twenty (20') feet wide with at least six (6") inch road base

- No Comments

Second part for Alternative Access Roads for one-way-in, one-way-out neighborhoods:
If an Oil and Gas Facility site incident could prevent emergency access on public or private roads, the Operator shall construct an alternative access road meeting these standards.

- No Comments

- Post-Incident Meeting:

In addition to the formal incident report, a post-incident meeting shall be required with County staff. The date, time and location of the post-incident meeting shall be determined by the Public Works and Development Director.

- This appears to be a duplicate requirement

- Handwashing Facilities:

Operator shall provide hand washing facilities meeting Arapahoe County Public Health Department requirements at portable restrooms during drilling and completion operations.

- No Comments

And, crypto-mining, or data centers, will be allowed on oil and gas pads, by adding it as an approved use in our Land Use table of the Land Development Code.

Here is our definition of Crypto-Mining:

Cryptocurrency Mining The operation of specialized computer equipment for the primary purpose of adding, securing, or verifying transactions to a peer-to-peer network, also known

as a blockchain, or mining one or more blockchain-based cryptocurrencies (a form of electronic currency). This activity typically involves large networks of decentralized computer servers that work together around the world to perform calculations and solve algorithms as part of the development and maintenance of a blockchain which is a type of distributed virtual ledger maintained on a peer-to-peer network. Typical physical characteristics of cryptocurrency mining include specialized computer hardware; the use of equipment to cool the hardware and operating space; and high density load electricity use.

- Are these powered by grid or are there large banks of Lion or LiPo type batteries that would provide power if the grid were disconnected? If so, it should be posted so fire is aware.

From: Diane Kocis <DKocis@arapahoegov.com>

Sent: Thursday, July 6, 2023 2:30 PM

To: Nathan Fogg <NFogg@arapahoegov.com>

Subject: RE: was asked to reach out to you again, for any comments (or a No Comments reply) to our Phase 1 proposed amendments to our O&G rules adopted in 2021

Nate,

Sorry to hear that you are extra busy/stressed. I know you are *always* very busy.

I'll look for your message on Monday.

Thanks,

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist

Arapahoe County Planning Division

dkocis@arapahoegov.com

From: Nathan Fogg <NFogg@arapahoegov.com>

Sent: Thursday, July 6, 2023 2:26 PM

To: Diane Kocis <DKocis@arapahoegov.com>

Subject: RE: was asked to reach out to you again, for any comments (or a No Comments reply) to our Phase 1 proposed amendments to our O&G rules adopted in 2021

We are activated again in the EOC, the 13th time this year...I will try to get to this before Monday. I am sorry. We are just getting wrecked every few days.

From: Diane Kocis <DKocis@arapahoegov.com>

Open Spaces review of our proposed phase 1 O&G rules amendment

Comments – questions:

For Open Spaces the increased setback from reservoirs sounds good.

Question – I see it says “Planned Reservoir” – how planned does it have to be? I know Purecycle has some planned-on Lowry property but not sure if how far along they are?

The lesser setback BoCC approval is also a good addition.

Thanks

Roger Harvey

Planning Manager- Open Spaces

June 2, 2023

John A. Granger, J.D. ret.
6391 S. Patsburg Ct.
Aurora, CO 80016

Carrie Warren-Gully, Chair, Arapahoe County Commissioners

Jeff Baker, Arapahoe County Commissioner

Jessica Campbell-Swanson, Arapahoe County Commissioner

Leslie Summey, Arapahoe County Commissioner

Bill Holen, Arapahoe County Commissioner

Bryan D. Weimer, Director, Public Works and Development

Jason Reynolds, Planning Division Manager

Diane Kocis, Arapahoe County Energy Specialist

Ron Carl, Arapahoe County Attorney

Re: Proposed Arapahoe County Oil and Gas Facilities Regulation 1-1.1.F.2.d. Water Reservoir Setbacks

Commissioners, Staff, and County Attorney:

This letter is written on behalf not only of me, as a concerned citizen and former land use/environmental attorney, but also on behalf of the 30,000 concerned citizens of Ward VI who speak through the non-profit Save-The-Aurora-Reservoir (STAR).

This is the first of two letters. This letter will deal with the language of the proposed Reservoir Setback only. The second letter will deal with critical missing regulatory changes that need to be dealt with in Phase I rather than Phase II of the regulatory amendment process.

Breach of the Duty to Regulate:

To begin with, I find it necessary to remind all of you once again of your duties under the authorizing legislation regarding this rule making process. Before SB-19-181 was enacted in 2019, there was a common belief that the State COGCC, and other State, County and City Oil and Gas departments that worked with it, were intended to **balance** oil and gas development with health and safety and environmental protection. SB-19-181, signed in 2019, completely dispelled that notion, and put the emphasis back fully on “**protection**” not balancing development and protection. As stated in the Legislative Summary of the authorizing legislation for the COGCC, SB-19-181:

Section 6 states that the public interest is to “**regulate**” oil and gas development to “**protect**” those values. [Emphasis supplied]

The County of Arapahoe has an express duty to be a steward of the Public Trust and must “carry out their duties for the benefit of the people of Arapahoe County.” [*Arapahoe County Code of Ethics*, Art. III.1] Therefore, it is inappropriate to compromise the protection of health, safety, welfare, or environmental protection in any way for political expediency or negotiation with oil and gas applicants.

I make this observation because of the two proposed “carve outs” in subsections i. and ii. of the Proposed Setback. These “carve outs” are convoluted and completely emasculate the one (1) mile setback proposed.¹ They are vague and ambiguous in wording. And subsection ii. is likely illegal in application. They appear to be an obvious effort to cater to CAP applicants who believe they can work out a “compromise” in moving certain well pads in exchange for an agreement not to move others. Such political “horse-trading” is not only totally inconsistent with the intent of the authorizing legislation directing regulation for the public benefit, it is also a clear breach of the duty to uphold the public trust.

Subsection ii. of the proposed Setback is also inconsistent with statutory duty and must be wholly abandoned for a second reason. It attempts to delegate rather than regulate. Worse yet, it attempts to delegate to persons or entities who are not charged with the same duties to uphold the Public Trust and “regulate to protect public health and safety” that the County, itself, is required to follow. It reads:

ii. With approval from the reservoir owner or operator, the setback may be reduced to the 500 ft. setback applicable to other perennial surface water bodies.

¹ It is noteworthy that the City of Aurora’s one (1) mile reservoir setback [Aurora City Code Chap. 135, 4.c.], upon which these provisions are based, contains no such “carve-outs” and remains a clean one (1) mile setback.

This means that either a reservoir owner or an operator², neither of which needs to be a public entity³ charged with the public trust duties of the County, can on their own initiative, without regard to public health and safety considerations, approve collapse of the setback from one (1) mile to 500 ft. -- an over 90% difference. This is an attempt at delegation rather than regulation and is manifestly improper because it violates the statutes cited above.

If a one (1) mile setback is considered appropriate by City staff to protect public health and safety for existing drinking water reservoirs, how is it believable that a collapse to 500 ft. is also protective of public health and safety for proposed future drinking water reservoirs! This is like saying, we will try and protect you now but woe to new residents, including your children and grandchildren, who drink the water from the proposed reservoirs in the future, that is someone else's problem! Such delegation rather than the required regulation MUST be redacted from the Proposed Setback as arbitrary and capricious. All subsections of every oil and gas regulation standing alone must meet the public interest test.

Vague and Ambiguous Language:

The "carve-out" Section i. of the Proposed Setback is so vaguely and ambiguously worded as to be unenforceable. It purports to allow the collapse of the one (1) mile reservoir setback to 2,000 ft. if the Oil and Gas Facility is "downgradient" from the reservoir. It reads:

- i. At least one (1) mile from existing or proposed reservoirs, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 ft. setback may apply.

Ambiguity and vagueness issues abound. For instance, what constitutes a "downgradient"? Is a 1% downgradient sufficient? At what distance is the gradient measured? Is it simply at the distance that the Applicant itself selects arbitrarily in order to comply? There is not even any requirement that the "downgradient" be sufficient to demonstrate there is no remaining substantial risk that a spill at either the well pad or associated flow lines running to and from the well pad could reach and contaminate the reservoir. In addition, what does "may apply" mean? Does it mean it that approval remains discretionary with the County or is it a substitute for the word "shall"? The carve-out, if it is too be applied at all, needs to be clear and unambiguously protective.

² The wording doesn't indicate what happens should the two entities be different and have differing views of a proper setback.

³ For example, within the Lowry Ranch property the Rangeview Metropolitan District owns two adjudicated Proposed Reservoirs on the ranch property. It is a Title 32 Special Metropolitan District but has not been given the power and duty to "regulate oil and gas development to protect public health safety and welfare" under SB-19-181. Indeed, there is no requirement in Subsection ii. of the Proposed Setback wording that the owner and operator granted the authority to collapse the Setback be even a public entity at all.

Furthermore, berms and gradients alone are insufficient barriers upon which to rely for health and safety protection. This is graphically demonstrated by the recent washout of two sections of the road surrounding the Cherry Creek Reservoir by two days of heavy rainfall (2 to 3 inches per day) which caused a 10 ft. reservoir rise, and a flooding event. [See: **Exhibit 1** attached **Photo of Cherry Creek Washout.**] One can only imagine the risk to reservoir berms in a 100 year flood event. This environmental risk is exacerbated to truly frightening levels if extracted fracking water is stored on site and overflows.

In order to cure this vague and ambiguous language **Exhibit 2** to this letter [**Proposed Substitute Setback**] contains needed specific language that includes needed protections and assures enforceability.

Failure To Consider Impacts Other Than Well Pad Spills:

Use of a “downgradient” test for collapsing the proposed one (1) mile setback to 2,000 ft. or even 500 ft. makes it obvious that potential spills from the well pad are the only risk being considered as relevant to setback distance needed. This is inappropriately short sited.

First, my letter of March 13th to the Commissioners and Staff enclosed a Study from the California Oil and Gas Public Health Rulemaking Advisory Panel demonstrating dispersal of airborne cancer-causing pollutants over a range of up to 2.5 miles. The analysis of the CDPHE apparently presently relied upon by the County for only a 0.2 mile dispersal is clearly inadequate and inappropriate. It is based upon a dispersal study from a well pad of a single well. The well pads currently being proposed will contain as many as 25 individual wells spewing pollutants. Setbacks of 500 or even 2,000 ft. from reservoirs entirely fail to recognize the substantial risk of water pollution from airborne drift of pollutants across a large reservoir surface over 30 years.

Furthermore, use of the wording “Oil and Gas *Facility*” in the Proposed Setback suggests only well pad leaks are being considered. COGCC and industry data, however, indicate it is the network of flowlines associated with the well pads, with their numerous connections and valves, which are much more likely to suffer leaks. Even if the well pad is located between 500 and 2,000 ft. from a reservoir, there can be no assurance that a leaky flowline connection will be located the same or greater distance away. Nowhere does the language of the Proposed Setback address this issue.

The Solutions:

For these reasons, the County is urged first to simply consider total elimination of the “carve-out” wording with a return to a simple-straight forward one (1) mile reservoir setback identical

to the City of Aurora. That is clearly the most protective and best approach which places public health and safety as the appropriate goal.

Absent that approach, if the County insists upon a carve- out based upon topography, we strenuously urge the County to:

1. Recognize that, because of both the unreliability of berms and the need to consider air borne pollutants, the distance of the carve-out Setback for section i. must be increased to a distance that recognizes potential sources of reservoir contamination beyond simply well pad spills. We have not suggested what figure that distance should be because we disfavor this approach and believe a clean one (1) mile setback is the proper approach. We note, however, that maintaining just a 2,000 ft. setback is inconsistent with the announced goal of developing the “best oil and gas regulations in Colorado.”
2. Use a version of the County’s relief from setbacks approach already found in subsection 2.b.iii. and follow the Use by Special Review process under which the Operator must establish that the lesser setback “will provide substantially equivalent protection...and...will not adversely impact public health, safety, or welfare or the environment.”
3. Modify the “shall consider” language to provide clarity about factors to be dealt with to include air borne dispersal of pollutants and leaks and spills from other sources.

Again, in order to cure these language omissions **Exhibit 3** to this letter [**Proposed Substitute Setback**] contains needed specific language that will allow needed protections and assure enforceability.

Summary Conclusion:

In summary, the Proposed language, due to the two “carve outs” being included, is fatally flawed. STAR on behalf of the citizens of Ward VI and I therefore implore you to;

- First, do away with the improper and likely illegal delegation rather than regulation found in sub-paragraph ii.
- Show the courage of your convictions and drop the carve-out in section i. all together, keeping only the one (1) mile setback language.

If, and only if, the County decides that some “carve-out” from full application is required:

- Adopt a new lesser setback carve-out only if it will not adversely impact public health, safety, or welfare, or the environment” distance that is adequately protective; and

- Replace the language of subparagraph i. with language like the attached as **Exhibit 3** to this letter to achieve these purposes [**Proposed Substitute Setback**].

Sincerely,

/s/

John A. Granger, J.D. ret.

EXHIBITS:

EX. 1: Photo of Cherry Creek Washout

EX. 2: Proposed Substitute Setback language

June 5, 2023

John A. Granger, J.D. ret.
6391 S. Patsburg Ct.
Aurora, CO 80016

Carrie Warren-Gully, Chair, Arapahoe County Commissioners

Jeff Baker, Arapahoe County Commissioner

Jessica Campbell-Swanson, Arapahoe County Commissioner

Leslie Summey, Arapahoe County Commissioner

Bill Holen, Arapahoe County Commissioner

Bryan D. Weimer, Director, Public Works and Development

Jason Reynolds, Planning Division Manager

Diane Kocis, Arapahoe County Energy Specialist

Ron Carl, Arapahoe County Attorney

Re: Proposed Arapahoe County Oil and Gas Facilities Regulation Amendments and Additions

Commissioners, Staff, and County Attorney:

This is the second of the two letters promised in our earlier letter of June 2, 2023 dealing with the County of Arapahoe's effort to produce what Commission Chairperson Warren Gully trusts will be the "best oil and gas regulations in the State of Colorado." The first letter dealt with the newly proposed Reservoir Setback language which fell short of that standard. This letter now deals with both an existing setback that requires modification and a critical new missing regulation to protect against fire risk. Because the non-profit Save-The-Aurora-Reservoir (STAR), on behalf of the 30,000 citizens of Ward VI, and I fully agree on the content of this second letter, I am sending it on its behalf as well as my own. Both of these changes are

important enough to require implementation now in Phase 1 (rather than later in Phase 2) of the regulatory amendment process.

Modification of The Existing Neighborhood Setbacks:

Oil and Gas Regulation 1-1.1.F.2.a, as it presently reads, provides for setbacks of :

- 2,000 ft. from “occupied structures” [subsection 2.a.i.];
- 2,000 ft. from the nearest boundary of a “platted lot” smaller than 15 acres in area as measured from the pad boundary; [subsection 2.a.ii] and
- Reduction to a lesser setback with a minimum distance of 500 ft. if certain conditions are shown, such as “equivalent protection” and a setback distance which “will not adversely impact public health, safety, or welfare or the environment.” [subsection 2.b.iii]

We believe these setbacks, given the present state of public health and safety regulatory knowledge, are insufficiently protective and require modification.

Zoning is an act performed by the County to allow purchasers and end-users needed certainty in future land use decisions. Thoughtful zoning naturally clusters compatible uses and rationally takes into account the designation of adjoining uses, in an effort to minimize incompatibility. Residential zoning boundaries and zoning which deals with oil and gas facility locations carry a high risk of incompatibility. Therefore they (and regulations concerning them) must be carefully drawn, particularly when the adjoin each other.

We believe as follows:

1. When setting setbacks from occupied structures, platted areas, and residential zones (hereinafter referred to collectively as “neighborhood setbacks”), a 2,000 ft. setback is insufficient, particularly now given the air pollution dispersal studies referred to in our letter of March 13 referencing the California Oil and Gas public Rulemaking Scientific Advisory Panels, indicating a 2.5 mile dispersal zone.
2. There is no basis for discriminating between a setback distance for drinking water reservoir safety and the safety of citizens (particularly children and infants) in neighborhoods which are positioned adjacent to oil and gas facilities. For this reason, we believe the neighborhood setbacks should begin with a setback distance of one (1) mile like the reservoir setback.
3. Furthermore, it is irrational to limit any oil and gas facility setback solely to “platted lots” and “occupied structures” when, during the 30 year life of any oil and gas project, areas zoned residential will naturally become filled with residences, parks, sidewalks and open

spaces used by recreating children and adults. To limit the setback to either “occupied structures” or “platted lots” does not reasonably separate these uses from the Oil and Gas Facility. As the as yet undeveloped residential area becomes fully developed, even with the application of reverse setbacks in the residential area, these later open space residential areas will be equally subjected to air borne pollution, and noise, light, sound, vibration and visual pollution as are occupied structures.

4. In addition, when residential zoning pre-exists the development of the oil and gas facilities, it is patently unfair to require residential developers to race against the Oil and Gas Applicant permit in order to protect their residential plats from being subject to reverse setbacks¹.
5. Finally, it is not protective of public health and safety to allow these neighborhood setbacks to be arbitrarily reduced (such as under provision 2.b.) to a lesser setback (to a minimum of 500 ft.) just because the owners of occupied structures and platted lots agree. This is a flawed provision under the current provisions of SB-19-181 because once again, it is an attempt to delegate rather than regulate in the public interest. Public health and safety is not paramount when a developer of unsold plats can negotiate with an Oil and Gas Applicant to reduce a setback from 2,000 ft. to 500 ft. irrespective of the safety and health benefits to the public that maintaining a minimum 2,000 setback would retain. This is even more apparent when larger multi-well pads are involved.
6. Even, the addition of the language of subsection b. iii. which provides for a Use by Special Review process and proof of “substantially equivalent” protection fails to effectively rescue these flawed setback provisions. It could never cogently be argued that a well pad as close as 500 ft. would produce no more airborne pollutant dispersal or noise, light, vibration and visual pollution than a pad kept a minimum of 2,000 ft. away. Such setback collapse provisions simply invite compromises and trade-offs rather than public protection.

Notably, other jurisdictions have drawn the same conclusion, that is, that a clear (non-collapsible) setback from areas zoned residential is the proper way to approach this issue. For example, the City of Boulder has adopted Ordinance 8514 which requires a “setback buffer” specifying that:

“[A] well pad...for any multi-well oil and gas operation...shall be located **no closer than 2500 feet from any...existing residential use, RESIDENTIAL ZONE,**...public park and recreation [sic] use,...including City of Boulder open space. [Emphasis supplied].

¹ Indeed this practice of forcing owners of as yet un-platted residentially zoned land to move back their development due to being too close to a Oil and Gas Facility has the appearance of a taking without due compensation.

A further example is the City of Broomfield which on April 12, 2022, adopted an Ordinance requiring any Oil and Gas setback be from **residential areas “planned” within a development plan**. Ord. 2178(2) iii and iv. [Emphasis supplied.]

Therefore, we urge adoption of modified language which cures these deficiencies. The language shown in **Exhibit A** to this letter shows a modified neighborhood setback which provides:

- For a one (1) mile neighborhood setback;
- That the setback be from areas zoned residential rather than “platted lots”; and
- That reduction of the one (1) mile setback be allowed under the same circumstances now described in the regulations but only to a distance of some County-selected minimum well above the current 2,000 ft. [and certainly not 500 ft.].²

These changes to the language shown in **EXHIBIT A** are needed to upgrade this provision to one that adequately protect the public. STAR and I strenuously urge its substitution for the currently flawed neighborhood setback language, along with increasing the setback distance to one (1) mile.

Addition of a Fire Protection Provision for Oil and Gas Facilities Located in the WUI

The devastating Marshall fire, as noted in our earlier letter of March 13, 2023, began in identical Piedmont Grassland to those grasses found in a large portion of wildland properties in unincorporated Arapahoe County, such as the Lowry Ranch property. It is therefore incumbent upon the County to develop regulations now that will prevent repeat of such a devastating fire in wildlands adjacent to residential and urban area – areas known as the Wildland Urban Interface or (WUI).

The Office of Emergency Management, under the leadership of its Director Nathan Fogg, is currently analyzing and modeling the risk of similar fire spread on the southwest corner of the Lowry Ranch property where a large expanse of such grasslands lie. He is working in concert with the fire authorities with jurisdiction in that area, Bennett Fire and Rescue and Aurora Fire and Rescue. This work shows the importance of such fire protection measures.

Eliminating any significant fire risk is such an important part of the County’s obligation to “protect the public health, safety and welfare and the environment” when regulating oil and gas facilities. We contend, therefore, that a special WUI fire protection provision is a critical part of what the County should be addressing now during its 6 month regulatory review. It is not appropriate for protection to rely solely upon the verbiage of the current setback 2.b. i. and

² This minimum distance based on the stated goal of developing the “best oil and gas regulations in Colorado” should be increased at least above the 2,500 ft. distance in the Boulder regulation.

ii. which requires a 2,000 ft. buffer between “storage of hazardous or explosive materials” and “occupied structures” or “platted lots”, even when a fire district “agrees to provide service” to the facility.

We therefore strenuously urge the County to adopt a new strongly protective provision to accomplish the following:

- Define the Wildland Urban Interface between residential/urban areas and wildlands such as grasslands;
- Authorize the OEM to determine which portion, if any, of the WUI represents a significant risk of fire spread; and
- Provide that no oil and gas facility should be located in areas so designated without the specific authorization in advance of the OEM and any fire authorities with jurisdiction over the area so designated.

EXHIBIT B to this letter contains the specific language needed for this purpose.

In conclusion, we urge the County to do the following:

1. Eliminate the references to “platted lots” in their setback regulations and instead reference “areas zoned residential”;
2. Establish a setback distance from both “occupied structures” and “areas zoned residential” of one (1) mile (consistent with drinking water reservoir protection and current national pollution dispersal studies);
3. Adopt language allowing reduction of this one (1) mile setback to some reasonable distance (greater than a minimum of 2,500 ft. used in Boulder) only through the Use by Special Review process upon a showing the “lesser setback will not adversely impact public health, safety or welfare or the environment”;
4. Eliminate provisions that allow further setback distance reductions based upon owner consent agreements as delegations inconsistent with the County’s duty to regulate to “protect the public health, safety, and welfare, and the environment”; and
5. Add a specific protection provision dealing with those Wildland Urban Interface areas designated by OEM to have a “significant risk” of fire spread.

Exhibits A and **B** to this letter contain the necessary language to meet these important goals, and we urge the County to adopt them now.

Sincerely,

/s/

John A. Granger, J.D. ret.

EXHIBITS:

EX A: PROPOSED AMENDMENT TO OIL AND GAS SETBACK FOR OCCUPIED STRUCTURES AND PLATTED LOTS

EX B: Proposed New Oil and Gas Regulation Dealing With Fire Protection In the Wildland Urban Interface

EXHIBIT 1

PROPOSED AMENDMENT TO OIL AND GAS SETBACK FOR OCCUPIED STRUCTURES AND PLATTED LOTS

1-1.1.F Standards Required for Oil and Gas Facilities

2. Setbacks

a. All oil and gas Facilities shall be located at least:

- i. ~~One (1) mile 2,000 ft.~~ from any occupied structure as measured from the pad boundary.
- ii. ~~2,000 ft.~~ One (1) mile from the nearest boundary of any ~~platted lot smaller than 15 acres area zoned residential~~ as measured from the well pad boundary.

b. The ~~2,000-foot one (1) mile setbacks~~ from ~~occuoied structures and any area zoned residential occupied structures or platted lots~~ referenced in subparagraphs ~~5-3.6.F.a.i and ii 1-1.1.F.2.a~~ above may be reduced to a lesser setback:

~~i. If the owner(s) of the occupied structure(s) or all owners of the affected platted lots agree in writing to a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below 500 feet; or~~

~~ii. If, as shown on the Oil and Gas Facility Operations Plan submitted with the application, any and all well tanks, tanks, separation equipment, compressors and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than 2,000 feet from the nearest occupied structure or all affected platted lots; or~~

~~iii. Only if~~ an Oil and Gas Facility application that includes a lesser setback is submitted, ~~it must be and~~ approved by the Board of County Commissioners through the Use by Special Review process provided in Section 5-3.4 of the Land Development. For approval of any lesser setback under this subparagraph, the Operator must establish that the lesser setback as provided will provide substantially equivalent protection to a 2,000-foot setback one (1) mile setback and that the granting of the lesser setback will not adversely impact public health, safety, or welfare or the environment.

In reviewing the proposed lesser setback, the Board of County Commissioners shall consider the extent to which the operator provides an alternative Oil and Gas Facility design,

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best management practices, control technologies, or proposes conditions of approval that will be effective to avoid, minimize, or mitigate adverse impacts on the affected properties, considering:

(a) geology, technology, and natural or added features (such as gradients or berms), hazards, or topography;

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(b) the location and use of occupied structures and areas zoned residential and proximity to those structures and areas;

(c) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location, and

iv. However, in no case may the 2,000-foot-the one (1) mile setback from occupied structures and platted lots be reduced below 500-¹ feet.

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¹ As stated in the explanatory letter this distance should be something in excess of 2,500 feet as found in the City of Boulder residential setback regulations.

EXHIBIT 2

PROPOSED NEW OIL AND GAS REGULATION DEALING WITH FIRE PROTECTION IN THE WILDLAND URBAN INTERFACE

1-1.1.F.3. Health and Safety Requirements

d. Wildland Areas Designated as Having Significant Risk of Fire Spread: No Oil and Gas Facility shall be located within any portion of the Wildland Urban Interface (WUI) designated by the Office of Emergency Management (OEM) as having a significant risk of fire spread unless written consent has been first granted by both the OEM and any Fire Marshall or Fire Chief with jurisdiction over the WUI area so designated. Consent shall require proof of the satisfaction of both the OEM and fire authority with jurisdiction of the presence of needed time and distance to respond; precautionary measures to be taken; adequate training to be performed; and adequate fire prevention and suppression equipment available.

For the purposes of this regulation, Wildland Urban Interface (WUI) shall be defined as that one (1) mile wide wildland area where the boundaries of wildland areas and urban/residential areas adjoin.

Ava Pecherzewski

From: Diane Kocis
Sent: Wednesday, July 12, 2023 1:20 PM
To: Ava Pecherzewski
Subject: FW: Proposed Amendment to Land Development Code Re. Crypto-Mining as an Adjunct to Oil and Gas Facilities
Attachments: Ltr re. objection to allowing crypto-currency mining as an accessory to oil and gas facilities (1).docx

Here's John Granger's letter re crypto-mining.

From: John Granger <1jagranger@gmail.com>
Sent: Monday, June 19, 2023 7:24 AM
To: Carrie Warren-Gully <CWarrenGully@arapahoegov.com>; Jeff Baker <JBaker@arapahoegov.com>; Jessica Campbell-Swanson <JCampbell-Swanson@arapahoegov.com>; Leslie Summey <LSummey@arapahoegov.com>; Bill L. Holen <BHolen@arapahoegov.com>; Bryan Weimer <BWeimer@arapahoegov.com>; Jason Reynolds <JReynolds@arapahoegov.com>; Diane Kocis <DKocis@arapahoegov.com>
Cc: Kevin Chan <kevchan85@icloud.com>
Subject: Proposed Amendment to Land Development Code Re. Crypto-Mining as an Adjunct to Oil and Gas Facilities

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Commissioners and Staff: Please see the attached letter and exhibits making objections to the draft Code change re crypto-mining.

Thank you. John Granger.

EX 1: [Colorado oil and gas companies pair with cryptocurrency miners \(coloradosun.com\)](https://coloradosun.com)

EX 2: [Exposing Climate Threats From an Empire of Dying Gas Wells \(bloomberg.com\)](https://bloomberg.com)

EX 3: [Crypto Mining at Gas Wells Sparks Regulatory Headaches, Outcry in Northwestern Pennsylvania \(capitalandmain.com\)](https://capitalandmain.com)

EX 4: [Cryptocurrency mines found at Colorado oil and gas sites | 9news.com](https://9news.com)

EX 5: [Technology: UNM researchers find Bitcoin mining is environmentally unsustainable: UNM Newsroom](#)

June 16, 2023

John A. Granger, J.D. ret.
6391 S. Patsburg Ct.
Aurora, CO 80016

Carrie Warren-Gully, Chair, Arapahoe County Commissioners

Jeff Baker, Arapahoe County Commissioner

Jessica Campbell-Swanson, Arapahoe County Commissioner

Leslie Summey, Arapahoe County Commissioner

Bill Holen, Arapahoe County Commissioner

Bryan D. Weimer, Director, Public Works and Development

Jason Reynolds, Planning Division Manager

Diane Kocis, Arapahoe County Energy Specialist

Re: Proposed Arapahoe County Oil and Gas Facilities Regulation Amendments and Additions Re
Cryptocurrency “Mining” as “an accessory to oil and gas facilities”

Commissioners and Staff:

This is the third of the letters dealing with the County of Arapahoe’s effort to produce what Commission Chairperson Warren Gully trusts will be the “best oil and gas regulations in the State of Colorado.” This third letter deals with what at first glance may appear to be an innocuous, editorial clean-up of the County’s Land Development Code. It is described by Diane Kocis in her published list of County regulatory amendment topics as simply to: “allow natural gas-powered crypto-currency mining as an accessory to oil and gas facilities.” [Emphasis supplied.] Both the non-profit Save-The-Aurora-Reservoir (STAR) and I find such a change anything but innocuous and editorial, and seriously object to such a change, especially during Phase 1 of the amendment consideration process.

What Crypto-Currency “Mining” Really Is:

Crypto-“mining” is of course not really mining at all. When coupled with oil and gas facilities, it describes a marriage of bitcoin-style data processing computers (usually housed in trailers) being coupled with gas wells which have modest levels of natural gas left over after extraction is complete. Generators are attached to the nearly spent gas well heads to cheaply power the energy-hungry crypto-currency transaction computers. This marriage results in crypto-“mining.”

The COGCC Reports That Arapahoe County Originally Said No:

In July of 2022, the COGCC surveyed local governments to see if they had any crypto-mining rules and whether they wished to be notified if the Commission found crypto-mining occurring within their jurisdiction. Reportedly, Arapahoe County was one of four counties that said such oil and gas powered crypto-mining would not be permitted in their county without further regulation. [See pp. 2 of **EXHIBIT 1 --The Colorado Sun Article of August 29, 2022.**] Why make a change in position now without careful investigation and further debate?

There Remain Good Reasons Not to Permit Crypto-Mining As an Adjunct to Oil and Gas Facilities:

Very good reasons remain for not allowing the marriage between nearly spent oil and gas facilities and crypto-mining. These reasons include the following:

- Crypto-Mining entities look for nearly spent wells that they can purchase the rights to and often extend the lives of by 10 years or more to use for crypto-mining. The problem is that these older nearly spent wells are the very place where most leaks occur, leaks which would never occur were the wells and piping properly shut down and capped when they were no longer economically viable to the original extractor. [See: **EXHIBIT 2: An Empire of Dying Wells** and **EXHIBIT 3: Crypto Mining at Gas Wells Sparks Regulatory Headaches, Outcry in Northwestern Pennsylvania**]
 - Adams County remains concerned about fumes, noise and fire hazards from the generators used to capture the remaining natural gas. [**EXHIBIT 4: High-powered computers at Adams County oil and gas sites are mining cryptocurrency**]
 - In Jackson County where D90 Energy has teamed up with Denver-based Crusoe Energy to use stranded natural gas from oil and gas facilities to power crypto mining, Earthworks Colorado’s field advocate Andrew Klooster, who has actively been monitoring emissions complains:

“This is some of the most inefficient [flaring] combustion I’ve seen in the State...We’re seeing flaring even with the Crusoe units operating.” [See: pp. 6 of **EXHIBIT 1**]

- Researchers at the University of New Mexico in a paper dated September 2022 assessed crypto-mining’s sustainability and concluded it is not environmentally sustainable:

“Globally, the mining, or production of Bitcoin is using tremendous amounts of electricity, mostly from fossil fuels, such as coal and natural gas. This is causing huge amounts of air pollution and carbon emissions, which is negatively impacting our global climate and health.” [**EXHIBIT 5: Technology: UNM researchers find Bitcoin mining is environmentally unsustainable**]

Conclusion:

Each of these points clearly lead to the conclusion that allowing crypto-mining simply as a so-called “adjunct” to oil and gas facilities, particularly without careful study and further regulation, is irresponsible. For that reason both STAR and I strenuously object to allowing crypto-mining as a Permitted Use in the Land Use Table of Chapter 3 of the County’s Land Development Code as part of Phase 1 of the County’s consideration of regulatory amendments.

Sincerely,

/s/

John A. Granger, J.D. ret.

EXHIBITS:

EXHIBIT 1 --The Colorado Sun, Article of August 29, 2022.]

EXHIBIT 2: An Empire of Dying Wells

EXHIBIT 3: Crypto Mining at Gas Wells Sparks Regulatory Headaches, Outcry in Northwestern Pennsylvania

EXHIBIT 4: High-powered computers at Adams County oil and gas sites are mining cryptocurrency

EXHIBIT 5: Technology: UNM researchers find Bitcoin mining is environmentally unsustainable

Ava Pecherzewski

From: Diane Kocis
Sent: Wednesday, July 12, 2023 1:04 PM
To: Ava Pecherzewski
Subject: FW: Oil and Gas regulation amendments
Attachments: PROPOSED MODIFICATIONS TO COUNTY OF ARAPAHOE SETBACKS.docx

Here's a Granger letter from June 23rd. I will also send his exhibits (the Word docs) for his earlier in June letters.

From: John Granger <1jagranger@gmail.com>
Sent: Friday, June 23, 2023 2:17 PM
To: Diane Kocis <DKocis@arapahoegov.com>; Jason Reynolds <JReynolds@arapahoegov.com>; Bryan Weimer <BWeimer@arapahoegov.com>
Cc: Jessica Campbell-Swanson <JCampbell-Swanson@arapahoegov.com>; Jeff Baker <JBaker@arapahoegov.com>
Subject: Oil and Gas regulation amendments

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Diane, Jason and Bryan:

Enclosed please find my proposed amendments to your latest draft of the Oil and Gas Regulations following the Open House. Please note the following:

1. These are my own suggested amendments (not STARs) since they vary somewhat from the earlier stated position on behalf of STAR;
2. They use your existing draft regulations and show my suggested changes and edits;
3. They apply the same test to reducing water reservoir setbacks as used for occupied dwellings, that is a "substantial equivalency" test rather than a "downgradient test" or "agreement of owners/operators" test.
4. They apply setbacks to areas zoned residential rather than platted lots.
5. They use appropriate setback distances which meet the Commissioner's objective of "creating the best regulations in the state of Colorado" and recognize the impact of the latest national studies on protection of public health and safety, but without going overboard and risking industry litigation.
6. They deal with Farmer Joe who wants to allow an oil well near his small farm pond.
7. They recognize the need to deal with entities like Prosper Development which have existing recorded Surface Use Agreements and wish to allow reduced setbacks.

I would be happy to meet with you at any time to discuss these suggested amendments. I am copying Commissioners Campbell-Swanson and Baker since I have either already met with or am planning to meet with each of them to discuss my suggested amendments.

Thanks for your consideration of these amendments and edits.

**PROPOSED MODIFICATIONS TO COUNTY OF ARAPAHOE'S OIL AND GAS
SETBACKS NEEDED TO BOTH MEET THE COMMISSIONERS CHALLENGE TO HAVE
"THE BEST OIL AND GAS REGULATIONS IN COLORADO" AND TO REGULATE NOT
DELEGATE THE RESPONSIBILITY TO PROTECT PUBLIC HEALTH, SAFETY AND THE
ENVIRONMENT**

JOHN A. GRANGER, J.D. RET.

2. Setbacks

a. All Oil and Gas Facilities shall be located at least:

i. ~~2,000~~ 3,000 feet from any occupied structure as measured from the pad boundary.

ii. ~~2,000~~ 3,000 feet from the nearest boundary ~~of a platted lot smaller than 15 acres in area~~ any area zoned residential as measured from the pad boundary.

iii. ~~200~~ 500 feet from any adjacent property's boundary line as measured from the pad boundary.

iv. ~~100~~ 250 feet from public rights-of-way as measured from the pad boundary.

v. ~~2,000~~ 3,000 feet from a Designated Outside Activity Area as measured from the pad boundary.

vi. ~~2,620~~ 5,000 feet from the nearest property line of an operating or closed landfill as measured from the pad boundary.

vii. Outside of a 100-year floodplain ~~or~~ and at least ~~500~~ 1,000 feet from the edge of any perennial surface water body, the ordinary high water mark of any perennial or intermittent stream or the edge of any riparian area, whichever is the greatest distance, as measured from the pad boundary, unless CPW has waived or modified the setback from the stream, surface

water, or the riparian area following in accordance with COGCC Rules 309 and 1202.

~~viii. d. Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:~~

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~~(1) i. At least ~~one-mile~~ 5,000 feet from existing or planned and adjudicated water reservoirs, over 100 acre feet in size or used for drinking water storage, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback shall apply.~~

~~ii. With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.~~

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~~ix viii.~~ All access roads shall be at least ~~250~~ 500 feet from a residential or non-residential property line, excluding light or heavy industrially zoned properties.

b. The ~~2,000-3,000 and 5,000~~ feet setbacks from occupied structures, Designated Outside Activity Areas, areas zoned residential, or platted lots water reservoirs referenced in subparagraphs 5-3.6.F.2.a.i, ~~and ii, v and viii~~ above may be ~~also~~ reduced to a lesser setback:

~~i. If the owner(s) of the occupied structure(s) or all owners of the affected platted lots agree in writing to a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below 500 feet; or~~

~~ii. If, as shown on the Oil and Gas Facilities Plan submitted with the application, any and all wells, tanks, separation equipment, compressors and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than 2,000 feet from the nearest occupied structure or all affected platted lots; or~~

~~iii~~ i. If, and only if -an Oil and Gas Facility application that includes a lesser setback is submitted, it must be and approved by the Board of County Commissioners through the Use by Special Review process provided in Section 5-3.4 of the Land Development Code. For approval of any lesser setback under ~~the~~ this subparagraph, the Operator must establish that the lesser setback as proposed will provide substantially equivalent protection to a ~~2,000-3,000~~ foot (or in the case of Water Reservoirs 5,000 foot) setback and that by granting the lesser setback will not adversely impact public health, safety, or welfare, or the environment. In reviewing the proposed lesser setback, the Board of County Commissioners shall consider the extent to which the operator provides an alternative Oil and Gas Facility location, design, best management practices, control technologies, ~~or~~ and proposes conditions of approval that will be effective to avoid, minimize, ~~or~~ and mitigate adverse impacts on the affected properties, considering:

- (a) geology, hydrology, technology, and natural features (such as downgradients), hazards or topography (such as berms);
- (b) the location and use of any occupied structures and proximity to those structures; and
- (c) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations, at the proposed oil and gas location.

(d) the likelihood and expected dispersal of and nature of airborne pollutants from the Oil and Gas Facility;

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(e) The likelihood and expected dispersal and nature of spills and leaks from equipment used by the Oil and Gas Facility;

(d) whether, as shown on the Oil and Gas Facilities Plan submitted with the application, any and all wells, tanks, separation equipment, ***flowlines, tank batteries, valves***, compressors, and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than ***3,000 feet*** from the nearest occupied structure or area zoned residential; and

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(e) whether an existing Surface Use Agreement is in place and properly recorded for the property in question.

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iv. However, in no case may the ~~2,000~~3,000-foot setback from occupied structures, ~~reservoirs, Designated Outside Activity Areas,~~ or ~~platted lots areas zoned residential~~ be reduced below ~~500~~ 1,500 feet.

c. Reverse Setbacks: No new occupied structure shall be constructed less than:

i. ~~250~~ 500 feet from and existing Oil and Gas well of any status (permitted but not drilled yet, drilling, completing, producing, active gas storage, injecting, shut-in, temporarily abandoned, dry and abandoned, or plugged and abandoned prior to 2014).

ii. ~~150~~ 300 feet from a plugged and abandoned oil and gas well or remaining equipment that was plugged and abandoned from 2014 onward.

~~d. Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:~~

~~i. At least one mile from existing or planned water reservoirs, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback shall apply.~~

~~ii. With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.~~

Ava Pecherzewski

From: Diane Kocis
Sent: Wednesday, July 12, 2023 1:16 PM
To: Ava Pecherzewski
Subject: FW: Suggested edits to proposed regulations following discussion with Commissioner Baker
Attachments: PROPOSED MODIFICATIONS TO COUNTY OF ARAPAHOE SETBACKS Discussed with Commissioner Baker.docx

This is John Granger's most recent letter, after talking to Jeff Baker – he backed off some of his original demands for setbacks.

From: John Granger <1jagranger@gmail.com>
Sent: Thursday, July 6, 2023 1:23 PM
To: Jeff Baker <JBaker@arapahoegov.com>; Jason Reynolds <JReynolds@arapahoegov.com>; Diane Kocis <DKocis@arapahoegov.com>
Cc: Jessica Campbell-Swanson <JCampbell-Swanson@arapahoegov.com>; Carrie Warren-Gully <CWarrenGully@arapahoegov.com>
Subject: Suggested edits to proposed regulations following discussion with Commissioner Baker

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

All: Commissioner Baker and I had a very productive discussion in which we discussed simple, straight forward, and pragmatic edits to the proposed regulations. At the completion of the discussion, he asked that I forward the proposed changes to staff. I am also copying Commissioner Campbell-Swanson and Commissioner Warren-Gully because of our similar and/or planned discussions.

Please note these represent give-and-take changes that have not been discussed with or approved by STAR, Colorado Rising or the Sierra Club but represent only my own thoughts and my discussions with Commissioner Baker. Let me know if you have any questions. Regards, John

**PROPOSED MODIFICATIONS TO COUNTY OF ARAPAHOE'S OIL AND GAS
SETBACKS NEEDED TO REGULATE NOT DELEGATE THE RESPONSIBILITY TO
PROTECT PUBLIC HEALTH, SAFETY AND THE ENVIRONMENT**

JOHN A. GRANGER, J.D. RET. 7/6/23

2. Setbacks

a. All Oil and Gas Facilities shall be located at least:

i. ~~2,000~~3,000 feet from any occupied structure as measured from the pad boundary.

ii. ~~2,000~~3,000 feet from the nearest boundary ~~of a platted lot smaller than 15 acres in area~~any area zoned residential as measured from the pad boundary.

iii. 200 feet from any adjacent property's boundary line as measured from the pad boundary.

iv. 100 feet from public rights-of-way as measured from the pad boundary.

v. ~~2,000~~3,000 feet from a Designated Outside Activity Area as measured from the pad boundary.

vi. ~~2,620~~3,000 feet from the nearest property line of an operating or closed landfill as measured from the pad boundary.

vii. Outside of a 100-year floodplain ~~or~~and at least 500 feet from the edge of any perennial surface water body, the ordinary high water mark of any perennial or intermittent stream or the edge of any riparian area, whichever is the greatest distance, as measured from the pad boundary, unless CPW has waived or modified the setback from the stream, surface water, or the riparian area following in accordance with COGCC Rules 309 and 1202.

viii. ~~Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:~~

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(1) i. At least ~~one-mile~~ 3,000 feet from existing or planned and adjudicated water reservoirs, over 100 acre feet in size or used for drinking water storage. ~~unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback shall apply.~~

ii. ~~With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.~~

~~ix viii.~~ All access roads shall be at least 250 feet from a residential or non-residential property line, excluding light or heavy industrially zoned properties.

b. The ~~2,000~~ 3,000 feet setbacks from occupied structures, Designated Outside Activity Areas, areas zoned residential, or ~~platted lots~~ water reservoirs referenced in subparagraphs 5-3.6.F.2.a.i, ~~and ii, v and viii~~ above may be ~~also~~ reduced to a lesser setback:

~~i. If the owner(s) of the occupied structure(s) or all owners of the affected platted lots agree in writing to a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below 500 feet; or~~

~~ii. If, as shown on the Oil and Gas Facilities Plan submitted with the application, any and all wells, tanks, separation equipment, compressors and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than 2,000 feet from the nearest occupied structure or all affected platted lots; or~~

~~iii i.~~ If, and only if an Oil and Gas Facility application that includes a lesser setback is submitted, it must be and approved by the Board of County Commissioners through the Use by Special Review process provided in Section 5-3.4 of the Land Development Code. For approval of any lesser

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setback under ~~the~~this subparagraph, the Operator must establish that the lesser setback as proposed will provide substantially equivalent protection to a ~~2,000~~3,000 foot setback and that by granting the lesser setback will not adversely impact public health, safety, or welfare, or the environment. In reviewing the proposed lesser setback, the Board of County Commissioners shall consider the extent to which the operator provides an alternative Oil and Gas Facility location, design, best management practices, control technologies, ~~or~~and proposes conditions of approval that will be effective to avoid, minimize, ~~or~~and mitigate adverse impacts on the affected properties, considering:

- (a) geology, hydrology, technology, and natural features (such as downgradients), hazards or topography (such as berms);
- (b) the location and use of any occupied structures and proximity to those structures; and
- (c) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations, at the proposed oil and gas location.

(d) the likelihood and expected dispersal of and nature of airborne pollutants from the Oil and Gas Facility;

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(e) The likelihood and expected dispersal and nature of spills and leaks from equipment used by the Oil and Gas Facility;

(f) whether, as shown on the Oil and Gas Facilities Plan submitted with the application, any and all wells, tanks, separation equipment, **flowlines, tank batteries, valves**, compressors, and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than **3,000 feet** from the nearest occupied structure or area zoned residential; and

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(g) whether an existing Surface Use Agreement is in place and properly recorded for the property in question.

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[Note language above which is bolded and italicized is new.]

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iv. However, in no case may the ~~2,000~~3,000-foot setback from occupied structures, reservoirs, Designated Outside Activity Areas, or platted lots areas zoned residential be reduced below ~~500~~ 1,500 feet.

c. Reverse Setbacks: No new occupied structure shall be constructed less than:

- i. ~~250~~ 500 feet from and existing Oil and Gas well of any status (permitted but not drilled yet, drilling, completing, producing, active gas storage, injecting, shut-in, temporarily abandoned, dry and abandoned, or plugged and abandoned prior to 2014).
- ii. ~~150~~ 300 feet from a plugged and abandoned oil and gas well or remaining equipment that was plugged and abandoned from 2014 onward.

~~d. Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:~~

- ~~i. At least one-mile from existing or planned water reservoirs, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000-foot setback shall apply.~~
- ~~ii. With approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.~~

~~d. **Wildland Areas Designated as Having Significant Risk of Fire Spread:** No Oil and Gas Facility shall be located within any portion of the Wildland Urban Interface (WUI) designated by the Office of Emergency Management (OEM) as having a significant risk of fire spread unless written consent has been first granted by both the OEM and any Fire Marshall or Fire Chief with jurisdiction over the WUI area so designated. Consent shall require proof of the satisfaction of both the OEM and fire authority with jurisdiction of the presence of needed time and distance to respond; precautionary measures to be taken; adequate training to be performed; and adequate fire prevention and suppression equipment available.~~

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For the purposes of this regulation, Wildland Urban Interface (WUI) shall be defined as that one (1) mile wide wildland area where the boundaries of wildland areas and urban/residential areas adjoin.

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Ava Pecherzewski

From: Marsha Kamin <marshagkamin@comcast.net>
Sent: Thursday, June 29, 2023 5:51 PM
To: Diane Kocis
Subject: Public Comments regarding the Arapahoe County Oil and Gas revised regulations

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Ms. Kocis,

I, like many other residents in Arapahoe County, moved here specifically to be away from oil and gas development. Now, many of my neighbors are talking about listing their homes and getting away from Arapahoe County. The angst in our area is growing. I chose to live in a densely populated residential area, along side open conservation land, to enjoy the benefits of wide open spaces, trails, parks and bike paths. People come from all over to recreate at the Aurora Reservoir, where power boats are not even allowed to pollute the water, air or noise. It attracts tourists from everywhere.

I have carefully read the proposed oil and gas regulation revisions and would like to address setbacks. Knowing that developers can drill horizontally up to 6 miles from the well, I feel that the County must notify everyone affected by this intended drilling, at least 1 mile from the end of the horizontal drilling, the actual OGD footprint, about this intended OGD nearby their homes. Public notification is essential and this would cover a wide radius surrounding oil and gas operations.

In fact, setbacks from all well pads must be a minimum of 1 mile from all occupied and unoccupied (future housing sites) dwellings, schools, Reservoirs (including planned Reservoirs) in all of Arapahoe County.

Another essential reason for this setback is explained in a recently published study using statewide air quality monitoring data from California, which investigated whether drilling new wells or increasing production volume at active wells resulted in emissions of fine particulate matter. The authors documented higher concentrations of air pollution at air quality monitoring sites within 2.5 miles of pre-production OGD well sites and 1.25 miles of production OGD well sites. These multiple stressors, along with other physical factors such as noise and vibration, are consistently found in exposure studies to be measurably higher near oil and gas extraction wells and other ancillary infrastructure. The Panel concluded, with a high level of certainty, that concentrations of health-damaging air pollutants, including criteria air pollutants and toxic air contaminants, are more concentrated near OGD activities compared to further away.

It is very windy in Arapahoe County open spaces and the extreme fire risks associated with oil and gas operations is also a concern. We are in a Stage One Drought and it is quite dry in the grasslands.

We need to protect the health and safety of our residents and set an example for the State and the nation by raising our standards for oil and gas regulations. The power to regulate oil and gas in Arapahoe County is in your hands.

Marsha Goldsmith Kamin

Ava Pecherzewski

From: Kirsten Miller <fosskirsten@yahoo.com>
Sent: Wednesday, June 7, 2023 12:49 PM
To: Diane Kocis
Subject: Re: Comments on Draft Regulations for Oil and Gas Facility in unincorporated Arapahoe County—air quality

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Thanks for that background. It seemed like a big miss to not include it. When do phases 1 and 2 start?

Kirsten

On Jun 7, 2023, at 12:37 PM, Diane Kocis <DKocis@arapahoegov.com> wrote:

Hello Kristen,

Air quality will be addressed in Phase 2 of our amendments. We are going to revise many of the existing rules and add a lot more in Phase 2.

When we wrote the original rules (drafted in 2020 and 2021, adopted Nov 21) we were directed by the former Board of County Commissioners to not include anything about air, other than odor and dust control.

Hope that helps.

From: Kirsten Miller <fosskirsten@yahoo.com>
Sent: Wednesday, June 7, 2023 12:34 PM
To: Diane Kocis <DKocis@arapahoegov.com>
Cc: Greg Miller <gmiller.umcp@gmail.com>
Subject: Re: Comments on Draft Regulations for Oil and Gas Facility in unincorporated Arapahoe County—air quality

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Thank you, Diane. When I reviewed the draft regulations, I saw nothing in them to protect or measure air quality as a result of the proposed oil and gas operations. That appears to be missing entirely.

Thanks,

Kirsten Miller

On Jun 6, 2023, at 10:21 PM, Diane Kocis <DKocis@arapahoe.gov> wrote:

Hello Kristen,

Thank you very much for your detailed review of our oil and gas regulations and comments. I have passed your comments on to my managers and filed them where they will be seen by everyone working on the Phase 1 and Phase 2 rules.

I wanted to email tonight to let you know that I will send you a detailed response in the next day or so. Your comment about the reservoir setback will apply to the new rules we plan to adopt in the next 3-4 months (Phase 1) and the other comments relate to our complete review of our existing rules later this year (Phase 2).

Please stay tuned.

Thank you,

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist
Arapahoe County Planning Division
dkocis@arapahoe.gov

From: Kirsten Miller <fosskirsten@yahoo.com>
Sent: Sunday, June 4, 2023 7:59 AM
To: Diane Kocis <DKocis@arapahoe.gov>
Cc: Greg Miller <[gmiller.umcp@gmail.com](mailto:gmillr.umcp@gmail.com)>
Subject: Comments on Draft Regulations for Oil and Gas Facility in unincorporated Arapahoe County

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi, Diane:

Here are my comments on Draft Regulations for Oil and Gas Facility in unincorporated Arapahoe County.

Thanks,
Kirsten Miller

- Especially considering the density of our housing within 2,000 feet of the proposed oil and gas development, the draft regulations have definitive loopholes for less than 2,000 foot setbacks, and this needs to be amended (in 2a):
 - If the owner(s) of the occupied structure(s) or all owners of the affected platted lots agree in writing to a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below **500 feet**
 - 2C: No new occupied structure shall be constructed less than **250 feet** from an existing Oil and Gas well of any status (permitted but not drilled yet, drilling, completing, producing, active gas storage, injecting, shut-in, temporarily abandoned, dry and abandoned, or plugged and abandoned prior to 2014).
 - 2C: Reverse Setbacks: No new occupied structure shall be constructed less than **150 feet** from a plugged and abandoned oil and gas well or remaining equipment that was plugged and abandoned from 2014 onward.
 - 2d: Water Reservoir Setbacks has too many loopholes “All Oil and Gas Facilities shall be located: At least one mile from existing or planned water reservoirs, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback may apply. With **approval from the reservoir owner or operator, the setback may be reduced to the 500-foot setback applicable to other perennial surface water bodies.**”
- Visual mitigation requirements only allow for required visual mitigation for those “Well pads within 1,320 feet of a property line of a property containing an occupied structure, a platted lot, or a parcel of 40 acres or smaller”—**because our current stance is 2,000 feet, this regulation doesn’t hold the operator responsible for hiding the well pads.** And the operator has **a year** to install visual mitigation—far too long!
- Traffic mitigation (16a): “shall make **best efforts** to schedule its traffic to limit heavy truck traffic on County roads during peak commuting hours and during school bus hours”—why is the County not prohibiting this, rather than asking for best efforts? For many neighbors commuting along this route to toward DIA/Buckley, this will definitely affect our commute pattern with additional traffic and damage to our roadways from heavy trucks.
- Groundwater Baseline Sampling and Monitoring (9) is limited to within a ½ mile radius and **depends upon a request from the owner** of such water source or owner of land upon which such water source is located. And the **“requirement to test a well upon request does not apply if the water well has already been tested** by any Operator and the Operator is able to furnish such results to County”—these regulations do not protect our water.
- Noise Mitigation Requirements: Section 10 defines the maximum permissible noise level and then proceeds to allow loopholes around it. This needs to be tightened significantly.
 - “Noise emitted from the facility pad shall not exceed **60 dBA or 65dBC**, measured at the nearest property line of the property with the

nearest occupied structure. These noise levels, as measured, constitute the Maximum Permissible Limit of noise that may be allowed to emanate off site from the Oil and Gas Facility.” Per Centers for Disease Control and Prevention, “Loud Noise Can Cause Hearing Loss,” November 8, 2022, (https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html) 60 decibels is comparable to the sounds of normal conversation, air conditioner. Increasing to 70 decibels contributes to annoyance by the noise, and these regulations allow this level for up to an hour per day between 7 a.m. to 7 p.m.:

- (10b): During the hours between 7:00 AM and 7:00 PM, the maximum permissible noise levels may be increased 10 dB(A) for a period not to exceed 15 minutes in any 1-hour period. The increase is permissible ... for a 1-hour period during any 12 hours. **Why would the County allow for this level?**

- **Furthermore, 10c allows for applications for waivers** (“to exceed the Maximum Permissible Limit in accordance with and subject to the standards in Section 5-6-3.6.E.5 above where the Oil and Gas Facility is proposed to be located in an area with existing ambient background noise levels that are at or above the Maximum Permissible Limit or if proposed for an area that is sufficiently remote from any property with an occupied structure or any High Priority Habitat, provided that the lack of High Priority Habitat is supported by recommendation of CPW”) without defining what **sufficiently remote** is.

Ava Pecherzewski

From: Robert Graham <bgraham5874@gmail.com>
Sent: Thursday, June 29, 2023 12:11 PM
To: Diane Kocis
Subject: Re: Arapahoe County draft oil and gas rules posters are now on our website

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Diane

I would hope and expect that you have provided a detailed copy of the Denver Post Article that covers this Oil and Gas Leak and the impact the leak has to families - the key is the time to restitution:

"Mark and Julie Nygren didn't set out to be activists, but they are suggesting changes to the oversight of Colorado's oil and gas pipelines based on their experience of losing their home and seeing part of their farm contaminated by a leaking gas line.

More than four years after discovery of the leak, the Nygrens are still renting a house in Johnstown, just north of their Weld County property, and remain embroiled in a lawsuit against DCP Midstream Operating Co., which owned the pipeline. As the Colorado Public Utilities Commission considers new pipeline-safety rules, the Nygrens want to share their hard-won insights with regulators."

I would not rely on those in authority to read the article - copies placed in front is the only way to ensure awareness.

This is a common problem nationwide not just in Colorado.

Thanks

Bob

Robert L. Graham

310 504 4807

On Mon, Jun 26, 2023 at 5:21 PM Diane Kocis <DKocis@arapahoe.gov.com> wrote:

Hello Stakeholders,

It was suggested at the Open House on Wednesday June 21st that we include a link on the Arapahoe County Oil & Gas webpage for the posters we displayed that evening, so the [Oil and Gas webpage](#) has been modified to include a link to the posters. The website has also been modified to include a link to the redlined oil and gas regulations (changes) and I've attached [the redlines here](#).

You can also access the posters [here](#).

We want to encourage you to attend the Planning Commission hearing on July 18th, 2023, where these 10 proposed oil and gas rules will be presented to the Planning Commissioners. Each person wishing to provide comments will be allowed 3 minutes to speak; However, if you have more than 3 minutes of comments to read, you can pass your remaining comments to another stakeholder attendee who can finish your statements. There will also be a remote participation option for the hearing.

We will send out another email to notify you of the venue for the July 18th Planning Commission hearing venue and how to participate remotely. Normally, the Planning Commission meets in the Arapahoe Room in Lima Plaza, 6954 S. Lima St. Because we anticipate high public participation for the hearing, we are seeking a larger venue. The location of the Planning Commission hearing will also be posted on our [Oil & Gas webpage](#) in the next couple of weeks.

Thank you for your comments and participation on our process.

You have been bcc'd on this email message to protect your privacy. Please forward this message to others who may be interested in providing comments or attending the Planning Commission hearing on July 18th.

Sincerely,

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist

Ava Pecherzewski

From: Seema Rajapurohit <seema_suni@yahoo.com>
Sent: Thursday, June 29, 2023 8:25 PM
To: Diane Kocis
Subject: Stop Fracking Near Aurora Reservoir

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,

Seema Kulkarni here. We bought this beautiful, big dream house just opposite the Aurora Reservoir with the intention to enjoy the nice Lake and the peaceful residential neighborhood.

Unfortunately, that is not the case as Civitas is planning to frack near this reservoir and we totally oppose this. The entire neighborhood and area will be smelling of horrible chemicals, the beauty of the reservoir will be lost, and people will get sick with all kinds of cancer, dental problems, skin diseases etc. Moreover, The water will no longer be clean, fresh, and potable. Also, the oil and gas wells will catch fire and burn the entire area (grasslands) and also people's homes. We don't want our dream home to be burned down. We don't want any fracking and oil and gas wells anywhere near us nor the Aurora Reservoir. This proposed fracking project is life-threatening, which is why we are fully against this project. Please make it a rule that any fracking and oil and gas should be 50 miles away from the Aurora Reservoir area. Please stop this project now.

Seema

From: [Tisha Foard](#)
To: [Diane Kocis](#)
Subject: Lowry CAP
Date: Thursday, June 29, 2023 10:42:43 PM

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Hello!

I am writing to you as a concerned citizen and mother. I stand in opposition to any and all fracking within Arapahoe County, especially any located near communities with children, like the proposed Lowry CAP by Civitas. Please consider sticking to a MINIMUM of a mile setback from all rivers, reservoirs, and homes, or better yet, stop the project all together. Here's why:

Air Quality/Pollution

The EPA has reclassified Colorado's Front range non attainment as a "severe" violator of federal air quality standards. In 2021 there were 65 ozone action days from May 31 to Aug 31, the highest number recorded since recording started in 2011. The fracking proposed at the Lowry Ranch CAP will produce volatile organic compound (VOC) emissions which form ozone. This can cause lung damage and premature death. The common air pollutants from drilling and fracking chemicals are linked to higher rates of cancers, childhood leukemia, sperm abnormalities, reduced fetal growth, cardiovascular disease, and respiratory dysfunction. (Colorado Fiscal Institute 2023). In light of this, it is little wonder that the Center for Biological Diversity has sued the EPA for its approval of Colorado's State Implementation Plan for air pollution emissions.

Additionally (and more importantly for my particular family), the National Library of Medicine has published a study that finds "a significant association between CO concentrations and epileptic seizure risk . . . with an increased seizure risk of 4%" (Zhuying et al. 2022). My nine year old son has epilepsy. Exposing him to such concentrations of air pollution as will be generated by this project is not just unfair. It's unconscionable. My son is certainly not the only child living with epilepsy near this proposed site. In fact, one of the drill pads planned will be less than a mile away from my son's elementary school, exposing ALL of the children at Altitude Elementary AND Woodlands Elementary to unsafe levels of air pollution.

Water

Colorado is currently a part of a superdrought located in all of the western United States. The EPA estimates that the annual water requirement for horizontal wells is as high as 140 billion gallons of water per year. With the current watering restrictions (2 times/week) for Aurora residents, this seems needlessly wasteful.

The Lowry Cap cumulative impacts statement itself states that it intends to use 17,858,400 gallons of water PER WELL, and that the water will come from three sources: 1. “excess surface water” 2. Farmers Reservoir Irrigation Company and 3. Rangeview Metropolitan District water. What excess surface water do we possibly have? Rangeview services the Lowry Range, which is where the Aurora Reservoir is located. This reservoir is currently only at 54% of its capacity (auroragov.org 2023). Drilling so close to the reservoir that serves such a large portion of the Aurora population is untenable.

Cancer

A peer-reviewed Yale study published in August 2022 found that living within one mile of fracking made small children aged two to seven years 2-3 TIMES more likely to develop leukemia than children not living near wells (Yale News 2022). How can we possibly justify allowing wells to be located so near to five Cherry Creek Schools, my school of employment and my son’s elementary school included? In what world is it acceptable to cause such risk to the lives of thousands of children for the monetary gain of an oil and gas conglomerate that will not return any of that profit to our community?

Impacts on Families

On a personal level, my son has epilepsy. This causes him to be especially susceptible to loud noises and stress. A peer-reviewed study published in both the journal *Science of the Total Environment* and Berkeley News found that “Fracking creates noise at levels high enough to harm the health of people living nearby” (Isreal 2017). Stressful situations and loud, continuous noises have proven to cause seizures that occur more often and with greater intensity in my son. It has been heartbreaking to watch his struggles, and it continues to be heartbreaking to consider the future noise, stress, and pollution from these proposed wells and the effect they will have on my son. My husband and I provide for our family with modest Department of Defense and public school teacher incomes. We cannot afford to move with the housing market and interest rates the way that they are right now. This situation has caused us severe anxiety and emotional distress that we, of course, must hide from our son so as to not adversely impact his health and neuro activity. We have no other way to protect our only child than to appeal to government entities like you.

What is happening to our community is simply put, evil. A large, powerful corporation can come to our idyllic community, use predatory and dishonest tactics to gain mineral rights, hurt our children, use up our precious natural resources, and destroy the environment and wildlife in the area simply because they want more than their already record profits from the last few years. This is just ONE story of how an individual family will be impacted. Can you imagine the impacts on the thousands of other residents near these wells?

Please, we are begging you to help us. Stick to the MINIMUM of a mile setback from all

homes, reservoirs, rivers and streams. Better, stand in opposition to any and all fracking in our area. It is the right thing to do. Please put the children and elderly of Arapahoe County before monetary gain. Thank you so much for your time.

Sincerely,

Tisha Foard
Arapahoe County resident (80016)

STAR Groups Priority Additional Setbacks/Regulations for Arapahoe County as of 4/30/23

A. The 3 most important missing setbacks/regulations in order of importance are:

1. Effective setbacks from areas zoned residential/urban
 - a. The County has been operating under the mistaken belief based upon a single State CDPHE study that air dispersal of pollutants is limited to a 2,000 ft. radius. This is based on monitoring of a single well [not a 12 well pad]. The County therefore relies now on a 2,000 ft. setback.
 - b. Nationally accepted studies now show that even without wind drift the area of dispersal is actually 1.25 -2.5 miles
 - c. We therefore suggest at least a minimum 1 to 1.5 mile setback from residential/urban areas (including schools and other public gathering spots), particularly when you are dealing with a multiple well pad site.

2. Fire setbacks and regulations in the Wildlife Urban Interface
 - a. The Marshall fire proved how dangerous fires starting in grasslands adjacent to residential neighborhoods can be.
 - b. The key to fire safety is time to suppress, coupled with resources to suppress
 1. A 2,000 ft. setback leaves totally insufficient time to suppress – less than 8 minutes in a grassland fire pushed by a 25 mph wind. Even 1 mile is problematic with 18 minutes to suppress but far better when coupled with regulations such as fire hose hook-ups and suppressive foam required on well pads in the WUI
 - c. We therefore suggest a WUI fire setback of at least 1 mile, coupled with fire hose hook –ups and suppressive foam on any well pads adjacent to the WUI. . [See for example: Broomfield Oil and Gas Code Regs. 17-54-060(T)(8) and (11)]

3. Setbacks from drinking water reservoirs
 - a. County has 500 ft. City of Aurora has 1 mile.
 - b. Even with berms or up-slopes to protect against spills entering these reservoirs, the same zone of protection of 1 to 1.5 miles for air

pollutant dispersal is needed as is the case for residential /urban neighborhoods.

B. Other level 2 tier regulations of particular concern (in no particular order of priority) include:

1. Flowline, gathering line, and transfer line regulation:

- a. A detailed plan of the location of gathering lines, on- and off-location flowlines and crude oil transfer lines should be required.
- b. Flowline should be defined as all categories of “flowlines” included in the definition of the COGCC rules (including wellhead lines, production lines, dump lines, manifold piping and process piping).
- c. All flowlines, gathering lines, and transfer lines located within ¼ mile of “ecologically sensitive areas” [such as drinking water resources and sensitive grasslands and wildlife habitats] or residentially/urban zoned neighborhoods should comply with the 2006 Pipeline & Hazardous Material Safety Administration PHMSA regulations as amended.
- d. Because flowlines are prone to methane leakage, and according to the EPA are “one of the largest sources of emissions” in the oil and gas industry:
 1. Flowlines, gathering lines and transfer lines should be setback a minimum of 1,000 ft. from drinking water sources, riparian waterways, and residential/urban neighborhoods; and
 2. Should be monitored for airborne leakage leaks and spills at least every 3 months and, when located in “ecologically sensitive areas” or ¼ mile of residentially zoned areas , at least twice monthly.
- d. Construction of flowlines should be required to comply with appropriate ASME B31.4 and B31.8 standards, as amended
 1. Applicants should be required to provide appropriate clearances between flowlines needed for appropriate inspections and hydrotesting of flowlines and associated isolation valves.

2. Off-location flowlines, Crude Oil Transfer Lines (COTL) and Produced Water Transfer Systems (PWTS):

a. Operators are now required in Form 44 to register and provide as-built information to the COGCC of these lines for the purposes of emergency management and planning. Accordingly, this geo-database information should be required to also be provided to the County so that first responders have the necessary information to address potential emergencies.

b. Setbacks of COTL and PWTS lines and systems from residential, commercial, or industrial buildings, places of public assembly, any surface water body, or sensitive environmental feature should be determined on a case-by-case basis based upon the consideration of the size and type of line and the features of the proposed siting. [See for example: Broomfield Oil and Gas Code Regs. 17-54-060(Q)(1) thru (3)]

3. Surface and groundwater pollution:

a. In order to minimize adverse impacts to surface and sub-surface water bodies, use of chemicals dangerous to human health should be prohibited, including:

i. All chemicals listed in COGCC Table 437-1;

ii. Polysorbate 80; and

iii. Perfluoroalkyl and polyfluoroalkyl substances or “PFAS chemicals” defined as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

4. Water source quality, sampling and testing:

a. Applicants should be required to sample one up-grade and two downgrade available surface and ground water sources located within a radius of one-half mile of a well pad or facility. If no such water sources are available, samples should be collected within one-mile.

c. Water source testing should be conducted by a qualified independent professional consultant approved by the County at the operator’s expense, and include:

i. Major ions, including: bromide, fluoride, sulfate and nitrate;

ii. Metals, including: arsenic, barium, boron, chromium, copper, iron, lead, manganese, selenium, strontium; and

iii. Dissolved gases and VOCs, including methane, ethane, propane, BTEX as Benzene, Toluene, Ethylbenzene, Xylenes, and Total Petroleum Hydrocarbons (TPH)

1. Should a water source test show a concentration increase of methane or other dissolved gas concentration increases of greater than three (3) mg/l (micrograms per liter) between sampling periods or any presence of a listed VOC, BTEX or TPH, immediate notification of both the COGCC and County so that the source can be identified and remedial action taken.

[See for example: Broomfield Oil and Gas Code Regs. 17-54-060(T)(1) a. thru n.]

5. Air quality, sampling and testing:

- a. Air emissions from proposed facilities should be required to comply with all federal air quality rules and standards, including EPA's New Source Performance Standards and National Emission Standards for Hazardous Pollutants;
 - i. Air emissions from proposed facilities should be required to comply with all COGCC and CDPHE air quality standards and rules, and any and all County emission regulations.
 - ii. Emissions should be required to be below the currently most protective health-based guidelines, including those used by EPA and CDPHE.
 - iii. Carbon-reduction requirements of Arapahoe County should not be allowed to be offset by purchased credits.
 - iv. An Air Quality Control Plan should be required that requires that the Operator use both most effective management techniques and best management practices to minimize impacts to air quality. This should include the use of electric versus gas powered generators.
 - v. A County approved air monitoring plan to be conducted by a qualified third-party consultant, approved by the County should be required. Baseline monitoring should be required within a 500 ft. radius of all well pads and 2,000 ft. of any well pad located within 2 miles of residentially/urban zoned property, a school, public gathering place or a drinking water source.

- vi. The air quality monitoring plan should require constant monitoring both prior to construction, and during all phases of development including drilling and production.
- vii. Monitoring should include: VOCs, Hazardous Air Pollutants (HAPs), BTEX, Hydrogen Sulfide, Oxides of Nitrogen (NOx), Particulate Matter, Fine Particulate Matter, Carbon Monoxide, methane, and carbon dioxide.
- viii. Any increases in the monitored pollutants should be required to be reported to both the COGCC and County so that the source can be identified and appropriate remedial actions taken, including notification of affected citizens.

[See for example: Broomfield Oil and Gas Code Regs. 17-54-060(O) and (P).]

- 6. Wastewater injection wells should be prohibited in Arapahoe County.
- 7. Use of water for oil and gas drilling operations which could otherwise be used for drinking water, should be prohibited during Arapahoe County's Stage D2 and above categorized drought years.
- 8. An effective neighborhood alert process should be developed in the event there is a "significant" contaminant spill; a "significant" spike in airborne toxins; a "significant" drinking water contamination; or a well pad fire. "Significant" should be defined as an incident which exceeds applicable Federal, CDPHE, COGCC, or County standards.
- 9. Special regulations should be developed to monitor any fracking-related hazard which may affect the integrity of areas of particular environmental concern (such as the EPA Superfund site), to include baseline studies to determine special risks. This should include, but not be limited to, seismic risks from fracking and truck traffic. To monitor these risks, regulations should include, but not be limited to, continuous seismic monitoring at these areas and annual studies to check for significant new environmental risks to health and safety.
- 10. Special regulations should be developed to ensure proper containment of wastewater pools, particularly against the risk of overflow caused by the capture of rainwater or excess sediment.

Comments (Sticky Notes) from the Open House:

Poster Regarding Reservoir Setbacks

- Reservoir owners and operators are not tasked with duty to protect public health, safety, welfare and the environment. Cannot delegate decision to them. 1 mile is minimum start. 500 feet is never acceptable. 3,000-feet is absolute minimum.
- What is the scientific basis for a 2,000-foot setback from homes when research shows negative health impacts at much greater than 2,000-feet.
- Neighborhood meetings should notify homeowners within 5 miles of change that is not 1 mile.
- Fracking under homes results in the release of additional radon. Worsening of air quality; increase ozone.
- How do the regulations address noise issues? Wildlife? Fire?
- What is downgradient? One mile is the bare minimum. No oil and gas should be nearby reservoir.
- If a regulation has to be reasonable and justified, what better reason than to protect our population?
- Continue to monitor well water/aquifer for rural homeowners.
- “Unless downgradient conditions can be satisfied” as explained to me by Mr. Weimer, this only is determined by surface gradient. For vertical drilling, different gradients may exist at different depths. Gradients must be considered at surface conditions.
- The comment “with approval from the reservoir owner or operator, the setback may be reduced to a 500-foot setback” lacks protection from the public, and lacks standards for quasi-judicial review.
- What is the basis for reducing setbacks to 2,000 feet? Is there scientific basis that is sufficient?
- “Downgradient condition” appears to be based solely on the well site location. But oil and gas and wastewater will be transported away from well, leading to possible spills.
- Downgradient allowance must be proven through use of independent scientifically based studies and investigation to be at least as safe as 1 mile or more.
- How will house settling issues be resolved?
- Air quality concerns, health concerns, noise issues, wildlife impact, earthquake-stability of reservoir dam, fire potential, water contamination.
- You can’t justify 2,000-ft setback using latest scientific studies.
- Neutral downgradient study must be done. Follow science.
- The topography and hydrology of the drill site matter more than setback. Increase setback if drill pad is in same watershed as reservoir.

Poster Regarding Process to Request Lesser Setbacks

- Civitas Arena welcome banner was a slap in the community's face. Need a neutral space.
- This will be heavily abused by the oil/gas industry.
- No thanks! 2,000 feet is close enough.
- Let us fundraise to help make up the difference of money made – when the CAP is cancelled.
- County rule must be no less than 3,000 feet under any circumstances. Must show major independent study to justify less than 1 mile.
- The provision that lesser setbacks may be approved by BOCC appears to lack standards for the BOCC to make that determination. “Substantially equivalent protection” is too vague – protection from spills? Protection from emissions? Protection from noise? All of the above?
- There needs to be a presumption that the setback must be followed unless the operator can show a lesser setback is necessary to preserve public health, safety and environment.
- People want the rule to be the rule. Stop the back and forth. 2,000 feet +.
- No allowed lesser setbacks. Setbacks are not far enough as proposed.
- No allowed lesser setbacks.
- The setback must be 2,000+ feet, not 500 feet. What about Fires? Wildlife? Stricter setbacks for schools.
- Cancel the CAP. Community to fundraise the \$ to support County programs.
- Please share with the residents of Arapahoe County the \$ amount of campaign donations from O&G to each Commissioner.
- The rule should be at least one mile, not 2,000 feet. Any justification less than 1 mile must be done through an independent certified 3rd party to be equivalent to 1 mile or more.

Poster Regarding Cryptocurrency

- Need to address high frequency noise similar to data farms
- How are locals protected from the burning/exhaust of the gas used to power the mining?
- I agree with the letter sent by John Granger re cryptocurrency
- How will the noise be addressed?
- Do mineral right owners get a share of the crypto income that the operator gets?
- What regulations govern infrastructure required for crypto mining sites? These are huge consumers of energy and water.
- How often are capped pads inspected?
- How will you regulate and monitor the emissions from the burned gas? Must be highly controlled and scrubbed to not contribute to our already poor air quality?

- The crypto mining use of gas is just another huge source of local fossil fuel pollution. Why not mandate the oil and gas companies build their own pipeline to move it elsewhere away from populated areas?
- Will the profits pay for the healthcare of local residents?

Poster Regarding Additional Application Information

- How do the rules address wildlife and other features affected by well pad locations, flowlines, access roads, traffic, noise, etc. Are impact statements required?

Poster Regarding Post-Incident Meetings

- Will an alert be blasted on a loud speaker? How will this be informing all affected?
- Citizens should be made aware of all incidents with a timely manner (max 3 days). Transparency is vital to public trust.
- Incident reports should be made available to the public on the Arapahoe County website within 3 calendar days of incident.
- Where a formal incident report is required, further drilling or operations activity should be stopped until the post-incident meeting with County staff is held and the staff determine it is safe to proceed.
- There must be readily accessible public records of all incidents.
- Must be immediate notification/alarms to the public when health, safety and welfare is threatened.
- Since you have post-incident reporting you already know there will be incidents. One incident is too many. Are you willing to gamble with our lives? Put all incidents on the County website.

Poster Regarding Facilities Needing to be in Compliance with State and Federal Laws

- State and Federal laws are not strict enough. Arapahoe County can and should hold to a higher standard.
- Useless amendment. Just for show. Federal and state laws and regulations already apply.
- Arapahoe must follow Commissioner Warren-Gully's statement and set our own level of standards and best practices to be a leader (the best) in protecting public health, safety welfare and the environment. Set the example for other local government units in the state and country. Don't rely on others that we know are lacking.
- The current standards are not strict enough for this urban dense populated area.
- What exactly do the current standards protect? Rules and regulations should protect the health and safety of the environment, communities and wildlife. Fines are not severe enough to deter bad practices.
- Greed.

Poster Regarding Access Road Standards

- Access roads are critical to prevent runoff and damage from spills. These are not sufficient for all of Arapahoe County oil and gas.
- Access road standards should include protection from spills, such as culverts, drainage, etc to divert spills way from land nearby.
- How close will these roads be to the Superfund site? How will the vibrating affect it?
- How will the trucks affect the local residents? Noise, traffic, gas, school kids.
- How will these protect the potential spills?
- Distance from homes and schools – noise, dust are pollution issues. Setbacks from waterways (spills!) and Superfund site. Vibrations from heavy trucks affect site integrity that's already leaking.
- Must have sufficient equipment on-site for immediate reaction to emergencies. Must be approved by emergency management services organization (OEM) and fire department.

Poster Regarding Handwashing Facilities

- Will gas masks/hazmats suits be provided for local children? Will you cover my costs for inhalers so my children don't die?
- This should've been hosted at a neutral space. Arriving to see "Civitas Arena" is not a warm welcome to the community.
- Can you also provide public health financial assurances for those of us breathing the toxic fumes?
- Concerned regarding increased radon infiltrating our homes, Increased ozone and negative health impacts. Concern about fracturing and creating issues with my home's stability. Poison leaking into water supplies.
- Yes but there are much more important topics that must be addressed in Phase 1 – air quality, monitoring, financial assurances, superfund site protection, and more!
- Visual representation showing red lines to show revisions/updates.
- Please load each poster as a PDF with comment option for those who couldn't attend tonight.

Poster regarding Neighborhood Meetings

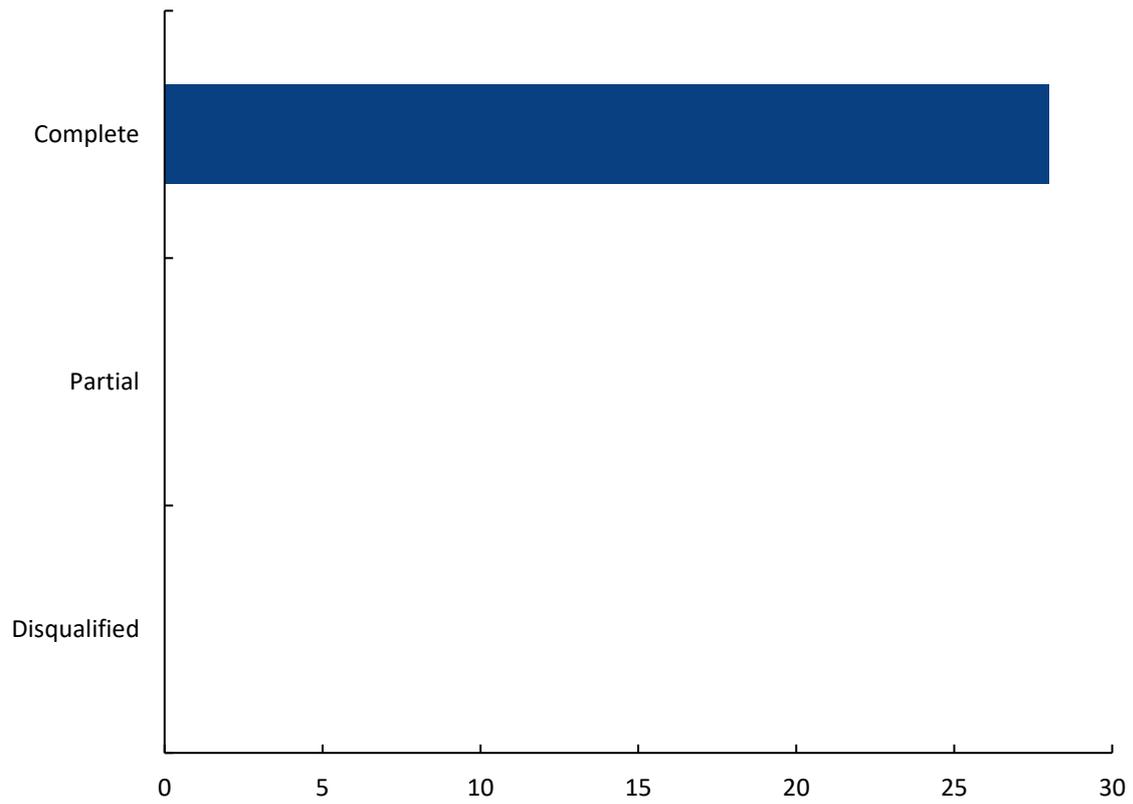
- Does the County perform air quality modeling? If so, could folks down-wind be included in notifications?
- Must notify folks and businesses within at least 10 miles if not the entire County. This will affect everyone's environment as well as public health, safety and welfare. Best science of recent studies shows 5-10 miles and fire issues are more than 1 mile away.
- Arapahoe County needs to be the lead on human life – notices to those only 1 mile away is a joke. This needs to be a minimum of 10 miles.

- Notification should be sent to all owners and HOA's within entire pooling area and not just drill site.
- Notify the entire County of this. Follow the science.
- "Homeowner Association" should be expanded to include all metro districts and other neighborhood organizations.
- Notice area needs to be much farther – 10 miles.
- "One mile of proposed facility" is ambiguous – should include one mile of any portion of the proposed facility, including underground drilling or transportation of oil/gas or wastewater.

Report for Oil and Gas Comment Form

Oil and Gas Comment Form

Response Statistics



	Count	Percent
Complete	28	100
Partial	0	0
Disqualified	0	0
Totals	28	

1. Please provide your suggestions or comments as it regards the proposed Oil and Gas amendments.

ResponseID	Response
1	xxx
2	<p>1. There should be no exception for one mile setback from drill site to reservoir. 2. Hand washing facilities are already required per OSHA 29 CFR 1910.1030. 3. There should be no exception to 2,000' minimum setback for residential areas. 4. The amendment that the drill sites have to obey state and federal law is theater- state and federal law has supremacy and already applies. 5. Overall the proposed amendments seem to accommodate the oil industry stakeholders, and do not have any positive bearing on public safety or homeowner rights.</p>
3	<p>As a resident of Aurora and Arapahoe County living in a community next to the aurora reservoir, I oppose drilling for gas and oil near the Aurora Reservoir and impacting our rights as citizens and homeowners with mineral rights below our properties, and the right to safe and clean drinking water and an environment free from hazardous drilling operations and gas emissions from these operations. Including toxic chemicals used for fracking purposes that destroy our beautiful land and communities. And I ask that if any such operations do occur that they be set back as far as possible (one mile) to ensure no impact to the Aurora reservoir and to the health and safety of all of the residents. Again, I oppose any and all oil and gas drilling in this area and reservoir ecosystem and would ask that Arapahoe county not allow any drilling for oil and gas near the reservoir of any kind, and impacting the rights of the residence of the city of Aurora and Arapahoe county. I know I speak for my family and many of the residents of Arapahoe county who live near the Aurora Reservoir that we all oppose allowing drilling near our homes, schools, and open spaces and will continue to voice our opposition and use our voting power when possible to ensure protection of our environment and homes.</p>
4	<p>I appreciate attempts to strengthen protection for people and the environment. However this attempt is EXTREMELY weak and misleading.</p>

	<p>The "unless" clause is a wide open and obvious loop hole. Dangerous industrial operations with deadly track records do not belong near communities. Dangerous industrial operations cannot be located anywhere near water sources or prime environmental area. Oil and gas should be no less that one mile away. We cannot compromise or negotiate our health away for the sake of greed.</p>
5	<p>There should be no exceptions for health and safety of our water sources. This is beyond stupid and clearly all about money. I will vote accordingly.</p>
6	<p>I don't think we should make exceptions to our 1 mile set back.</p>
7	<p>I don't think we should make exceptions to our one mile set back</p>
8	<p>I don't believe fracking under the Aurora Reservoir/Dam is safe. There are geological faults in the area.</p>
9	<p>The one-mile setback is definitely what we need. What we don't need is an obvious loophole that will just allow the energy extractors to come as close as possible to homes and the reservoir. Also...cryptocurrency mining? Really? Come on. Are we trying to create a dystopian future? Both fracking and crypto mining create lots of noise. Clearly, Arapahoe County does not care about the quality of life for residents if the Commissioners approve crypto. This is ridiculous. I thought I was moving to a beautiful suburb that was thoughtfully planned for residents to raise families. Instead, an energy company is now going to frack under my house without my consent. This is such a violation.</p>
10	<p>Change the first bullet to 5 miles back from reservoirs, with no conditions following.</p>
12	<p>In general I do not feel that the amendments nor the current rules and regulations when it comes to Oil and gas meet the county's goal- "The County is committed to upholding quality of life, health and safety issues and the environment." And these amendments don't do much to support that goal. There should be no</p>

	<p>exceptions to the 1 mile from Reservoir rule (and even then 1 mile is not far enough) And who benefits from the crypto mining? Seems like another way for OG to make more \$\$ I would like to see amendments that are truly pro environment, pro quality of life and less about profits.</p>
14	<p>I generally approve of the proposed amendments with two exceptions. First, gas-powered cryptocurrency mining should be prohibited as allowing it would amount to corporate welfare of the worst kind at the expense of residential safety. Second, the impacts of fracking on migratory birds should be added as a distinct consideration under paragraph F.17 and the Migratory Bird Treaty Act should be incorporated by reference as it the supreme law of the land under Article VI of the U.S. Constitution and cannot be ignored.</p>
15	<p>I don't think we should make exceptions to our one mile set back! We must protect communities, and be thinking about health and safety of people and the earth.</p>
16	<p>No exceptions to one mile rule near bodies of water and residential development</p>
17	<p>I don't think we should make exceptions to our one mile set back.</p>
18	<p>Absolutely no exceptions to set backs.</p>
19	<p>I do not think exceptions should be allowed to the 1 mile setback. Allowing a "grey" area allows poor decisions to be made overall and different interpretations of the rules. This needs to be clear and "black and white" for the Oil and Gas Companies for the health and safety of the Public.</p>
20	<p>One mile setbacks should be held at *minimim* with no exceptions. Allowing language where they don't need to be followed will basically make the regulation moot.</p>
21	<p>Please keep the 1-mile setback for our community as was stated in the rules! Do not</p>

	make any exceptions! Thank you, Ruby Frederick
22	No carve outs, respect the one mile set back limits as is.
23	<p>1) Section 5-3.6.E.2 Neighborhood meeting: metropolitan districts (e.g., Tollgate Crossing metropolitan district, Beacon Point metropolitan district) and authorities (e.g., Tallyn's Reach Authority, Saddle Rock Authority) today are replacing homeowner associations in many neighborhoods. The metropolitan districts and authorities should be notified as well as homeowners association. 2) Section 5-3.6.E.2 notification only of those homeowners, residents and associations "within one mile of the pad boundary" is too limited. Drilling-related activity may affect properties far from the pad boundary for example if the wells are drilled under their property or if roads will necessarily carry fracking fluid, waste fluids, etc. Notice should be given to all property owners, associations, etc. within 1 mile of ANY proposed drilling-related activity. 3) Section 5-3.6.F.2.d reservoir setbacks - the term "downgradient" does not appear to be defined. It seems this applies only to the surface topography (i.e., so long as any leaking oil or contaminants AT THE SURFACE flows away from the reservoir it is OK to reduce the setback to 2000 ft). However, this is not appropriate for example if there are subsurface features (rock or clay structures for example) that would direct SEEPING oil in a different direction, or if there are gradients/rock formations that would direct oil spills from defective casing, for example, below the surface toward the reservoir. This exception either needs to be eliminated or much broader. In addition, the downgradient condition should be required for ALL operations associated with the oil and gas operations near the well pad such as oil pipelines, roads that would carry contaminated fluids or oil, etc. as those pipelines and roads may direct oil spills, etc., back toward the reservoir. 4) Section 5-3.6.F.2.d the 500 foot alternative setback "with consent of owner" is illogical and does not promote public safety - if the reservoir owner is corrupted in some way such as a ginormous payment from the oil company, it is illogical for the county to allow public safety and precious water supplies to be compromised just because of the consent of the owner. 5) Section 5-3.6.F.3.m incident reporting</p>

	<p>- the post-incident meeting is a good idea but it should be open to the public and operations related to the incident should cease until the meeting occurs. 6) Section 5-3.6.F.11 access road standards - there should be a requirement that access roads provide appropriate gutters or other facilities to direct any spills or contaminants away from surrounding terrain. 7) Section 5-4 definitions - downgradient needs to be defined.</p>
24	<p>These proposed amendments are grossly insufficient in addressing the documented concerns of Arapahoe County Citizens. Specifically: 1. The set back exceptions undermine the intent of the 1 mile set-back. It creates subjective loop-holes that puts the power in the hands of the oil and gas operators and nullifies the voice of citizens who are directly impacted. 2. The cryptocurrency use is woefully undefined in the amendment. And I believe that is intentional because a use like this only increases concerns regarding pollution. Furthermore, the argument made by oil and gas is that fracking projects are necessary for "our" energy needs as local residents. However this accessory use is definitively NOT for the production of energy used by consumers and the likely beneficiary would be wealthy investors well beyond our county. In summary, this set of amendments feels like lip service to citizens and a wink and a nod to the oil and gas operators. There is nothing substantive to remove the pollution risk to the community let alone anything that improves the benefit to the community.</p>
25	<p>Hello Arapahoe County Officials, I know you have a lot on your minds, and I'm sure you're trying to find balance and keep a lot of people happy. However, your residents should be the #1 priority. Do you agree? Please take my comments below to heart. I know your jobs are not easy, but the decisions you are making will affect the future of Arapahoe County for generations to come. My primary concern is about setbacks. What is the point of a 1-mile setback from reservoirs and proposed reservoirs if you already bake loopholes and exceptions into the proposed amendment? Should we propose laws that say it's ok to speed, as long as you're going uphill? Truth be told, 1-mile setbacks from these fracking operations are nowhere NEAR far enough. But, I understand there's no chance you'd go up from 1 mile.</p>

	<p>Additionally, reverse setbacks are already a loophole in themselves. When you look at a proposed project like the Lowry Ranch CAP, a residential development is planned immediately to the east of the Blackstone community that will be right next to a proposed drilling site, much lower than your county setbacks. Why is this ok? The order of operations make it ok? Since the drilling site will likely come first, the safety of the community doesn't matter? This makes zero sense... Reverse setbacks should be eliminated altogether. By continuing to entertain O&G projects like the Lowry Ranch CAP, you're opening the door to permanent damage in our county, not to mention making this a far less desirable place to live. Are long-term impacts not considered at all? Doesn't Arapahoe County have more to offer than a bunch of fracking sites? Can't we capitalize on retail, housing, tourism and recreation? Can't we build long-term value for OUR people, not for multi-billion dollar publicly traded companies that are majority owned by foreign investors? Wow, Civitas has a corporate sponsorship for something at the Arapahoe County Fairgrounds... they must really care about the people of our county. Do your research. The Canada Pension Plan owns the most shares of Civitas Resources, followed by about ten other private equity groups. Do you really think they care about the people of Arapahoe County? Are we really that naïve? This is ALL about money, otherwise it would not be happening in our county. And what in the world is this about cryptocurrency mining? There's no way that's beneficial for our "health, safety, wildlife and the environment." PLEASE, do the right thing. Come up with some loophole-free regulations. Stand up for your residents. And please, DON'T cave to billionaires that have promised the world to you. We don't need them. Arapahoe County is great. The Aurora Reservoir is great. The city of Aurora is great. Open space is great. Why must we ruin it? Thank you for your time and consideration of my comments.</p>
26	Do not make exceptions to the one mile setback!
27	One-mile setbacks should be increased to something higher in order to reduce the impact on the local populace. Additionally, this would apply to the burning of natural gas in order to power cryptocurrency mining, which should be further than one-mile.

Please stick to a minimum of a one mile setback from all homes and bodies of water (current or planned). Better yet, so not allow this project to happen at all. We do not have the water table to support this, they will frack under an unstable (and already leaking) superfund site, and fracking has proven to cause children who live within a mile of fracking to develop cancer at 2-3 times the rate of others. Additionally, our air quality is already horribly rated by the EPA, and fracking releases VOCs and CO at a level harmful to all, but especially children and the elderly. Don't let this company destroy our community!!

2.What is your name?

ResponseID	Response
1	sss
2	Lars Rockholm
3	James Guajardo
4	Susan McClain
5	Ameli abernathy
6	Stephanie Blum
7	Katherine Velasco
8	Linda Kiefer
9	Kris Sutton
10	Jordan Cassell
11	Matt Mendez-Vanacore
12	Anne Fiala
14	Conrad Huygen
15	Brenda
16	Carmen Hanagriff
17	Elizabeth Pheteplace
18	Elisa Dahlberg
19	Tim Mills
20	Kate Schmeisser
21	Ruby Frederick

22	Melissa Davidson
23	Brian Matise
24	Shannon McCorison
25	Nathan Lyon
26	Corey Hopper
27	Shawn Bockstahler
28	Tisha Foard

3. Where do you reside?

ResponseID	Response
1	Blackstone
2	26714 E Phillips Pl, Aurora 80016
3	5935 S Kellerman Ct Aurora CO 80016
4	Aurora CO
5	Aurora
6	Southshore
7	Aurora 80016
8	Arapahoe County
9	Aurora 80016
10	Beacon Point, Aurora
11	The Wheatlands, Aurora 80016
12	80016
14	25280 E Ottawa Dr
15	Aurora
16	Aurora, CO 80016
17	Southshore - Arapahoe County - 80016
18	Beacon Point
19	Beacon Point, Aurora, CO
20	Blackstone Community
21	Aurora, CO

22	80013
23	Tollgate Crossing subdivision, Aurora, CO
24	Arapahoe County, Aurora, 80016
25	Southshore Community in SE Aurora, Arapahoe County
26	36945 E Costilla Dr, Aurora, CO 80016
27	6655 S Quantock Way, Aurora, CO 80016
28	Aurora - Southshore 80016

TO: Arapahoe County Commissioners
Diane Kocis, Energy Specialist, DKocis@arapahoegov.com
FROM: League of Women Voters of Arapahoe and Douglas Counties
Julie J.R. Huygen, 25280 E Ottawa Dr, Tallyn's Reach, Aurora
DATE: June 29, 2023
SUBJECT: Phase 1 Proposed Oil and Gas Amendments

Colorado Senate Bill 19-181 directs Arapahoe County as a local government to regulate the surface impacts of oil and gas operations “to protect and minimize adverse impacts to public health, safety, and welfare and the environment.” (SB 19-181, Sec. 4, amending Colorado Revised Statutes, 29-20-104, (1)(h).) With that direction as context, I provide the comments below on the County’s Phase 1 proposed oil and gas amendments on behalf of the League of Women Voters of Arapahoe and Douglas Counties (LWVADC) and as a resident, homeowner, and taxpayer of Arapahoe County. The members of LWVADC are residents of Arapahoe and Douglas Counties who are committed to empowering voters and defending democracy. Furthermore, we endorse the comments submitted by John Granger on behalf of the Save The Aurora Reservoir (STAR) community organization, composed of over 1,400 residents of the City of Aurora and Arapahoe County.

PROPOSED AMENDMENTS

In the regulatory provisions below, the existing language is black, the proposed amendments are red, and our recommended changes are blue and use ~~strikethrough~~ for deletions and underline for additions. (Arapahoe County, Oil and Gas Regulations 2023 Changes_Final Draft 5.25.2023 with redlines_202306231937018600.pdf, arapahoegov.com/oilandgas.)

ONE-MILE SETBACKS FROM EXISTING AND PLANNED RESERVOIRS

2. Setbacks

d. **Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:**

- i. ~~At least one (1) mile from the edge of any existing or planned (adjudicated) water reservoirs or the setback distance established by the governmental authority responsible for the particular water reservoir, whichever is greater, as measured from the pad boundary, unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case a 2,000 foot setback may apply.~~
- ii. ~~With approval from the reservoir owner or operator, the setback may be reduced to the 500 foot setback applicable to other perennial surface water bodies.~~

Regarding water protection, we also recommend the following amendment:

2. Setbacks

a. All Oil and Gas Facilities shall be located at least:

- vii. ~~Outside of a 2,000 feet from the edge of any 100-year floodplain, domestic water well, and or at least 500 feet from~~ the edge of any perennial surface water body, the ordinary highwater mark of any perennial or intermittent stream or the edge of any riparian area, whichever is the greater distance, as measured from the pad boundary; ~~unless CPW has waived or modified the setback from the stream, surface water, or the riparian area following in accordance with COGCC Rules 309 and 1202.~~

In Colorado and the western United States, there is no more important natural resource than water. The Aurora Reservoir is the water source for hundreds of thousands of Arapahoe County residents; it must be clean, secure, and protected. The City of Aurora has established a one-mile reservoir setback. (Aurora City Code, Sec. 135-4(b)(4)c.) With the Aurora Reservoir at issue, Arapahoe County should do the same. For further explanation of the necessity for a one-mile reservoir setback, we incorporate the comment provided by letter dated June 2, 2023 from John Granger on behalf of STAR.

NATURAL GAS-POWERED CRYPTOCURRENCY MINING

TABLE 3-2.1 PERMITTED USE TABLE

Cryptocurrency Mining

~~(10) Cryptocurrency mining not connected to an electrical grid and accessory to an oil and gas facility.~~

To explain the recommendation not to add cryptocurrency mining as a “permitted use”, we incorporate the comment provided by letter dated June 16, 2023 from John Granger on behalf of STAR. Additionally, we point to the mounting evidence that Arapahoe County should not get in or even close to the business of cryptocurrency mining, which benefits a very small number of individuals and companies scattered around the world, carries immense energy costs for the communities that house cryptocurrency infrastructure, and creates no tangible product or service of use to local residents. (Ariana Baio, The Independent, “Texas paid Bitcoin company \$175k an hour to stop using energy during fatal 2021 winter blackout,” Apr. 12, 2023 (explaining that cryptocurrency mining “requires massive amounts of electricity, which has led to large quantities of carbon emissions,” and that, where mines exist, “energy bills have risen 9 per cent”).)

ADDITIONAL AMENDMENTS

SETBACKS

2. Setbacks

- a. All Oil and Gas Facilities shall be located at least:
 - i. ~~One (1) mile 2,000 feet~~ from ~~the edge of any lot with~~ any occupied structure as measured from the pad boundary.
 - ii. ~~One (1) mile 2,000 feet~~ from the nearest boundary of ~~any area zoned for residential use a platted lot smaller than 15 acres in area~~ as measured from the pad boundary.
- b. The ~~one (1) mile 2,000 feet~~ setbacks from ~~a lot with an~~ occupied structures or ~~an area zoned for residential use platted lots~~ referenced in subparagraphs 5-3.6.F.2.a.i ~~or and~~ ii above may ~~also~~ be reduced to a lesser setback:
 - i. ~~If the owner(s) of the occupied structure(s) or all owners of the affected platted lots agree in writing to a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below 500 feet; or~~
 - ii. ~~If, as shown on the Oil and Gas Facility Operations Plan submitted with the application, any and all wells, tanks, separation equipment, compressors and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be~~

- ~~located or stored more than 2,000 feet from the nearest occupied structure or all affected platted lots; or~~
- iii. If an Oil and Gas Facility application that includes a lesser setback is submitted ~~and, it must be and~~ approved by the Board of County Commissioners through the Use by Special Review process provided in Section 5-3.4 of the Land Development Code. For approval of any lesser setback under this subparagraph, the Operator must establish that the lesser setback as proposed will provide substantially equivalent protection to a ~~one (1) mile 2,000-foot~~ setback and that granting the lesser setback will not adversely impact public health, safety, or welfare or the environment. In reviewing the proposed lesser setback, the Board of County Commissioners shall consider the extent to which the operator provides an alternative Oil and Gas Facility design, best management practices, control technologies, or proposes conditions of approval that will be effective to avoid, minimize, or mitigate adverse impacts on the affected properties, considering:
 - (a) geology, technology, and natural ~~or added man-made~~ features, hazards or topography;
 - (b) ~~(b)-~~ the location and use of occupied structures ~~and residential areas~~ and proximity to those structures ~~and areas; and and~~
 - (c) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location; ~~and~~
 - ~~(d) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location.~~
 - iv. However, in no case may the ~~one (1) mile 2000 feet~~ setback from occupied structures or ~~areas zoned for residential use platted lots~~ be reduced below ~~3,280 500~~ feet, ~~or 1 kilometer~~.
- c. Reverse Setbacks: No new occupied structure shall be constructed ~~or new area zoned for residential use~~ less than:
- i. ~~3,280 250~~ feet, ~~or 1 kilometer~~, from an existing Oil and Gas well of any status (permitted but not drilled yet, drilling, completing, producing, active gas storage, injecting, shut-in, temporarily abandoned, dry and abandoned, or plugged and abandoned prior to 2014); ~~or~~
 - ii. ~~3,280 150~~ feet, ~~or 1 kilometer~~, from a plugged and abandoned oil and gas well or remaining equipment ~~from an oil and gas well~~ that was plugged and abandoned ~~in~~ ~~from~~ 2014 ~~or later onward~~.

To explain these setback recommendations, we incorporate the comment provided by letter dated June 5, 2023 from John Granger on behalf of STAR. In particular, we highlight the findings and conclusions provided by the California Oil and Gas Public Health Rulemaking Scientific Advisory Panel to the California Geologic Energy Management Division by letter dated October 1, 2021. (California Department of Conservation, Geologic Energy Management Division, conservation.ca.gov/calgem/Documents/public-health/Public%20Health%20Responses_FINAL%20ADA.pdf.)

We have focused our review on epidemiological studies carried out in multiple oil and gas regions, including Colorado, which has a similar regulatory context as California... Our Panel concludes with a high level of certainty that the epidemiologic evidence indicates that close residential proximity to OGD [oil and gas development] is associated with adverse perinatal and respiratory outcomes... [T]he totality of the epidemiological evidence provides

a high level of certainty that exposure to OGD (and associated exposures) cause a significant increased risk of poor birth outcomes...

Noise pollution, odors, and landscape disruption are inherent to OGD. Investigations in other oil and gas states have noted radioactivity on particles downwind from unconventional oil and gas wells and in sediment downstream of water treatment plants that treat waste from conventional as well as unconventional oil and gas operations... The wells, valves, tanks and other equipment used to produce, store, process and transport petroleum products at both unconventional and conventional OGD sites are associated with emissions of toxic air contaminants, hazardous air pollutants and other health-damaging non-methane VOCs. Diesel engines used to power on-site equipment and trucks at unconventional and conventional OGD sites directly emit health-damaging hazardous air pollutants, fine particulate matter (PM_{2.5}), nitrogen oxides and volatile organic compounds (VOCs). Many VOCs and nitrogen oxides are precursors to ground level ozone (O₃) formation, another known health harming pollutant. Hazardous air pollutants that are known to be emitted from OGD sites include benzene, toluene, ethylbenzene, xylenes, hexane and formaldehyde—many of which are known, probable or possible carcinogens and/or teratogens and which have other adverse effects for non-cancer health outcomes...

Existing epidemiologic studies were not designed to test and establish a specific “safe” buffer distance between OGD sites and sensitive receptors, such as homes and schools. Nevertheless, studies consistently demonstrate evidence of harm at distances less than 1 km, and some studies also show evidence of harm linked to OGD activity at distances greater than 1 km... Because air pollutant concentrations and noise levels decrease with increasing distance from a source, adequate setbacks can reduce harm to local populations by reducing exposures to air pollutants and noise directly emitted from the OGD activities. However, setbacks do not reduce harms from OGD contributions to regional air pollutant levels, such as secondary particulate matter and ozone, or greenhouse gases, such as methane, which are nearly always co-mingled with health-damaging air pollutants... (Citations omitted.)

We also bring to your attention the public comment provided by a Cherry Creek School District official at the Commission’s meeting of April 11, 2023. The comment has direct relevance to the recommended setbacks from occupied structures, including schools. The official explained that the Cherry Creek School District declined Civitas’ offer to lease the School District’s mineral rights because of the dangers posed to students and their health, welfare, and learning by the Lowry Ranch fracking project. He further explained that, contrary to the assertions of a commenter at the Commission’s meeting of March 28, 2023, the Cherry Creek School District would see no direct economic benefit from Lowry Ranch or any future O&G development approved by Arapahoe County because of how education and school district funding is managed at the state level.

WILDLAND URBAN INTERFACE

3. Health and Safety Requirements

p. Wildland Areas With Significant Risk of Fire Spread

- i. No Oil and Gas Facility shall be located within any portion of the Wildland Urban Interface (WUI) designated by the OEM as having a significant risk of fire spread without the prior written consent of both the OEM and any Fire Marshall(s) or Fire

- Chief(s) with jurisdiction over the particular portion of the WUI where the Oil and Gas Facility will be located. Consent shall require documentation that satisfies both the OEM and fire authority(ies) with jurisdiction of the time and distance for first responders to arrive at the Oil and Gas Facility; fire prevention and suppression measures to be taken by employees at the Oil and Gas Facility; training programs for employees at the Oil and Gas Facility and first responders to prevent and suppress fire at the Oil and Gas Facility; and fire prevention and suppression equipment available at the Oil and Gas Facility.
- ii. For the purposes of this subparagraph p, Wildland Urban Interface (WUI) is defined as that one (1) mile-wide wildland area that is a transition zone between a wildland area, or undeveloped land not occupied or regularly used, and an urban or suburban area, or developed land with occupied structures or areas zoned for residential, commercial, or agricultural use.

To explain the WUI recommendation, we incorporate the comment provided by letter dated June 5, 2023 from John Granger on behalf of STAR. We also highlight the fire risks that materialized in the 2021 Marshall fire, Colorado’s most destructive wildfire that killed two people, destroyed more than 1,000 homes, and caused \$513 million in direct damages. (Joe Wertz, Colorado Public Radio, “Authorities say power lines, earlier trash fire combined to cause Colorado’s massive Marshall blaze,” June 8, 2023.)

NEIGHBORHOOD MEETINGS

2. Neighborhood meeting

- a. Prior to submitting an application to Arapahoe County, the applicant shall conduct a neighborhood meeting to describe and take neighbors’ input on the proposed Oil and Gas Facility and include the input with the application. The applicant shall send written notification by U.S. Mail of the meeting to the Planning Division and to **all** property owners **of record, all occupied residences if occupants are different from record owners,** and **all** registered homeowners’ associations and metropolitan districts for residential subdivisions where any portion of the owner’s, occupant’s, or subdivision’s property or lot platted subdivision’s boundary is inside or within one mile of the proposed Oil and Gas comprehensive area plan (CAP), or project, boundary or facility pad boundary. Meetings may be conducted in person or utilizing an electronic virtual or remote meeting platform or both. Notice of the meeting must be sent no less than 15 days prior to the scheduled meeting date. The property owners of record shall be those identified in the County Assessor’s property records. The Planning Division will provide the applicant with the names and addresses of the homeowners’ associations and metropolitan districts. The applicant shall determine whether a residence is occupied by someone other than the owner and shall be responsible for notifying such occupants.
- b. At said meeting, the applicant must provide information concerning the development plans for the specific CAP and facility, including the timing and phasing of construction, drilling and completion, the planned access route(s), and mitigations planned to address air, water, noise, light, odor, traffic, and visual impacts. The applicant shall include with its application for the proposed facility a summary of the neighborhood meeting, a copy of the written notification of the meeting, an audio-visual or audio recording of the meeting or transcription of the meeting, any materials presented or provided at the

meeting by the applicant, and the list of attendees, including names and addresses from the sign-in sheet(s), meeting agenda, and any other document.

3. Application Notice Requirements

- a. The applicant shall provide written notification by U.S. Mail to all property owners of record, all occupied residences if occupants are different from record owners, and all registered homeowners' associations and metropolitan districts for residential subdivisions where any portion of the owner's, occupant's, or subdivision's property or lot platted subdivision's boundary is inside or within one mile of the proposed Oil and Gas CAP boundary or pad boundary of the proposed Oil and Gas Facility that an application for an Administrative Use by Special Review for an Oil and Gas Facility, will be is being filed with the County. The Notice of Application shall meet the format prescribed by the County; must include information about the proposed Oil and Gas CAP, or project, and all Oil and Gas Facilities within the project, instructions on how to obtain further information, and information about providing public comment(s) to and attending public meeting(s) held by the County; and shall be mailed at the time of filing the application with the County. The property owners of record shall be those identified in the County Assessor's property records. The Planning Division will provide the applicant with the names and addresses of the homeowners' associations and metropolitan districts. The applicant shall determine whether a residence is occupied by someone other than the owner and shall be responsible for notifying such occupants.

Our recommended additions to the existing Neighborhood Meeting requirement are necessary and appropriate in order to fulfill the requirement's intent. Limiting the notifications to neighbors living within one mile of a specific O&G facility pad in unincorporated Arapahoe County renders the notifications ineffective when the facility is part of a larger O&G CAP, or project, especially if the CAP extends to already developed areas of the County. Our additions would make the Neighborhood Meeting requirement a more substantive and effective requirement for citizen due process through public notice and hearing.

CONTEXT

On a personal note, I provide these comments having considered the proposed amendments in the context of the proposed Lowry Ranch fracking project, which will pose serious dangers to the health, safety, and welfare and the environment of the tens of thousands of Arapahoe County residents who live and work within or near the project's boundaries; whose homes, schools, businesses, and houses of worship rest on the land to be fracked; and whose water, air, and quality of life are threatened by the project. My concerns are for the larger community as well as for my family and myself. I am a retired Air Force judge advocate (military lawyer), county election judge, city commissioner, metro district board member, and volunteer with civic organizations, and I will be directly harmed should the Lowry Ranch fracking project go forward. Civitas plans to build 174 fracking wells, each over 10 stories tall, on at least 10 facility pads in an area of 33,440 acres of unincorporated Arapahoe County. (Civitas, Lowry Ranch CAP, civitascommunityrelations.com/lowry-ranch-cap.) From those wellheads, Civitas will then frack an even larger area that encompasses already developed, densely populated "incorporated" Arapahoe County and the Aurora Reservoir, Lowry Landfill Superfund site, Lowry Range environmental area, and thousands of homes, schools, businesses, and houses of worship, including my home and my mother's senior-living residence and church.

The Lowry Ranch fracking project will generate air pollution that further degrades the air quality already downgraded from “serious” to “severe” by the U.S. Environmental Protection Agency. (Sam Brasch, Colorado Public Radio, “The EPA moves to declare the Front Range a ‘severe’ air quality violator. Here’s why that matters.”, Apr. 12, 2022.) It will threaten the vital water resource of the Aurora Reservoir; use millions of gallons of freshwater; generate millions of gallons of toxic wastewater that cannot be cleaned, reused, recycled, or stored safely on-site or underground; and drive up the cost of water for local residents – all during a period of historic drought. And it will create levels of noise and light pollution that will harm the environment and degrade the quality of life for the thousands of citizens in the affected area. The list of dangers continues: water and air contamination from spills and releases, elevated threat of grassfire, increased mortality risks, measurable dollar costs for public infrastructure and first-responder capacity as well as medical emergencies and healthcare, potential geological instability, and – last but not least – reduced home property values for Arapahoe County residents and thus a reduced tax base for Arapahoe County. At a time when the County is already losing residents and facing fiscal constraints and cannot even take advantage of any future, potential oil and gas (O&G) revenues because of TABOR restrictions (John Aguilar, Denver Post, “For two Colorado counties that haven’t “de-Bruce,” the fiscal alarm is growing louder,” June 12, 2023), the County should be working on how to “de-Bruce” rather than how to facilitate a fracking project that will benefit only a private-equity company and cost the County much more than it will ever gain. (Chris Stiffler and Pegah Jalali, Colorado Fiscal Institute, “Clearing the Air: The Real Costs and Benefits of Oil and Gas for Colorado,” January 2023 (reporting data that demonstrates the costs of the O&G industry outweigh the benefits to Colorado and Coloradoans).)

Moreover, the Lowry Ranch fracking project is especially illustrative of the problems caused by locating O&G facilities in unincorporated Arapahoe County, or the “use by special review” that is the subject of the County’s O&G regulations. That the entire 5-3.6 is specific to facilities in “unincorporated” parts of the County at best ignores, at worst hides the fact that an O&G facility on unincorporated land may well be an O&G project with direct and detrimental impacts on densely populated areas of the County where tens of thousands of residents live, work, play, go to school, attend church, and enjoy every day. In the case of Lowry Ranch, “use by special review” would mean not only 174 fracking wells in unincorporated Arapahoe County but also hundreds of miles of fracking lines under tens of thousands of acres of already developed County land plus a multitude of immediate dangers to the health, safety, welfare, and environment of hundreds of thousands of Arapahoe County residents.

CONCLUSION

The LWVADC concludes our comments on the Phase 1 proposed oil and gas amendments with our thanks for your service as well as for your time, attention, and consideration of our recommendations. We urge you to incorporate them in the Arapahoe County oil and gas regulations, as they will help you do the vital work of protecting our health, safety, welfare, and environment. You may contact me at julierimhuygen@gmail.com or (720) 261-3218 with any notes or questions.

From: [Sonia-Skakich Scrima](#)
To: [Commissioners](#); [Jeff Baker](#); [Diane Kocis](#)
Subject: help! my request to speak via phone not recognized !
Date: Tuesday, July 18, 2023 9:24:07 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

my telephone 303 755 8129, #3 pressed multiple times, but not acknowledged

Please call me to allow me to read out my oral testimony, since your system is not recognizing me! Thank you!

Good evening

I am an Arapahoe County resident, Sonia Skakich Scrima, living at 15011 E Arkansas dr, aurora, a former medical research coordinator who has been tracking oil and gas impacts and risks since 2011.

The primary responsibility of every level of government is to uphold public health and safety. Two CO counties have demonstrated exemplary due diligence in assessing health & safety risks, as well as scientifically proven effective mitigation strategies and their legal acceptability in Colorado (namely Broomfield and Boulder counties). They implemented regulations and programs that monitor and mitigate such harms to the **maximum extent** allowed.

In contrast, current and proposed Arapahoe regulations are NOT substantially protective of health and safety. They are not evidence-based regarding effective health and safety risk mitigation strategies. They fail to incorporate readily available and legally vetted strategies that meaningfully monitor and protect public health and safety risks.

For example, regarding Setbacks

Arapahoe has new well setbacks of 2000 ft from occupied structures but allows them to be waived down **to 500 feet** . It has a setback for new occupied structures to be built **350 feet** from existing wells ,but permits waivers down **to 250 feet**). These distances recklessly risk human health and safety. Here's why.

Firstly, **severe immediate physical safety issues** are posed by high consequence failure events called "incidents" at well sites: explosions, fires, and blowback.

-Well site fires exceed 3,500 F and are known to **cause blister burns at a distance of 350 feet, within 22 seconds.**

Explosions have formed craters of 750 feet diameter.

-Explosions eject oil and gas, cement, toxic fluids, and equipment up to **900 feet or more**

The most comprehensive scientific review concluded that **to avoid immediate fatality and injury in the objectively determined direct blast and burn zones, 1000 feet should be a minimum distance of habitation from well sites. No one is fireproof or explosion proof, therefore no waivers of setbacks or reverse setbacks should be allowed AND no setbacks should be allowed to be under 1000 feet to protect from incidents.**

Regarding short and long term HEALTH impacts:

During fracking operations, highly toxic chemicals are emitted into the air. They increase both immediate and chronic health risks, some debilitating, some ultimately fatal.

Peer reviewed studies find that living within less than 2 miles of active well sites significantly increases risks of respiratory, cardiovascular, and neurologic disorders, cancer, gastrointestinal and reproductive problems, birth defects, low birth weight, childhood leukemia, and premature death of seniors. Short and long term health risks increase the closer one lives to well sites.

THEREFORE, to at least partially mitigate health impacts of toxic emissions, the 2000 ft minimal setback must be upheld (if not extended) and the reverse setback of 350 feet must be extended *to at least 1000 feet* to protect from immediate physical harm of incidents and to 2000 feet to reduce health risks. Setbacks should **never be waived or waivable, since human health impacts are not waivable.**

My additional written comments point out the public health and safety need for additional changes and additions to the Arapahoe regs, including :

the need to require reporting of all, not just some, operator incidents, for transparent history of county incidents and operator performance

the need to improve emergency planning policy,

the need to implement **air quality monitoring** that objectively, independently, continuously, and publicly monitor oil and gas sites for excess toxic emissions that cause serious short and long term health disorders and the use of which enable operators to rapidly control excess emissions and the public to take steps to protect their health from excessive emissions.

And the need for requiring objective geologic assessment of proposed sites and their radial arms that are near water resources or toxic hazard sites, in order to objectively rule out and avoid factors that could increase the likelihood of disturbing unstable geologic factors or creating unintended contamination pathways

In summary, Arapahoe oil and gas regulations and their proposed amendments do not include key evidence based strategies to mitigate harm and must **urgently be amended, **to to remove** county allowances for waiving any requirements that impact public health and safety or environment and to **add** evidence-based measures that substantially mitigate risks to public health and safety.**

Thank you.

MEMORANDUM IN FOLLOW-UP TO PLANNING COMMISSION MEETING OF JULY 18, 2023

To: Jason Reynolds and Diane Kocis

From: John Granger J.D. ret.

Dated: July 19, 2023

Jason and Diane:

I wanted to immediately write to you both after the Planning Commission meeting to apologize for likely sounding ungrateful and somewhat belligerent in my remarks. It was not my intention at all, and my tone was purely the result of frustration at not being able to deliver my thoughts in any kind of cogent manner in just 3 minutes (a task I quickly recognized I was failing at). Thus, this follow-up memo.

Let me first say I am very grateful that many of my concerns about the reservoir setback have been dealt with effectively in the latest draft together with and the definitions that now accompany it. Thanks for listening.

At the same time, however, I believe **that two important sets of issues remain**. Thankfully, the “dry-run” with the Planning Commissioners affords the opportunity to address these issues before going back to the BOCC.

The more important of my issues is the automatically triggered collapse of the setback to 2,000 ft. if the well pad is downgradient. I see several problems:

1. Since the trigger depends upon downgradient status, it will only really applies to existing reservoirs, like the Aurora Reservoir, where the gradients are known. Obviously it can not apply to planned and permitted reservoirs, like what I'll refer to as Rangeview A (the closer one to the Aurora Reservoir) and Rangeview B. The reason for this disparity is that A and B do not have known design elevations and gradients so an industry applicant cannot claim downgradient positioning. It makes no sense that the bigger and more important drinking water reservoir Aurora Reservoir would be less protected than newly planned smaller ones.

a. That discrepancy may even manifest itself in the odd way that pads located between the Aurora Reservoir and reservoir A may need to be relocated closer to the Aurora Reservoir than the 2,000 feet distance to keep them a mile away from reservoir A. Obviously, this would be an unintended and untenable result.

b. Furthermore, the downgradient trigger is unnecessary and ill-defined. Since Aurora Reservoir is an Outside Designated Activity Area, it already has a 2,000 ft. setback. Furthermore, the current definition of downgradient contains no figure for the value of downgradient required: is 1 to 2% enough or is something more like 10 to 20% required?

I suggest that instead of treating downgradient as an automatic trigger, it should be treated as one of the criteria to be used in determining whether a reduction in the setback distance between the stated

setback and the minimum setback based upon substantial equivalency should be applied. This would cure both problems.

The second issue which remains is the distance of the setbacks: the one mile, 2,000 ft., and 500 ft. values.

a. I believe as shown by the inability of either the County or City staff to provide an adequate explanation to the Commissioners who questioned the scientific basis for the one mile distance, that the 1 mile distance is very vulnerable to attack by COGA and Civitas, likely in a lawsuit. The industry position is strengthened by inclusion of the 2,000 ft. figure that suggests that this lower value is also similarly considered protective, arguably making the higher value “unreasonable and unnecessary”.

b. Furthermore, using the 500 ft. figure as a floor is nonsensical and plays into industry hands in arguing a 1 mile setback is not “reasonable or necessary.” If 500 ft. is a meaningful bottom why then were the much larger 1 mile and 2,000 feet setback levels considered necessary for protection of the public in the first place?

c. Finally, there remains the issue of why an applicant can find relief from a reservoir setback with a downgradient situation below even the 2,000 ft. level but is stuck at one-mile where a downgradient can not be shown.

I believe the solution to these issues is to reduce the level of the higher setback but to increase the level of the minimum floor, and leave the automatic adjustment to 2,000 ft. out entirely, allowing that (and other intermediate level) figures to be achieved solely through the “substantially equivalent” process. This would go a long way to showing reasonableness (and preventing the basis for a lawsuit by industry) and yet still achieving protection. As seen in the attached redraft, I propose the setback be brought down to 3,500 feet (2/3rds of a mile) and the floor to 1,700 ft. (about ½ of the setback) with any figures in between (like 2,000 ft.) left for the “substantial equivalency” analysis.

This approach will provide a stronger ground for countering the “unreasonable and unnecessary” arguments of industry. With industry admitting at least 1,000 ft. is needed per COGCC analysis, you can say that the 3,500 ft. figure remains less conservative than the one mile of the City but still: a) recognizes that when a problem occurs on a well pad (such as the need to suppress a fire) sufficient distance is present to protect against noxious runoff reaching a drinking water reservoir [as argued by Rangeview’s CEO]; b) recognizes that upgradient or hydraulic connection situations may sometimes be present; c) recognizes that the 2018 statute requires protection of the “environment” surrounding reservoirs and not just the water within them, and d) recognizes that these larger reservoirs may be subject to pollution from air borne dispersal of noxious chemicals over the very wide surface area of the reservoir over a 20 plus year period of time.

In terms of adequate protection, by providing a broader range of potential setback distances (like 3,500, 3,000, 2,500, 2,000, and 1,750 feet) it allows the County to increase or decrease the distance in their discretion based upon substantial equivalency and appropriate protection level.

I believe may attached revised language deals with each of these issues and urge you to make these modifications before taking the draft regulations back to the BOCC.

Suggested Changes To Current Reservoir Setback Language

John A. Granger J.D. ret. 7/18/23

F.2.d. **Water Reservoir Setbacks:** All Oil and Gas Facilities shall be located at least 3,500 feet from existing or planned and permitted water reservoirs with a capacity of 100 acre/feet or more, unless reduced under the Use By Special Review Process described below. The water reservoir setback shall be measured from the Oil and Gas Facility's pad boundary to the nearest high watermark of the reservoir or as mapped on reservoir plans approved with permitting for a planned and permitted reservoir.

Deleted: one mile (5,280 ft.)

Deleted: the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case the setback shall be 2,000 feet. The water reservoir setback shall be

The water reservoir may be reduced below 3,500 feet if approved through the Use By Special Review process provided in Section 5-3.4. For approval of a lesser setback under this subparagraph, the Operator must establish the following criteria: 1. Whether the Oil and Gas Facility is downgradient of the reservoir; 2. Neither the owner nor operator of the reservoir objects to the lesser setback. 3. Due to topography or other special condition of the property, the lesser setback is necessary to allow for safe construction, installation or operations at the Facility; 4. Alternative Oil and Gas facility design, best management practices, control technologies, and/or proposed conditions of approval proposed for the Facility will be effective to avoid, minimize, or mitigate adverse impacts upon such drinking water sources, and that with such mitigative measures, the lesser setback will provide substantially equivalent protection as the 3,500-foot setback; 5. That granting the lesser setback for the Facility as proposed and designed will not adversely impact public health, safety or welfare or the environment; and 6. No setback from reservoirs shall be reduced below a 1,700-foot setback,

Deleted: 2,000

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Deleted: T

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Deleted: does not

Deleted: 2,000

Deleted: the

Deleted: 5

Deleted: applicable to other perennial surface water bodies

From: [Randy Willard](#)
To: [Diane Kocis](#)
Subject: 7/18 O&G Hearing Follow Up
Date: Friday, July 21, 2023 6:19:41 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I was unable to make the session this week due to having broken my foot last week but I did want to share some thoughts with the planning commission. I was on the dial-in part of the call so I did get some detail.

I want to start by saying what I heard were concerns across the board about health and safety issues for the communities that will be impacted and I must say this speaks volumes to me about the whole thing. If we are leading with concerns about safety and health perhaps we should reconsider what we are doing more generally. Anyway, I will leave that there for your consideration.

With regard to specifics I believe there will need to be a formal, industry paid, organization that is responsible for monitoring the air and water quality in surrounding areas. This should include involvement at the public health level to insure insidious “extras” from the process are not affecting children or the elderly unfairly.

Next, the setback distances of 1 mile MUST be considered a minimum. The impacted communities will still be too close to insure safety from the harmful chemicals used in the process as well as the waste product. Community health MUST be the priority NOT profits for the O&G industry.

Referring to the above there should be NO allowance to reduce these setbacks. NONE. 1 mile is a minimum safe distance.

All - ALL - costs associated with the creation, usage and depreciation of the wells MUST BE BORN by the company. These costs are not normal costs for a community AND the community will receive no benefit from the activity.

A strategy for managing wildfire risks must be put in place. Wild lands adjacent to community areas tend to be grass filled and dry in Colorado which means that wildfires are a real risk and the activities will only increase this risk. Again, the costs associated here should be born by the O&G companies NOT the communities.

Efforts must be undertaken to STOP any spills that will occur during regular activity. The means to do this can be determined by the company but MUST be effective in preventing contamination of local water and soil.

The O&G companies OWE it to the communities to communicate what is happening, when and where. This means that companies must meet commitments for neighborhood meetings. No exemptions.

Finally, the side business of crypto mining is another way the industry makes money on the

community without any payback. Also, this practice creates more local pollution by burning the excess methane. This is just another incentive to make the whole process dirty and must not be allowed.

I appreciate you taking the time to accept public comments. I assure you I will be in attendance, in person, next time there is a session.

-randy

From: [Ed Ingve](#)
To: [Diane Kocis](#)
Cc: ["JB Condill"](#)
Subject: RE: questions posed by the Planning Commissioners last Tuesday
Date: Tuesday, July 25, 2023 8:45:09 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Diane,

The equipment is air cooled exactly like an automobile engine is cooled. The fans on the engines run whenever the engines are running. No water is used for cooling. A radiator antifreeze/coolant is circulated for engine cooling just like a car.

The emissions from the engines are released to the air after being burned and passing through a catalytic converter just like a car. The emissions are permitted with the CDPHE and must meet rigorous standards very similar or even higher than a new SUV engine. There is no combustibles left in the emissions after the gas is burned in the engine. Only a very small amount of VOCs measured in PPM remain which is comparable to any modern engine placed in service today.

Any combustion equipment used on site would be affiliated with normal production activity such as tank vapors or upset conditions like any other oil production site. Controls are used on the wells so that only gas that can be burned in the CCM operations is produced. Additional productive gas capacity of the well is regulated at the well's casing and held in the wellbore. If the equipment is down no gas is produced. All this is governed by COGCC and CDPHE regulations.

I will be providing additional information on the reservoir air and water emission concerns brought up which I believe will be very useful in a separate email.

Thanks, Ed

From: Diane Kocis [mailto:DKocis@arapahoegov.com]
Sent: Monday, July 24, 2023 12:22 PM
To: Ed@renegadeoilandgas.com
Subject: questions posed by the Planning Commissioners last Tuesday

Hi Ed,

I'm preparing answers for the Planning Commissioners on the questions they asked Tuesday evening

Can you tell me how the CCM/Data Centers equipment is cooled? (Water or air used to cool?). Is

cooling only required when outdoor temperatures exceed a certain temperature?

Also, I think I know the answer to this one: Are the CCM/Data Center emissions routed to a combustor? Or just a flare? Is the flare only used for upset conditions at the well or is the flare used when the CCM equipment is down? Both?

Thanks for your help,

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist

Arapahoe County Planning Division

dkocis@arapahoegov.com

From: [Dan Harrington](#)
To: [Diane Kocis](#)
Cc: [Rich Coolidge](#)
Subject: Potential clarifying language changes
Date: Tuesday, July 25, 2023 4:49:22 PM
Attachments: [image001.png](#)

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Diane,

In our review of the latest version of the Arapahoe County draft O&G rules, we note a couple of definitions that could potentially be misinterpreted (relative to what we believe the County's intent to be). We respectfully submit a couple of wording changes for your consideration.

Access Roads:

"If an Oil and Gas Facility site incident could prevent emergency access on public or private roads, the Operator shall construct an alternative access road meeting these standards."

It's our understanding that the intent of this rule is to assure continued emergency access to the public specifically (i.e., Conoco's Swan situation). Please consider the following:

If an Oil and Gas Facility site incident could prevent emergency access **to residences or public buildings** on public or private roads, the Operator shall construct an alternative access road meeting these standards.

"Downgradient" definition:

"At lower elevation from that of the reservoir measured at its average water level elevation or that there is intervening natural terrain or topography that prohibits the surface mitigation of liquids to the reservoir and there is no evidence of other hydrological connection from the proposed location to the reservoir."

We appreciate that this language reflects the reality of topographic barriers being an important factor in evaluating proposed pads, regardless of a "straightline" gradient calculation. However, we're concerned that the language as written confuses surface hydrology and groundwater hydrology. Groundwater hydrology/protections are addressed by the State's strict casing and cementing rules and, as a subsurface matter, are better governed by those rules. We might propose:

"At lower elevation **to** that of the reservoir measured at its average water level elevation, or **isolated by** intervening natural terrain or topography that **would prevent continuously downgradient** surface mitigation of liquids to the reservoir ~~and there is no evidence of other hydrological connection from the proposed location to the reservoir.~~"

Thank you,

Dan Harrington

Asset Development Lead

Direct 303-312-8129 | Cell 303-319-6454

555 17th St. | Suite 3600 | Denver, CO | 80202

www.civitasresources.com | NYSE: CIVI



From: [Brown, Marshall](#)
To: [Diane Kocis](#)
Cc: [Moore, Jeffrey](#)
Subject: RE: Re Aurora Water Comments
Date: Wednesday, August 2, 2023 1:42:06 PM

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Diane,

We did go through a fairly detailed geotechnical evaluation to consider spacing, but it ended up not justifying the distances we felt were needed based on hydrologic and hydrogeologic considerations.

We did not commission a hydrologic or hydrogeologic analysis. We instead consulted with “experts” who had significant experience with groundwater modeling/evaluations and surface hydrology to establish a conservative distance for oil and gas activities (within which we included injection wells) to be spaced from our critical water facilities. We took the approach that a 1-mile set-back was conservatively protective accounting for most reasonably possible situations, but established an “exception” process whereby we could leave the responsibility with the “applicant” to demonstrate justification for lesser setbacks based on site specific information.

Hope this helps.

Marshall

From: Diane Kocis <DKocis@arapahoegov.com>
Sent: Friday, July 28, 2023 10:44 AM
To: Brown, Marshall <mbrown@auroragov.org>
Cc: Moore, Jeffrey <jsmoore@auroragov.org>
Subject: Re Aurora Water Comments

Hello Marshall,

At our Planning Commission hearing you mentioned a geotechnical or hydrological analysis that supports the reservoir setback. Would you be able to share that? Jason said it would help us.

We appreciate your patience with us.

Thank you,

I am working a hybrid schedule with in-office days and remote work days. Email is the best way to reach me but you can also reach me on my County cell phone at 720-425-0422.

Diane Kocis

Energy Specialist

Arapahoe County Planning Division

dkocis@arapahoegov.com

From: [Mark Cutright](#)
To: [Diane Kocis](#)
Subject: Proposed oil and gas rulemaking
Date: Friday, August 4, 2023 2:30:25 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Diane – we met two weeks ago at the public meeting on oil and gas rulemaking. I was mainly concerned about the overreach on the setbacks from reservoirs. I could not find your presentation but I recall you saying there is one current and two planned reservoirs. The Lowry Range Sub- Area Plan on your website shows a total of 5 reservoirs. If these setback plans are enacted, the county is taking about 20 sq miles off the table for future oil and gas development. There could be some of the 20 sq miles accessed outside of the 1 mile set back limit. I again urge the planning commission to reject the water supply setback language as enacted by Aurora and use the COGCC state guidelines.

Thank you
Mark Cutright
303.618.9035

From: [Enjoli Wilson \(enjoliwilson.ew@gmail.com\) Sent You a Personal Message](mailto:enjoliwilson.ew@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, August 7, 2023 4:45:05 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Life matters and the people who choose to make an impact on the decision-making about issues regarding matters about strengthening Arapahoe County Oil and Gas Regulations impact me you and all to come. What we choose to make matter will matter!!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them:

1. Add a provision that will not allow oil and gas permits to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers to reduce setback distances- irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions that will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Enjoli Wilson
8716 w 54th place
Arvada, CO 80002

enjoliwilson.ew@gmail.com
(720) 241-4408

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Robin Taylor \(owls8162@gmail.com\) Sent You a Personal Message](mailto:owls8162@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, July 25, 2023 12:08:14 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I ask them doesn't your families health and future matter?!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them:

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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions that will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Robin Taylor
9150 E Center Ave, #1D
Denver, CO 80247
owls8162@gmail.com
(720) 767-5113

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

Thornton, CO 80233
tpauzen@aol.com
(720) 480-3134

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Avery Dell \(averydell217@yahoo.com\) Sent You a Personal Message](mailto:averydell217@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, July 19, 2023 8:28:19 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Regulate fossil fuels!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them:

1. Add a provision that will not allow oil and gas permits to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions that will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Avery Dell
1802 Cherry St
Denver, CO 80220
averydell217@yahoo.com
(720) 428-9400

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Louise Brown \(brownflb@icloud.com\) Sent You a Personal Message](mailto:brownflb@icloud.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, August 6, 2023 7:20:08 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them:

1. Add a provision that will not allow oil and gas permits to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
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Please consider these revisions that will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Louise Brown
8195 Garland Dr
Arvada, CO 80005
brownflb@icloud.com
(303) 727-0099

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club.

If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Adrienne S. \(drnmazzara@yahoo.com\) Sent You a Personal Message](mailto:drnmazzara@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 19, 2023 5:17:17 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Adrienne S.
100 Westwood Way
Erie, CO 80516
drnmazzara@yahoo.com
(303) 956-4823

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [alan apt \(alanapt@me.com\) Sent You a Personal Message](mailto:alanapt@me.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 4:19:59 PM

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Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

alan apt
317 5th
alan, CO 80466
alanapt@me.com
(303) 444-9523

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Alfred Saunders \(al50005@sbcglobal.net\) Sent You a Personal Message](mailto:al50005@sbcglobal.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 6:05:12 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I don't appreciate forced pooling and I think it isn't smart to frack immediately under the drinking water source for 450,000. One incident or accident could force emergency responses and major long term consequences for both Aurora and Arapahoe County.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Alfred Saunders
6506 S Oak Hill Cir, Aurora CO 80016

Aurora, CO 80016
al50005@sbcglobal.net
(314) 330-1861

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Allison Huston \(akhuston303@gmail.com\) Sent You a Personal Message](mailto:akhuston303@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 8:18:08 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We want to keep Aurora reservoir as it is.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Allison Huston
25005 E Park Crescent Dr
Aurora, CO 80016
akhuston303@gmail.com

(303) 929-3854

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Allison Toth \(allitoth@gmail.com\) Sent You a Personal Message](mailto:allitoth@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 11:23:46 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Allison Toth
912 6th Ave
Longmont, CO 80501
allitoth@gmail.com
(480) 238-0801

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Amanda Herbst \(mandyherbst1@gmail.com\) Sent You a Personal Message](mailto:mandyherbst1@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 11:32:18 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Amanda Herbst
27726 E frost Place
Aurora, CO 80016
mandyherbst1@gmail.com
(303) 815-3705

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Amber Renteria \(19amberm81@gmail.com\)](mailto:19amberm81@gmail.com) [Sent You a Personal Message](#)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 8:04:02 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Amber Renteria
26403 E Caley Dr
Aurora, CO 80016
19amberm81@gmail.com
(720) 810-2751

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Amy Handley \(amythompson21@gmail.com\)](mailto:amythompson21@gmail.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 6:11:46 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Amy Handley
27042 E Davies Ave
Aurora, CO 80016
amythompson21@gmail.com
(860) 881-0196

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Andrew Goldsmith \(ajgoldsmith@yahoo.com\) Sent You a Personal Message](mailto:ajgoldsmith@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 9:06:56 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Protect drinking water and residential property values.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Andrew Goldsmith
27486 E. Jamison Cir
Aurora, CO 80016
ajgoldsmith@yahoo.com

(720) 999-1111

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Angela Kantola \(granitesquirrel@gmail.com\) Sent You a Personal Message](mailto:granitesquirrel@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:18:41 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We can (and must) accelerate regulations to reduce greenhouse gas emissions.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Angela Kantola
8819 S Murphy Gulch Rd.
Littleton, CO 80127
granitesquirrel@gmail.com

(303) 697-5059

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Angie Gridley \(angiegridley@gmail.com\) Sent You a Personal Message](mailto:angiegridley@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 4:43:20 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Angie Gridley
858 S Greenway Ave
Pueblo West, CO 81007
angiegridley@gmail.com
(719) 671-2906

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Barbara League \(leagues4@comcast.net\) Sent You a Personal Message](mailto:leagues4@comcast.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, September 11, 2023 7:46:45 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Very concerned about continued fracking and oil extraction right in our backyards. Immediate threat to our water; threat of wildfire if accident; and negative impact to air quality regardless of promises by oil and gas companies.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Barbara League
27830 E Lakeview Drive
Aurora, CO 80016

leagues4@comcast.net
(303) 304-1223

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Barbara McDonnell \(mcdonnell_b@comcast.net\) Sent You a Personal Message](#)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 9:50:35 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Barbara McDonnell
7421 S Catawba Way
Aurora, CO 80016
mcdonnell_b@comcast.net
(303) 691-2065

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Beth Stahlberg \(bethstahlberg@yahoo.com\) Sent You a Personal Message](mailto:bethstahlberg@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 2:52:48 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We moved into the Southshore neighborhood because of the access to the reservoir and wildlife in the state land trust lands that are now the subject for drilling. Please help keep our grasslands as wild as they have been for the last 100 years and provide us with strong regulations to protect our vital resource, the reservoir.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Beth Stahlberg
27501 E Lakeview Drive

Aurora, CO 80016
bethstahlberg@yahoo.com
(303) 956-8455

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Bettina John \(bettina.john@gmail.com\) Sent You a Personal Message](mailto:bettina.john@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 15, 2023 7:35:52 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Please listen to the voice of the community members who made their wishes very clear at the meeting for public comment. The health of our families is at stake. There are a number of peer reviewed studies on the health impact of fracking in neighborhood communities that have clearly shown the rise in cancers (including pediatric) and many other serious ailments.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Bettina John

8211 S Langdale Way, , Aurora
Aurora, CO 80016
bettina.john@gmail.com
(408) 693-7217

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Bonnie Kissling \(bonniejk.52@centurylink.net\) Sent You a Personal Message](mailto:bonniejk.52@centurylink.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 6:45:50 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Bonnie Kissling
2616 S Knox Ct
Denver, CO 80219
bonniejk.52@centurylink.net
(303) 937-6393

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Caitlin Rockholm \(taurus5729@aol.com\)](mailto:taurus5729@aol.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 21, 2023 4:42:17 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Caitlin Rockholm
26714 E Phillips Pl
Aurora, CO 80016
taurus5729@aol.com
(404) 964-1728

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Carlos Acosta \(carloncho0870@yahoo.com\) Sent You a Personal Message](mailto:carloncho0870@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 6:29:45 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Carlos Acosta
2205 Cordillera Way
Edwards, CO 81632
carloncho0870@yahoo.com
(303) 668-4538

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Carly Blair \(carlyblair1@gmail.com\) Sent You a Personal Message](mailto:CarlyBlair1@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 10:34:33 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Protect our people, not corporation pockets

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Carly Blair
7274 S KELLERMAN WAY
Aurora, CO 80016
carlyblair1@gmail.com

(720) 939-7829

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Carol Peterson \(cpeterson1211@msn.com\) Sent You a Personal Message](mailto:cpeterson1211@msn.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 7:02:30 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I urge you to act now as oil and gas development is contributing to climate change and we are at the tipping point that demands action . We are losing our trees to drought and infestation, our waters to toxic algae blooms, our wildlife to oil and gas expansion and development. We need more and stronger protections.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Carol Peterson
6733 S Locust CT

Centennial, CO 80112
cpeterson1211@msn.com
(303) 773-2749

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Catherine Alsafi \(cathy.alsafi@gmail.com\) Sent You a Personal Message](mailto:cathy.alsafi@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 7:49:34 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Catherine Alsafi
6356 S Ironton Ct
Englewood, CO 80111
cathy.alsafi@gmail.com
(303) 333-3343

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Charles Morales \(charlesmorales@hotmail.com\) Sent You a Personal Message](mailto:charlesmorales@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 5:04:33 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I'm concerned for the children's health.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Charles Morales
23950 E Easter Pl
Aurora, CO 80016
charlesmorales@hotmail.com

(303) 517-1422

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Chris Moore \(photogcam@comcast.net\) Sent You a Personal Message](mailto:photogcam@comcast.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 7:44:40 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Chris Moore
2126 S Josephine St
Denver, CO 80210
photogcam@comcast.net
(303) 744-2813

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Chris Rutan \(chris.rutan@comcast.net\) Sent You a Personal Message](mailto:chris.rutan@comcast.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 7:37:02 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Chris Rutan
4848 E Kentucky Ave Unit E
Glendale, CO 80246
chris.rutan@comcast.net
(303) 941-7459

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Cydney Siri \(twostep@earthlink.net\) Sent You a Personal Message](mailto:twostep@earthlink.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 5:12:39 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Cydney Siri
84100 E US Highway 50
Cimarron, CO 81220
twostep@earthlink.net
(970) 249-8330

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Cynthia Herod \(herod77@gmail.com\) Sent You a Personal Message](mailto:herod77@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 1:46:34 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Please consider the health and wellness of our children in this vote. In addition, Colorado is too beautiful a state to allow any kind of environmental impact as this may present.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Cynthia Herod
7060, S Riverwood Way
Aurora, CO 80016

herod77@gmail.com

(785) 766-2435

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Dan Persiani \(persianid@msn.com\) Sent You a Personal Message](mailto:persianid@msn.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 1:37:38 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Please protect the areas closest to aurora reservoir

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Dan Persiani
26771 E Clifton Dr
Aurora, CO 80016
persianid@msn.com

(303) 810-2460

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Dana Mortaro \(dana.mortaro@icloud.com\) Sent You a Personal Message](mailto:dana.mortaro@icloud.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 11:14:23 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Dana Mortaro
27725 E Davies Drive
Aurora, CO 80016
dana.mortaro@icloud.com
(719) 339-8395

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Daniel Capobianco \(wedge003@yahoo.com\) Sent You a Personal Message](mailto:wedge003@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 2:15:52 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

These regulations will impact tens of thousands of Arapahoe county residents for generations to come. I implore you to consider adding the changes proposed in this message. Thank you!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Daniel Capobianco
6807 South Riverwood Way
Aurora, CO 80016

wedge003@yahoo.com
(720) 877-1881

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Danielle Broadstock \(danirae89@live.com\) Sent You a Personal Message](mailto:danirae89@live.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 12:25:22 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,
Danielle Broadstock

Sincerely,

Danielle Broadstock
26926 E Davies Pl
Aurora, CO 80016
danirae89@live.com
(314) 602-5110

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [darlene wolff \(darlene58@aol.com\) Sent You a Personal Message](mailto:darlene.wolff@darlene58@aol.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 3:43:00 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

WE do not want fracking under our homes, in our backyard. CHILDREN matter... not disgusting money grabs.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

darlene wolff
8258 S Yantley Ct
aurora, CO 80016
darlene58@aol.com

(303) 690-9871

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [David Kapell \(david.kapell@windstream.net\) Sent You a Personal Message](mailto:david.kapell@windstream.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 10:06:53 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

David Kapell
5356 S Saulsbury Way
Littleton, CO 80123
david.kapell@windstream.net
(315) 727-0440

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Debra Rubin \(spindiva@aol.com\) Sent You a Personal Message](mailto:spindiva@aol.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 5:10:49 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Debra Rubin
7212 South Valleyhead Court
Aurora, CO 80016
spindiva@aol.com
(516) 640-6213

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Debra Smilley \(hockeyfan2ds@gmail.com\) Sent You a Personal Message](mailto:hockeyfan2ds@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 12:06:49 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Debra Smilley
6361 S Patsburg Ct
Aurora, CO 80016
hockeyfan2ds@gmail.com
(303) 913-6902

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Devin Detwiler \(ddnwfm@yahoo.com\) Sent You a Personal Message](mailto:ddnwfm@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 10:55:14 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Devin Detwiler
378 Blackhawk Ln
Lafayette, CO 80026
ddnwfm@yahoo.com
(303) 666-8076

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Diane Erickson \(kderickson@q.com\) Sent You a Personal Message](mailto:kderickson@q.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 11:20:18 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Diane Erickson
25549 East Dry Creek Drive, Apt, suite, floor, etc.
Aurora, CO 80016
kderickson@q.com
(303) 400-1220

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Dudley Varner \(dudleyp39@gmail.com\) Sent You a Personal Message](mailto:dudleyp39@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 5:28:05 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Dudley Varner
23882 E Alabama Dr
Aurora, CO 80018
dudleyp39@gmail.com
(720) 277-6440

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Dylan Mori \(dydxlan@gmail.com\) Sent You a Personal Message](mailto:dydxlan@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 3:01:41 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We are at the forefront of proposed new wells from the oil and gas industry. The health implications if those wells get approved will be dire for those of us living in Arapahoe County. We need our County Commissioners to enforce strict regulations on oil and gas for us to thrive.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Dylan Mori
352 S Wheeling Way

80012, CO 80012
dydxlan@gmail.com
(815) 484-3280

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Edward Laurson \(eddie47d@gmail.com\) Sent You a Personal Message](mailto:eddie47d@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 6:28:57 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Edward Laurson
5901 W Lehigh Ave #13
Denver, CO 80235
eddie47d@gmail.com
(303) 300-0000

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Elisa Townshend \(esjq@msn.com\)](mailto:esjq@msn.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 6:11:13 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Elisa Townshend
1385 Elizabeth St
Denver, CO 80206
esjq@msn.com
(303) 725-9896

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Elizabeth Pheteplace \(eapheteplace@gmail.com\) Sent You a Personal Message](mailto:eapheteplace@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 9:26:26 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Elizabeth Pheteplace
6943 S Shady Grove Ct
Aurora, CO 80016
eapheteplace@gmail.com
(303) 325-4900

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Evelyn Hutt \(lilith@indra.com\) Sent You a Personal Message](mailto:lilith@indra.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 10:57:10 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Evelyn Hutt
825 Jasmine St
Denver, CO 80220
lilith@indra.com
(303) 322-2726

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Faith Agarwal \(faith.agarwal@gmail.com\) Sent You a Personal Message](mailto:faith.agarwal@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 19, 2023 4:57:22 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Stop using mineral rights as an entitlement to not holding oil and gas companies accountable for the health and safety of the surrounding communities. The destruction caused by their actions: increased cancer rates of the population, fires, pollution of the air and water, etc. I've heard your reasoning for moving ahead with all proposed actions and it is quite political and has no reasoning in logic or have your constituents health and safety in mind. My family moved here nieve of your actions and oils and gas. Little did we know this area is an oil and gas farm, or we would have stayed far away. Please return the proper regulations to allow Coloradans the health and safety we deserve and are actually entitled to: clean air and water.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Faith Agarwal
7102 S Undergrove Way
Aurora, CO 80016
faith.agarwal@gmail.com
(720) 618-7355

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Frank Kvietok \(fkvietok@comcast.net\) Sent You a Personal Message](mailto:fkvietok@comcast.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 7:42:56 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

This is an incredibly important issue impacting human health, environment, and property values.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Frank Kvietok
24965 E. Roxbury Pl.
Aurora, CO 80016
fkvietok@comcast.net

(303) 907-7035

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Genevieve Deits \(genevivedeits@gmail.com\) Sent You a Personal Message](mailto:GenevieveDeits@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 5:26:50 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Protect my children and students

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Genevieve Deits
7022 S Undergrove Way
Aurora, CO 80016
genevivedeits@gmail.com

(720) 628-0306

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Greg Miller \(gmliller.umcp@gmail.com\) Sent You a Personal Message](mailto:gmliller.umcp@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 7:52:28 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We need to see improved regulations that protect our community from the negative impacts of local oil and gas production.

? Visual mitigation requirements only allow for required visual mitigation for those ?Well pads within 1,320 feet of a property line with an occupied structure?because our current stance is 2,000 feet, this regulation doesn?t hold the operator responsible for hiding the well pads.

? A huge omission in draft regulations is protecting and measuring air quality as a result of the proposed oil and gas operations. That is missing entirely and needs to be added.

? Section 10 defines the maximum permissible noise level as comparable to a conversation, at 60-65 decibels, and then section 10C proceeds to allow loopholes around it for waivers. This needs to be tightened significantly to prevent hearing loss through prolonged exposure.

As our elected commissioners, you hold the power to recommend changes to the regulations in our County. Please do so.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County?s oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Greg Miller
26827 E Davies Place
Aurora, CO 80016
gmiller.umcp@gmail.com
(410) 979-9032

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Greta Valdez \(gretalvaldez@gmail.com\) Sent You a Personal Message](mailto:gretalvaldez@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 12:01:59 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

The health impacts of fracking, although repeatedly identified and medically proven, continue to be revealed and plague communities. Current monitoring and legal policies don't prevent the negative impacts or enforce management of the chemicals and ensure protections to the population. The value of our health and environment outweighs the paltry compensation for income which is insignificant compared to the cost to clean up our environment and mend failing health effects. Our local government needs to help drive controls to abate continued negative air, water, and overall health impacts to our community.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Greta Valdez
6361 S Patsburg Ct
Aurora, CO 80016
gretalvaldez@gmail.com
(303) 908-2616

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Gwen Gravagno \(gwengravagno@gmail.com\) Sent You a Personal Message](mailto:Gwen.Gravagno@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 11:46:26 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Strengthen these protections for our community and let's lead the way to healthier neighborhoods in Colorado!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Gwen Gravagno
4095 S Pennsylvania St
Englewood, CO 80113
gwengravagno@gmail.com

(303) 733-4723

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Hannele Miettinen \(hannelem46@icloud.com\) Sent You a Personal Message](mailto:hannelem46@icloud.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 3:16:29 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I urge you to make the additional changes listed below into the proposed oil and gas regulations in Arapahoe County. This will ensure the environment to continue to provide safe living conditions for the entire Blackstone community.

Respectfully
Hannele Miettinen
Blackstone home owner

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Hannele Miettinen
7890 S. Blackstone Pkwy
Aurora, CO 80016
hannelem46@icloud.com
(346) 600-1886

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Heather Vasquez \(heathergordon2282@gmail.com\) Sent You a Personal Message](mailto:heathergordon2282@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:22:17 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Heather Vasquez
2942 Central Park Boulevard
Denver, CO 80238
heathergordon2282@gmail.com
(818) 723-7650

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jack Dais \(daisjack@yahoo.com\) Sent You a Personal Message](mailto:daisjack@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 4:51:27 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jack Dais
10663 E Dorado Ave
Englewood, CO 80111
daisjack@yahoo.com
(303) 618-1354

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [James Campbell \(mcampbell641@gmail.com\)](mailto:mcampbell641@gmail.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 6:12:07 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

James Campbell
400 LeRanch Blvd
Ridgway, CO 81432
mcampbell641@gmail.com
(970) 846-8517

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [James Guajardo \(jamesguajardo@yahoo.com\) Sent You a Personal Message](mailto:jamesguajardo@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 6:19:25 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

This issue matters to me because I'm a lifetime resident of Aurora and now that I am raising a family here, it's more important than ever to protect our community and the citizens and wildlife in our area. This is a beautiful area where I live and the Oil and Gas regulations need to be strong without loopholes so we can ensure safety for everyone in communities.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

James Guajardo

5935 S Kellerman ct, Aurora CO 80016
Aurora, CO 80016
jamesguajardo@yahoo.com
(720) 200-2000

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jami Gazerro \(jamigazerro@gmail.com\) Sent You a Personal Message](mailto:jamigazerro@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 7:38:12 AM

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Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jami Gazerro
1149 Scarlet Oak Dr
Colorado Springs, CO 80906
jamigazerro@gmail.com
(303) 472-1129

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jasmine Reynolds \(jas_rey_maine@yahoo.com\) Sent You a Personal Message](mailto:jas_rey_maine@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 7:16:52 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I grew up in poverty. My family and I never really had a second thought to what industry was around us, but I'm a parent now and am trying to break generational curses so we moved to what I thought was a much nicer neighborhood to raise my family. If there aren't stronger regulations to maintain public health and safety on this potential fracking project, I moved to this area for no reason. I'll be exposing my very small children to harmful pollutants and risking their long term health and quality of life. How disappointing to go from poverty to feeling like you've moved up in life to know that it was all for naught because there will be fracking basically in my backyard with loose oil and gas regulations that aren't protecting the area we live in and my families health.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jasmine Reynolds
7132 S Undergrove Way Frnt Door
Aurora, CO 80016
jas_rey_maine@yahoo.com
(720) 810-3083

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jay Treat \(jtreat@gmail.com\) Sent You a Personal Message](mailto:jtreat@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 9:10:36 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jay Treat
7121 Canosa Ct
Westminster, CO 80030
jtreat@gmail.com
(555) 555-5555

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jeannie Forrester \(myforesons@gmail.com\) Sent You a Personal Message](mailto:myforesons@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 10:12:37 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jeannie Forrester
23975 E Kettle Pl
Aurora, CO 80016
myforesons@gmail.com
(706) 288-5635

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jeffery Moser \(jeff.moser.du@gmail.com\)](mailto:jeff.moser.du@gmail.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:58:19 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff:

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with requirements that protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations could be made more thorough and achieve the protections that all of us desire for safe and healthy communities. Thus, I want to encourage the County to make the following changes that would strengthen the proposed Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one-half mile, without variances allowed, from both occupied structures and residential areas/zones and at least one mile from schools. These are relatively similar setback distances being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions would simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances -- irrespective of the safety and health impacts to the general public.
4. Develop fire mitigation regulations to prevent fires in wildlands adjacent to residential and suburban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose the greatest risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plans. Companies must engage with and solicit input from residents most impacted by future oil and gas development.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy-intensive, and it produces large amounts of electronic waste, which presents environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim if not ephemeral, as all work is virtual.

Please consider these above revisions; they would create greater protections for our health, safety, and abiding nature.

Sincerely,

Sincerely,

Jeffery Moser
14271 E Dickinson Dr, Unit B
Aurora, CO 80014
jeff.moser.du@gmail.com

(720) 354-6605

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jennifer Uribe \(dobeandchihs4@gmail.com\) Sent You a Personal Message](mailto:dobeandchihs4@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 7:48:42 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jennifer Uribe
27601 E Lakeview dr
Aurora, CO 80016
dobeandchihs4@gmail.com
(623) 262-3427

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jessica Raleigh \(tyrnad@gmail.com\) Sent You a Personal Message](mailto:tyrnad@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 10:49:16 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I only JUST found out we had our very own beach in Aurora!! I can't believe I am 15 mins from such an amazing place. Please do not allow profit to be more important to you than the people who use and can continue to enjoy this beautiful and rare space.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jessica Raleigh
18957 E Mercer Dr

Aurora, CO 80013
tyrnad@gmail.com
(720) 934-8372

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jill Biedka \(jillbiedka@hotmail.com\) Sent You a Personal Message](mailto:jillbiedka@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 7:38:14 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jill Biedka
10 Snowmass Circle
Dillon, CO 80435
jillbiedka@hotmail.com
(970) 468-1568

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jillian Orr \(jillian.orr@outlook.com\) Sent You a Personal Message](mailto:jillian.orr@outlook.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 8:18:32 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jillian Orr
7180 S Vandriver Way
Aurora, CO 80016
jillian.orr@outlook.com
(970) 331-5905

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Joan Rowland \(jkrow3@gmail.com\) Sent You a Personal Message](mailto:jkrow3@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 9:23:08 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

As a resident of Arapahoe County, I would like to see strong regulations to protect the public.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Joan Rowland
7871 Vallagio Ln
Englewood, CO 80112
jkrow3@gmail.com

(773) 220-5841

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

SUGGESTED CHANGES TO CURRENT COUNTY VERSION

BY J. GRANGER, J.D. RET. 7/21/2023

2. Setbacks

a. All Oil and Gas Facilities shall be located at least:

i. ~~2,000~~3,500 feet from any occupied structure as measured from the pad boundary.

ii. ~~2,000~~3,500 feet from the nearest boundary of a platted lot smaller than 15 acres in area as measured from the pad boundary.

***Rationale:** There is no proper basis for distinguishing a chosen distance for protection of neighborhood residents from protection of their drinking water. Both values should be the same. See rationale for 3,500 ft. reservoir setback discussed below.*

iii. ~~200~~500 feet from any adjacent property's boundary line as measured from the pad boundary.

***Rationale:** An owner should be able to use his or her property fully, without interference from an Oil and Gas Facility, even if it is open land.*

iv. 100 feet from public rights-of-ways as measured from the pad boundary.

v. 2,000 feet from a Designated Outside Activity Area as measured from the pad boundary.

vi. 2,640 feet from the nearest property line of an operating or closed landfill as measured from the pad boundary.

vii. Outside of a 100-year floodplain or at least 500 feet from the edge of any perennial surface water body, the ordinary highwater

mark of any perennial or intermittent stream or the edge of any riparian area, whichever is the greater distance, as measured from the pad boundary, unless CPW has waived or modified the setback from the stream, surface water, or the riparian area following in accordance with COGCC Rules 309 and 1202.

vii. All access roads shall be at least 250 feet from a residential or non-residential property line, excluding light or heavy industrially zoned properties.

b. The ~~2,000~~3,500 feet setbacks from occupied structures or platted lots referenced in subparagraphs 5-3.6.F.2.a.i and ii above may also be reduced to a lesser setback:

~~i. If the owner(s) of the occupied structure(s) or all owners of the affected platted lots agree in writing to a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility; however, even with owner consent, in no case may the setback be reduced below 500 feet; or~~

Rationale: This represents an impermissible delegation to persons who are not public entities, and who are not charged with protection of “public health, safety, and welfare, and the environment.” This language was removed by staff from their proposed changes to reservoir setbacks and should also be removed here.

ii. If, as shown on the Oil and Gas Facility Operations Plan submitted with the application, any and all wells, tanks, separation equipment, compressors and any stored hazardous or explosive materials on the Oil and Gas Facility pad will be located or stored more than ~~2,000~~3,500 feet from the nearest occupied structure or all affected platted lots; or

iii. If an Oil and Gas Facility application that includes a lesser setback is submitted, it must be approved by the Board of County Commissioners through the Use by Special Review process provided in Section 5-3.4 of the Land Development Code. For approval of any lesser setback under this subparagraph, the

Operator must establish that the lesser setback as proposed will provide substantially equivalent protection to a ~~2,000~~3,500 foot setback and that granting the lesser setback will not adversely impact public health, safety, or welfare or the environment. In reviewing the proposed lesser setback, the Board of County Commissioners shall consider the extent to which the operator provides an alternative Oil and Gas Facility design, best management practices, control technologies, or proposes conditions of approval that will be effective to avoid, minimize, or mitigate adverse impacts on the affected properties, considering:

(a) geology, technology, and natural features, hazards or topography;

(b). the location and use of occupied structures and proximity to those structures; and the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location; and

(c) the anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location.

iv. However, in no case may the ~~2000~~3,500 feet setback from occupied structures or platted lots be reduced below ~~500~~1,700 feet.

Rationale: Both the chosen setback value and the minimum value it might be reduced to under the Use By Special Review process must be meaningful and supportable values. Reduction to less than ½ of the setback value is an acceptable lower floor that both allows for a justifiable “equivalent protection” reduction and yet remains sufficiently protective of public health and safety.

c. Reverse Setbacks: No new occupied structure shall be constructed less than:

- i. ~~250-1,000~~ feet from an existing Oil and Gas well of any status (permitted but not drilled yet, drilling, completing, producing, active gas storage, injecting, shut-in, temporarily abandoned, dry and abandoned, or plugged and abandoned prior to 2014).
- ii. ~~150300~~ feet from a plugged and abandoned oil and gas well or remaining equipment that was plugged and abandoned from 2014 onward.

***Rationale:** As the regulations currently read, if an Applicant sites his pad to adjoin an area zoned residential but as yet unplatted by the owner/developer, the Applicant can place his well pad within 200 ft. of the boundary line [I suggested above this distance be changed to 500 ft.] If these figures are not adjusted upward then, the reverse setback plus the boundary line setback together would then allow the well pad to be sited just a total of 350 ft. from a planned residential dwelling. [Under my suggested changes the total would change to a minimum of 1,000 ft. from a planned residential dwelling.] These low reverse setback figures (totaling just 350 ft.) compare very unfavorably to the 2,000 ft. setback currently in place [or as I propose the 3,500 ft. setback] from platted residential lots. This distinction [between 350 ft. as a reverse setback and 2,000 ft as a platted lot setback] is clearly unsupportable as written because it fails to regulate to protect the public health, safety and welfare.*

d. Water Reservoir Setbacks: All Oil and Gas Facilities shall be located:

- i. At least ~~one mile (5,280 feet)~~ 3,500 feet from existing or planned and permitted water reservoirs with a capacity of 100 acre/feet or more, ~~unless the applicant can demonstrate that the Oil and Gas Facility is downgradient from the reservoir, in which case the setback shall be a 2,000 feet.~~ The water reservoir setback shall be measured from the Oil and Gas Facility's pad boundary to the nearest high watermark of the reservoir or as mapped on reservoir plans approved with permitting for a planned and permitted reservoir.

Rationale: *There are several reasons that the automatic collapse of the one mile setback figure to 2,000 ft. if a well pad is “downgradient” should be eliminated. These reasons include the following:*

- *The automatic collapse eliminates all discretion of the BOCC to maintain a setback based upon the “substantial equivalency” test at figures like say 3,500 or 3,000 ft. between the original setback and the collapsed figure.*
- *A 2,000 ft. figure is already applicable to reservoirs, like the Aurora Reservoir, that are an Outside Designated Activity Areas. Thus, no more protection would be afforded by the 2,000 ft. setback and the desire to adequately protect valuable and sensitive drinking water sources would be effectively thwarted.*
- *When considering the impact of the staff proposed automatically collapsing setback would have on the existing Aurora Reservoir and the two proposed and permitted Ridgeview reservoirs, a strange anomaly appears. For the Aurora Reservoir because well pads would be downgradient due to the bike path berm, a 2,000 ft setback would apply. For the smaller, and as yet unbuilt, Rangeview reservoirs, however, because the final reservoir gradients remain unknown an Applicant could not establish a downgradient well pad position so a one mile setback would apply. This is clearly an unwarranted result of the language as drafted.*
- *Better protection is provided by simply including the hydraulic gradient between the well pad and reservoir edge as one criterion for judging whether the “substantial equivalency” test is met. The language drafted by staff already includes this “downgradient” criterion. Therefore, eliminating the automatic collapse language still allows the BOCC to determine that the final setback could be as low as 2,000 ft. if substantial equivalency is proven.*

Furthermore, the one-mile setback figure needs adjustment for the following reasons:

- Staff at the Planning Commission hearing could not adequately support a one-mile setback figure on a scientific basis making it vulnerable to attack as arbitrary.*
- A lower 3,500 figure is less subject to attack but still adequately protective. Boulder has a 2,500 ft. setback [Ordinance 8514.] California has proposed a 3,000 ft. setback. Any reservoir setback needs to account for: potential runoff from fire suppression activities [the CEO of Rangeview passionately argued the point to the Planning Dept. Commissioners that fire suppression in a rain can travel a very long way], the statutory requirement to protect “the environment” surrounding the reservoir; as well of course the requirement to protect against spills migrating into the drinking water and pollutants dispersing noxious chemicals from the air across the wide expanse of the reservoir water surface [a distance that peer-reviewed studies from California show can exceed 2 to 3 km.].*

ii. The water reservoir setback may be reduced below ~~2,000~~ 3,500 feet if approved through the Use by Special Review process provided in Section 5-3.4. For approval of a lesser setback under this subparagraph, the Operator must establish the following criteria: 1. The oil and gas facility is downgradient from the reservoir; 2. The owner or operator of the reservoir does not object to the lesser setback; 3. Due to topography or other special condition of the property, the lesser setback is necessary to allow for safe construction, installation, and operations at the Facility; 4. Alternative Oil and Gas Facility design, best management practices, control technologies, and/or proposed conditions of

approval proposed for the Facility will be effective to avoid, minimize, or mitigate adverse impacts upon such drinking water sources, and that with such mitigative measures, the lesser setback as proposed will provide substantially equivalent protection as the 2000 feet setback; 5. That granting the lesser setback for the Facility as proposed and designed will not adversely impact public health, safety, or welfare or the environment; and 6. No setback may be reduced below ~~the 500-foot setback applicable to other perennial surface water bodies~~ 1,700 feet.

The proposed 500 ft. minimum figure is unsupportable under any scenario.

- *Staff determined that a new more protective reservoir setback figure was necessary to protect drinking water, and yet surprisingly now suggest leaving the minimum setback figure at the existing 500 ft. figure. This makes no sense.*
- *The minimum figure therefore needs to be adjusted upward to be meaningful. The figure I suggest of 1,700 ft. is less than ½ of the suggested 3,500 ft. figure I have recommended for the setback, itself, and therefore provides a good range of values for the BOCC to consider under the “substantial equivalency” analysis (3,000, 2,500, 2,000 or even 1,700 feet) while remaining protective of the public health, safety, and welfare and the environment.*

1-1.1.F.3. Health and Safety Requirements

d. Wildland Areas Designated as Having Significant Risk of Fire Spread:
No Oil and Gas Facility shall be located within any portion of the Wildland Urban Interface (WUI) designated by the Office of Emergency Management (OEM) as having a significant risk of fire spread unless written consent has been first granted by both the OEM and any Fire

Marshall or Fire Chief with jurisdiction over the WUI area so designated. Consent shall require proof of the satisfaction of both the OEM and fire authority with jurisdiction of the presence of needed time and distance to respond; precautionary measures to be taken; adequate training to be performed; and adequate fire prevention and suppression equipment available.

For the purposes of this regulation, Wildland Urban Interface (WUI) shall be defined as that one (1) mile wide wildland area where the boundaries of wildland areas and urban/residential areas adjoin.

Rationale: The devastating Marshall fire, which began in open grasslands and quickly spread to nearby neighborhoods, clearly demonstrated the need to protect against well pad fires spreading to nearby homes. My proposed addition to the County regulations is both fully supportable and timely now. The reasons for this include:

- *Unincorporated Arapahoe County includes large areas where wildlands, with significant fuel loads of grasses, scrub, and trees adjoin urban/residential areas. In some areas, the fuel load is such that a significant risk of rapid fire spread exists.*
- *Fire spread rates in these areas can be very quick in the range of 7 to 15 miles per hour. Without a proper distance between a well pad and homes no fire authority can be expected to suppress a fire quickly enough to protect an adjoining neighborhood in an area where the fuel load creates a high risk of spread.*
- *Only the OEM and fire authorities with jurisdiction can be relied upon to understand the specifics of when a significant risk exists and what distances need to be maintained and fire protection measures mandated. The County's Planning Division should not presume to have expertise enough to draft needed fire regulations for these risky Wildland Urban Interface (WUI) areas itself.*
- *The proper approach here is to identify when well pads may be sited in high risk wildland areas adjacent to neighborhoods and*

then to delegate decision making to these fire and emergency authorities. This proposed regulation does exactly that and no more.

From: [John Langevin \(johnnymoon51@hotmail.com\) Sent You a Personal Message](mailto:johnnymoon51@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 6:40:32 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

John Langevin
605 N Franklin St 80903, Apt 208
Colorado Springs, CO 80903
johnnymoon51@hotmail.com
(719) 233-7033

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jonathan Benitz \(jonathan_82939@yahoo.com\) Sent You a Personal Message](mailto:jonathan_82939@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:39:22 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Jonathan Benitz
6911 West 3rd Street Unit #511
Greeley, CO 80634
jonathan_82939@yahoo.com
(970) 584-8663

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Julie rizzolo \(jrizz90@gmail.com\) Sent You a Personal Message](mailto:jrizz90@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 12:21:08 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

with an 18 month old i we chose araphoe county to live for the amazing family focus. however, after learning about the fracking we are concerned regarding the regulations

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Julie rizzolo
27444 e roxbury st
aurora, CO 80016

jrizz90@gmail.com
(774) 254-7037

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Karen Bertolini \(knbert91@gmail.com\) Sent You a Personal Message](mailto:knbert91@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, September 11, 2023 5:09:50 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you!

Sincerely,

Karen Bertolini
7236 S Robertsdale Way
Aurora, CO 80016
knbert91@gmail.com
(410) 274-2693

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Karen Hannon \(tphannon6@msn.com\) Sent You a Personal Message](mailto:tphannon6@msn.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 6:14:40 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Karen Hannon
7352 s Columbine Way
Centennial, CO 80122
tphannon6@msn.com
(303) 797-1238

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Karen Padilla \(krpadi@hotmail.com\) Sent You a Personal Message](mailto:krpadi@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, September 11, 2023 2:19:47 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Do not pollute our water, air, and soil. How about our health? Stand up and CARE.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Karen Padilla
6003 S. LITTLE RIVER WAY
AURORA, CO 80016
krpadi@hotmail.com

(720) 939-5524

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Kate Kissingford \(kjkissingford@gmail.com\) Sent You a Personal Message](mailto:kjkissingford@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 8:45:28 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Kate Kissingford
436 8th Ave.
Ouray, CO 81427
kjkissingford@gmail.com
(303) 949-2642

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [KATELYN SANDOVAL \(katelyn.sandoval89@gmail.com\) Sent You a Personal Message](mailto:katelyn.sandoval89@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 3:30:42 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

KATELYN SANDOVAL
6630 W 84th Way, Unit 38
Arvada, CO 80003
katelyn.sandoval89@gmail.com
(303) 829-6639

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Katherine Cummings \(jasonandkaty@msn.com\) Sent You a Personal Message](mailto:jasonandkaty@msn.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 8:34:43 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Thank you,

Sincerely,

Katherine Cummings
6885 S Robertsdale Way
Aurora, CO 80016
jasonandkaty@msn.com
(303) 947-9855

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Kathleen Herrera \(4katt@mail.com\) Sent You a Personal Message](mailto:4katt@mail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 10:48:17 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Protect people

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Kathleen Herrera
P.O. Box 140924
Edgewater, CO 80214
4katt@mail.com

(720) 329-1446

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Katie Donovan \(katie.donovan@gmail.com\) Sent You a Personal Message](mailto:katie.donovan@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 1:38:21 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Thank you,

Sincerely,

Katie Donovan
7003 S Uriah St
Aurora, CO 80016
katie.donovan@gmail.com
(408) 533-2580

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Kate Kissingford \(kjkissingford@gmail.com\) Sent You a Personal Message](mailto:kjkissingford@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 8:45:28 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Thank you,

Sincerely,

Kate Kissingford
436 8th Ave.
Ouray, CO 81427
kjkissingford@gmail.com
(303) 949-2642

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Kelli Rohrig \(whiteroomadventures@gmail.com\) Sent You a Personal Message](mailto:whiteroomadventures@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 13, 2023 10:52:42 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Thank you,

Sincerely,

Kelli Rohrig
pob 9292
Avon, CO 81620
whiteroomadventures@gmail.com
(970) 390-9145

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Kellie Felkey \(kelliefelkey@gmail.com\) Sent You a Personal Message](mailto:kelliefelkey@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 8:39:58 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Thank you for listening to what the people of Arapahoe county want. Nobody wants our health and well being negatively affected by oil and gas, which it will be with the current regulations.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Kellie Felkey
26651 E. Hinsdale Pl.
Aurora, CO 80016

kelliefelkey@gmail.com
(860) 334-5810

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

Diane Kocis

From: Bryan Weimer
Sent: Sunday, September 24, 2023 11:40 AM
To: Diane Kocis; Jason Reynolds; Ava Pecherzewski; Robert Hill
Cc: Gary Salazar
Subject: Fwd: CASE NO. LDC23-003 – OIL AND GAS LAND DEVELOPMENT CODE AMENDMENT: Comments in advance of Oct 10 hearing

Diane-

FYI. Looks like we have addressed these issues in some fashion, they just don't know it yet.

Bryan D. Weimer, PWLF, Director
Public Works and Development Department

Arapahoe County
Public Works and Development Department
6924 South Lima Street
Centennial, Colorado 80112

Ph No: (720) 874-6500
Fax No: (720) 874-6611
e-mail: BWeimer@arapahoegov.com

Begin forwarded message:

From: Kirsten Miller <fosskirsten@yahoo.com>
Date: September 24, 2023 at 8:46:46 AM MDT
To: Commissioners <Commissioners@arapahoegov.com>, Carrie Warren-Gully <CWarrenGully@arapahoegov.com>, Jeff Baker <JBaker@arapahoegov.com>, "Bill L. Holen" <BHolen@arapahoegov.com>, Jessica Campbell-Swanson <JCampbell-Swanson@arapahoegov.com>, Katherine Smith <KSmith@arapahoegov.com>, Bryan Weimer <BWeimer@arapahoegov.com>, Leslie Summey <LSummey@arapahoegov.com>, Michelle Halstead <MHalstead@arapahoegov.com>
Cc: Kirsten Miller <fosskirsten@yahoo.com>
Subject: CASE NO. LDC23-003 – OIL AND GAS LAND DEVELOPMENT CODE AMENDMENT: Comments in advance of Oct 10 hearing

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe County Commissioners:

I'm a fellow civil servant, mom to two young children, voter and taxpayer in Arapahoe County, and my family and I live less than 2 miles from where you are considering

regulations that will regulate proposed oil and gas sites that will affect the air that we breathe.

The proposed oil and gas regulations will affect our Arapahoe County community directly as they control the pollution that our community is exposed to. I urge you to improve upon the draft regulations to protect our community from the negative impacts of local oil and gas production. While attending both sessions hosted by the Planning Commission to consider the draft regulations, I heard that you wanted to have the strongest protections in that State for your constituents; based the draft regulations, **I am not seeing that.** The 2018 Arapahoe County Comprehensive Plan's set goal to "Reduce the Loss of Life, Health and Property Due to Risks Posed by Natural and Human-caused Hazards"—**your regulations stand in direct opposition to that goal.**

A huge omission in draft regulations is protecting and measuring air quality as a result of the proposed oil and gas operations. Air monitoring is missing entirely in Arapahoe County's plans and regulations, and the Colorado Department of Public Health and Environment does not address this either. It needs to be added.

The draft regulations have definitive loopholes for less than 2,000 foot downgradient setbacks that need to be amended, especially considering the density of our County's housing and the very real risk of wildfire that could decimate our community due to these limited setbacks.

Please review these examples from our county's actual regulations that need to be amended because they allow for loopholes for placing oil and gas too close to where there is negative impact to Arapahoe County constituents:

- There is a proposed amendment to add Cryptocurrency Data Mining to the Permitted Uses Table 3-2.1 to allow this as an accessory use to an existing oil and gas facility. This proposal makes money for selected oil and gas operators while ignoring negative health impact due to air pollution to the affected public, who receives no monetary benefit from the expense of having their air polluted. **Your Arapahoe County constituents deserve better.**
- Setbacks Section 2.d. iii (p. 13 of SUBJECT: CASE NO. LDC23-003 – OIL AND GAS LAND DEVELOPMENT CODE AMENDMENT) allows for setbacks to be reduced to 500 feet with approval; **the water reservoir setbacks instead need to be at least one mile from existing/ planned water reservoirs.**
- **Setbacks Section 2C (again, on page 13) allows for 150 foot reverse setbacks in plugged and abandoned oil and gas wells, as well as 250 feet of setbacks from existing wells—this needs to be amended to increase the distance to a mile.**
- **Setbacks Section 2b (p. 12) allows for owners and the fire district to agree to a setback of 500 feet or less. This lacks protection from the public, and standards for quasi-judicial review.**
- According to a research publication called "Potential hazards of air pollutant emissions from unconventional oil and natural gas operations on the respiratory health of children and infants" published in "Environmental Health", it states, "We recommend that at a minimum, one-mile setbacks should be established between drilling facilities

and occupied dwellings such as schools, hospitals, and other dwellings where infants and children might spend a substantial amount of time." Therefore, it is reasonable and necessary to deny the proposed amendment to allow potential 150-foot setbacks.

- According to a scientific study on Unconventional Oil and Gas Development Exposure and Risk of Childhood Acute Lymphoblastic Leukemia: A Case–Control Study in Pennsylvania, 2009–2017, at a distance of 6,561 feet, "Children between the ages of two and seven living near gas wells in four heavily fracked counties of southwestern Pennsylvania are two to three times more likely to be diagnosed with acute lymphoblastic leukemia." **It is extremely dangerous to our county constituents' health to plan for this oil and gas development.**
- On page 14, Visual mitigation requirements only allow for required visual mitigation for those "Well pads within 1,320 feet of a property line with an occupied structure— **because our current stance is 2,000 feet, this regulation doesn't hold the operator responsible for hiding the well pads. Simply put, our County is going to be ugly.**
- Section 10 (p. 178) defines the maximum permissible noise level as comparable to a conversation, at 60-65 decibels, and then section 10C proceeds to allow loopholes around it for waivers. This needs to be tightened significantly to prevent hearing loss through prolonged exposure. **Again, simply put, our County is going to be loud.**

Again, I urge Arapahoe County Commissioners to strengthen these draft regulations from the oil and gas loopholes that make our community weak in protecting health, environment, wildlife and climate.

Thank you,

Kirsten Miller

From: [Kris Sutton \(krisoshea@hotmail.com\) Sent You a Personal Message](mailto:krisoshea@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 17, 2023 12:35:17 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

This entire project has been very distressing and is making me want to move away. I'm concerned about wildfires in particular. I'm also concerned about how this will impact our air and local environment. And I cannot believe that anybody with any authority is allowing them to Frack underneath our water supply. Accidents happen. This just seems so irresponsible. I'm sure the people in Flint thought they were making a really good decision and look how that turned out. I don't understand how anybody can think this is a good idea.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
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5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Kris Sutton
6450 S Ider St
Aurora, CO 80016
krisoshea@hotmail.com
(303) 555-1212

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Krista Wiest \(krista.pate@yahoo.com\) Sent You a Personal Message](mailto:krista.pate@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 5:03:15 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Krista Wiest
6670 S Robertsdale Way
Aurora, CO 80016
krista.pate@yahoo.com
(303) 898-2325

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Kirsten Miller \(fosskirsten@yahoo.com\) Sent You a Personal Message](mailto:fosskirsten@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 7:51:08 PM

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Dear Arapahoe Commissioners,

Especially considering the density of our housing and the very real risk of wildfire that could decimate our community, the draft regulations have definitive loopholes for less than 2,000 foot downgradient setbacks that need to be amended.

? Section 2d allows for setbacks to be reduced to 500 feet with approval from reservoir owners or operators; the water reservoir setbacks instead need to be at least one mile from existing/ planned water reservoirs.

? Section 2C allows for 150 foot reverse setbacks in plugged and abandoned oil and gas wells, as well as 250 feet of setbacks from existing wells?this needs to be amended.

? 2a allows for owners and the fire district to agree to a setback of 500 feet or less. This lacks protection from the public, and standards for quasi-judicial review.

As our elected commissioners, you hold the power to recommend changes to the regulations in our County, to push the entire project away from our heavily populated area.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Kirsten Miller
26827 E Davies Pl
Aurora, CO 80016
fosskirsten@yahoo.com
(410) 979-9031

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Krystal Morwood \(kdmorwood@gmail.com\) Sent You a Personal Message](mailto:kdmorwood@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 12:59:04 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

This is not just about environmental health. It is about the health of my family, and without strengthening regulations, I will be looking for new commissioners and other elected officials.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Krystal Morwood
26712 E Hinsdale Pl
Aurora, CO 80016

kdmorwood@gmail.com
(303) 917-5055

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lacey McMurdo \(dakine0013@yahoo.com\) Sent You a Personal Message](mailto:dakine0013@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 3:50:55 PM

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Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lacey McMurdo
6826 s Quantock way
Aurora, CO 80016
dakine0013@yahoo.com
(303) 564-3100

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Laura Waterworth \(snip-first@att.net\) Sent You a Personal Message](mailto:snip-first@att.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 12:19:57 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Thank you,

Sincerely,

Laura Waterworth
3652 South Perth Circle, #104
Aurora, CO 80013
snip-first@att.net
(303) 408-0584

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

Bryan D. Weimer, PWLF, Director
Public Works and Development Department

Arapahoe County
Public Works and Development Department
6924 South Lima Street
Centennial, Colorado 80112

Ph No: (720) 874-6500
Fax No: (720) 874-6611
e-mail: BWeimer@arapahoegov.com

Begin forwarded message:

From: Kirsten Miller <fosskirsten@yahoo.com>
Date: September 24, 2023 at 8:46:46 AM MDT
To: Commissioners <Commissioners@arapahoegov.com>, Carrie Warren-Gully <CWarrenGully@arapahoegov.com>, Jeff Baker <JBaker@arapahoegov.com>, "Bill L. Holen" <BHolen@arapahoegov.com>, Jessica Campbell-Swanson <JCampbell-Swanson@arapahoegov.com>, Katherine Smith <KSmith@arapahoegov.com>, Bryan Weimer <BWeimer@arapahoegov.com>, Leslie Summey <LSummey@arapahoegov.com>, Michelle Halstead <MHalstead@arapahoegov.com>
Cc: Kirsten Miller <fosskirsten@yahoo.com>

Subject: CASE NO. LDC23-003 – OIL AND GAS LAND DEVELOPMENT CODE AMENDMENT: Comments in advance of Oct 10 hearing

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe County Commissioners:

I'm a fellow civil servant, mom to two young children, voter and taxpayer in Arapahoe County, and my family and I live less than 2 miles from where you are considering regulations that will regulate proposed oil and gas sites that will affect the air that we breathe.

The proposed oil and gas regulations will affect our Arapahoe County community directly as they control the pollution that our community is exposed to. I urge you to improve upon the draft regulations to protect our community from the negative impacts of local oil and gas production. While attending both sessions hosted by the Planning Commission to consider the draft regulations, I heard that you wanted to have the strongest protections in that State for your constituents; based the draft regulations, **I am not seeing that.** The 2018 Arapahoe County Comprehensive Plan's set goal to "Reduce the Loss of Life, Health and Property Due to Risks Posed by Natural and Human-caused Hazards"—**your regulations stand in direct opposition to that goal.**

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The draft regulations have definitive loopholes for less than 2,000 foot downgradient setbacks that need to be amended, especially considering the density of our County's

housing and the very real risk of wildfire that could decimate our community due to these limited setbacks.

Please review these examples from our county's actual regulations that need to be amended because they allow for loopholes for placing oil and gas too close to where there is negative impact to Arapahoe County constituents:

- There is a proposed amendment to add Cryptocurrency Data Mining to the Permitted Uses Table 3-2.1 to allow this as an accessory use to an existing oil and gas facility. This proposal makes money for selected oil and gas operators while ignoring negative health impact due to air pollution to the affected public, who receives no monetary benefit from the expense of having their air polluted. **Your Arapahoe County constituents deserve better.**

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- **Setbacks Section 2C (again, on page 13) allows for 150 foot reverse setbacks in plugged and abandoned oil and gas wells, as well as 250 feet of setbacks from existing wells—this needs to be amended to increase the distance to a mile.**

- **Setbacks Section 2b (p. 12) allows for owners and the fire district to agree to a setback of 500 feet or less. This lacks protection from the public, and standards for quasi-judicial review.**

- According to a research publication called "Potential hazards of air pollutant emissions from unconventional oil and natural gas operations on the respiratory health of children and infants" published in "Environmental Health", it states, "We recommend that at a minimum, one-mile setbacks should be established between drilling facilities and occupied dwellings such as schools, hospitals, and other dwellings where infants and children might spend a substantial amount of time." Therefore, it is reasonable and necessary to deny the proposed amendment to allow potential 150-foot setbacks.

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- On page 14, Visual mitigation requirements only allow for required visual mitigation for those "Well pads within 1,320 feet of a property line with an occupied structure—**because our current stance is 2,000 feet, this regulation doesn't hold the operator responsible for hiding the well pads. Simply put, our County is going to be ugly.**

· Section 10 (p. 178) defines the maximum permissible noise level as comparable to a conversation, at 60-65 decibels, and then section 10C proceeds to allow loopholes around it for waivers. This needs to be tightened significantly to prevent hearing loss through prolonged exposure. **Again, simply put, our County is going to be loud.**

Again, I urge Arapahoe County Commissioners to strengthen these draft regulations from the oil and gas loopholes that make our community weak in protecting health, environment, wildlife and climate.

Thank you,

Kirsten Miller

From: [Lewis Finkelstein \(lfinkelstein@aol.com\) Sent You a Personal Message](mailto:lfinkelstein@aol.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 7:48:52 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lewis Finkelstein
7212 S Valleyhead Ct
Aurora, CO 80016
lfinkelstein@aol.com
(516) 510-3475

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lynda Balas \(godogsit@yahoo.com\) Sent You a Personal Message](mailto:Lynda.Balas@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 9:45:02 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lynda Balas
3940 S. Dexter Street
Englewood, CO 80113
godogsit@yahoo.com
(303) 594-3602

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Linda Silkes \(ljsilkes@gmail.com\) Sent You a Personal Message](mailto:ljsilkes@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 7:44:27 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Linda Silkes
27202 E Ontario Pl
Aurora, CO 80016
ljsilkes@gmail.com
(303) 870-8858

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [lisa bonney \(lisamb2022@yahoo.com\) Sent You a Personal Message](mailto:lisa_bonney@lisamb2022@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 15, 2023 3:14:49 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Do not go backwards. Please strengthen the regulations and make a positive stand.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

lisa bonney
217 Pennsylvania st
fort collins, CO 80521
lisamb2022@yahoo.com

(970) 617-7418

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lisa Humphries \(lisajumphries@gmail.com\) Sent You a Personal Message](mailto:lisahumphries@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 2:56:22 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

My son and I have a genetic mutation that makes us more likely to get cancer. We are both survivors already. Please pass these regulations to keep our air and water clean.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lisa Humphries
27566 E Elmhurst Pl
Aurora, CO 80016

lisajhumphries@gmail.com
(303) 905-6211

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lisa Kvietok \(lkvietok@comcast.net\) Sent You a Personal Message](mailto:lkvietok@comcast.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 9:08:21 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Please look at stronger health and safety regulations! These regulations seem like the bare minimum that should be in place to protect citizens.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lisa Kvietok
24965 East Roxbury Place
Aurora, CO 80016

lkvietok@comcast.net
(303) 907-7019

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lisha Doucet \(lisha_doucet@hotmail.com\) Sent You a Personal Message](mailto:lisha_doucet@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 6:45:25 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lisha Doucet
8525 Citation Dr
Wellington, CO 80549
lisha_doucet@hotmail.com
(281) 389-5339

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lori Christensen \(cocolori7@yahoo.com\)](mailto:cocolori7@yahoo.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 11:44:13 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lori Christensen
7376 s white crow way
Aurora, CO 80016
cocolori7@yahoo.com
(609) 668-6166

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lori Gray \(launicorn19@hotmail.com\) Sent You a Personal Message](mailto:launicorn19@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 4:38:29 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I am very concerned about oil and gas development and the negative impact on our communities. The air quality in our communities is already bad and impacts us as we recreate outdoors. This negatively impacts our health. Please do what's best for the community not oil and gas developers. There isn't a meaningful way for residents to provide comments that are taken seriously.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lori Gray

8188, S Yantley Court
Aurora, CO 80016
launicorn19@hotmail.com
(720) 312-1323

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lucy Donovan \(lucy021114@outlook.com\) Sent You a Personal Message](mailto:lucy021114@outlook.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 3:06:24 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lucy Donovan
7244 S Kellerman Way
Aurora, CO 80016
lucy021114@outlook.com
(303) 917-8218

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Lynda Balas \(godogsit@yahoo.com\) Sent You a Personal Message](mailto:Lynda.Balas@godogsit@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 9:45:02 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Lynda Balas
3940 S. Dexter Street
Englewood, CO 80113
godogsit@yahoo.com
(303) 594-3602

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Maisoon Naser \(treomommy@yahoo.com\) Sent You a Personal Message](mailto:treomommy@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 3:41:46 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Maisoon Naser
5945 S Kellerman Ct
Aurora, CO 80016
treomommy@yahoo.com
(804) 536-2089

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Margaret Barbosa \(margaretclairebarbosa@gmail.com\) Sent You a Personal Message](mailto:margaretclairebarbosa@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 10:50:34 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Margaret Barbosa
2317 Ivy Street
Denver, CO 80207
margaretclairebarbosa@gmail.com
(310) 492-3779

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Margaret Myers \(margiemyers425@msn.com\) Sent You a Personal Message](mailto:margiemyers425@msn.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 20, 2023 10:29:11 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Margaret Myers
24391 E Alamo Drive
Aurora, CO 80016
margiemyers425@msn.com
(909) 633-2378

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Margaret Singh \(thedragonse@att.net\) Sent You a Personal Message](mailto:thedragonse@att.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 8:36:34 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Margaret Singh
16427 Avalanche Run, Broomfield, CO, USA
Broomfield, CO 80023
thedragonse@att.net
(425) 677-4019

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Marietta Vargas \(mariettavargas2012@gmail.com\) Sent You a Personal Message](mailto:mariettavargas2012@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 5:58:07 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We do not want fracking near our home.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Marietta Vargas
27800 E Lakeview Dr
Aurora, CO 80016
mariettavargas2012@gmail.com

(720) 233-9744

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [MARILYN HANSEN \(marilynh23@gmail.com\) Sent You a Personal Message](mailto:marilynh23@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 21, 2023 2:57:37 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

MARILYN HANSEN
2255 W. Davies Avenue
MARILYN, CO 80120
marilynh23@gmail.com
(303) 795-7458

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Marina Mourzina \(marinatan@gmail.com\) Sent You a Personal Message](mailto:marinatan@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 7:40:35 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Marina Mourzina
7261 S valleyhead ct
Aurora, CO 80016
marinatan@gmail.com
(720) 217-4917

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [MARILYN HANSEN \(marilynh23@gmail.com\) Sent You a Personal Message](mailto:marilynh23@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 21, 2023 2:57:37 PM

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Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

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Thank you,

Sincerely,

MARILYN HANSEN
2255 W. Davies Avenue
MARILYN, CO 80120
marilynh23@gmail.com
(303) 795-7458

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Mark Kamin \(markgkamin@gmail.com\) Sent You a Personal Message](mailto:markgkamin@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 11:21:30 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Please follow your duty to protect our health, safety and welfare and the environment for us and future generations. We and our families are depending on you to do this important work.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Mark Kamin
27235 E Lakeview Pl
Aurora, CO 80016

markgkamin@gmail.com
(248) 797-5975

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Marla Berkheim \(mjoberk@gmail.com\) Sent You a Personal Message](mailto:mjoberk@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 4:12:48 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Please put in as many safety measures as possible. My kids deserve to have clean air and safe water, as do we all!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Marla Berkheim
7330 so shady grove way
Aurora, CO 80016
mjoberk@gmail.com

(720) 227-3682

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Marsha Kamin \(marshakamin@comcast.net\)](mailto:marshakamin@comcast.net) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, September 11, 2023 4:40:36 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Now is your opportunity to strengthen the Arapahoe County regulations on Oil and Gas. You have the power to make these the best and strongest OandG rules in the state, if not the country. I live in Arapahoe County, nearby the Lowry Ranch CAP that is currently before the ECMC for review. The State looks to the local government authority to set their local rules to enforce. Before this CAP comes before you for review, set rules without loopholes, waivers, exceptions, that put protecting your constituents as the number one priority - which is your job. These revisions being reviewed on 10/10 are not taking our safety into consideration at all, per the latest scientific studies that show proximity of residents to mega wells, can cause harm to public health. Our suggested changes are outlined below. Please take them seriously.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Thank you,

Sincerely,

Marsha Kamin
27235 E Lakeview Pl
Aurora, CO 80016
marshagkamin@comcast.net
(248) 790-9507

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Matthew Grace \(mbg620@yahoo.com\) Sent You a Personal Message](mailto:mbg620@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, September 11, 2023 9:19:26 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Matthew Grace
26635 E Costilla Pl
AURORA, CO 80016
mbg620@yahoo.com
(303) 963-6088

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Maya Kurtz \(mayachristine13@gmail.com\) Sent You a Personal Message](mailto:Maya.Kurtz@arapahoe-co.org)
To: [Bryan Weimer](mailto:ryan.weimer@arapahoe-co.org)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 7:00:41 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Maya Kurtz
336 Park Drive
Glenwood Springs, CO 81601
mayachristine13@gmail.com
(970) 230-9079

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Megan Wilder \(mhouseweart@yahoo.com\) Sent You a Personal Message](mailto:mhouseweart@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:48:19 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Megan Wilder
100 Main
Boulder, CO 80302
mhouseweart@yahoo.com
(303) 303-0000

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Michael Borghi \(michael_borgh@microsoft.com\) Sent You a Personal Message](mailto:michael_borgh@microsoft.com)
To: [Ryan Weimer](mailto:ryan.weimer@arapahoe.gov)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 21, 2023 6:55:14 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Michael Borghi
800 S Santa Fe Ave Lot A34
Fountain, CO 80817
michael_borgh@microsoft.com
(719) 382-4627

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Michael ODoherty \(msodoherty@gmail.com\) Sent You a Personal Message](mailto:msodoherty@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 5:50:00 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

As a homeowner and resident of Aurora, I am quite concerned that energy development is still focused on extracting every drop of fossil fuel instead of moving forward with renewable energy. Fracking not only endangers our water supply and potentially lowers our property values, it also continues to inhibit development of new clean energy solutions. Only when we can move away from polluting our world can we develop sources that will ensure power for future generations without continuing to unnecessarily pollute our world. Until we can as a society stop pursuing fossil fuels, I urge you to support the increased regulations detailed in this letter to at least lessen the potential harm that fracking can and will do.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Michael ODoherty
6911 S. Robertsdale Ct.
Aurora, CO 80016
msodoherty@gmail.com
(760) 759-0662

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Michelle Freitas \(mmurgatroy@gmail.com\) Sent You a Personal Message](mailto:mmurgatroy@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 9:53:00 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

This is my neighborhood and I don't want this anywhere near my home.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Michelle Freitas
26803 E Easter Pl
Aurora, CO 80016
mmurgatroy@gmail.com

(561) 839-0760

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Mike Gilligan \(gillmik@man.com\) Sent You a Personal Message](mailto:gillmik@man.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 9:02:12 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Keep fracking away city's and towns there is plenty of open land

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Mike Gilligan
8007 S Addison Way
Aurora, CO 80016
gillmik@man.com

(720) 999-3255

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Molly Manning \(molly.manning25@gmail.com\) Sent You a Personal Message](mailto:molly.manning25@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 9:16:10 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Molly Manning
26824 E Quarto pl
Aurora, CO 80016
molly.manning25@gmail.com
(720) 220-5306

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Moneca Dunhamm \(mountnlover@yahoo.com\) Sent You a Personal Message](mailto:mountnlover@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 8:07:28 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Moneca Dunhamm
987 Lodgepole Drive
Evergreen, CO 80439
mountnlover@yahoo.com
(303) 761-7629

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Nadine Ancel \(ancelnm@yahoo.com\) Sent You a Personal Message](mailto:ancelnm@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 11:59:55 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

No amount of potential profits is worth any amount of harm to human life, wildlife or the environment.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Nadine Ancel
358 W. Los Ranchitos Dr.
DURANGO, CO 81301
ancelnm@yahoo.com

(970) 375-1170

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Nancy Hartman \(ng3hart@yahoo.com\) Sent You a Personal Message](mailto:ng3hart@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 9:30:01 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Nancy Hartman
2514 Evans Ave
Louisville, CO 80027
ng3hart@yahoo.com
(303) 666-7543

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Oliver Smith \(77ravens@gmail.com\) Sent You a Personal Message](mailto:77ravens@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:17:57 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Oliver Smith
634 2nd Avenue
Lyons, CO 80540
77ravens@gmail.com
(509) 499-7382

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Paul Conover \(gary1gc@yahoo.com\) Sent You a Personal Message](mailto:gary1gc@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 3:00:21 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Paul Conover
15 South Weber Street, Suite C
Colorado Springs, CO 80903
gary1gc@yahoo.com
(719) 377-3222

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [R.F.\(ray5star@yahoo.co.jp\)](mailto:R.F.(ray5star@yahoo.co.jp)) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 11:53:37 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

R F
1437 w. Mountain
Fort Collins, CO 80521
ray5star@yahoo.co.jp
(303) 456-7890

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Rachel Markowitz \(raquelitabraver@gmail.com\) Sent You a Personal Message](mailto:raquelitabraver@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 9:58:40 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I want Arapahoe County to do right...and do right now!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Rachel Markowitz
7113 S. Uriah St.
Aurora, CO 80016
raquelitabraver@gmail.com

(323) 867-7178

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Randall Willard \(rjw41x@gmail.com\) Sent You a Personal Message](mailto:rjw41x@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 5:20:56 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Now is the time for firm, serious action on the climate and these regulations will play a big part in our attack on climate change. Please do your part to help save the planet.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Randall Willard
5206 S Haleyville Way
AURORA, CO 80016

tjw41x@gmail.com
(303) 690-6340

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Rawson Mathes \(bellamathes@gmail.com\) Sent You a Personal Message](mailto:bellamathes@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 8:15:51 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Prioritize the future of our earth. Prioritize your children and your grandchildren having access to the natural beauty of Colorado. Prioritize clean air. Nothing matters here on earth without clean air and water. This needs to be a top priority, not solutions that destroy our planet. I have family in Louisiana who are already underwater. Let's not make the same mistakes and act now.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Rawson Mathes

1331 Gaylord St #201
Denver, CO 80206
bellamathes@gmail.com
(843) 901-0244

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Rebecca Farmer \(rebecca_0927@yahoo.com\) Sent You a Personal Message](mailto:rebecca_0927@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Friday, September 8, 2023 2:08:01 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I've lived in Southshore for almost 20 years! This is our dream community. We've watched it grow. We'll now be forced to watch it be destroyed if regulations aren't changed and strengthened to protect life, children, the environment and our water resources ? please vote to protect your communities that you say you represent and pass these stronger regulations for me and my community members or watch us all leave and SE Aurora turn into a ghost town. Nobody wants to sacrifice their health and well-being! Thank you

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Rebecca Farmer
26931 East Roxbury pl, Aurora CO 80016
Aurora, CO 80016
rebecca_0927@yahoo.com
(303) 995-2878

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Renee Ostrowski \(girlrna@gmail.com\) Sent You a Personal Message](mailto:Renee.Ostrowski@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 8:52:57 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We, the people, need to have strict protections from the pollution that fracking creates. Who's the genius who allowed fracking next to the public city water supply?

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Renee Ostrowski
5283 South Lisbon way
Centennial, CO 80015

girlrna@gmail.com
(303) 332-9809

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [ronda horner \(rhl1234@aol.com\) Sent You a Personal Message](mailto:rhl1234@aol.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 7:29:41 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

ronda horner
6979 S Elk Ct
aurora, CO 80016
rhl1234@aol.com
(303) 690-2334

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [richard crane \(richard.p.crane@gmail.com\) Sent You a Personal Message](mailto:richard.p.crane@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 5:43:07 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

richard crane
107 elk drive
evergreen, CO 80439
richard.p.crane@gmail.com
(720) 439-1791

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Robert Lucchesi \(rmljr22@gmail.com\) Sent You a Personal Message](mailto:rmljr22@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 17, 2023 8:18:22 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Robert Lucchesi
27398 E Ottawa Ave
Aurora, CO 80016
rmljr22@gmail.com
(720) 633-6485

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Roberta Bishop \(ehbis@aol.com\) Sent You a Personal Message](mailto:ehbis@aol.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 5:29:02 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Roberta Bishop
167 Del Mar circle
Aurora, CO 80011
ehbis@aol.com
(303) 344-0483

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Robin Davis \(robinscribbles@gmail.com\) Sent You a Personal Message](mailto:robinscribbles@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 7:49:23 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Solutions with loopholes undermine goals.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Robin Davis
PO BOX 1045
South Fork, CO 81154
robinscribbles@gmail.com

(719) 676-5500

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [RODNEY PADILLA \(rdpadi@hotmail.com\) Sent You a Personal Message](mailto:rdpadi@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, September 11, 2023 2:16:37 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Do NOT frack east of Aurora Reservoir!!! The changes to the regulations are NOT sufficiently protective!!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

RODNEY PADILLA
6003 S. LITTLE RIVER WAY
AURORA, CO 80016
rdpadi@hotmail.com

(720) 427-0702

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Ruby Frederick \(skylinepigeonus@yahoo.com\) Sent You a Personal Message](mailto:skylinepigeonus@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 8:58:24 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

This is very important to me and my family's health and well being; not to mention what it would do to our property values which we've worked very hard for. I would hate to disturb the peaceful environment which was the reason for us moving in this area as well as protecting the nature and wildlife in the area!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Ruby Frederick
6243 S Oak Hill Ct

Aurora, CO 80016
skylinepigeonus@yahoo.com
(303) 522-3573

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Russell Hastings \(russ.eljefe@gmail.com\) Sent You a Personal Message](mailto:russ.eljefe@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 9:51:29 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Strengthen Arapahoe County Oil and Gas Regulations now!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Russell Hastings
14360 Foothill Rd
Golden, CO 80401
russ.eljefe@gmail.com

(309) 241-1678

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Ryan Troxel \(r.troxel@yahoo.com\)](mailto:r.troxel@yahoo.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 13, 2023 1:17:32 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Ryan Troxel
6910 S Yantley Ct
AURORA, CO 80016
r.troxel@yahoo.com
(775) 691-9894

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Sam Sadovnik \(sam@sadovnik.org\) Sent You a Personal Message](mailto:sam@sadovnik.org)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 7:09:39 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I Vote in every single election and I take note of who has our best interest at heart.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Sam Sadovnik
27543 E Euclid Dr
Aurora, CO 80016
sam@sadovnik.org

(305) 491-9556

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Sandra Williamson \(spiritwalk35@yahoo.com\) Sent You a Personal Message](mailto:spiritwalk35@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 9:01:15 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Sandra Williamson
100 S Bryan Ave Apt 6, Fort Collins, CO 80521
Fort Collins, CO 80521
spiritwalk35@yahoo.com
(970) 217-5643

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Sciba Robert \(rjsciba@msn.com\) Sent You a Personal Message](mailto:rjsciba@msn.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 12:49:51 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Given builders in Colorado are dealing with issues with old wells, shows unforeseen circumstances can occur. These problems are left to the tax payers long after the oil companies have moved on. Special circumstances/regulations/considerations should apply to present and future residential areas where drilling is proposed or occurring.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Sciba Robert

6645 S Quantock Way
Aurora, CO 80016
rjsciba@msn.com
(720) 202-8448

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Scott Nelson \(txclimbs@gmail.com\) Sent You a Personal Message](mailto:txclimbs@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 2:58:33 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Scott Nelson
1641 Albion str
Denver, CO 80220
txclimbs@gmail.com
(972) 800-0069

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Selina Sinclair \(jimandselina@gmail.com\) Sent You a Personal Message](mailto:jimandselina@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 11:59:56 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

The population of Arapahoe county is too large to risk oil and gas problems, such as fracking sinkholes or fires.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Selina Sinclair
25750 East Euclid Drive,
Aurora, CO 80016
jimandselina@gmail.com

(303) 907-2893

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Shannon Perry \(healthcoach214@gmail.com\) Sent You a Personal Message](mailto:Shannon.Perry@healthcoach214@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 8:44:06 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Shannon Perry
26733 E Indore Ave
Aurora, CO 80016
healthcoach214@gmail.com
(214) 450-7240

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Sheila Stone \(sheilastone@indra.com\) Sent You a Personal Message](mailto:sheilastone@indra.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 9:06:54 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
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6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Sheila Stone
1003 Willow Pl
Lafayette, CO 80026
sheilastone@indra.com
(303) 665-7485

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Sheri Gebicki \(sheri_arena@hotmail.com\) Sent You a Personal Message](mailto:sheri_arena@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 11:58:27 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Sheri Gebicki
6530 S Newcastle Way
Aurora, CO 80016
sheri_arena@hotmail.com
(303) 395-1585

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Stacie Padilla \(stay4321@yahoo.com\) Sent You a Personal Message](mailto:stay4321@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 6:08:19 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I do not want anymore fracking around me. I have been at the same address for 17 years and noticed a difference in our water when they drilled several years ago. Protect our water and land!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Stacie Padilla
6677 S Robertsdale Way
Aurora, CO 80016

stay4321@yahoo.com
(303) 710-9392

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Stacy Romero \(stacybrossart@gmail.com\) Sent You a Personal Message](mailto:stacybrossart@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 11:45:20 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I am against fracking! We live in one of the most beautiful states in the US and fracking is poisoning the ground! Don't kill Colorado!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Stacy Romero
6694 S Millbrook Ct
Aurora, CO 80016

stacybrossart@gmail.com
(719) 922-1289

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Stacey Sanders \(staceyrae3@msn.com\) Sent You a Personal Message](mailto:staceyrae3@msn.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 8:47:05 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We deserve to be safe from fracking.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Stacey Sanders
13732 E Lehigh Ave Unit F
Aurora, CO 80014
staceyrae3@msn.com

(303) 810-0865

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

Dear Arapahoe County Commissioners, et.al.,

We are writing to express our concerns about, and displeasure with, the “process” for public evaluation and input on the proposed oil and gas regulations for Arapahoe County. Since the primary requirements for County government are to protect the public health, safety and welfare of its citizens and the environment, it appears to us that the proposed regulations are contrary to this requirement and thus require additional time for review and significant improvement by the Commissioners prior to simply adopting them.

As citizens of Arapahoe County, we, our families and our children have a right to live in a clean and healthful environment. We hold the county government accountable for providing regulations that provide the appropriate protections and controls that will affect both present and future generations of Coloradans. Save the Aurora Reservoir has some members who are engineering professionals who have been reviewing scientific studies from around the country on all aspects of the proposed Oil & Gas plan for Arapahoe County. A report will be issued, separate from this letter, which we strongly suggest you consider as we approach the arbitrarily set October deadline for Phase 1 of the process. We believe you will find the facts in the report will make you pause and reconsider the proposed regulations.

Next, we really must discuss the elephant in the state - Water. As a state that has routinely suffered from droughts over the last 20+ years, we can be assured that despite our very wet spring in 2023, that the lack of rain will return soon, if not next year. To this end, it is incredibly irresponsible to ignore the requirements for water in the hydraulic fracturing process. Another study, again submitted separately, details the insatiable need for water, up to 19 million gallons per well can be expected to be used, based on industry analysis. The projected number of wells in Arapahoe county leads us to believe that billions of gallons of clean water will be used with less than 15% being recycled and returned to “regular” use. This is especially unacceptable when across the country drought continues to be a problem and as humans we require water on a daily basis to survive.

In conclusion we would like to continue this process rationally and with the rights of the citizens impacted as the focus rather than as an aside. Ultimately this MUST NOT BE ABOUT PROFITS OVER PEOPLE but rather doing what is best for ALL. Based on the considerable data gathered and reviewed by Save the Aurora Reservoir and supporting organizations, we believe the proposed regulations do NOT fulfill the requirements of the commissioners and their responsibilities to the citizens of Arapahoe county.

It is within your power to extend the deadline to adopt these regulations due to an abundance of new and additional evidence being presented. Taking the time to make an educated decision on these critical regulations will assure that due diligence is completed. A delay will provide additional time for scientific studies to be thoroughly evaluated and understood towards writing

and enacting regulations that serve all residents of the county, not just those within the Oil & Gas industry and its sphere of influence.

Sincerely,

Save-the-Aurora-Reservoir with the support of 350Colorado, climate movement co, Colorado Rising

From: [Stephanie Huntington \(stephaniehuntington@yahoo.com\) Sent You a Personal Message](mailto:stephaniehuntington@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 1:21:21 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Stephanie Huntington
2280 Hudson St
Denver, CO 80207
stephaniehuntington@yahoo.com
(303) 388-6939

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Susan Ambler \(akelly4now@yahoo.com\) Sent You a Personal Message](mailto:akelly4now@yahoo.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Tuesday, September 12, 2023 11:24:47 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Susan Ambler
1328 Vine St
Denver, CO 80206
akelly4now@yahoo.com
(303) 377-5707

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Susan Donaldson \(sdonaldson43@comcast.net\) Sent You a Personal Message](mailto:sdonaldson43@comcast.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 2:12:01 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety and natural world.

Thank you,

Sincerely,

Susan Donaldson
1417 Rembrandt Road
Susan, CO 80302
sdonaldson43@comcast.net
(720) 565-0252

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [susan Lewis \(doggydoc5@hotmail.com\) Sent You a Personal Message](mailto:doggydoc5@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 8:07:45 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

susan Lewis
31819 Rocky Village Dr, Apt 113
Evergreen, CO 80439
doggydoc5@hotmail.com
(720) 618-7242

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Suzanne Ingersoll \(suzanne.ingersoll@gmail.com\) Sent You a Personal Message](mailto:suzanne.ingersoll@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 11:14:14 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I say no to fracking!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Suzanne Ingersoll
6245 s millbrook way
Aurora, CO 80016
suzanne.ingersoll@gmail.com

(772) 453-5829

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Tanya Piker \(tanyapiker@hotmail.com\) Sent You a Personal Message](mailto:tanyapiker@hotmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 10:22:37 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Tanya Piker
1209 Smithland Ave
La Junta, CO 81050
tanyapiker@hotmail.com
(719) 241-2110

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Teresa Phillips \(mymule52@icloud.com\)](mailto:mymule52@icloud.com) Sent You a Personal Message
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 6:59:42 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

1. Add a provision that will not allow oil and gas to be permitted in areas that are in violation of federal air quality standards; such areas are already burdened by the effects of poor air quality.
2. Establish a setback distance of at least one mile, without variances allowed, from both occupied structures and residential areas/zones. This is the same setback distance being proposed for reservoirs, which should also not have variances allowed; protections for the safety of residents should be at least on par with protections for drinking water reservoir safety.
3. Eliminate provisions allowing setback distances to be reduced to 500 feet by owner consent agreements. Such provisions simply allow oil and gas applicants to negotiate with developers and owners to reduce setback distances-irrespective of the safety and health impacts to the general public.
4. Develop regulations to prevent fires in wildlands adjacent to residential and urban areas. This can be accomplished by authorizing the Office of Emergency Management to identify portions of such wildlands which pose risks of fire spread, and by disallowing oil and gas facilities from being located within them.
5. Disallow oil and gas companies from being able to request exemption from conducting neighborhood meetings with residents living within one mile of their proposed plan. Companies must engage with and solicit input from residents most impacted by oil and gas development plans.
6. Explicitly prohibit the practice of flaring gas to produce cryptocurrency. Cryptomining is energy intensive, and it produces large amounts of electronic waste, which present environmental risks to air and water. The pollution from this industry will remain local, but jobs and benefits to communities are slim as all work is virtual.

Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Teresa Phillips
913 Marshall St, Fort Collins CO 80525
Fort Collins, CO 80525
mymule52@icloud.com
(970) 581-9719

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Teresa Van Fossen \(trvanfos@comcast.net\) Sent You a Personal Message](mailto:trvanfos@comcast.net)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 12:30:10 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Please protect Arapahoe County's ONLY reservoir!! We need our water to be safe. Please protect our soil and air to be clean and safe for all the children in our neighborhood. Please say no to Fracking!

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Teresa Van Fossen
27402 E Euclid Dr
Aurora, CO 80016

trvanfos@comcast.net
(408) 440-6347

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Thomas Mellem \(mellemtom@gmail.com\) Sent You a Personal Message](mailto:mellemtom@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Sunday, September 10, 2023 9:25:45 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

I know that the items in this letter are not easy to put into action due mostly to the heat from industry. However, PLEASE keep in mind that the health and wellbeing of the citizens of Arapahoe should be and must be your top priority, no matter the pressure from outside influencers. Please do the right thing for us and for Colorado.

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Thomas Mellem
4491 WEST LAKE CIRCLE NORTH

LITTLETON, CO 80123
mellemtom@gmail.com
(303) 347-1048

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Thomas Wilson \(tgwmaestro@gmail.com\) Sent You a Personal Message](mailto:tgwmaestro@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Thursday, September 7, 2023 2:51:35 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Thomas Wilson
113 Via San Miguel
Manitou Springs, CO 80829
tgwmaestro@gmail.com
(719) 633-3449

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Timber WhisperWood \(vixenofthewillows@gmail.com\) Sent You a Personal Message](mailto:vixenofthewillows@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:35:47 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Timber WhisperWood
3000 Ross dr.
Fort Collins, CO 80526
vixenofthewillows@gmail.com
(970) 214-4083

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [tom stiles \(tomstiles@gmail.com\) Sent You a Personal Message](mailto:tomstiles@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 5:26:51 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

tom stiles
1150 Primrose Lane
Fruita, CO 81521
tomstiles@gmail.com
(970) 923-0745

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Vinod Fernandez \(vinmark@gmail.com\) Sent You a Personal Message](mailto:vinmark@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Monday, September 11, 2023 10:20:15 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Vinod Fernandez
23891 East ontario place
Aurora, CO 80016
vinmark@gmail.com
(518) 491-4733

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Wendy Schroeder \(wendy.schroeder@gmail.com\) Sent You a Personal Message](mailto:wendy.schroeder@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Wednesday, September 6, 2023 6:00:28 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

We need a clean, healthy environment

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Wendy Schroeder
1599 Williams St, Apt 709
Denver, CO 80218
wendy.schroeder@gmail.com

(720) 397-1869

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Young Kim \(young.h.kim74@gmail.com\) Sent You a Personal Message](mailto:young.h.kim74@gmail.com)
To: [Bryan Weimer](#)
Subject: Strengthen Arapahoe County Oil and Gas Regulations
Date: Saturday, September 9, 2023 9:30:26 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Arapahoe Commissioners,

Dear Arapahoe County Commissioners and Staff,

Thank you for working to strengthen the County's oil and gas regulations to be in greater alignment with its required duty to protect the public health, safety, welfare, and the environment.

I believe the proposed changes to the regulations are not sufficiently protective. I urge the County to make the following changes to strengthen them in this Phase One of oil and gas revisions:

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Please consider these revisions; they will result in greater protections for our health, safety, and natural world.

Thank you,

Sincerely,

Young Kim
7238 s scottsburg way
Aurora, CO 80016
young.h.kim74@gmail.com
(703) 915-3664

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Member Care at Sierra Club at member.care@sierraclub.org or (415) 977-5673.

From: [Jeff Baker](#)
To: [Diane Kocis](#)
Subject: FW: "Super-emitting" oil wells near Denver are releasing 142% more pollution per hour than state average, CSU study finds - The Colorado Sun
Date: Tuesday, October 24, 2023 8:20:40 AM

FYI...

From: Dennis Markovchick <dennis.markovchick@gmail.com>
Sent: Monday, October 23, 2023 7:35 PM
To: Commissioners <Commissioners@ArapahoeGov.com>
Cc: Alexis Schwartz <alexis.schwartz@sierraclub.org>
Subject: "Super-emitting" oil wells near Denver are releasing 142% more pollution per hour than state average, CSU study finds - The Colorado Sun

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<https://coloradosun.com/2023/10/23/methane-emissions-super-emitting-oil-gas-adams-county/>

Commissioners,

A cautionary story that Arapahoe County should take seriously. We should not allow oil and gas options near where people live. One mile setback distances are necessary.

Thank you in advance for your thoughtful consideration.

Best Wishes,
Dennis Markovchick
dennis.markovchick@gmail.com
303-829-3943

From: [Mark Kamin](#)
To: [Diane Kocis](#)
Subject: Correction to the Oct 10, 2023 Hearing
Date: Sunday, October 22, 2023 4:59:17 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Diane,

Hello Diane,

As I mentioned to you previously, I am providing an update to comments made at the Oct 10, 2023 hearing on the subject of the Proposed Oil and Gas Regulations, specifically the testimony of Michael Wurzman, for your reference.

In his testimony Mr. Wurzman mistakenly described a USGS report¹ as referring to 7000 feet of impermeable rock underlying the Denver Basin being 30% sandstone, claystone, etc. What he meant was that the report was describing the fragile uppermost level of bedrock underlying much of the Denver region including the Lowry Landfill Superfund Site (LLSS). This thin upper bedrock layer was identified by the EPA as the primary containment mechanism preventing downward migration of toxic chemicals from the LLSS into our precious aquifers.

This 'bedrock', that contains 30% sandstone channels, etc., is described in this paper as follows:

“With the essentially horizontal character of these sandstone channels, vertical movement of contaminants will occur readily... if significant vertical fracturing connects channels.”

It is this potential for fracturing due to nearby fracking-induced seismicity that could result in loss of containment under the Lowry Landfill Superfund Site that should be a significant concern for the county. The original remedy of containment for the LLSS did not anticipate the potential future introduction of fracking-induced seismicity and its potential for causing a catastrophic failure of the proposed remedy.

The EPA has already requested no fracking under the LLSS and secured a commitment from Civitas. However, the EPA, even though concerned, does not currently have the authority to establish an appropriate buffer zone outside of the LLSS.

Therefore, it is imperative that the county insist on studies prior to the approval of any fracking in the area to establish robust, scientifically based buffer zones around the LLSS.

Note that this is contrary to the claims of Civitas who claims we are all protected by a 7000 foot layer of impermeable rock that lies below the aquifers since they have ignored the more dangerous issues that lie directly above the aquifers.

The same kind of studies must be performed for the Aurora Reservoir and its Dam, which are potentially subject to premature failure from the fracking induced seismicity, especially with the knowledge of pre-existing growth faults under the dam area².

Thank you,

Mark

Mark Goldsmith Kamin

1. Otton, J.K., 2000, Geologic cross sections and Denver Formation bedrock lithology map at the Denver Radium Operable Unit VIII (Shattuck Site): U.S. [Geological Survey Open-File Report 2000-41, iv, 19 p](#)
2. CH2M Hill, 1987, Senac Dam Report Appendix B