

Good evening, Arapahoe County Planning Commission. My name is Carrie Hackenberger and I am Associate Director for the American Petroleum Institute Colorado. API represents all facets of the oil and natural gas industry in Colorado.

I would like to start by expressing our gratitude to Arapahoe County staff for their work on this proposal. We appreciate the collaborative process that has taken place thus far as the County considers these draft regulations. Of particular note, we are most supportive of the removal of the financial assurance provisions, acknowledging that the goal is to evaluate how the Colorado Oil and Gas Conservation Commission's rulemaking plays out before assessing what makes sense for the county. We similarly support staff's presentation regarding the tank spacing reduction from 6 feet to 3 feet.

With that being said, API Colorado would like to take this opportunity to highlight our remaining concerns, particularly regarding the setback provisions, as we have seen significant changes between the two drafts, with minimal justification as to the basis for the changes.

The most recent draft increased setbacks from any occupied structure from 1,000 feet to 2,000 feet. The new draft includes a waiver process, but that waiver process appears to be unworkable and at odds with the COGCC's approach. API Colorado believes requiring justification for "specific and

extraordinary conditions” extends far beyond reasonable and necessary. We are particularly concerned about the use of the word “extraordinary,” as it implies that waivers likely will not be granted even if the operator has proposed permit conditions that would provide protection for health, safety, and welfare that are equivalent to those of a setback. Instead, the use of that word infers that waivers will rarely be granted.

Moreover, we are concerned that the provisions for granting approval for locations within 2,000 feet of an occupied residence differ in numerous and significant ways from the parallel structure devised by the Colorado Oil and Gas Conservation Commission for evaluating such potential locations. That will very likely lead to unnecessary conflicts between COGCC and the County with respect to permitting. We urge the County to at least harmonize its regulations with those of COGCC.

API Colorado urges the planning commission to reevaluate this section and ensure that the proposed setbacks are reasonable and necessary, while accounting for real world experiences.

While Senate Bill 19-181 authorized local governments such as Arapahoe County additional regulatory authority, the bill likewise imposed constraints on a local government’s latitude in regulating oil and gas operations. A local government’s exercise of its Senate Bill 181 powers must be both *necessary* and *reasonable* and designed to avoid, minimize, and mitigate

impacts that cannot be avoided. Just as importantly, the local government must explain the reasoned basis for its regulations, including setback provisions.

Again, we appreciate the opportunity to comment this evening, and we very much appreciate staff's collaborative approach to this effort.

Thank you for your time this evening.

Arapahoe County – Planning Commission Comments

COGA thanks the county for taking our prior comments under consideration, and COGA has seen some positive changes. However, there are several items that have changed since the last draft that I would like to address this evening.

The first being the setback distances and the “off-ramps” provided to those distances. Arapahoe County’s general off-ramp for siting a location within 2,000’ is worrying the way it is worded and varies quite differently from the approach of the COGCC and other local governments. Arapahoe County requires an operator to justify “extraordinary conditions”, which is a difficult standard to define and prove. COGA suggests that Arapahoe County re-word this specific section to match the COGCC’s language of an operator providing “substantially equivalent protections”. This will provide consistency between regulatory bodies and provide more certainty for operators when permitting.

COGA is also generally confused as to why Arapahoe County increased several of its setbacks since the last draft was presented. The 1,000’ setback doubled to 2,000’. There is a new “hard” setback of 500’ from the edge of the pad boundary to the nearest boundary of a platted lot, and the setback from riparian areas, perennial or intermittent streams, and perennial water bodies has been increased to 500’. Has the county done a GIS analysis of these increased setbacks and what the impact of them will be on future development? COGA would appreciate seeing a map showing where oil and gas development may be possible if these new setbacks are adopted.

Last, COGA requests clarity regarding the definition of “Water Body”, and what specific riparian boundaries the county is referencing in the code. Will the county also be using FEMA boundaries or county designated boundaries? Clarity of these boundaries is crucial to understanding what land is, and is not, available for development. More generally, COGA would like to know if the County still intends to add definitions related to oil and gas to its Code. COGA had several comments on the County’s June 2021 draft definitions and is unsure whether the County has made changes to those definitions or what its plans are in relation to those definitions.

Email Comments/Correspondence received
after packets were mailed and posted to website.

From: JB Condill <jbcrog@aol.com>

Sent: Thursday, September 30, 2021 8:29 AM

To: Diane Kocis <DKocis@arapahoegov.com>; HackenbergerC@api.org; jmartin@bwenergylaw.com;
ashley.campbell@crestonepr.com; Ryan.Seastrom@coga.org; Ed@renegadeoilandgas.com;
erich.schmidt@truecos.com; jannable@extractionog.com; nbennett@extractionog.com; al.zier@truecos.com

Subject: Re: Revised Draft Arapahoe County O&G Rules, case LDC19-004

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.

Thanks, Diane.

I looked at these rather quickly, and the following 3 issues stand out:

Changes to the storing of foam or water is better, but it doesn't seem to completely address both industry and BWFR concerns. This language, to me, can still result in every operator storing water and/or foam at or near every site. I realize it doesn't require that, but it is still a possible outcome with the new language.

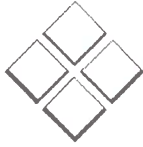
The number of tanks, the total capacity and the distance between tanks still doesn't work. This should be a site by site condition of approval. Some sites will need more tankage and some will need less. What Conoco once agreed to is wholly irrelevant and should not influence a county-wide rule. And spitting the baby with 6 feet between tanks doesn't work. It's the same as 10 feet. Tanks are designed to be 3 feet apart.

The change in 9.a., Groundwater Baseline Sampling and Monitoring is very concerning. I read it to say that a landowner can request sampling from any well, not just new wells. Hopefully this is not what was intended.

I am out of town until Monday, and hope to have time to do a thorough review and attend the planning commission hearing.

Thanks.

JB Condill
Renegade Oil & Gas



VOGEL & ASSOCIATES
Integrated Planning with Innovative Solutions

October 4, 2021

Mr. Jason Reynolds, Planning Program Manager
Ms. Diane Kocis, Energy Specialist
Arapahoe County Public Works and Development
6924 S. Lima Plaza.
Centennial, CO 80112

**Re: Arapahoe County Oil & Gas
Regulations**

Dear Jason and Diane,

On behalf of Prosper Farms Investments, LLC, Vogel & Associates has reviewed the DRAFT oil & gas regulations dated September 28, 2021. Based on review, the following are comments regarding the respective regulations.

As previously discussed with staff, the approved and vested Prosper Preliminary Development Plan was based on an oil & gas operations master plan that was created with Conoco Phillips. During the Preliminary Development Plan process, Arapahoe County planning staff (Sherman Feher) strongly encouraged that a master plan be prepared that identified potential locations for oil and gas production. As outlined in the approved Preliminary Development Plan, it was encouraged that production areas be in areas that did not conflict with residential uses.

Planning areas, open space, roads, and oil & gas operation areas were based on a set of standards including setback requirements that were agreed upon with Conoco Phillips during the Preliminary Development Plan process. The agreed upon and documented setback requirement with Conoco Phillips includes locating residential structures 350 feet from the proposed well head. The Surface Use agreements that have been executed with Conoco Phillips and Crestone Peak address other aesthetic and life safety considerations.

As noted above, the vested Preliminary Development Plan (PDP) including land uses, densities, etc. were based on the above considerations and agreements. There are setback requirements outlined on pages 4 and 5 that conflict with the Prosper PDP including that there is a 500' setback from riparian areas. It was discussed with staff, that further definition regarding where the setback would be measure from was required. It was discussed, that the 500' setback could be measured from the designated "floodway" as opposed to an arbitrary boundary associated with a riparian corridor. This requirement as written is forcing wells to be located within the interior of planning areas and future neighborhoods.

The 2000' setback from Activity Areas is also a concern. Prosper has allocated and extensive open space system that is located on the perimeter of the PDP. This master plan is zoned to be utilized for agriculture, active and passive open space uses. The 2,000' setback significantly restricts active recreation areas that could be located within the open space. The setback needs to be altered or "Activity Area" land uses require further definition.

It is Prosper's intent to maintain the rights associated with the vested Preliminary Development Plan including the ability to develop the respective planning areas, land uses, and densities outlined in the plan. Prosper will not be supportive of any standards that would compromise the vested rights associated with the Preliminary Development Plan.

Prosper will continue to coordinate with the operators and pipeline companies to ensure the terms outlined in the respective agreements and easements are maintained. This will include addressing visual and life safety considerations.

Please review and call with any questions or comments.

Sincerely,

Vogel & Associates, LLC

Jeffrey Vogel, AICP

Principal

Cc: Thomas J. Ragonetti, Otten, Johnson, Robinson, Neff and Ragonetti

September 27, 2021

Jason Reynolds
Diane Kocis
Energy Specialist
Arapahoe County

Via email jreynolds@arapahoegov.com, dkocis@arapahoegov.com

Re: Proposed Oil & Gas Regulations

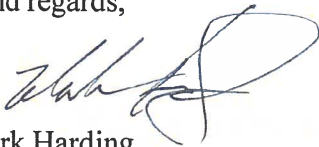
Dear Jason & Diane,

Thank you for your continued engagement on the proposed draft Arapahoe County Oil & Gas Regulations (“Regulations”). We appreciate your clarification that the existing Sky Ranch Oil & Gas Pad site conveyed to Crestone in 2020, which received approval from Arapahoe County recently would not be subject to the new Regulations.

While the Sky Ranch Pad site may not be subject to the revised Regulations, we would like to continue to help support the discussion with some detailed observations. As discussed, the revised Regulations seek a 200 ft. setback from adjacent property boundaries rather than 250 ft, and a 100 ft. setback from a roadway ROW. As detailed in the attached Exhibit, O&G pad sites are generally very large and have significant vacant areas between infrastructure and site boundaries to provide additional buffering from infrastructure. The County’s regulations measure setback requirements from property boundaries and ROW to pad site boundaries, which may have additional buffer areas within pad sites to infrastructure depending on how pad site boundaries are delineated. It will be incumbent on owners and operators to define these areas as they develop their plans to ensure compliance with the Regulations as well as land optimization for these pad sites and adjacent uses. As property owner, we appreciate the County’s USR appeal process for circumstances where pad sites may have large buffer areas within the pad site boundary from O&G infrastructure that provide additional separation from property boundaries or roadway ROW that may be taken into consideration on a case-by-case basis.

We appreciate the opportunity to engage with staff to discuss our experiences and concerns regarding these regulations and welcome continued input.

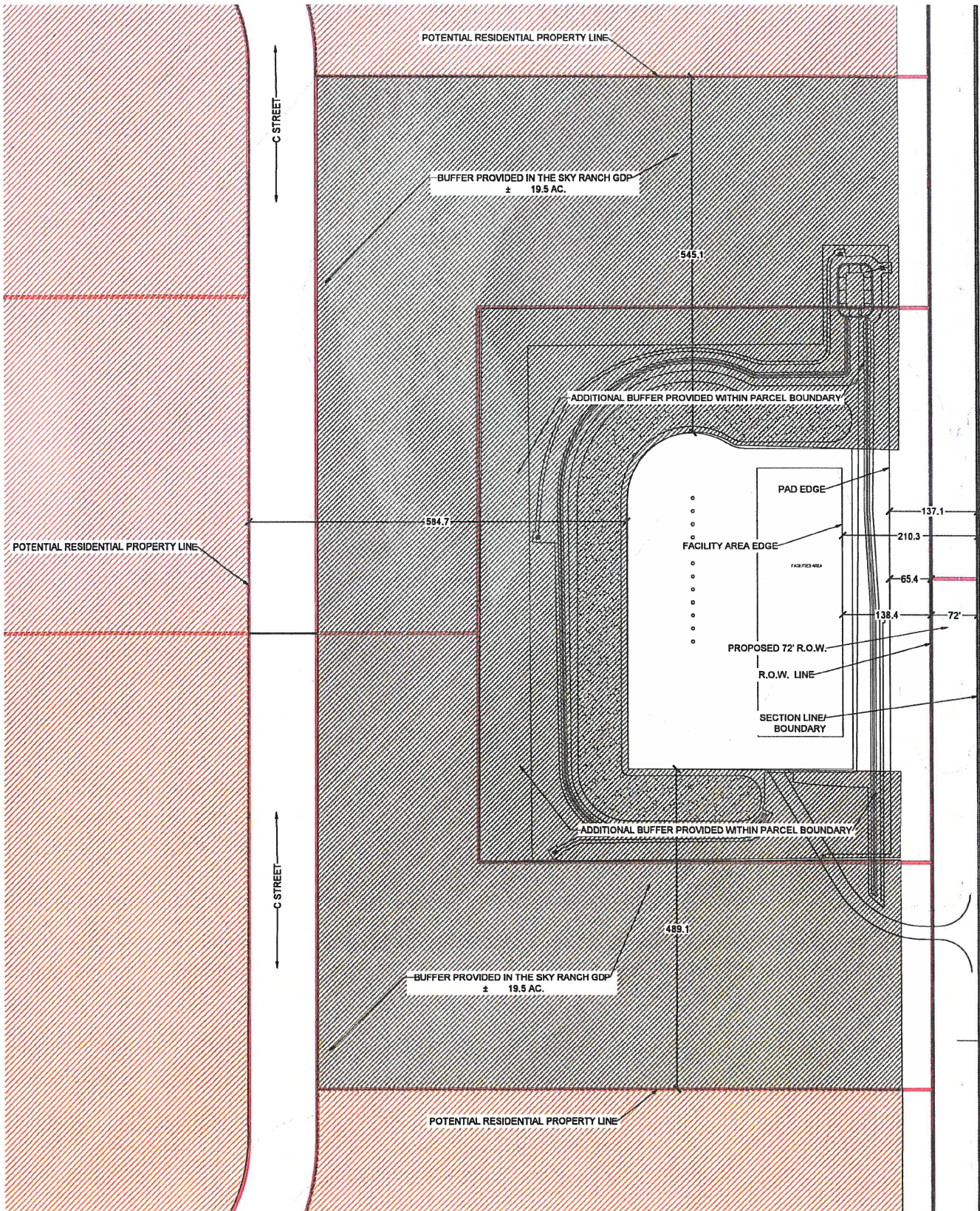
Kind regards,



Mark Harding
President, CEO

SKY RANCH

COUNTY OF ARAPAHOE, STATE OF COLORADO



PROPERTY OWNER:
PCY HOLDINGS, LLC

ENGINEER:
CVL CONSULTANTS OF
COLORADO, INC

PLANNING/LANDSCAPE
ARCHITECTURE
PCS GROUP

OIL & GAS PAD

SCALE: 1"=200'

DATE: DECEMBER 2020
UPDATE: 02/21

From: Mark Hess <markhess@hess-services.com>
Sent: Monday, October 4, 2021 8:57 AM
To: Al Zier <Alvin.Zier@Truecos.com>
Subject: API 12F Standards

CAUTION: This email has originated from outside of the True companies. Please be cautious with Links and Attachments.

Al,

I attached a standard for your reference that is commonly used in Tank and walkway fabrication. Spreading tank spacing to 6 feet between tanks would definitely impact the structural requirements. Section B.3 Stipulates the walkway requirements and the walkway cannot deflect more than 1/240 of the span. As widths increase the structural steel requirements will increase thereby increasing cost.

B.3 Walkways

B.3.1 Walkways should consist of tread flooring (decking) sections, railing assemblies, and toeboards designed and assembled so that the completed structure will support a uniform load of 244 kg/m² (50 lb/ft²) or a concentrated load of 4.45 kN (1000 lb) at any place on the span without deflecting more than 1/240 of the unsupported span length.

B.3.2 Walkway decking width shall be a minimum of 0.71 m (28 in.) wide. The maximum span between tank brackets or ground supports shall be 7.62 m (25 ft). Intermediate column supports shall be provided, as required, to limit the free span and deflection.

Additional considerations for increased tank spacing is increased costs of piping. Common sizes are: Vent lines 6" (18.97), Load Line 4" (10.97), Fill Line 4" (10.97), Recycle line 2 or 3" (7.58). Per linear foot the increased weight of these pipes are 48.5 lbs per ft. At current steel pricing it is an additional minimum \$75/ft cost. Electrical costs for high level devices will also increase. Additional cost of secondary containment is another factor. I don't have a Square ft avg cost handy but I would think it is significant.

I had a copy of 2006 IFC on my laptop. I attached as reference. Other applicable codes are NFPA 30. In reviewing with local regulatory agencies its delicate because local fire Marshalls can enforce expensive foam systems if they deem them necessary. I hope this information is helpful. My current standards are at shop in Hays. I'm travelling the past week so I didn't have NPFA available.

Regards,

Mark Hess
Vice President of Operations



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LDC19-004 Arapahoe County Land Development Code – Oil & Gas Regulations

Diane Kocis, Energy Specialist

SEPTEMBER 27, 2020

This hearing is a continuation of the August 17, 2021 Planning Commission hearing for the county-initiated application to amend the Land Development Code to include new requirements for oil and gas development applications as well as requirements for construction, drilling, completion activities and production, as granted to local governments by Senate Bill 19-181, to reduce impacts to nearby residents, future residents, the environment and wildlife. The draft regulations provide an administrative alternative to Arapahoe County's Use by Special Review process; an applicant can always seek a Use by Special Review with a public hearing if they would like to propose alternative standards for their project.

Request and Recommendation

Since the continued August 17, 2021 hearing, Staff revised the draft oil and gas rules, to reflect some of the input from citizens, operators, the Arapahoe Office of Emergency Management (OEM) and Bennett-Watkins Fire Rescue as well as to refine some of the rules language for clarity.

Staff recommend adopting new regulations to mitigate the impacts of oil and gas development on nearby residents, while allowing operators to develop their mineral rights. Staff requests a recommendation of approval from the Planning Commission on the draft oil and gas regulations.

Background

Over the past year, staff have sent the draft oil and gas rules out for two referral periods, posted the drafts on the Oil and Gas website, provided two online stakeholder surveys and revised the draft rules in response to some of the stakeholder input.

At the August 17, 2021 Planning Commission hearing the Planning Commission provided input on some of the draft rules, stakeholders provided additional testimony for suggested changes to the draft oil and gas rules and staff committed to meeting with operators, OEM and Bennet-Watkins Fire Rescue to focus on potential draft rule changes for the life safety portion of the rules.

Discussion and Recommended Regulations

This section highlights some of Staff's changes to the draft oil and gas rules. For a complete list of the changes please refer to the attached Table 1.

5-3.6.E. 5., 5-3.6 F.12.and 5-3.6.H.1 – Waiver Requests

- Added visual and odor mitigations to the list of allowed waiver requests.

- Added a waiver for amendment of applications if approved by the PWD Director. Some changes to the application would be allowed without an amendment application.
- Added a waiver for the ambient noise survey and noise mitigation for facilities proposed to be located in an area that is sufficiently remote from any property with an occupied structure or any High Priority Habitat.

5-3.6 E. 2. - Neighborhood Meeting

- Neighborhood meetings can be conducted in person or remotely. Added the remote option.

5-3.6.F.2 – Setbacks:

- Staff noted comments made by citizen stakeholders expressing the need for alignment with the COGCC's primary setback of 2,000 and a comment from the Planning commissioners that the County's 1,000 foot setback is confusing as to how it relates to the COGCC's primary setback. Staff revised the County's primary 1,000 foot setback to agree with the COGCC's 2,000 foot setback from pad boundaries to occupied structures.
- The 1,000-foot setback from the nearest boundary of a platted lot smaller than 15 acres in area was changed from 1,000 feet to 2,000 feet.
- Added a 100-foot setback from public right-of-ways –based on developer input (this reduces setback from public right-of-way from 250 feet in the original draft to 100 feet, which is consistent with the front yard setbacks for A-E and A-1 agricultural zoning).
- The 250-foot setback of pad boundaries to adjacent property lines was changed to 200 feet.
- The 300-foot setback to floodplains, wetlands, riparian corridors, streams and perennial surface water was changed to 500 feet based on CPW input to align with new COGCC rules.
- The reverse setback measurement was changed from pad boundary to wellhead. The intent for this setback is to separate structures from wellheads, which would provide room for plugging or other maintenance activities.

5-3.6.F.3 – Health and Safety

- Eliminated requirement for Operator to provide 24-hour contact information for contractors and subcontractors. Contractor and subcontractor employees for specific facilities can change on a frequent basis. Staff will rely on Operator to provide this contact information if needed.
- Revised NIMS training requirements for key personnel only, rather than all site workers.

5-3.6.F.3 – Spill and Release Reporting

- Replaced requirement for reporting of flammable liquid spills to reporting requirements specified by COGCC.

5-3.6.F.8 – Number of Tanks and Tank Separation Requirements

- Maintained maximum number of tanks at 9 for a combined total of oil, produced water and/or condensate tanks and added an “or” total Facility tank storage capacity of no more than 6,750 barrels. (Note: 6,750 barrels is equivalent to 283,500 gallons).
- Reduced tank separation distance requirement from 10 feet to 6 feet, in response to operators' concerns about tank catwalk construction, additional secondary containment and larger pad footprint. Some existing pad sites feature tanks with 6 feet of separation, which allows catwalk construction and access.

5-3.6.F.10 – Noise

- Eliminated prohibition of noise surges to allow noise surges of 10 dB(A), but only during the hours between 7:00 AM and the next 7:00 PM 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. This aligns our regulations more closely with COGCC rules.
- Added a requirement for an update to the Noise Mitigation Plan if a 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.

5-3.6.F.14 – Visual Mitigation

- Added an option to install low-profile production equipment to potential visual mitigation measures.

5-3.6.F.17 and 18 – Wildlife, Streams, and Floodplains

- Added a rule that the Operator shall avoid constructing in CPW-mapped High Priority Habitats to the maximum extent possible. If the Operator elects to construct in HPHs they will be subject to COGCC's minimization and/or mitigation measures.

5-3.6.G.5 – Expiration of Approval

- Tied the expiration to drilling of at least one well, rather than completion of a well.

5-3.6.I – Transfer/Sale of Facilities to a New Operator

- Changed the notification of transfer/sale to 7 days, instead of 30 days.

5-3.6.L – Other Requirements Prior to Commencement of Operations

- Eliminated the Financial Assurance and Insurance requirements for the present time. Staff is awaiting the COGCC's new draft rules and the rulemaking hearings before redrafting this section.

Fiscal Impact

Fiscal impact of the adoption of the oil and gas rules is expected to be minor and will only entail increased staff time in Planning and the Office of Emergency Management for review of more application materials and waiver requests and additional recordkeeping.

Recommendation

Considering the findings and other information provided herein, and provided that the Planning Commission determines that the draft oil and gas rules should move forward to the BoCC, Staff recommends approval of case number LDC19-004, Arapahoe County Land Development Code Oil and Gas Regulations as drafted and presented to the Planning Commission, subject to the following conditions of approval:

1. Staff will make corrections and revisions to the proposed language as directed by the County Attorney prior to incorporating the approved amendment into the Land Development Code for publication.
2. Staff will make corrections and revisions to the proposed language as directed by the

County Attorney prior to incorporating the approved amendment into the Development Application Manual for publication.

Attachments

- Revised Draft Oil & Gas Rules
- Table 1: Proposed Oil and Gas Draft Rules Changes
- Oil & Gas Rules Definitions
- Staff Report/Backup Materials from August 17, 2021 Planning Commission

Note: Earlier versions of the proposed rules and definitions have been removed from BOCC packet; see Resolution for regulations and definitions.

Table 1 – Proposed Oil & Gas Draft Rule Changes (note: revisions shown as underlined text)

Potential Rule Change Topic or Category	Stakeholder Source/Reason	Revised Rule Language/Staff Response
<p>Intent and Applicability</p> <p>Use of the term “location” as opposed to “facility”.</p> <p>Reference to Senate Bill 19-181.</p>	<p>API: The term Oil and Gas Location (rather than “facility”) should be used throughout the Code in order to maintain clarity over the “siting” aspect of local government jurisdiction, which relates to Oil and Gas Locations. API requests this change be made throughout the regulations in their entirety.</p> <p>Renegade Oil & Gas (paraphrased): Rules need to align with Senate Bill 19-181 and staff and the Planning Commissioners should read SB19-181.</p>	<p>Section 5-3.6.A.1 and also see Oil and Gas Rules Definitions.</p> <p>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 <u>Administrative Use by Special Review</u> or Use by Special Review approval <u>in accordance with the Arapahoe County Land Development Code</u>, regardless of the zone district or category in which the operation will be located. <u>If permitted in accordance with the requirements of the Arapahoe County Land Development Code</u>, Oil and Gas Facilities are allowed in all zone districts, including Planned Unit Developments, subject to <u>obtaining all</u> required Federal, State, or <u>other</u> Local permits and approvals, and also subject to continued compliance with the requirements for the Oil and Gas Facility and <u>the</u> 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.</p> <p>Staff: Added clarification. Added a reference to SB19-181.</p> <p>Section 5-3.6.A.1.</p> <p>The intent of this Section 5-3.6 is to describe the <u>approval process</u> and approval criteria <u>to locate an</u> Oil and Gas Facility <u>in unincorporated Arapahoe County</u> and to regulate the surface impacts of an Oil and Gas Facility’s operations to such extent as is reasonable and necessary to <u>protect public health, safety, and welfare and the environment in accordance with the authority provided under SB19-181.</u></p>
<p>Applicability to other County standards and regulations</p>	<p>Staff: Added clarification of applicability.</p>	<p>Section 5-3.6.A.4.</p> <p>All <u>Oil and Gas</u> development authorized by this section shall comply with applicable provisions of the <u>Arapahoe County’s</u> building and engineering standards, including but not limited to, the Floodplain Regulations, the Building Code, the Grading, Erosion, and Sediment Control (GES) Manual,</p>

Potential Rule Change Topic or Category	Stakeholder Source/Reason	Revised Rule Language/Staff Response
		the Stormwater Management Manual, the Stormwater Ordinance, and the Infrastructure Design and Construction Standards.
Relationship to Section 5-3.4 of the Land Development Code:	Staff: Reworded. Added clarification. Informs applicants that they have the option of applying for a full USR, to fully explain their application at 2 public hearings.	5-3.5.C.2. <u>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.</u>
Applicability of rules	Renegade Oil & Gas (paraphrased): Do the rules apply to vertical wells, which are far less impactful? Note: For full USR applications, the BoCC, has the authority to grant waivers. For Administrative cases, the PWD Director has the authority to grant waivers to some criteria.	Section 5-3.6.C.3. This Section, <u>and Section 5-3.4 for a USR application if applicable,</u> 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. 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.
Compressor stations included in “facilities”	API and COGA: Compressor stations are part of midstream operations.	Staff removed all references to compressor stations.
Alternative Location Analyses required for pads proposed on County-owned property.	API: Re the requirement for an Alternative Location Analysis for pads proposed on County property: The way this reads, it appears that the only way an application proposed on county land may proceed as a USR is if there is no location other than on the county process that is 'viable'. It is	Section 5-3.6.D.5 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 <u>304(b)(2)(C)</u> . 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 <u>technically feasible</u> and can meet the requirements of this Land Development Code for approval, the application

Potential Rule Change Topic or Category	Stakeholder Source/Reason	Revised Rule Language/Staff Response
	<p>not clear what criteria the county will use to determine if a location on county property is still 'viable', even if there are other locations available?</p> <p>API also recommends using an alternative standard. 'Viable' is not the appropriate standard in this case.</p>	<p>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 <u>technically feasible</u>, 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.</p> <p>Staff response: Replaced “viable” with “technically feasible”.</p>
Neighborhood Meeting	<p>API: Can this meeting be conducted either virtually or in-person? COGA: Are these able to be virtual? Strictly in-person?</p>	<p>Section 5-3.6.E.2 <u>Meetings may be conducted in person or utilizing an electronic virtual or remote meeting platform.</u></p>
Signs posted to serve as a notice of application	<p>COGA: It is possible that the location of the sign will be required to be on a property that does not have contractual relationships with the operator proposing the project. Since the sign is required to be outside of the (county) ROW, what happens if permission to locate the sign on the 'required' property is not granted?</p>	<p>Section 5-3.6.E.3.b 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 <u>or at such other location acceptable to and approved by Planning Division staff.</u></p>
Waiver requests	<p>API: requests clarification on timing of a waiver request. Should this occur when the application for an AUSR is filed?</p>	<p>Section 5-3.6.E.5 An applicant may apply for a waiver or modification of the following requirements <u>for a proposed Oil and Gas Facility</u>: 1) neighborhood meetings, 2) the burying of temporary water lines at driveway and gravel road intersections, 3) <u>visual mitigation</u>, or 4) any other matter specifically identified as being eligible for a waiver <u>or modification</u> in this Section 5-3.6.</p> <p>A request to waive or modify a regulation shall be made in writing <u>at the time of application</u> and will be evaluated on the merit of the individual request.</p>

Potential Rule Change Topic or Category	Stakeholder Source/Reason	Revised Rule Language/Staff Response
	<p>Citizen stakeholder: the impression to citizens is that all oil and gas drilling applicants can go through a waiver process for each site.</p> <p>COGA: Are items ineligible for waiver eligible for a variance after hearing before the BOCC? Staff response: See Section 5-3.6.E.5. (last line).</p>	<p>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-</p> <p>5-3.6.G.7 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.</p>
Setbacks	<p>Citizen stakeholders (paraphrased): Change County setback from occupied structures to 2,000 feet to match the state’s (primary) setback rule.</p> <p>Tri-County Health Department: Based on several studies identified in our October 27, 2020 comment letter, TCHD recommended that the County increase setback distances to a distance greater than the proposed 1000 feet, to at least 2000 feet from property lines, particularly, for settings where vulnerable groups (e.g. children in schools, childcare centers) are found.</p>	<p>Staff response: See Section 5-3.6.F.2.a. Revised regulations for more consistency with state setbacks.</p> <p>All pad boundaries shall be located at least:</p> <ul style="list-style-type: none"> • 2,000 feet from any occupied structure, unless the owner of the occupied structure requests a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility. <u>This setback may be reduced provided that the Oil and Gas Facility application is approved through a Use by Special Review as provided in Section 5-3.4 of the Land Development Code and provided that the reduction in setback is justified by specific and extraordinary conditions of the proposed 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.</u> However, in no case may this setback be reduced below 500 feet. • 2,000 feet from the nearest boundary of a platted lot smaller than 15 acres in area. <u>This setback may be reduced provided that the Oil</u>

Potential Rule Change Topic or Category	Stakeholder Source/Reason	Revised Rule Language/Staff Response
		<p><u>and Gas Facility application is approved through a Use by Special Review as provided in Section 5-3.4 of the Land Development Code and provided that the reduction in setback is justified by specific and extraordinary conditions of the proposed 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. However, in no case may this setback be reduced below 500 feet.</u></p>
Setbacks	<p>Sky Ranch Developer (paraphrased): Re 250 feet from any adjacent property line boundary: ... a neighboring property owner may have set back considerations; We located our pad sites adjacent to future County arterial 144' roadways because that is the least desirable location for residential uses and doing so provides the greatest roadway access for heavy O&G truck traffic to access the site without sending large trucks on roadways not conducive for their size. Further, siting adjacent to major roadways maximizes emergency access to the site, should it be needed. Putting a 250-foot setback to property lines carves out too great a buffer along arterial roadways and discourages optimal siting of O&G facilities in proximity to the 144-foot rights of way for major roadways.</p>	<p>Staff response: See Section 5-3.6.F.2.a. Draft setback from adjacent property line was reduced from 250 feet to 200 feet. Added new 100 foot setback from public right-of-ways (this matches the minimum front yard setback for agricultural zoning districts).</p> <p>All pad boundaries shall be located at least:</p> <ul style="list-style-type: none"> • 200 feet from any adjacent property's boundary line. • 100 feet from public right-of-ways.
Setbacks for Floodplains, Stream Channels and Riparian Areas	<p>CPW and Engineering Services Division: Clarification of no development in a floodplain and change setback from stream channel to match COGCC's new rule.</p>	<p>Staff response: See Section 5-3.6.F.2.a.</p> <p>All pad boundaries shall be located at least:</p> <ul style="list-style-type: none"> • <u>Outside of a 100-year floodplain</u> • <u>500 feet from the outer edge of any riparian area, or any ordinary high-water mark of any perennial or intermittent stream channel, or any perennial surface water body, whichever is more restrictive.</u>

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Reverse Setbacks	<p>Prosper Developer: The 250' guideline is in conflict with the Prosper vested master plan. Clarify if the setback is for the actual well or the pad site.</p> <p>The 250' guideline is in conflict with the Prosper vested master plan. Prosper intends to enforce the rights associated with the master plan.</p>	<p>Staff response: Clarified reverse setbacks. Per the Prosper Filing 1 Final Development Plan, the ConocoPhillips Operations Site is about 175 feet from the closest residential lot. From a review of several existing oil and gas pad sites, the wells are located 125 feet to 250 feet from the edge of the oil and gas pad site. The reverse setbacks would still allow home construction if those wells were in place.</p> <p>Section 5-3.6.F.2.c No new occupied structure shall be constructed less than: 250 feet from an existing Oil and Gas <u>wellhead 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).</u></p>
24-hour Contact Information for the Operator	<p>COGA: Re providing current 24-hour contact information: The operator is best positioned to contact contractors and subcontractors as needed. It will be most efficient for the operator to do so, especially that given drilling and completion operations, there could be as many or more than 10 unique contractors on location at a given time, plus contractors frequently change. So long as the operator is responsive and communicating with contractors, this is burdensome, unnecessary and unreasonable as drafted.</p>	<p><u>Staff response:</u> Revised the notification and sign sections (removed requirement that operators provide contact information for contractors and subcontractors to the County and that the sign be legible from the public ROW, for example).</p> <p>Section 5-3.6.F.3.d The Operator shall maintain and <u>provide to the County</u> 24-hour contact information for the Operator and shall <u>maintain 24-hour contact information for all contractors and subcontractors working at the facility.</u> <u>Operator shall provide all such contractor and subcontractor contact information to the County upon request.</u></p> <p>Section 5-3.6.F.3.i A sign with the Operator's 24/7 contact information, the address of the <u>COGCC complaint website</u>, 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.</p>
Directional Signage	<p>COGA: Re directional signage: The County's proposal could result in a really big sign with</p>	<p>Staff response: clarified that directional signage is required "at or near the intersection of the access road with the public road" or "<u>at such other</u></p>

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	<p>really big letters The sign itself may ... interfere with the surface owner’s aesthetics. There may be instances where an access road is shared with a private property owner and the “entrance” to the O&G Location is setback from the public ROW of some distance ... legibility from the public ROW will not always be appropriate ...or necessary. It is possible that the location of the sign will be required to be on a property that does not have a contractual relationships with the operator proposing the project.</p>	<p><u>location acceptable to and approved by Planning Division staff</u>”. There is no minimum sign size requirement and as noted above, legibility from the ROW is not required; see Section 5-3.6.F.3.h and i.</p>
Floodplains	<p>Engineering Services Division: Added wording for floodplain permit requirement</p>	<p>Section 5-3.6.F.18 Access roads, and underground pipelines and flowlines are permitted to cross floodplains provided that they are designed to meet <u>Arapahoe County Floodplain Regulations and the Infrastructure Design and Construction Standards or other applicable Engineering Standards</u> and those crossings are in accordance with a floodplain permit issued by the Arapahoe County Floodplain Administrator in accordance with Section 5-4.3 of the Land Development Code.</p>
Health and Safety Training	<p>OEM and API (paraphrased): Not enough staff available to do training for each new pad; OEM: However, pads are constructed with a standard design and one training a year will suffice, unless the pad design changes.</p>	<p>Section 5-3.6.F.3.l.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. <u>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.</u></p>
Health and Safety Training	<p>Operators (paraphrased): Because contractors working on an operator’s site switch out frequently, NIMS training should only be for key personnel.</p>	<p>Section 5-3.6.F.3.l.ii <u>(revised entire section)</u> <u>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</u></p>

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		the proposed Facility that will be required for <u>key personnel</u> prior to the start of drilling. <u>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.</u>
Storage of Firefighting Water and Foam	API: Re storage of firefighting water near the site or at a location approved by the Fire District: There are many instances where the Operator is not the entity extinguishing a fire at an Oil and Gas Location and it would not be feasible to store water or retardant onsite.	Section 5-3.6.F.3.m.i The Operator shall store a quantity of water or other fire suppressant material on or near the site in the <u>amount, type and location</u> approved by the fire district having jurisdiction over the Facility. Alternatively, if approved by the fire district having jurisdiction over the facility, the Operator will provide a sufficient supply of an approved fire suppressant material to the fire district for use at the Operator's facilities.
Incident Reports	API, COGA and small operator: Concerned about small quantity of releases of flammable liquids.	Staff response: Changed reporting of spills of 5 gallons of flammable liquids to align with COGCC rules for spill reporting. Section 5-3.6.F.3.o.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.
Records of Testing of Automated Safety Systems	Staff: Added clarification	Section 5-3.6.F.3.o.iv The Operator shall <u>maintain and keep the quarterly testing results records for at least three years</u> and <u>said records shall be made available to the County upon request by the PWD Director.</u>
Secondary Containment for Onsite Storage Tanks	Staff: Added clarification	Section 5-3.6.F.5.a <u>Secondary containment shall be of sufficient capacity and effective to contain at least 1.5 times the volume of the largest tank.</u>
Disposal of Drill Cuttings (odor)	API: Allow temporary storage (of drill cuttings) as it prepares for disposal.	Section 5-3.6.F.6 Drill cuttings must be disposed offsite <u>at least twice weekly</u> , at a State-approved solid waste facility. No onsite disposal is allowed.
Spacing Between Storage Tanks	API: Requiring at least ten feet between storage tanks is contradictory to the premise of reducing	Staff response: with Fire District input, reduced separation to 6 feet, which matches existing north/south separation on some pad sites.

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	<p>surface impact and may instead require an operator increase their surface impact and total facility size. (Paraphrased) Change 10 feet to 3 feet.</p> <p>Small Operators: catwalks above tanks cannot be designed for 10 feet of separation.</p>	<p>Section 5-3.6.F.8.a All oil and produced water storage tanks shall be spaced at least <u>6 feet</u> apart.</p>
Maximum Number of Storage Tanks at a Facility	API, COGA and Operators (paraphrased): Multi-well pads will require a greater number of tanks than 9	<p>Staff response: After discussions with Fire District, clarified a maximum volume; this allows operators flexibility in tank layouts.</p> <p>Section 5-3.6.F.8.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 <u>a total Facility capacity of no more than 6750 barrels.</u></p>
Down-Gradient Surface Water Sample	Staff: Added clarification	<p>Section 5-3.6.F.9.d The Operator shall sample, on a one-time basis, down-gradient <u>and perennial</u> surface water within a one-half (1/2) mile of a proposed well pad prior to the construction phase.</p>
15-Minute Noise Surges	<p>API (Paraphrased): COGCC noise standards should be the guiding factor for noise. 15-minute noise surges should be allowed during drilling.</p> <p>COGCC acknowledged that noise surges could be necessary to retrieve tools stuck in the hole.</p>	<p>Staff response: Added COGCC wording for allowance of 15 minute noise surges</p> <p>Section 5-3.6.F.10.b <u>During the hours between 7:00 AM and the next 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.</u></p>
Ambient Noise Survey	<p>API: Timing of the ambient noise survey is key. There could be years between when an application is filed and when drilling starts. COGCC specifies a timeline for ambient prior to spud (< 90 days) – Rule 423.b. Given the potential for marked changes in ambient noise over time, there needs to be provisions to rely on the</p>	

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	<p>COGCC-required ambient survey for compliance purposes.</p> <p>And, timing for local and state study should be synchronized to prevent multiple studies and allow for the most accurate data 90 days prior to construction.</p> <p>Additionally, it is unnecessary to require noise modeling if there are NO receptors within 2000' of the Location. There should be an allowance for waiver to ambient noise survey, the noise mitigation plan, and noise modeling if the Surface Owner provides a waiver or if the Commission or County waives the noise requirements ... If there are no receptors that could be impacted by the noise of drilling and completion activities ...</p> <p>COGA (Paraphrased re an ambient noise survey): If there are no receptors that could be impacted by the noise of drilling and completion activities then an ambient survey, noise mitigation plan, and noise modeling should not be required. Please specify whether the requirements of this provision also applies to proposed facility pads with no wells.</p>	<p>Staff response: Staff must evaluate an ambient noise survey during the application review, in order to evaluate Operator's planned noise mitigation.</p> <p>Section 5-3.6.F.10.d The Operator shall conduct an ambient noise survey for each proposed well pad <u>no more than 90</u> 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.</p> <p>Section 5-3.6.F.10.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, <u>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.</u></p>
Noise Mitigation Plan	API: There should be an allowance for waiver to ambient noise survey, the noise mitigation plan,	Staff response: Staff met to discuss expansion of the allowed waivers and decided that number 4 in the list of waivers in 5-3.6.E.5.sufficiently

Potential Rule Change Topic or Category	Stakeholder Source/Reason	Revised Rule Language/Staff Response
	<p>and noise modeling if the Surface Owner provides a waiver or if the Commission or County waives the noise requirements due to the rural nature of the proposed location.</p> <p>API (paraphrased): Change 2 years to 3 years for the Noise Mitigation Plan update If the Facility is not constructed within 3 years (as opposed to original wording of 2 years).</p> <p>API: Rather than being overly prescriptive, API requests flexibility for an operator to determine best management practices and best available and feasible technologies (for noise mitigation).</p>	<p>addresses API’s concerns for noise: 4) any other matter specifically identified as being eligible for a waiver or modification in this Section 5-3.6. A waiver could be applicable for an ambient noise survey, noise mitigation plan or noise modeling for locations that are sufficiently remote.</p> <p>Staff response: The number and proximity of homes in a neighborhood can change significantly in 3 years. Staff opted not to change 3 years to 2 years.</p> <p>Section 5-3.6.F.10.h The Noise Mitigation Plan shall address noise/vibration through sound walls and other practices such as, <u>but not limited to</u>, utilizing electric equipment, <u>Tier 4</u> diesel engines, installing mufflers or covers on noisy equipment or the use of Quiet Fleet™, or similar noise mitigation.</p> <p>Staff added clarification on updates to the Noise Mitigation Plan: Section 5-3.6.F.10.e, <u>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.</u></p> <p>Staff response: Wording in Section 5-3.6.F.10.h. is now broader: The Noise Mitigation Plan shall address noise/vibration through sound walls and other practices such as, <u>but not limited to</u>, utilizing electric equipment, <u>Tier 4</u> 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.</p>
Noise Modelling	COGCC: Add generators to the list of noisy equipment needing BMPs	Section 5-3.6.F.10.g

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		If the noise modeling indicates that drilling or completion activity <u>or production equipment</u> 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.
Unloading of Tubular Goods	COGCC: Does the proximity to houses matter? If there are no houses, do they have to adhere to this rule?	Section 5-3.6.F.10.k Tubular goods may not be unloaded from 8 PM to 7 AM <u>unless there are no occupied structures within 2,640 feet.</u>
Odor Mitigation	Staff: Added clarification.	Section 5-3.6.F.12.a The Operator shall prevent odors migrating offsite during drilling through the use of low-odor Category III drilling fluid, <u>unless a waiver or modification is allowed under 5-3.6.E.5 of these regulations.</u>
Visual Mitigation	Staff: Added clarification.	Section 5-3.6.F.14.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, <u>low-profile production equipment, solid fencing, berming, or landscaping.</u>
Visual Mitigation	COGA (paraphrased): Installing landscaping within 6 months of the first well's completion is problematic for the timing of interim reclamation.	Section 5-3.6.F.14.b. Landscaping or fencing around the perimeter of the pad shall be installed within <u>one year</u> of the first well's completion.
Visual Mitigation	COGCC: Re production pads shall be maintained free of vegetation, rubbish and debris: How does this impact out interim reclamation rules?	Section 5-3.6.F.14.c Production pads shall be maintained free of vegetation, <u>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.</u>
Traffic Mitigation and Reduction	Staff: After communication with a water provider.	Section 5-3.6.F.16.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 <u>water needed during drilling and completion activities or</u>

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		<p>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 <u>Administrative Use by Special Review</u> application or by amendment to an approved <u>Administrative Use by Special Review</u>.</p>
<p>Wildlife, Wetlands, Riparian Areas and Stream Channel Measures</p>	<p>Staff: Added underline wording after additional communication with CPW.</p> <p>Note: Waivers for CPW recommendations would not be common.</p> <p>Staff: after additional communication with CPW. 500 feet aligns with the COGCC 1200 series rules.</p>	<p>Section 5-3.6.F.17 – Added “channel” after Stream so that title is now Wildlife, Wetlands, Riparian Areas and Stream Channel Measures.</p> <p>Section 5-3.6.F.17.a. The Operator shall implement the recommendations of Colorado Parks & Wildlife (CPW) <u>that address any site-specific site conditions</u>, unless a waiver or modification is approved in accordance with Section 5-3.6.E.5 above.</p> <p>Section 5-3.6.F.17.c. Crossings of defined streambed and banks (<u>stream channels</u>) by flowlines and pipelines must be bored underneath and not trenched.</p> <p>Section 5-3.6.F.17.d All crossings of riparian areas by flowlines and pipelines shall be bored under, starting <u>500</u> 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.</p> <p>Section 5-3.6.F.17.e. <u>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 other applicable CPW recommendations</u></p>
<p>Floodplains/Floodways Restrictions</p>	<p>Staff: Added underlined wording after additional communication with Engineering Services Division.</p>	<p>Section 5-3.6.F.18.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 <u>Floodplain Regulations and the Infrastructure Design and Construction Standards or</u></p>

Potential Rule Change Topic or Category	Stakeholder Source/Reason	Revised Rule Language/Staff Response
		<p><u>other applicable Engineering Standards</u> and those crossings are in accordance with a floodplain permit issued by the Arapahoe County Floodplain Administrator in accordance with Section 5-4.3 of the Land Development Code.</p>
Revocation of Approval	Staff: Added clarification.	<p><u>Section 5-3.6.G.2</u> <u>The Operator may appeal the Board of County Commissioners’ decision in accordance with Rule 106(a)(IV) of the Colorado Rules of Civil Procedure.</u></p>
Recordation of Approvals	Staff: Added clarification.	<p><u>Section 5-3.6.G.3</u> Arapahoe County Public Works & Development shall record the approved permit <u>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</u> site plan in the Office of the Arapahoe County Clerk and Recorder within 30 days of <u>the</u> approval. The applicant shall pay any recordation fees.</p>
Expiration of Approval	<p>COGA: To avoid confusion and for consistent permitting approval time frames between the County and state, COGA recommends that the approval period be tied to the drilling of a well as opposed to its completion and production status.</p> <p>Staff: Added clarification.</p> <p>Staff: Added clarification.</p>	<p>Section 5-3.6.G.5.a An approval of the Administrative Use by Special Review, <u>as delineated in the application</u>, shall automatically expire three (3) years after the date of recordation, unless the facility is already substantially commenced <u>by the drilling of at least one well on a pad.</u></p> <p>Section 5-3.6.G.5.c. The Board may, for good cause shown, grant an additional extension <u>for an additional one-year period.</u></p> <p>Section 5-3.6.G.5.d If <u>drilling of a well</u> is not <u>completed</u> within the time allowed under the original permit or any extension granted <u>pursuant to this Section 5-3.6.G.5,</u> 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 <u>the</u> new application.</p>

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Permits Required Prior to Commencement of Operations	Staff: Added clarification.	<p>Section 5-3.6.a. If applicable under the Land Development Code or other Arapahoe County code or regulation, an Access Permit <u>issued under the Infrastructure Design and Construction Standards</u>, 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.</p>
Administrative Amendment	<p>Staff: Added clarification.</p> <p>COGA: Re Administrative Amendment to include changes in the source of water to be used for</p>	<p>Section 5-3.6.H.1, 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 <u>to the approved Administrative Use by Special Review plans</u> showing the <u>proposed</u> 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.</p> <p><u>Upon recommendation of PWD Staff, the PWD Director may waive the need for amendment of the Administrative Use by Special Review or other</u></p>

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	<p>drilling and completion: This complicates operational logistics. Often times, water sources are not 100% confirmed until just prior to the operational phase where water is needed. The timing of these sources is reliant on water availability, contractual terms, and various other parameters. Removing this in its entirety is preferred.</p>	<p><u>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.</u></p>
<p>Transfer/Sale of Facilities to a New Operator</p>	<p>COGA: Deals can be on/off so more flexibility is needed.</p>	<p>Staff response: Changed from notification of transfer or sale from 30 days to 7 days.</p> <p>Section 5-3.6.l. The Operator must notify the Planning Division in writing <u>within seven days of the closing of any transfer of an Oil and Gas Facility or Facilities</u> to a different Operator or other successor owner.</p>
<p>Financial Assurance and Insurance</p>	<p>API: The COGCC is currently in the process of adopting regulations specific to financial assurance and insurance. API CO urges the County hold off on adopting regulations specific to this topic until after the COGCC has formalized their rules. This will ensure that the state and county's regulations work in tandem, rather than pose an unachievable outcome.</p> <p>COGA is unsure if some of the financial assurance and insurance requirements proposed can be obtained by operators COGA strongly urges Arapahoe County to wait until the financial assurance rulemaking is concluded before enacting any specific provisions relating to financial assurance or insurance</p>	<p>Staff Response: The Financial Assurance and Insurance section has been removed until staff can review COGCC's draft rules and listen to rulemaking hearings in early November.</p>

**ARAPAHOE COUNTY PLANNING COMMISSION
PUBLIC HEARING
AUGUST 17, 2021
6:30 PM**

LDC19-004 Arapahoe County Land Development Code – Oil & Gas Regulations

Diane Kocis, Energy Specialist

AUGUST 5, 2020

This is a county-initiated application to amend the Land Development Code to include new requirements for oil and gas development applications as well as requirements for construction, drilling, completion and production, as granted to local governments by Senate Bill 19-181, to reduce impacts to nearby residents, future residents, the environment and wildlife.

Request and Recommendation

Staff recommends adopting new regulations to mitigate the impacts of oil and gas development on nearby residents, while allowing operators to develop their mineral rights. Staff have conducted research on neighboring jurisdictions' requirements, held two previous study sessions with the Planning Commission, held thirteen study sessions with the Board of County Commissioners over the past two years, conducted outreach to stakeholders via two online surveys, and provided two opportunities to review draft regulations in fall 2020 and summer 2021. Staff requests a recommendation of approval from the Planning Commissioners on the draft oil and gas regulations.

Background

With the enactment of SB19-181, State preemption over oil and gas development was removed and local governments now have local land use authority to develop regulations to govern site approval for oil and gas wells and more authority to control how they are operated in order to mitigate off-site impacts.

Staff has received an increasing number of citizen complaints and concerns in the past few years, due to both the increase in multi-well pad applications and the locations of pads closer to residents. During the first four years of oil and gas development in Arapahoe County under the Oil and Gas Memorandum of Understanding (MOU), negotiated with operators in 2012 and 2013, well pads typically had only 1-2 wells. Increases in the number of wells on pads created a more industrial type operation with higher levels and longer intervals of noise, bright lights, odors and traffic. Visual impacts are also greater for multi-well pads, because some of the equipment is at the level of second-story windows and will remain for the life of the well, anticipated to be over 20 years.

Over the past two years, staff has presented topics for mitigating the impacts to the BoCC and provided summaries of rules drafted or adopted in other jurisdictions. Options for new rules were presented to the BoCC regarding siting and operational matters intended to decrease the impacts from oil and gas development near residential land uses.

Twelve common concerns were initially identified as key issues and categorized under the general headings of Quality of Life, Safety, Operations and Process Improvements. Noise, traffic, lights,

odor mitigation, and visual mitigation were identified under the Quality of Life category. Under the Safety category, staff has prioritized review and approval of site-specific Emergency Action Plans prior to drilling, lists of onsite chemicals and coordinated operator training with the Office of Emergency Management and the fire district. Under the Process Improvement Category, staff prioritized a wider radius for resident notifications, project schedules for all phases and expiration of approvals after 3 years. Establishment of minimum setbacks is an item that falls into both the Quality of Life and the Safety categories.

It's important to note that the BoCC directed staff to use a balanced approach for the oil and gas rules, in order to lessen the impacts of oil and gas operations on nearby citizens and promote safety, while allowing operators to develop their mineral rights.

Comparable Jurisdictions

Please refer to Table 2 for a comparison of drafted or adopted oil and gas rules in other jurisdictions. The table was last updated in March 2020 and several of the jurisdictions have since updated their oil and gas regulations with respect to financial assurance, fines and penalties, setbacks and reverse setbacks. Other jurisdictions now require financial assurance/insurance significantly greater than what COGCC currently requires. Two other jurisdictions have established their own fines and penalties that would be additional to COGCC's fines and penalties for accidents, releases and paperwork non-compliance. Most other Front Range jurisdictions have established a 2,000-foot setback and have established reverse setbacks ranging from 100 feet to 2,000 feet.

Preliminary Stakeholder Referral

Staff conducted an initial stakeholder referral with draft rules during September and October of 2020, as well as an online survey. Some of the stakeholder input was used to revise the draft rules.

External Referral

Draft regulations were updated following the preliminary referral and study sessions with the Board of County Commissioners and Planning Commission. Planning staff sent referrals to County departments, homeowners' associations, local developers, chambers of commerce, HOAs, federal, state and local agencies, oil and gas operators and their representative organizations; pipeline companies, fire districts and other interested stakeholders soliciting feedback on the revised draft rules. A summary of responses is provided in the attached Table 1: Draft Oil and Gas Rules Referral Comments and full responses are attached.

Discussion and Recommended Regulations

Draft regulations were developed for 4 categories: Quality of Life, Health and Safety, Operations and Process Improvements. The draft rules were developed over a two-year period and staff presented each category and topic to the BoCC in 13 study sessions. The BoCC granted staff approval of all but two topics: Air Quality and Alternative Location Analyses. The CDPHE Air Quality Control Division has since adopted new Air Quality rules for oil and gas development and those rules are the strictest in the country. Arapahoe County is not proposing Alternative Location Analyses (ALAs), except for well pads proposed on County property, because COGCC adopted rules for ALAs in January 2020.

Features of the Proposed Regulations

This section highlights some of the provisions in the draft regulations.

5-3.6.A and C – Intent and Applicability/Relationship to the Use by Special Review Section of the Code

- In the current regulations, Oil and Gas Operators may qualify for an Administrative Use by Special Review process if they sign a Memorandum of Understanding (MOU) with Arapahoe County. The proposed regulations offer the administrative Use by Special Review process to any project meeting the standards found in the regulations.

5-3.6.B – Relationship to State of Colorado Rules

- The regulations specify that the *stricter* set of rules apply to any Oil and Gas Development. For example, Arapahoe County specifies a setback of 1,000 feet and the State requires 2,000 feet, so the 2,000-foot setback would apply (see also setbacks discussion below). If the State is silent on a topic included in the Arapahoe County regulations, the Arapahoe County regulations apply.

5-3.6.D – Administrative Approval Criteria

- The regulations require a “will serve” letter from the authority having jurisdiction for providing emergency services, including fire protection. They also require an Alternative Location Analysis if the proposed facility location is on County-owned property.

5-3.6.F.2 – Setbacks

- The proposed setbacks are measured from the edge of the oil and gas facility, not just from the wells. This helps increase the distance from site activity to nearby residents.
- Although the State’s starting setback is 2,000 feet, the Colorado Oil and Gas Conservation Commission rules provide a number of “off ramps” that can reduce those setbacks. The proposed 1,000-foot setbacks provide a guaranteed minimum setback for sites within Arapahoe County.
- The one exception is if the surface owner of the property is willing to accept a shorter setback from occupied structures on their own property. However, based on Fire District recommendations, the setback cannot be reduced below 500 feet.
- The 250-foot setback from adjacent properties helps ensure separation from neighbors and prevents reverse setbacks from making neighboring property undevelopable.
- The regulations include a half-mile setback from operating or closed landfills. If a landfill is leaking into the ground, this setback would help prevent oil and gas well bores from puncturing into and exposing that leakage.
- The proposed access road setback would reduce traffic disturbances. In one case in another jurisdiction, an access road was constructed immediately adjacent to an existing home.
- The reverse setbacks help protect future residents by requiring a separation from existing wells. In 2014, the COGCC required additional precautions when plugging and abandoning wells, so the proposed setback is less for wells plugged and abandoned after that date.

5-3.6.F.3 – Health and Safety

- This section requires Emergency Action Plans, Tactical Response Plans, and ongoing coordination with emergency services providers.

- The Oil and Gas Operators must provide water or other fire suppressant materials on or near their sites.

5-3.6.F.6 – Disposal of Drill Cuttings

- Drill cuttings (the soil/rock that rises to the surface as a hole is drilled) can contribute to odor and must be disposed of offsite.

5-3.6.F.8 – Number of Tanks

- Based on Fire District recommendations, this section requires 10 feet of separation between tanks and limits the number of tanks to nine per pad. These provisions improve safety for emergency responders and may help reduce the spread of fires.

5-3.6.F.10 – Noise Mitigation

- This section requires noise modeling and requires Oil and Gas operations to meet specific decibel limits (60 dBA and 65 dBC (low-frequency noise)).
- The regulations require noise to be measured at the property line of the nearest occupied structure rather than at the structure. This makes enforcement more efficient – it allows County staff to measure noise from the right of way rather than having to secure permission to enter a property. It could also slightly reduce the noise – often houses are setback more than 50 feet from the property line, so the noise has additional distance over which to diminish.
- If ambient conditions are louder, the applicant is allowed to emit slightly more noise. For example, a site near I-70 might already have background noise that exceeds the code’s decibel limits.

5-3.6.F.13 – Site Lighting

- Lighting has been a frequent complaint. The proposed regulations require downcast/full cutoff lighting. In situations where lighting cannot be full cutoff (some drill rig tower lights), the lights must be shielded or screened to prevent glare.

5-3.6.F.14 – Visual Mitigation

- This section requires visual mitigation if a proposed facility is located within ¼ mile of a smaller parcel or occupied structure. This section allows the Operator to design a solution that fits the site, whether that’s berms, benching the site into the side of a slope to reduce its profile, fencing, or landscaping.

5-3.6.F.17 and 18 – Wildlife, Streams, and Floodplains

- These sections limit disturbance to stream corridors, which often serve as wildlife migration corridors. They also prohibit the placement of Oil and Gas facilities in floodplains.

5-3.6.F.19 – Notification of Construction/Activities

- This section requires notification before an Operator starts different phases of development, including Geophysical Exploration/Seismic Testing (aka thumping). This will allow County staff to respond more efficiently to resident inquiries.

5-3.6.G – Approval/Denial/Conditions of Approval

- The current regulations allow the Public Works and Development Director to elevate an application to a Use by Special Review public hearing. The draft regulations maintain that option.

- The Use by Special Review approval lapses after three years, which is the Statutory vesting period for site-specific development plans.

5-3.6.L – Other Requirements Prior to Commencement of Operations

- This section requires insurance and financial assurance to help cover environmental liability, guarantee plugging and abandonment, and protect against general liability.

Fiscal Impact

Fiscal impact is expected to be minor and will only entail increased staff time in Planning and the Office of Emergency Management for review of more application materials and waiver requests and additional recordkeeping.

Recommendation

Considering the findings and other information provided herein, and provided that the Planning Commission determines that the draft oil and gas rules should move forward to the BoCC, Staff recommends approval of case number LDC19-004, Arapahoe County Land Development Code Oil and Gas Regulations as drafted and presented to the Planning Commission, subject to the following conditions of approval:

1. Staff will make corrections and revisions to the proposed language as directed by the County Attorney prior to incorporating the approved amendment into the Land Development Code for publication.
2. Staff will make corrections and revisions to the proposed language as directed by the County Attorney prior to incorporating the approved amendment into the Development Application Manual for publication.

Attachments

- Revised Draft Oil & Gas Rules
- Table 1: Draft Oil and Gas Rules Referral Comments Table
- Oil & Gas Rules Definitions
- Oil & Gas Glossary
- Table 2: 2020 Other Jurisdictions' Comparison Table
- Online Survey Results
- Referral Comments Combined

Note: The 8-17-21 version of the draft Oil & Gas regulations has been removed to avoid confusion between the original draft and the version presented at the 10-5-21 Planning Commission. The Resolution includes both the regulations and the definitions.

Draft Oil and Gas Rules Referral Comments Table

Organization	Comment	County Response
Open Spaces	Open Spaces reviewed the Draft Oil and Gas Rules and appreciates all the inclusions for open space and wildlife. We have no comments, the draft rules are written with natural resource protection as an important consideration.	Acknowledged
Transportation Division	The County could require vehicle access routes to the Oil and Gas Facility based on construction activities, maintenance activities, road damage, safety concerns, among other concerns.	Vehicle routes will be evaluated with each application
Engineering Services Division	Provided wording for floodplains during revision of draft rules.	Acknowledged
Environmental Manager	<p>I do not have any comments, but offer CDPHE's Stormwater Expedited Settlement policy (Stormwater ESA pilot program). It outlines how CDPHE calculates penalties if the violator agrees to pay and not go to court. I am not sure how O&G enforcement would work for the County, but it may give you some ideas on wording.</p> <p>The policy page has some other enforcement documents that might be of interest. https://cdphe.colorado.gov/clean-water-policies</p>	Acknowledged
East End Advisory Committee	I like what I see and from my prospective you have covered all of the bases. I like the neighborhood meetings, the setbacks, and the drills after they are built. I do not have any additional comments.	Acknowledged
Unincorporated Arapahoe County Economic Development	No comments.	Acknowledged
Arapahoe County Sheriff's Department, Office of Emergency Management	<p>Re required list of onsite chemicals: provide list promptly to OEM and Fire District. (Added fire district).</p> <p>Re coordinated training exercises for each well pad before drilling commences: I am concerned this could be nearly an FTE's worth of work and we will not have the staff to address this depending on the definition of coordinated exercise. Same for fire. I wonder if there is way to capture an annual exercise unless there are operational footprint changes from pad to pad.</p>	Adjusted training exercise language
Bennett-Watkins Fire Rescue	<p>Provided input during the revision of the draft rules on:</p> <ul style="list-style-type: none"> • need for directional signs to well pads, visible from the public right-of-way; • limit on the number of tanks; 	Comments incorporated in draft regulations

	<ul style="list-style-type: none"> • separation distance between tanks; • storage of firefighting water and foam 	
South Metro Fire Rescue	South Metro Fire Rescue (SMFR) has reviewed the above project and has no comments to the proposed revisions.	Acknowledged
Division of Water Resources	Our office does not have any comments on the draft Oil and Gas rules.	Acknowledged
CDPHE (Colorado Department of Public Health and Environment)	<p>I wanted to re-raise the following comment I made on a previous draft, perhaps for consideration as a permit BMP or just for general awareness in the event that PFAS-containing firefighting foam is ever used on a location. Although SB19-1279 bans the sale and manufacture of foam with PFAS starting August 2, it may still be used after this date for actual firefighting (i.e. not training exercises).</p> <p>Consider adding a provision within this regulation or within permits to minimize potential adverse impacts from the use of firefighting foams containing polyfluoralkyl substances (PFAS). For example: "If PFAS-containing foam is used at the Oil and Gas Facility, then the operator will properly characterize any waste that leaves secondary containment, clean up any contaminated soil and properly dispose of it in accordance with applicable solid and hazardous waste regulations. If any PFAS-containing foam leaves secondary containment, Operator will conduct appropriate soil sampling and water quality monitoring." Pursuant to SB 19-1279, the sale, manufacture, or distribution of firefighting form with PFAS will be banned within the state starting August 2, 2021, unless the use is required by federal law for storage or distribution of fuel or refinery, chemical plants, or at the Eisenhower tunnels. Additional information about PFAS can be found on CDPHE's PFAS website: https://www.colorado.gov/pacific/cdphe/pfcs</p>	Acknowledged
Tri-County Health Department	<p>Baseline Water Quality Testing</p> <ul style="list-style-type: none"> • Water quality is unregulated in domestic and irrigation wells in Colorado and monitored in a limited manner for commercial wells. This means water quality testing is typically not required, and the water quality is often unknown. In general, TCHD supports baseline water quality testing to establish the existing water quality relative to the water well's permitted use and to identify water quality issues that should be known and addressed by the well's owner. Baseline water quality testing can also provide an understanding of pre-existing conditions should the water quality change in the future. Baseline and subsequent water quality testing data can support a determination of whether water treatment may be needed to protect the health of well water users and the health of the environment. 	Acknowledged

- TCHD believes that any owner of a well within one-half mile of the proposed oil and gas operation should have the opportunity to obtain a baseline water quality test prior to the construction of an oil or gas well. One-half mile is the area of influence established by the Colorado Oil and Gas Conservation Commission's Final Rule 609 Statewide Groundwater Baseline Sampling and Monitoring.
- TCHD recommends that the Operator be required to identify and offer baseline sampling to all available water sources located within on-half mile of the proposed well or pad. Additional baseline sampling offered to well owners must be consistent with the sampling requirements in the Colorado Oil and Gas Conservation Commission's Final Rule 615.

TCHD recommends that Operators be required to submit a Water Quality Plan upon request. Water Quality Plans are important to prevent adverse impacts to surface or ground waters.

Water Quality Plans should include details on, but not limited to, operator's plans for water quality testing, prevention of illicit or inadvertent discharges, storm water discharge management, containment of pollutants, and spill notification and response as required by the County and federal and state agencies.

Air Emissions

Requirements for baseline air monitoring from start of well construction through six months after the well is capable of consistently producing product are set in Regulation 7, Part D, VI.C. The regulation does not require operators to monitor specific compounds, set a minimum number of monitoring devices, or require the use of particular monitoring technology. The operator is permitted to determine and enumerate these details in an air monitoring plan that must be submitted to the state and effected local and proximate governments at least 60 days prior to start of construction. The process by which local and proximate governments can work with the operator to request modifications and improvements to the air monitoring plan are specified in Regulation 7, Part D, VI.C.1.b. TCHD encourages the County to participate in the process to ensure the air monitoring plan is sufficient to address community concerns regarding air emissions and their health. TCHD can assist with identifying important components of plans and submittal requirements.

Section F.1 – Regular Meetings

This section states that the operator shall meet with the County, at least annually, to monitor and discuss pertinent issues

associated with the operator's planned or existing facilities, within the County; that the operator and the County will discuss, at a minimum 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), any health and safety issues and potential implementation of new technology. This annual meeting may be a field visit to the facility.

TCHD supports annual meetings or field visits to oil and gas facilities. The County should ensure that any necessary updates are made to the ERP and TRP in a timely manner, and any new technology available that could mitigate impacts to the community are implemented as soon as it is feasible.

Section F.2 – Setbacks

The draft rules state the following:

- a. All pad boundaries shall be located at least:
 - i. 1,000 feet from any occupied structure, unless the owner of the occupied structure requests a lesser setback and the fire district agrees to provide service to the Oil and Gas Facility. However, in no case may this setback be reduced below 500 feet.
 - ii. 1,000 feet from the nearest boundary of a platted lot smaller than 15 acres in area.
 - iii. 250 feet from any adjacent property's boundary line.
 - iv. 2,000 feet from a Designated Outside Activity Area.
 - v. 2,640 feet from the nearest property line of an operating or closed landfill.
 - vi. 300 feet from the edge of any wetlands boundary, riparian corridor, or any ordinary high water mark of any perennial or intermittent stream, or any perennial surface water body.
- b. All access roads shall be located at least 250 feet from a residential or non-residential property line, excluding industrial zoned properties.
- c. No new occupied structure shall be constructed less than:
 - i. 250 feet from an existing Oil and Gas Facility, or from an oil and gas well or remaining equipment that was plugged and abandoned prior to or during 2013, or a dry and abandoned oil and gas well; and

- ii. 150 feet from a plugged and abandoned oil and gas well or remaining equipment that was plugged and abandoned from 2014 onward.

Based on several studies identified in our October 27, 2020 comment letter, TCHD recommended that the County increase setback distances to a distance greater than the proposed 1000 feet, to at least 2000 feet from property lines, particularly, for settings where vulnerable groups (e.g. children in schools, childcare centers) are found. TCHD commends the County for the addition of a 2000-foot setback to a designated activity area, and 2640-foot setback to the property line of a closed landfill, as well as defining setbacks to wetlands and riparian corridors, and for new construction adjacent to existing or abandoned wells.

In the interest of public health, safety, and welfare, TCHD recommends that required setback distances from new wells to existing residential development and from new residential development to existing wells be consistent. TCHD does not support the construction of occupied buildings or human activity areas within 250 feet of existing oil and gas wells.

Section F.3 – Health and Safety Requirements

This section states that the operator must have approval of the initial facility-specific Emergency Action Plan (EAP) and Tactical Response Plan (TRP) before commencing construction; After the pad and access road have been constructed the operator shall provide a detailed EAP and TRP for review and approval by the County Office of Emergency Management (OEM) and the fire district before drilling commences; And that they shall be updated regularly. The draft rules do not specify what information is required to be in the plans. TCHD recommends the County include information that must be included in the EAP and TRP, and requests that Emergency Preparedness Plans include specific information related directly to a leak or spill from the domestic wastewater collection system. Specifically, TCHD should be contacted immediately in the event that there is a domestic wastewater spill or leak.

Section F.5 – Secondary Containment for Onsite Storage Tanks

TCHD concurs that secondary containment is necessary for produced water, crude oil storage tanks, and other aboveground storage tanks containing anything other than fresh water.

Section F.7.a – Pad Surface

	<p>TCHD commends the County for addressing mud tracking offsite. TCHD recommends the County also address potential impacts from fugitive dust. Operators should follow best management practices for erosion control on the site, specifically to minimize excessive dust from land disturbance. This will help minimize the environmental impact resulting from any construction and land disturbance on the site. TCHD encourages any reclamation, including site pad minimization, and reseeded activities to occur as early as possible. This prevents erosion, helps control excessive weeds, and can provide some benefit to air quality.</p> <p>Section F.10 – Noise Mitigation Requirements TCHD commends the County for requiring an ambient noise level survey for each well pad or compressor station prior to application in order to establish baseline noise levels for the site; and for requiring noise modeling to simulate noise during drilling. The information gathered from these will help the applicant determine appropriate mitigation measures to reduce noise to acceptable levels.</p> <p>Section F.12 – Odor Mitigation TCHD commends the County for addressing odor impacts by requiring use of low-odor drilling muds or neutralizers, closed loop systems, and proactive complaint investigation. TCHD commends the County for adding possible mitigation measures including wiping down drill pipe, increasing mud additives, using filtration systems, enclosing shale shakers and frequently transporting drill cuttings offsite for disposal.</p> <p>Section F.16 – Traffic Mitigation and Reduction Measures The draft rules require that traffic be restricted during peak commuting hours and during school bus hours; that pipelines be used to transport water and crude oil when possible; and use temporary surface water lines or Modular Large Volume Tanks for transportation and storage of water. TCHD supports these traffic reduction measures.</p> <p>Section F.20 – New Technologies TCHD supports the County in requiring modifications to drilling completion, or production operations if new technologies become available that may reduce noise, odor, dust, water quality impacts, air quality impacts, or the possibility of fire or damage from a lightning strike.</p>	
<p>CPW (Colorado Parks & Wildlife)</p>	<ul style="list-style-type: none"> • We appreciate Rule 17a. • Add a definition of "riparian" to the definition document. <ul style="list-style-type: none"> ○ Also, does the county want to protect ephemeral and intermittent drainages without a "riparian" component? 	<p>Acknowledged</p>

	<ul style="list-style-type: none"> • Can a portion of the wildlife fines go to protect new wildlife habitats in areas of Arapahoe County with CPW collaboration? • Will the County employ some time of pre-application meeting with CPW and the applicant? Weld County has a great process (WOGLA). If interested, I can connect you two and perhaps you can join a future O&G call? • <i>(Side question - does the county have similar rules for solar right now? Or plan to develop them soon?)</i> • We appreciate the lighting rules (downward and doesn't spill over from pad) • Please add a reference to High Priority Habitats in the wildlife section. (It's only under the noise section now) • Does CPW need to be listed in the Glossary of Terms? COGCC & COGA are listed. <p>Another CPW commenter: Some of the biggest concerns with any development to minimize impacts to wildlife include adherence to the current & updated raptor monitoring guidelines as well as adherence to mule deer fawning season & active raptor nest timing stipulations. Those concerns seem to be at the heart of most every oil & gas land use project.</p>	
<p>COGCC (Colorado Oil and Gas Conservation Commission) Compliance Manager</p>	<p>(Transcribed from phone call)</p> <ul style="list-style-type: none"> • If there's an overlap between the County's rules and COGCC rules, COGCC could issue a NOV for non-compliance. • Don't require the use COGCC's complaint hotline phone number on operators' signs. The COGCC website is more appropriate because there is no one manning that phone line 24/7. • Don't require a noise survey "no later than 60 days prior to the application". The COGCC permitting process will follow the County's permitting process and the COGCC process could take a couple of years. On top of that the operator might not drill for another two and a half years. The ambient noise for that pad could change drastically in that time. Adams County is amending their ambient noise rule to reflect this comment. • Compressors aren't usually a noise issue. Could use sound walls and machine maintenance to reduce compressor noise. 	<p>Acknowledged and adjusted rule for directional signs</p>
<p>COGCC Inspector</p>	<ul style="list-style-type: none"> • I think it is important not to have construction of the production facility going on at the same time as fracking or flowback. (Paraphrased): Too many people on the site at the same time, making any emergency more dangerous. • How often will operators be required to update the 24-hour contact information? Sometimes the list changes quickly. 	<p>Acknowledged</p>

	<ul style="list-style-type: none"> • Maybe get a (chemical) list by activity. Is this different than the SDS list?. Will chemicals be restricted? How is this different than the SPCC? • (Re training, paraphrased): Is the (coordinated) training a current requirement? Will COGCC be notified of these? • Re required completion of FEMA NIMS training: Will this apply to COGCC too? • Re fire suppressant: Does this mean fire extinguishers or something more substantial? • Is notice needed for flaring? • Re secondary containment: We also include an amount for precipitation. • What is the reference for 10' (of separation between storage tanks)? • Re the 9 tank limit: Is this dependent on the size of tanks? • How does (the County's noise limits) compare to our sound levels? • (to reduce noise related to drilling and completion): Add generators (to the list of noisy equipment needing BMPs).. • Re tubular goods may not be unloaded from 8 PM to 7 AM: Does the proximity to houses matter? If there are no houses, do they have to adhere to this rule? Does this include cementing iron? • Re access road standards: Is this another, separate road? Dust mitigation: Speed limits? • Re best efforts to improve existing inadequate roads: Is this a retroactive requirement? • Conoco used to transport (cuttings) at night but Crestone does not transport at night. • Re prevention of light spillage outside the pad: I would add, unless needed for worker safety. • Re production pads and compressor stations shall be maintained free of vegetation, rubbish and debris: How does this impact out interim reclamation rules? • Re whenever possible, Operator shall use existing natural contours and existing vegetation to conceal the site from view: To do this I noticed that more dirt is being moved and the is not meet our minimum disturbance rule. At limes soil has been removed to the C horizon on a flat field. • Re MLVTs: Refer to our MLTV policy. • Re implementation of CPW recommendations: I've seen antelope, deer, eagle, snake, etc. issues that I have talked with the CPW officer (about). Bird netting and fencing, thief hatch closing, bird protectors on heated vessels are important. 	
State Land Board	1. The access road setback on p. 5 is written strangely because the beginning point of the access road will almost always be within 250 feet of a property boundary, and would not allow access roads	Acknowledged; access road can be

	<p>to be placed immediately adjacent to county roads as county roads are frequently located on property lines. Is that the intent of the provision or perhaps some means of clarifying the drafting?</p> <p>2. On the bonding requirements, I wonder if there should be some capacity to allow other bonding to substitute for or towards the county requirements. I suggest this as the COGCC is offering a sinking fund to be used to fund well plugging/abandonment/reclamation in their new proposed rules, and I didn't see anything in the draft rules that would envision a system like that working in coordination with the county's bonding requirements. Some of the language in the glossary you attached makes it seem like this was envisioned but I didn't see it addressed in the rules themselves.</p>	clarified with an illustration
<p>CDOT (Colorado Department of Transportation)</p>	<p>Before an administrative decision is rendered, it is important that the County work with CDOT's Regional office staff to address and mitigate any proposed impacts on CDOT RoW.</p> <p>Under 5-3.6 D.1.b We recommend adding CDOT to the potential list of referrals. It is conceivable that separate permits may be required from the State DOT. DOT permit applications track independently of a "review" of a County application.</p> <p>Please note that CDOT's approval or denial of an access, utility or special use permit is not under the same rules or criteria utilized by Arapahoe County in their approval process. Our criteria is more focused toward roadway safety, protecting our highway assets, and operations on such highways.</p> <p>Six quick hypothetical situations where oil & gas drilling activities require access permits from CDOT ROW:</p> <ul style="list-style-type: none"> • The assessment of impacts to CDOT roadways and RoW associated with oversize & overweight equipment needing to be mitigated. • The use of flaggers or temporary lane closures on CDOT RoW • The need to create an access to private property from a CDOT RoW for temporary drilling and/or permanent O & G related operations. • Use of lay flat pipes in CDOT RoW and within our storm culverts • Use of CDOT RoW for locating transmission pipelines or other utilities <p>CDOT has protocol and procedures to address unforeseen spills and incidents on our highways and RoW. First responders (CHSP) typically will handle to be followed-up with remediation</p>	Acknowledged

	<p>as warranted. It is important to understand and recognize State authority apart from County authority.</p> <p>Under 5-3.6 D.7.f.1 it may be worth repeating that permits from CDOT may be required independently from the County as described above. CDOT will both administer and inspect operations / construction activity at those locations within our RoW as outlined in the terms and condition of permits we may issue.</p> <p>Most of these regulations pertain to the location where the drilling operations occur. In the likely event that a resources is tapped, the regulations to do not fully address how the resource is sent to the processing / refinery. On the same token, these regulations do not cover the transmission of refined products from the refinery to the terminals and end users.</p> <p>We recommend under section 5-3.6 (H) "Other requirements" to include the rules and standards for pipelines. In CDOT, we have a Utility Accommodation code which allows for such pipelines when considered a utility, to occupy and utilize our rights of way. These always require a permit and adherence to rules and standards. Furthermore, CDOT now requires all pipelines proposed within our RoW to adhere to SUE legislation.</p> <p>Two of the definitions appear to show that these regulations are mostly focused on the "upstream" activity of Oil & Gas: which is generally extraction of the product in the field & sending it to the refinery. Noted that the definition of 'Oil & Gas Operations' appear to include the word "Transporting" but is unclear if that also implies delivery pipelines. 'Pipeline" is also in the definition, but is limited to crude gathering only. There are multiple types of "downstream" Oil & Gas pipelines which are not covered by these rules and regulations. These include lines that disperse the products from the refineries to the terminals and consumers and are most often seeking to share public rights-of-way.</p> <p>If the rules and standards are not covered by this section of code, please identify which part of the County Code does.</p>	
SEMSWA (Southeast Metro Stormwater Authority)	SEMSWA has no comments.	Acknowledged

<p>Prosper Farms</p>	<p>As previously discussed with staff, the approved and vested Prosper Preliminary Development Plan was based on an oil & gas operations master plan that was created with Conoco Phillips. During the Preliminary Development Plan process, Arapahoe County planning staff (Sherman Feher) strongly encouraged that a master plan be prepared that identified potential locations for oil and gas production. As outlined in the approved Preliminary Development Plan, it was encouraged that production areas be in areas that did not conflict with residential uses.</p> <p>Planning areas, open space, roads, and oil & gas operation areas were based on a set of standards including setback requirements that were agreed upon with Conoco Phillips during the Preliminary Development Plan process. The agreed upon and documented setback requirement with Conoco Phillips includes locating residential structures 350 feet from the proposed well head. The Surface Use agreements that have been executed with Conoco Phillips and Crestone Peak address other aesthetic and life safety considerations.</p> <p>As noted above, the vested Preliminary Development Plan (PDP) including land uses, densities, etc. were based on the above considerations and agreements. There are setback requirements outlined in the on page 4 conflict with the Prosper PDP including that there is a 250' setback from non-residential property lines. This specific requirement conflicts with the open space and potential recreation uses that are located within the perimeter open space and agriculture area.</p> <p>It is Prosper's intent to maintain the rights associated with the vested Preliminary Development Plan including the ability to develop the respective planning areas, land uses, and densities outlined in the plan. Prosper will not be supportive of any standards that would compromise the vested rights associated with the Preliminary Development Plan.</p> <p>Prosper will continue to coordinate with the operators and pipeline companies to ensure the terms outlined in the respective agreements and easements are maintained. This will include addressing visual and life safety considerations.</p> <p>Prosper Second Set of Comments:</p> <p>The 250' guideline is in conflict with the Prosper vested master plan. Clarify if the setback is for the actual well or the pad site.</p> <p>The 250' guideline is in conflict with the Prosper vested master plan. Prosper intends to enforce the rights associated with the master plan.</p>	<p>Acknowledged and spoke on phone</p>
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Sky Ranch	<p>We would like clarity that all existing structures in proximity to existing oil and gas facilities are exempted from the regulations to clarify that the County is not seeking to relocate existing structures or facilities.</p> <p>We would like to clarify that our land planning developed with O&G pad sites locations which resulted in agreements and property conveyances prior to the adoption of these regulations are exempted from the regulations and that the County is not seeking to force landowners (us) and operators to redo agreements, locations, or established land use plans defined prior to the adoption of the regulations.</p> <p>Assuming that our sites, structures, facilities and land plans are well as our conveyed pad sites are exempted, I would like to highlight conflicts the regulations would have for property owners and where the regulations would otherwise conflict with our existing plans and pad sites.</p> <p>Regulation 5-3.6 F 2 a iii, 250 feet from any adjacent property line boundary; while I appreciate locating facilities adjoining a neighboring property owner may have set back considerations, we located our pad sites adjacent to future County arterial 144' roadways because that is the least desirable location for residential uses and doing so provides the greatest roadway access for heavy O&G truck traffic to access the site without sending large trucks on roadways not conducive for their size. Further, siting adjacent to major roadways maximizes emergency access to the site should it be needed. Putting a 250- foot setback to property lines carves out too great a buffer along arterial roadways and discourages optimal siting of O&G facilities in proximity to the 144-foot rights of way for major roadways.</p> <p>Regulation 5-3.6 F 2 a iv, 2,000-foot buffer from a Designated Outside Activity Area; would disincentivize using a large open space areas as buffers to O&G sites. As illustrated in the attached exhibit, we are buffeting our O&G pad sites with the</p>	Acknowledged and spoke on phone.

	<p>very thing you seek to restrict in this section and would find it impossible to comply with a setback buffer without being able to get credit for the open space surrounding the site. In our discussions over the years providing large attractive, maintained open space areas surrounding O&G sites was the most desirable way to balance residential development with O&G activities. In our case we sought to buffer our site with 20 acres of open space that will be owned, irrigate, and maintained by the Sky Ranch CAB for use by the community. This regulation would likely lead to a far less desirable outcome pushing residential encroachment up to the minimum reverse set back limit if developers are not allowed to use buffer areas as open space.</p> <p>If the County does not allow buffer areas to qualify as open space, there will be no mechanism for the area to be developed and maintained; with the area lying waste and potentially becoming unsightly, weed-infested areas which is opposite of what we should be encouraging. Responsible land and O&G development needs to incorporate proper setbacks and proper surrounding land uses and requiring a 2,000-foot setback from open space greatly discourages this.</p> <p>Please confirm that our existing O&G pad sites would be exempted from these proposed regulations and I hope you will reconsider modifying regulations 2 (a) (iii) and (iv) as they penalize good planning, balanced land use compatibility, and on-going maintenance of pad sites and surrounding buffers.</p>	
Public Service Company of Colorado	Please note that PSCo dba Xcel Energy is a regulated public utility serving a public need, similar to wet utilities (sewer, water, etc.) and other dry utilities (phone, cable, etc.) within municipalities in the state of Colorado. Public utilities are regulated differently than oil and gas and report to other regulated bodies; therefore, should be in a separate category than the oil and gas industry.	Acknowledged and informed that PWD will be drafting new gathering system application rules later this year.
Xcel Energy	While Public Service Company of Colorado (PSCo) has expressed this before, we wanted to reiterate our position concerning the need for clarification in the rules as drafted. Although your statements to the company indicate that the draft rules would not apply to PSCo, PSCo believes that a clear statement in either the body of the rules or an adjustment to the suggested definitions in warranted to ensure that future permit applications from PSCo will not be analyzed under this set of rules. We will rely on your statement that these rules are not applicable to the company, but an adjustment would help to ensure that those at the county responsible for analyzing applications, now and in the future, do not inadvertently misapply the rules to PSCo.	Acknowledged; the proposed rules do not affect the USR/1041 process for utility gas lines
American Petroleum	The term Oil and Gas Location (rather than “facility”) should be used throughout the Code in order to maintain clarity over the “siting” aspect of local government jurisdiction, which relates to Oil	Acknowledged; Met twice to discuss comments. Some

<p>Institute of Colorado</p>	<p>and Gas Locations. API CO did not make this change in every instance within this redline, but would request this change be made throughout the regulations in their entirety.</p> <p>While API Colorado understands the desire to have the stricter standard or law apply, we would also encourage the county review the proposed regulations to ensure that there is not duplication or unnecessary conflict between the two sets of regulations.</p> <p>Re 5-3.6 C.3. What would classify as other related infrastructure?</p> <p>API CO would request the County provide the Development Application Manual for review if there are any corresponding changes to occur as part of the adoption of this section. Commented [A5]: API CO believes this change better aligns with the language presented in Senate Bill 19 - 181. Re reference to COGCC rules, as amended from time to time: Can the county provide more clarity on what they intend by time to time?</p> <p>Re the requirement for an Alternative Location Analysis for pads proposed on County property: The way this reads, it appears that the only way an application proposed on county land may proceed as a USR is if there is no location other than on the county process that is 'viable'. It is not clear what criteria the county will use to determine if a location on county property is still 'viable', even if there are other locations available? API CO also recommends using an alternative standard. 'Viable' is not the appropriate standard in this case.</p> <p>API CO believes it is important to refer to COGCC and new COGCC rules, given importance of coordinating permitting efforts.</p> <p>Re the requirement for neighborhood meetings: Can this meeting be conducted either virtually or in-person?</p> <p>Working Pad Surface should be included in the Arapahoe County Definitions.</p> <p>Re application notice requirements: (Paraphrased) Required notices should be limited to property owners within 2000 feet (rather than 1 mile) for consistency with COGCC noticing rules.</p> <p>API CO requests clarification on timing of a waiver request. Should this occur when the application for an AUSR is filed?</p> <p>(Paraphrased) A waiver request should not prohibit applicants from utilizing a variance request if needed.</p>	<p>language in the draft rules will be adjusted to reflect this input.</p>
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	<p>Addition: (reduced) setback below 500 feet if applicant obtains a written waiver of the setback from all owners of occupied structures within 500 feet from the Oil and Gas Locations.</p> <p>Re review and approval of EAPs and TRPs by OEM: If OEM denies then what is the next step? Operator cannot begin drilling, or are revisions able to be made to EAP until approved so drilling can begin? Can this be changed to just submitting final ArcGIS info once built?</p> <p>Regarding requirement to provide flowline maps: Maps of oil and gas infrastructure are sensitive and need to be adequately protected. COGCC requires the disclosure of GIS data for off-location flowlines through Rule 1101.e. The rules also allow for disclosure of that information, if a confidentiality agreement is signed. This is necessary to protect sensitive information and should be the avenue the county uses to obtain this information. If this requirement is maintained, API CO would recommend inserting "however, the County will ensure all off-pad flowline maps provided under this section are deemed confidential and protected from disclosure."</p> <p>Can the County please provide a detailed explanation of what classifies as a "coordinated training exercise"? Also, are the annual trainings for each location or can an operator conduct one annual training for all locations in Arapahoe County?</p> <p>Additional training requirements should be discussed after approval of an application in order to avoid unnecessary trainings if the preferred site is not approved.</p> <p>Re storage of firefighting water near the site or at a location approved by the Fire District: There are many instances where the Operator Is not the entity extinguishing a fire at an Oil and Gas Location and it would not be feasible to store water or retardant onsite.</p> <p>Re incident reporting and emergencies: Requiring reporting, through a formal incident report, for a spill or accident, no matter how small or inconsequential, poses an unnecessary administrative burden for both the county and operator. COGCC Regulations require reporting of a reportable safety event, with a clear description of what that means. The county should rely on COGCC regulations.</p> <p>API CO requests clarification on what "emergencies" mean in this instance.</p> <p>Re quarterly testing of the automated safety systems, including Surface Safety Valves, (paraphrased): change quarterly to annual.</p>	
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	<p>Re offsite disposal of drill cuttings: (paraphrased) Allow temporary storage as it prepares for disposal.</p> <p>Re requirement for 10 feet of separation between storage tanks: API CO requests justification for this requirement. Requiring at least ten feet between storage tanks is contradictory to the premise of reducing surface impact and may instead require an operator increase their surface impact and total facility size. (Paraphrased) Change 10 feet to 3 feet.</p> <p>Re a limit of 9 tanks on a pad: API CO requests justification for limiting to nine tanks. API CO would also request this requirement be limited to permanent tanks.</p> <p>Re Groundwater Baseline Sampling and Monitoring: All water sampling would occur after the location has been approved.... There should be no water testing occurring prior to such approval so the term "proposed" should be removed.</p> <p>COGCC noise standards should be the guiding factor for noise. (Paraphrased) 15-minute noise surges should be allowed during drilling.</p> <p>There should be an allowance for waiver to ambient noise survey, the noise mitigation plan, and noise modeling if the Surface Owner provides a waiver or if the Commission or County waives the noise requirements due to the rural nature of the proposed location. If there are no receptors that could be impacted by the noise of drilling and completion activities then an ambient survey, noise mitigation plan, and noise modeling should not be required. And, timing for local and state study should be synchronized to prevent multiple studies and allow for the most accurate data 90 days prior to construction.(Paraphrased re an ambient noise survey): "if reasonable and necessary for evaluation." "As determined by the operator, the Noise Mitigation Plan should consider noise mitigation practices, equipment, strategies, infrastructure or other strategies ... to comply with the Maximum Permissible Level of noise ...". "If such a plan is required, the Operator shall update the Noise Mitigation Plan for any changes in equipment ... or if the Facility is not constructed within 3 years (as opposed to original wording of 2 years).</p> <p>Crossed out all references to compressor stations. Commented that compressor stations are for midstream operations, not upstream oil and gas exploration and development.</p> <p>Rather than being overly prescriptive, API CO requests flexibility for an operator to determine best management practices and best available and feasible technologies (for noise mitigation).</p>	
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	<p>Re odor mitigation: crossed off requirement for low-odor drilling mud.</p> <p>Re Visual Mitigation: rather than for pads within 1,320 feet of a property line, crossed off “property line” of an occupied structure. For low-profile equipment required within 1,320 feet of a property line of an occupied structure, crossed off “property line”. “This language has been deleted to ensure that the visual mitigation is limited to 1,320’ and not a property line where the actual occupied structure may be located further away.”</p> <p>Re requirement for approved emergency access hardware for any locked facility gates or access points: Added: “Unless otherwise prohibited from doing so by a surface owner or property owner”.</p> <p>As an alternative to the burying of temporary water lines at driveways and intersections of County roads, suggested a steel bridge.</p> <p>Re the requirement for a Professional Wetland Scientist to determine wetlands boundaries, added “a person with similar experience: API CO requests clarification on if this is only within the total disturbance area of the project?”</p> <p>Re rule for no oil & gas development in a floodplain, added “may be allowed in a floodplain provided that operator conducts an Alternative Location Analysis</p> <p>Re flaring notifications: COGCC regulations largely prohibit flaring, and as a result flaring should only occur for very specific safety reasons. It may be unrealistic to require notice prior to an event, given the timeframe in which it could be required in the event of an emergency.</p> <p>Re potential incorporation of new technologies for reduction of noise, odor, dust or mitigating other surface impacts: Changed “may require” to “may request”.</p> <p>Would request the county clarify this section is specific to best management practices of activities outside of downhole activities. Requiring modifications to equipment for downhole activities may step outside of the county's authority. Also concerned with the vagueness of this section. Certainty is important to operators for planning purposes, and this section does not clarify or implement a timeline for when the county may require modifications (for new technologies). .</p> <p>Re Revocation of Approval: “This section is too broad, particularly given the importance of due process in revocation. API CO requests clarity around when, and</p>	
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	<p>under what circumstances, revocation could occur.” Then states that the County will provide the operator with a Notice of Non-Compliance. If operator doesn’t respond within 10 days of receipt, with a plan to comply or cooperate, the County may “propose” a revocation of approval of an AUSR permit, upon notice to the operator and a hearing before the BoCC has occurred.</p> <p>API CO requests clarity on when the Board’s review will be triggered? A Board hearing on an AUSR should be an exception and not the norm. (Further stated): We would request the county clarify this section is specific to best management practices of activities outside of downhole activities. Requiring modifications to equipment for downhole activities may step outside of the county's authority.</p> <p>Also concerned with the vagueness of this section. Certainty is important to operators for planning purposes, and this section does not clarify or implement a timeline for when the county may require modifications.</p> <p>Re Notice of Non-Compliance: This section is too broad, particularly given the importance of due process in revocation. API CO requests clarity around when, and under what circumstances, revocation could occur.</p> <p>Re PWD Director’s Discretion to Refer to the Board: API CO requests clarity on when the Board’s review will be triggered? A Board hearing on an AUSR should be an exception and not the norm. Requested addition: If the PWD Director will refer an AUSR application to the Board, then the PWD Director shall provide the operator with written notice of such decision and shall provide specific details as to the basis for such decision</p>	
<p>COGA (Colorado Oil and Gas Association)</p>	<p>Global comment: COGA urges the County to use “Oil and Gas Location” instead of “Oil and Gas Facility.” Using the term “Oil and Gas Facility” creates several definitional problems, as Oil and Gas Facilities are located on Oil and Gas Locations where there are several Oil and Gas Facilities.</p> <p>Would the county please clarify the types of pipelines and gathering systems excluded from this regulation?</p> <p>These definitions are somewhat contrary to one another. Transmission Lines are defined in the LDC in a sense that refer only to electric power lines (See pg. 412 - https://www.arapahoegov.com/DocumentCenter/View/8668/Arapahoe-County-LDC-8-15-19-REV-11-02-2020?bidId=)</p> <p>None of these terms appear to be defined in the 1041 Regulations either - https://www.arapahoegov.com/DocumentCenter/View/345/FINALArapahoeCounty1041Regulations?bidId=</p>	<p>Some adjustments made to regulations; Setbacks remain as drafted</p>

	<p>Is the County proposing any changes to the Development Application Manual related to oil and gas?</p> <p>Re pads proposed on County property: What if a location not on County owned property is “viable” but the location on County owned property has fewer impacts overall or is for another reason a better location because it allows for more mitigation measures?</p> <p>Note for members: Section 5-2.1.B.2.i.iii. requires neighborhood outreach before an application is submitted when the operator is applying for authorization to conduct oil and gas operations by use by Special Review (USR) as opposed to Administrative USR(AUSR).</p> <p>Question for Arapahoe: Please confirm that compliance with the neighborhood meeting requirements listed below will satisfy the requirement of Section 5-2.1.B.2.i.iii.</p> <p>Re Neighborhood Meetings: Are these able to be virtual? Strictly in-person?</p> <p>Re Notification Letter Radius: COGA suggests that it is more appropriate to limit this to 2,000’ as impacts from oil and gas operations do not occur at a distance of a mile away from operations.</p> <p>It is possible that the location of the sign will be required to be on a property that does not have contractual relationships with the operator proposing the project. Since the sign is required to be outside of the (county) ROW, what happens if permission to locate the sign on the ‘required’ property is not granted?</p> <p>Are items ineligible for waiver eligible for a variance after hearing before the BOCC? How does one cross a paved roadway with an above-ground line?</p> <p>Re Temporary Water Lines: How does one cross a paved roadway with an above-ground line? Given that these lines are temporary, COGA suggests that this requirement be modified to an issue that is discussed during the planning stage but not a hard and fast requirement that would require a waiver or modification request.</p> <p>Re Plugging and Abandonment Reverse Setbacks: Would the County please help COGA understand why 2013 and 2014 are used here?</p> <p>Re providing current 24-hour contact information: The operator is best positioned to contact contractors and subcontractors as needed. It will be most efficient for the operator to do so, especially that given drilling and completion operations, there could be as many or more than 10 unique contractors on location at a given time, plus contractors frequently change. So long as the</p>	
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	<p>operator is responsive and communicating with contractors, this is burdensome, unnecessary and unreasonable as drafted.</p> <p>Re notification to operator regarding onsite inspections by Fire District or County staff: 4 hours is simply not enough time.</p> <p>Re directional signage: This proposed modification is suggested because the County's proposal could result in a really big sign with really big letters depending on how the location is constructed. The sign itself may be an eyesore or interfere with the surface owner's aesthetics. There may be instances where an access road is shared with a private property owner and the "entrance" to the O&G Location is setback from the public ROW of some distance. COGA completely agrees that clear, easy to understand, signage is important but merely suggests that legibility from the public ROW will not always be appropriate, reasonable or necessary.</p> <p>Re Requirement for Maps of Flowlines: Matches COGCC designations in 1100-Series rules.</p> <p>Re Coordinated training sessions for operator, OEM and Fire District: Having annual requirements for EACH location is burdensome and unnecessary. Typically, most locations are constructed in the same manner with similar equipment and layouts. Recommend annual training at ONE location.</p> <p>Re a single annual coordinated training: This will still protect public health and safety but reduce unnecessary truck traffic to locations.</p> <p>Re Timing on Submission of SPCC Plans: EPA requires SPCC plans to be in place within 6 months following the initiation of production – NOT before the start of production. See 40 CFR 112.3(b)</p> <p>Re Spill and Release Reporting: COGCC reportable threshold is 42 gallons (1 bbl). This threshold may result in an inordinate amounts of notifications especially since containment does not negate the requirement to notice.</p> <p>Re Secondary Containment Around Storage Tanks: Placing cobbles inside earthen containment seems odd to me. Why would cobbles be placed in a containment system as they would ultimately interfere with fluid removal when necessary. What is the County's intent with cobbles? Would another mechanism be acceptable to the County?</p> <p>Cuttings may be onsite for a short period of time before ultimate disposal.</p> <p>Timing of the ambient noise survey is key. There could be years between when an application is filed and when drilling starts. COGCC specifies a timeline for ambient prior to spud (< 90 days) – Rule 423.b. Given the potential for marked changes in ambient</p>	
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	<p>noise over time, there needs to be provisions to rely on the COGCC-required ambient survey for compliance purposes. Additionally, it is unnecessary to require noise modeling if there are NO receptors within 2000' of the Location. Please specify whether the requirements of this provision also applies to proposed facility pads with no wells. This is lack of clarity is why COGA proposed above that all references to well pads or "Oil and Gas Facilities" be pegged instead to "Oil and Gas Location." This is a global comment that applies throughout the draft regulations.</p> <p>Re "Additional measures may be required as necessary to achieve Maximum Permissible (Noise) Level": COGA suggest changing this to "may" because you may have a house that is within 2k of a location but far away from the property line.</p> <p>Re Noise Mitigation: Tier 4 engines are rare and frequently unavailable. There are only a few in the United States. Furthermore, Tier IV engines are typically noisier relative to Tier II dual fuel engines. COGA is gathering further operator feedback on ... compressor station specific regulations.</p> <p>Re Odor Mitigation: Propose either language embedded in text (The Operator shall employ the use of drilling fluids with low to negligible aromatic content (e.g., IOGP Group II) during drilling operations after the surface casing is set and freshwater aquifers are protected)</p> <p>OR "The Operator shall employ steps to prevent odors from migrating offsite."</p> <p>Re Visual Mitigation within 1,320 feet for a parcel of 40 acres or smaller: What if the property is far from the property line?</p> <p>Re Visual Mitigation using fences: What if the surface owner has different fencing preferences? Will those be honored so long as safety is ensured?</p> <p>Re Road Damage Agreement: Please specify what County entity approves such an agreement.</p> <p>Re Temporary Water Lines: Snaking temp pipe through drainage culverts can and is problematic during storm events. What about paved road crossings? Snaking temp pipe through drainage culverts can and is problematic during storm events.</p> <p>Re Crossings of Defined Streambeds: In some instances, open trenching of a watercourse has LESS impact on the resources relative to boring or directional drilling. This should be on a case by case basis.</p> <p>Lack of definition and consistency between types of pipeline.</p>	
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	<p>Instead of an outright prohibition on locations within a floodplain, COGA recommends subjecting such proposed locations to an ALA process instead. With the special statewide floodplain requirements of COGCC Rule 321, oil and gas operations may safely occur in floodplains. COGA acknowledges that operations in floodplains are not preferred, hence the ALA requirement, but COGA does not believe a ban is reasonable or necessary.</p> <p>To protect against disparate review/approval timelines at the State and Local levels, recommend 4 yrs. to ensure the local permit term does not expire before the state Form 02A.</p> <p>To avoid confusion and for consistent permitting approval time frames between the County and state, COGA recommends that the approval period be tied to the drilling of a well as opposed to its completion and production status. Flexibility in this will also, at time, potentially allow for more mitigation measures.</p> <p>Re Administrative Amendment to include changes in the source of water to be used for drilling and completion: This complicates operational logistics. Often times, water sources are not 100% confirmed until just prior to the operational phase where water is needed. The timing of these sources is reliant on water availability, contractual terms, and various other parameters. Removing this in its entirety is preferred. Alternatively, notice via email with lat / long and a map would be acceptable.</p> <p>Re Administrative Amendment to include changes of equipment to be used at the site: How granular does this get? It is possible that the rig assigned to the pad may get swapped due to availability or other needs.</p> <p>Re Transfer/Sale to a new operator: Deals can be on/off so more flexibility is needed.</p> <p>Re Environmental Liability Insurance: While the state is currently contemplating requiring operators to obtain Environment Liability Insurance in the minimum amount of \$5,000,000 per pollution incident to cover costs associated with gradual and sudden pollution events, insurance brokers have preliminary advised that coverage in this amount will not be commercially available for most operators. COGA urges the County to revisit this amount after the COGCC Rulemaking. There will be more factual development regarding the reasonableness of this requirement at that time. Coverage of these components may not even be possible with today's bonding challenges.</p> <p>Re requirement for performance bond naming the County as a beneficiary: COGA suggests these regulations are premature, as the COGCC is currently undergoing a financial assurance rulemaking. COGA believes that P&A (Plugging & Abandonment) bonding is best handled by the entity that will approve P&A</p>	
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	<p>procedures and has the technical expertise to evaluate P&As—the COGCC. Also, the concept of a blanket bond for a given Location (not individual bonds for each well) should be given consideration.</p> <p>Re blanket bonding: 10,000,000 is too high. Surety companies will not provide bonds in this amount.</p> <p>Should this read UXO as in “unexploded ordinance”?</p> <p>Re commercial liability coverage and loss of control insurance: Available? We are again concerned the insurance market may not provide coverage at this level.</p> <p>Re lapse in insurance coverage: There needs to be a period of time to correct the defect, particularly as it may be an inadvertent administrative oversight.</p> <p>Re listing deductibles or retentions on the certificate of insurance: The County should not need this information. This provision should be deleted. COGA does not understand the intent of requiring this information.</p> <p>Re Fines and Penalties: Will the County please explain whether the County will assess a fee for the same conduct as the COGCC might? COGA is concerned about this potential and also about the potential for the County and the state to take differing views of the application of the factors listed below and the aggravating/mitigating factors listed below that affect a determination of what is an appropriate penalty, if any.</p> <p>Re the PWD Director applying to the COGCC for a hearing when there’s a pattern of violations: Will the County please explain whether the County will assess a fee for the same conduct as the COGCC might? COGA is concerned about this potential and also about the potential for the County and the state to take differing views of the application of the factors listed below and the aggravating/mitigating factors listed below that affect a determination of what is an appropriate penalty, if any.</p> <p>Additional COGA Comments After Phone Calls: Tank Counts (both oil and water)</p> <ul style="list-style-type: none"> • Tank counts are dependent on the number of wells on a well pad or serviced by a consolidated production pad. • Well performance also dictates the number of tanks required on a pad. • The required number of tanks may vary over time; as the well declines, typically less tanks are required. • Tanks that are no longer necessary to support production operations are generally repurposed at other locations. <p>Insurance Provisions</p> <ul style="list-style-type: none"> • Redline comments stand. 	
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	<ul style="list-style-type: none"> • Requiring contractors and subcontractors to carry the same insurance as operators is unnecessary because operators are responsible for ensuring that their contractors and subcontractors comply with COGCC Rules (see COGCC Rule 201.b.); requiring contractors and subcontractors to carry the same insurance as operators is moreover most likely unachievable because of limitations in the insurance market • While some form of assurance is prudent and generally acceptable, please confirm that any amount of financial assurance provided to the state will commensurately reduce any amount required by the County. “Double” bonding is unreasonable and unnecessary, especially considering the COGCC is the party with expertise in these areas. • It is inappropriate and unreasonable to require an operator to obtain coverage for waste disposal sites the operator does not own or operate. Because the operator is unlikely to own or operate the waste disposal site, it is also likely that the operator could not obtain insurance for the property and business of another. Further, the sites may not even be in Arapahoe County and outside of Arapahoe County’s jurisdiction. <p>Setbacks</p> <ul style="list-style-type: none"> • Landowner should have opportunity to request an oil and gas facility closer than 500’ if they so desire • Landowner may need the pad closer than 500’ for more appropriate pad placement due to crops, livestock, or other concerns 	
Renegade Oil & Gas	<p>Comments provided by phone: Regulations changed significantly since the draft shared last September – what happened? The draft rules will severely impact our ability to make a living; County should slow down the approval process; We haven’t had enough time to review because we’ve been reviewing the COGCC’s new rules and other jurisdictions’ rules; Health & Safety rules are not realistic and Fire District has too much control; The 9 tank limit and the 10 feet of separation between tanks is unacceptable; Do these rules apply to legacy vertical well pads? The fines and penalties section needs to come out – this would be a legal proceeding and COGCC’s fines and penalties process is already laborious; The financial assurance section needs to come out – some of the insurance specified is not available to operators and these requirements will force a lot of facilities into the COCCC’s Orphan Well Program; COGCC has removed their straw dog rules for Financial Assurance and backed off on their hearing dates when</p>	<p>Acknowledged and staff will reexamine the Fines & Penalties section at a later date and will adjust the Financial Assurance section when it’s determined what kinds of financial assurance/insurance are available.</p>

	<p>issues were raised by operators; SB19-181 should be included as an attachment to the staff report and staff and the Planning Commissioners should read SB19-181.</p>	
<p>Citizen 1 Comment</p>	<p>I have made this comment before: I do not like the idea that notification is performed only within 1 mile. I live more than 1 mile from a site. My homeowners controls homes that are more than 1 mile from a site. So, they can frack under my house without notifying me.</p>	<p>Draft regulations retain 1 mile notice.</p>

<p>Citizen 2 Comments</p>	<p>For over 4 Years we fought with the County Commissioners and the Oil Companies.</p> <p>A couple weeks ago Arapahoe County had an oil well fire. Everything that was going to happen to our community if Conoco put in The Swain Site happened at that oil well fire. A 1000 feet from our homes. The oil well site was burning so hot it was melting the fire departments trucks. The fire department moved their equipment out of the area. Everyone within a mile from the site was moved. They blocked Watkins Rd and Quincy. There was 2 ways to get to the site. Ours would have been one way in and out of our community. Amazing it was supposed to only take 45 minutes to get foam. It took 5 hours. Five hours!!! We all know you can't fight an oil fire with water.</p> <p>So here we are deciding on the oil wells again. Rules and regulations....</p> <p>Location, location location. Move them away from Homes, schools and hospitals. Move them at least a mile away from everything. If there is a problem they are already a mile away. Poisonous gases, smoke and ground water are away from the Population.</p> <p>The rules and regulations that are being decided on are good and have been discussed again and again. I drove through Adams and Weld county the other day. They have little sights. Arapahoe County has huge sites. Amazing!!! \$\$\$\$\$ Our families lives aren't worth much are they?</p>	<p>Acknowledged; draft regulations limit the number of tanks on a given site.</p>
<p>Citizen 3 Comments</p>	<p>Please review the document below. We are very disappointed in Arapahoe County Oil and Gas Regulations. The regulations appear to have been written to favor the Oil and Gas Companies with very little concern to the communities that will be impacted by new oil and gas sites. I would suggest Arapahoe County take a hard look at protecting its tax payers instead of Corporations.</p> <p>Why are the regulations not written to match the COGCC rules? Did the county water down these rules for convenience?</p> <p>These setbacks are extremely weak. 1000' setback is less than the old COGCC setback of 1500' and yet it has to be 2640' from a landfill? Garbage is more important than neighborhoods? Does Arapahoe County really care about its taxpayers? The Counties weak setbacks really sends a glaring message that tax revenue from Oil and Gas means more than the safety of its people.</p> <p>There is no wording for emergency egress for neighborhoods. Why?</p> <p>Re the 9 tank limit: This is one good statement, nine tanks total. County did permit a site that could include up to 32 tanks in the past.</p>	<p>Acknowledged; the draft rules state that the <i>stricter</i> of the County rules or the State rules apply. Our rules provide additional requirements or serve as a backstop if the State grants waivers/variances. See staff report for additional discussion of setbacks.</p>

	<p>Re ½ mile radius for groundwater sampling: Ground water only travels up to ½ mile of the well head?</p> <p>Traffic mitigation is not enforced. You see tankers all hours of the day going to well sites. This is not enforced or monitored. It looks good on paper for the county but IT IS NOT ENFORCED IN ANY WAY SHAPE OR FORM.</p> <p>Make the fines relevant to the companies you are dealing with. These fines do not hinder or scare any oil company. Put some bite into so if there is an issue the company will feel the pain instead of an inconvenience.</p>	
<p>Citizen 4 Comments</p>	<p>9-A. DRAFT; Groundwater Baseline Sampling and Monitoring, 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 a proposed new Oil and Gas Facility if requested by the owner of such water source COMMENT: testing of all water sources located within ONE MILE radius of a proposed new Oil and Gas Facility</p> <p>10.-A DRAFT; 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. COMMENT: Noise emitted from the facility pad shall not exceed 50 dBA or 55dBC.</p> <p>H-DRAFT: 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. COMMENT: if C-scale noise levels SHALL NOT BE INCREASED to the larger of either (i) 5db over ambient or (ii) 65 dBC at the property line</p> <p>L-B, DRAFT: Operator shall provide a performance bond in the amount of \$50,000 per well for plugging and abandonment of all wells proposed for a well pad and the associated equipment and infrastructure, or provide a field-wide bond that covers all of Unincorporated Arapahoe County in a blanket field-wide bond in the amount of \$10,000,000, to cover plugging and abandonment of all of the Operator’s wells COMMENT: a performance bond in the amount of \$100,000 per ell for plugging and abandonment.</p>	<p>Acknowledged.</p>

<p>Citizen 5 Comment</p>	<p>I feel that the county is moving forward in a way that will protect all stakeholders and preserve the standard of living that all citizens deserve. I look forward to the public meetings in August.</p>	<p>Acknowledged.</p>
<p>Citizen 6 Comments</p>	<p>I live in Watkins Farm in unincorporated Arapahoe County. I have spoken at many, many county and state hearings on oil and gas since October, 2016. I have written countless responses to questions, and made comments publicly and in writing about oil and gas.</p> <p>I have attended most meetings about the “changes” to Arapahoe County’s Oil and Gas rules. This has taken two years, and it’s still in draft form. Two of my observations are: (1.) The longer it takes to write these rules, the concerned citizens and the actual voters in Arapahoe County lose interest. They have jobs and families after all. The oil and gas companies want us to lose interest. And (2.) the oil and gas company representatives are paid to keep interested. It’s their job. Therefore most of the final draft wording favors oil and gas, and does not protect the public. For instance, repeatedly, citizens told Arapahoe County that setbacks need to match the state approved setbacks for protecting our health and safety. The county responded that, oh well, the state setbacks supersede the county anyway. Yet here in the final draft, Arapahoe County still uses the setbacks oil and gas have insisted on.</p> <p>For instance:</p> <p>1000 foot setback from occupied structures, our homes, does not protect citizens health and safety. The COGCC adopted a 2000 foot minimum setback to protect our health and safety. The county 1000 foot minimum setback only protects the interests of the oil and gas companies. If state setbacks supersede the county setbacks, then the county should, at a minimum, use the state setbacks. Otherwise, the impression to citizens is that all oil and gas drilling applicants can go through a waiver process for each site. Oil and gas companies understand that to drag out the process favors what they want. The message to oil and gas companies is that Arapahoe County is a “friendly” county for oil and gas drilling, so come here. Conversely, the message to your citizens, your voters, and we are all tax payers by the way, is that the county will eventually give oil and gas what they want. After all, in the four and a half years we have been involved, the county repeatedly has said they “need the money” generated by oil and gas drilling.</p> <p>Citizens, the ones you are tasked to protect, are not paid lobbyists. Oil and gas companies have many paid lobbyists. They spend a lot of money hiring lobbyists to protect their profits. The state legislators are citizens’ lobbyists. In 2019 they wrote the law</p>	<p>Acknowledged; the draft rules state that the <i>stricter</i> of the County rules or the State rules apply. Our rules provide additional requirements or serve as a backstop if the State grants waivers/variances. See staff report for additional discussion of setbacks.</p>

to protect citizens health and safety. Is Arapahoe County protecting its citizens? Look at your setbacks:

1000 feet from occupied structures

250 feet from adjacent property line

250 feet for access roads from residential property line! REALLY?? You try sleeping 250 feet from oil and gas truck traffic.

2000 feet from designated outside activity area!!! My home has a designated outside activity area: it's called where my grandkids play on my property! The county rules need to protect us anywhere on our property.

250 feet from existing oil and gas well for new homes! Who does this protect? The future homeowner and tax payer?? The developer? The oil and gas company?

150 feet from plugged or abandoned well for new homes! Who is this for? The oil and gas company that abandoned the wells????

In the past year, residents of Watkins Farm have witnessed at least two oil and gas site fires near our community. The first fire, a year ago, was too hot and fire fighters could not get close enough and had to just let it burn. The second, only a couple weeks ago, closed Watkins Road and Quincy Road for a day. Once again, the fire was too hot for fire fighters to approach. Luckily, both of these wells were over a mile from any home. What if those fires had been 1000 feet from our homes? Or even less, as your draft rules allow? Fire fighters could not get close enough to fight the fire because it was too hot. But our homes can be that close? It's simple. Adopt the COGCC setbacks.

Another concern that we have in Watkins Farm is the county asked the oil and gas operator to construct an emergency access road to the north of Watkins Farm. With that road, the county gave approval for the Swan well site, although using the emergency road would take Watkins Farm residents directly toward the wells proposed at the site. The emergency road location was proposed in a flood plain. No one at the county seemed concerned about that, but we who live here were. In 2013, and again this summer, in 2021, that flood plain flooded up to the top of the two bridges. It would have washed out the proposed road. Once again, we would have been trapped. In the future, the county needs to consider and not approve oil and gas in a flood plain.

Finally, my voice may be the lone voice asking once again for the county to raise the setbacks to match the COGCC setbacks.

	<p>Watkins Farm residents were convinced in 2019 that we are now protected by the state, and yet our own local government chooses to ignore the state law. It IS the law! Follow it.</p> <p>Thank you for your concern and interest in our community.</p>	
Citizen 7	<p>I respectfully wish to show my disappointment with the county's rules for setbacks. What is stated is extremely close if the occupied structure is a home. I believe it stated 1,000 feet which is less distance than was original discussed. This distance does not address our concerns with safety measures and oil sites near residential areas.</p> <p>Please consider your home this close to an oil well. The recent fire on Watkins road, with the smoke involved and the fire is very concerning. These wells should not be placed near homes....period! I can't believe that this is even being considered.</p> <p>Please do what you can to stop this so that our homes and safety are protected.</p>	Acknowledged
Referral Comments were sought but not received from the following organizations; some organizations provided feedback during the pre-referral period:	<p>County Staff: Assessor's Office, Zoning, Mapping, Building, Road & Bridge, Communications, and Long Range Planning.</p> <p>External Agencies: I-70 Corridor Regional Economic Advancement Partnership (REAP), Colorado Geologic Survey, U.S. Environmental Protection Agency (EPA), U.S. Department of Transportation, Urban Drainage, E-470, Colorado Division of Real Estate, Special District Management Services, Inc., Special Districts Association of Colorado, Town of Byers, Town of Bennett, Town of Deer Trail, City of Centennial Parks and Recreation, Strasburg Parks, Elbert County, Washington County, Byers Fire, Deer Trail Fire, Sable Altura Fire, U.S. Army Corps of Engineers, Denver Regional Council of Governments (DRCOG), May Farms, local chambers of commerce, several real estate developers, U.S. Department of Agriculture (West Arapahoe Soil Conservation District), Intermountain Rural Electric Association (IREA), Extraction Oil & Gas, True Oil, Kiowa Creek Resources, Phillips 66, ARB Midstream, Crestone Peak Resources Midstream, Colorado National Gas, Williams Company, Cherry Creek Basin Water Quality Authority, Colorado Rural Water Association, East Cherry Creek Valley Water, Bijou Telephone Coop, What The Frack?, Bennett HOA, Southwest Bennett HOA, Watkins Farm HOA, Thunder Ranches HOA, and a group of Unincorporated Arapahoe County mineral rights owners.</p>	

Note: The 8-17-21 version of the draft Oil & Gas definitions has been removed to avoid confusion between the original draft and the version presented at the 10-5-21 Planning Commission. See Resolution for the definitions.

Oil and Gas Glossary of Terms

Abandon

The proper plugging and abandoning of a well in compliance with all applicable regulations, and the cleaning up of the wellsite to the satisfaction of any governmental body having jurisdiction with respect thereto and to the reasonable satisfaction of the operator.

Abandonment Costs

The costs associated with abandoning a well or production facility. Such costs are specified in the authority for expenditure (AFE), and typically cover the plugging of wells; removal of well equipment, production tanks and associated installations; and surface remediation. (See Plugging and Abandonment).

Acid Stimulation (type of completion procedure or workover procedure)

The treatment of a reservoir formation with a stimulation fluid containing a reactive acid. In sandstone formations the acid reacts with soluble substances in the formation matrix to enlarge the pore spaces. In carbonate formations (limestones, limey sandstones, dolomites) the acidizing treatment dissolves the entire formation matrix. In each case, the acid treatment improves formation permeability to enhance production of oil and gas.

Act

Means the Oil and Gas Conservation Act of the State of Colorado.

Alluvial Aquifer

The water-bearing sand and gravel adjacent to a stream that can yield large amounts of groundwater.

Ambient Air Quality

Refers to the quality of outdoor air in the surrounding environment. It is typically measured near ground level, away from direct sources of pollution.

Annulus

The void between piping (casing) and the wall of the borehole. The annulus is continuously cemented between the casing and the borehole over the aquifers, to a depth of 50 feet below the deepest aquifer. The wellbore is also cemented over the producing formation to isolate the wellbore and prevent migration of formation fluids into the casing. After casing and cementing through the interval to be produced, the casing is perforated. The perforations extend through the cement and fluids flow from the formation, through the perforations, and into the production casing or production tubing.

Application for Permit to Drill (APD)

Prior to building the oil and gas location or pad, an Application for Permit to Drill (APD) is required by the Colorado Oil and Gas Conservation Commission (COGCC Form 2), as well as a location permit (COGCC Form 2A).

Aquifer

A geologic formation or group of formations that can both store and transmit water. Subsurface aquifers (as opposed to alluvial aquifers in sediments at the surface) are separated by impermeable layers, also call aquitards.

Barrel (bbl)

42 U.S. gallons at 60°F and atmospheric pressure. Most oil and gas operations list fluid volumes in barrels.

Baseline Water Sampling (See Colorado Oil and Gas Conservation Commission Rule 609).

Initial (pre-drilling) baseline water samples collected from available water sources, up to a maximum of four (4), within a one-half (1/2) mile radius of a proposed Oil and Gas well, multi-well site, or dedicated injection well. The initial baseline testing includes pH, specific conductance, total dissolved solids (TDS), dissolved gases (methane, ethane, propane), alkalinity (total bicarbonate and carbonate as CaCO₃), major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, phosphorus), major cations (calcium, iron, magnesium, manganese, potassium, sodium), other elements (barium, boron, selenium and strontium), presence of bacteria (iron related, sulfate reducing, slime forming), total petroleum hydrocarbons (TPH) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes). Field observations such as odor, water color, sediment, bubbles, and effervescence are also documented.

Basin

A large bowl-shaped depression in the subsurface under the land surface that has the potential to contain oil and gas. The Denver Basin, sometimes called the Denver-Julesburg Basin or the D-J Basin is centered in eastern Colorado and extends into southeast Wyoming, western Nebraska, and western Kansas. It underlies the Denver-Aurora Metropolitan Area on the eastern side of the Rocky Mountains. Most of the oil and gas production on the eastern side of Colorado comes from sedimentary layers that were deposited in the Denver Basin.

Biogenic Gas

Biogenic methane gas is formed at shallow depths and low temperatures by anaerobic bacterial decomposition of sedimentary organic matter. (Also see thermogenic gas).

Blowdown

To vent gas from a well or production system. Wells that have been shut in for a period frequently develop a gas cap caused by gas percolating through the fluid column in the wellbore. It is often desirable to remove or vent the free gas before starting well intervention work.

Blowout Preventer (BOP)

A large valve at the top of a well that may be closed if the drilling crew loses control of formation fluids. By closing this valve (usually operated remotely), the drilling crew usually regains control of the reservoir and procedures can then be initiated to increase the density of the drilling fluid (also known as drilling mud). BOPs come in a variety of styles, sizes, and pressure ratings. Some can effectively close over an open wellbore, some are designed to seal around tubular components in the well (drillpipe, casing, or tubing) and others are fitted with hardened steel shearing surfaces that can cut through the drillpipe. Since BOPs are critical to the safety of the crew, the rig, and the wellbore itself, BOPs are inspected, tested, and refurbished at regular intervals.

BMP or Best Management Practice

A BMP is a state-of-the-art mitigation measure applied to oil and natural gas drilling and production to help ensure that energy development is conducted in an environmentally responsible manner. BMPs can be mandatory or voluntary. Oil and gas operations BMPs can be related to air quality, community,

cultural and historic resources, agriculture, health and safety, surface disturbance, soils, vegetation, noise, wildlife, visual aesthetics, water quality and pollution.

Bonus

Cash consideration paid to a landowner or mineral owner on the execution of an oil, gas or mineral lease that is in addition to any rental or royalty obligations specified in the lease.

Bridge plug

A downhole tool that is located and set to isolate the lower part of the wellbore. Bridge plugs may be permanent or retrievable, enabling the lower wellbore to be permanently sealed from production or temporarily isolated from a treatment conducted on an upper zone.

Brine Water

Formation waters are salty, due to the fact that the geologic formations originated in inland seas. The formation water (or Produced Water) is representative of the water in the inland seas and is sometimes called “connate water”. Operators often define brine water as having Total Dissolved Solids (known as TDS, see definition of TDS) of greater than 20,000 mg/l and TDS of 30,000 mg/l is not uncommon. Modern day sea water has a TDS content in the range of 30,000 to 35,000 mg/l. Arapahoe County defines “brine water” as water produced from an oil and gas well with a TDS content of more than 5,000 mg/l and containing no exploration and production waste.

BTEX

An acronym that stands for benzene, toluene, ethylbenzene, and xylenes. These compounds are some of the volatile organic compounds (VOCs) found in petroleum derivatives such as gasoline. Toluene, ethylbenzene, and xylenes have harmful effects on the central nervous system. Benzene is found in the air from emissions from burning coal and oil, gasoline service stations, and motor vehicle exhaust. Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. EPA has classified benzene as a known human carcinogen for all routes of exposure.

Building Unit

A Residential Building Unit; and every five thousand (5,000) square feet of building floor area in commercial facilities or every fifteen thousand (15,000) square feet of building floor area in warehouses that are operating and normally occupied during working hours. Residential Building Units are designed for use as a place of residency by a person, family, or families. The definition includes manufactured, mobile, and modular homes unless they are intended for temporary occupancy or for business. Oil and gas wells must be located no closer than 500 feet from a building unit, unless an exception is granted by COGCC.

Casing

The large diameter pipe that is assembled and inserted into a recently drilled section of a borehole and is typically held in place with cement.

Cement Bond Log

Performed by lowering an acoustic survey tool into the well after the surface casing is set and cemented in place to a depth of 50 feet below the lowest aquifers. The cement bond log records the quality or hardness of the cement used in the annulus to bond the casing and the formation. Operators are required to re-cement any places between the casing and the borehole where the cement is not sufficient.

Cement casing

To fill the annulus between the casing and wall of the hole with cement to support the casing and prevent fluid migration between permeable zones.

Christmas Tree

An assembly of valves mounted on the casinghead through which a well is produced. The Christmas tree also contains valves for testing the well and shutting it in if necessary.

Circulation System

The complete, circuitous path that the drilling fluid travels. Starting at the main rig pumps, major components include surface piping, the standpipe, the kelly hose (rotary), the kelly, the drillpipe, drill collars, bit nozzles, the various annular geometries of the openhole and casing strings, the bell nipple, the flowline, the mud-cleaning equipment, the mud tanks, the centrifugal precharge pumps and, finally, the positive displacement main rig pumps.

Clean Air Act (CAA)

A Federal law designed to control air pollution on a national level. It requires the Environmental Protection Agency (EPA) to develop and enforce regulations to protect the public from airborne contaminants known to be hazardous to human health.

The first federal legislation to actually pertain to "controlling" air pollution was the Clean Air Act of 1963. In 1967, the Air Quality Act enabled the federal government to increase its activities to investigate enforcing interstate air pollution transport, and to perform far-reaching ambient monitoring studies and stationary source inspections. The 1967 act also authorized expanded studies of air pollutant emission inventories, ambient monitoring techniques, and control techniques.

Major amendments to the law, requiring regulatory controls for air pollution, passed in 1970, 1977 and 1990. The 1970 amendments greatly expanded the federal mandate, requiring comprehensive federal and state regulations for both stationary (industrial) pollution sources and mobile sources. It also significantly expanded federal enforcement. The 1990 amendments addressed acid rain, ozone depletion, and toxic air pollution, established a national permits program for stationary sources, and increased enforcement authority. The amendments also established new auto gasoline reformulation requirements.

Clean Water Act (CWA)

The primary federal law in the United States governing water pollution, passed in 1972. The objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to

restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

Closed-loop drilling system

Closed-loop systems use above-ground portable tanks instead of pits. A typical closed-loop system includes a series of linear-motion shakers, mud cleaners and centrifuges followed by a dewatering system. Waste water is pumped directly into steel storage containers and held for processing. The equipment typically results in a “dry” location where a reserve pit is not required, used fluids are recycled, and solid wastes can be landfarmed, hauled off, or injected downhole. Up to 50 percent of the frack water can potentially be recovered and reused.

COGA (Colorado Oil and Gas Association)

COGA is an oil and gas industry organization. They list their mission as representing and advocating industry views while promoting the beneficial, efficient, responsible, and environmentally sound development, production and usage of Colorado oil and natural gas.

COGCC (Colorado Oil and Gas Conservation Commission)

The COGCC is the state regulatory agency governing oil and gas exploration, financial assurance, safety, permitting, setbacks, baseline water sampling, completions, production, reporting, remediation, waste water injection, enhanced recovery, and well abandonment. The COGCC is to foster the responsible development of Colorado's oil and gas natural resources. Responsible development results in the following:

- The efficient exploration and production of oil and gas resources in a manner consistent with the protection of public health, safety and welfare
- The prevention of waste
- The protection of mineral owners' correlative rights
- The prevention and mitigation of adverse environmental impacts

Completion

The process of making a well ready for production or injection. This principally involves preparing the bottom of the hole to the required specifications, running in the production tubing and its associated down hole tools as well as perforating and stimulating as required. Sometimes, the process of running in and cementing the casing is also included. Hydraulic fracturing, also known as fracking, is one of the completion activities.

Compressor Station

Any combination of facilities that supply the energy to move gas in transmission or distribution lines or into storage by increasing the pressure.

Condensate

Natural gas condensate is a low-density mixture of hydrocarbon liquids that are present as gaseous components in the raw natural gas produced from wells. It condenses out of the raw gas if the temperature or pressure is reduced. Condensate is very similar in composition to refined gasoline.

Condensate Liquids

Hydrocarbons that are in the gaseous phase at reservoir conditions but condense into liquid as they travel up the wellbore and reach separator conditions.

Conductor Casing

Generally, the first string of casing in a well. It may be lowered into a hole drilled into the formations near the surface and cemented in place; it may be driven into the ground by a special pile driver. Its purpose is to prevent the soft formations near the surface from caving in and to conduct drilling mud from the bottom of the hole to the surface when drilling starts. Also called conductor pipe or drive pipe.

Correlative Rights Doctrine

A legal doctrine that limits the rights of landowners to a share of a resource such as oil, gas, or groundwater, to a reasonable share. The reasonable share for oil and gas operations is based on mineral rights ownership. This rule comes into play for oil and gas production because it may be proved that part of the oil and gas produced from a well migrated from adjoining lands.

Crude Oil

A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include 1. Small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well gas in lease separators and are subsequently comingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included; 2. Small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals; 3. Drip gases, and liquid hydrocarbons produced from tar sands, oil sands, gilsonite, and oil shale.

Crude oil forms over millions of years from the remains of tiny aquatic plants and animals that are exposed to the combined effects of time, burial, and temperature. As these organisms died, they settled to the ocean floor and were covered with mud. If the mud did not contain enough oxygen for the soft parts of the organisms to decay, they were converted into kerogen, which is later converted into oil.

Crude oil is refined to produce a wide array of petroleum products, including heating oils; gasoline, diesel and jet fuels; lubricants; asphalt; ethane, propane, and butane; and many other products used for their energy or chemical content.

Cuttings

Small pieces of rock that break away from the drilled hole from the action of the drill bit teeth. Cuttings are screened out of the liquid mud system at the shale shakers at the surface and are monitored for composition, size, shape, color, texture, hydrocarbon content and other properties by the mud engineer or the mud logger. The mud logger collects samples of cuttings for subsequent analysis and archiving.

Decibel

The unit of measurement to compare the relative intensity of acoustic or electrical signal, equal to one-tenth of a bel, named for American inventor Alexander Graham Bell (1847 to 1922). The logarithm of the ratio of the sound or signal to a standard provides the decibel measurement. The symbol for the unit is dB. Humans typically hear sounds in the range of 20 to 50 dB in conversation, and upwards of 90 dB when exposed to heavy machinery or aircraft.

Dehydrator

A device used to remove water and water vapors from gas. Gas dehydration can be accomplished through a glycol dehydrator or a dry-bed dehydrator, which use a liquid desiccant and a solid desiccant, respectively. Gas dehydrators are designed to handle only water and gas vapors. If liquid water or oil enters the dehydrator, the device cannot work properly.

Directional well

A well purposely deviated from the vertical, using controlled angles to reach an objective location other than directly below the surface location. A directional well may be the original hole or a directional "sidetrack" hole that deviates from the original bore at some point below the surface. Each of the deviations from the common bore is reported as a separate well.

Disposal Well

A well, often a depleted oil or gas well, into which waste fluids can be injected for safe disposal. Disposal wells are subject to regulatory requirements to avoid contamination of fresh water aquifers or producing horizons. (Also see Injection Well).

Dog House

The steel-sided room adjacent to the rig floor, usually having an access door close to the driller's controls. This general-purpose shelter is a combination tool shed, office, communications center, coffee room, lunchroom and general meeting place for the driller and his crew. It is at the same elevation as the rig floor, usually cantilevered out from the main substructure supporting the rig.

Domestic Gas Well

A gas well that produces solely for the use of the surface owner. The produced gas cannot be sold, traded, or bartered.

Downstream

The oil and gas operations that take place after the production phase, through to the point of sale. Downstream operations can include refining crude oil and distributing the by-products down to the retail level.

Drilling Mud

A heavy, viscous fluid mixture that is used in oil and gas drilling operations to carry rock cuttings to the surface and also to lubricate and cool the drill bit. Drilling mud is pumped down the hollow drill pipe to the drill bit, where it exits the pipe and then is flushed back up the borehole to the surface. The drilling mud, by hydrostatic pressure, also helps prevent the collapse of unstable strata into the borehole and the intrusion of water from water-bearing strata that may be encountered.

Drilling muds are traditionally based on water, either fresh water, seawater, naturally occurring brines, or prepared brines. A typical water-based drilling mud contains a clay, usually bentonite, to give it enough viscosity to carry cutting chips to the surface, as well as a mineral such as barite, to increase the weight of the column enough to stabilize the borehole. Many muds are oil-based, using direct products of petroleum refining such as diesel oil or mineral oil as the fluid matrix. For economic and environmental reasons, oil- and synthetic-based muds are usually cleaned and recirculated

Drill Pipe

Tubular steel conduit fitted with special threaded ends called tool joints. The drillpipe connects the rig surface equipment with the bottomhole assembly and the bit, both to pump drilling fluid to the bit and to be able to raise, lower and rotate the bottomhole assembly and bit.

Drilling

The act of boring a hole (1) to determine whether minerals are present in commercially recoverable quantities and (2) to accomplish production of the minerals (including drilling to inject fluids).

Exploratory: Drilling to locate probable mineral deposits or to establish the nature of geological structures; such wells may not be capable of production if minerals are discovered.

Developmental: Drilling to delineate the boundaries of a known mineral deposit to enhance the productive capacity of the producing mineral property.

Directional: Drilling that is deliberately made to depart significantly from the vertical.

Drilled and Abandoned

A well that was abandoned by plugging after drilling because it was not sufficiently capable of producing at economic rates.

Drilling Fluid

Any of a number of liquid and gaseous fluids and mixtures of fluids and solids (as solid suspensions, mixtures and emulsions of liquids, gases and solids) used in operations to drill boreholes into the earth. Synonymous with "drilling mud" in general usage, although some prefer to reserve the term "drilling fluid" for more sophisticated and well-defined "muds."

Drilling Pits

Pits used during drilling or initial completion operations at a well. The four types are: ancillary, completion, flowback, and reserve pits.

Ancillary Pits: Used to contain fluids during drilling operations and initial completion procedures.

Completion Pits: Used to contain fluids and solids from initial completion operations and not constructed for drilling operations.

Flowback Pits: Used to contain fluids and solids produced from initial completion operations (e.g. fluids that come out of the formation immediately after fracking). Flowback pits must be lined, per COGCC standards.

Multi-Well Pits Often the size of two football fields or larger, these pits generally start out with fresh water or groundwater provided from water wells, or purchased from a municipality or water-provider. As the water is recycled, for use over and over, with subsequent drilling and completions, the water becomes more saline (higher TDS; see TDS definition) because the pit water is in contact with formation water (saline due to the origin of the sediments in inland seas or deep ocean water). The trace amounts of hydrocarbons in the pit water also increase with each completion due to contact between the water and the oil- and gas-bearing formations.

Reserve Pits: Used to store drilling fluids or to contain wastes generated during drilling operations and initial completion.

E & P Waste (Exploration and Production Waste)

Defined as drilling wastes, salt water and other wastes associated with the exploration, development, and production of crude oil or natural gas. E & P wastes are exempt from the Federal Resource Conservation and Recovery Act (RCRA), as amended, but are regulated by COGCC.

Enhanced Recovery

The implementation of various techniques for increasing the amount of crude oil that can be extracted from an oil field. Enhanced oil recovery is also called improved oil recovery or tertiary recovery (as opposed to primary and secondary recovery). According to the US Department of Energy, there are three primary techniques for EOR: thermal recovery, gas injection, and chemical injection.

Environmental Impact Statement

A report that documents the information required to evaluate the environmental impact of a project. It informs decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the environment.

EPA (Environmental Protection Agency)

The Environmental Protection Agency (EPA) was established in December 1970. The EPA is an agency of the federal government whose mission is to protect human and environmental health. The EPA is responsible for conducting environmental assessment, monitoring, standard-setting, research and education to create and enforce standards and laws that will promote the health of individuals and the environment. In addition, the EPA is charged with determining safe tolerance levels for chemicals

and other pollutants in food, animal feed and water. The EPA is able to enforce its findings through fines, sanctions and other procedures.

EPCRA (Emergency Planning and Community Right-To-Know Act)

The objective of EPCRA is to: (1) allow state and local planning for chemical emergencies, (2) provide for notification of emergency releases of chemicals, and (3) address communities' right-to-know about toxic and hazardous chemicals.

Exception Zone

The concentric area around a proposed well location that is 500 feet or less from a building unit. For COGCC approval to drill in an exception zone, delivery notification must be documented and increased mitigation measures are required.

Facility

Defined by Arapahoe County as related to oil and gas exploration, completion, production, storage, and processing. Facilities include oil and gas wells, tank batteries, lease roads, pipelines, compressor stations, gas plants, and storage facilities. Pipelines (Gathering Systems), Salt Water Disposal wells and Injection wells are not included in the County's use of the term.

Fee Interest

The absolute, legal possession and ownership of land, property, or rights, including mineral rights. A fee interest can be sold (in its entirety or in part) or passed on to heirs or successors.

Fee Simple

An interest in land. Land owned in fee simple is owned completely, without any limitations or conditions. This type of unlimited estate is called absolute. A fee simple is generally created when a deed gives the land with no conditions, usually using the words like "to John Doe" or "to John Doe and his heirs".

Financial Assurance

A surety bond, cash collateral, certificate of deposit, letter of credit, escrow account, lien on property, security interest, guarantee, or other instrument or method acceptable to the COGCC for liability concerns related to public health, safety, and welfare. The term encompasses general liability insurance.

Flare/Flaring

Noun: The flame from a flare; the pipe or stack itself.

Verb: To burn unwanted gas through a pipeline or stack. Flaring is usually used as a safety measure to burn off flammable gas released by pressure release valves but can be used when wells are not hooked into a pipeline. To keep the flare system functional, a small amount of gas is continuously burned, like a pilot light, so that the system is always ready for its primary purpose as an over-pressure safety system. (See venting).

Flowback

After a well is drilled, a mixture of water, sand, and chemical additives is injected under pressure to fracture the shale reservoir, which enhances the flow of oil and gas for collection. Most of the water used in fracturing remains thousands of feet underground, however, about 20 percent returns to the surface through a steel-cased well bore and is temporarily stored in steel tanks or lined pits. The

wastewater which returns to the surface after hydraulic fracturing is called flowback. Flowback pits contain a mixture of fresh water purchased from water suppliers, brine water (produced water), and fracing fluids (water, often recycled, plus sand and chemicals).

Natural gas also comes to the surface during flowback. The natural gas can't be routed to a pipeline because the initial gas from the well is not pipeline quality. "Green" flowback techniques include routing that natural gas and the flowback liquids to closed tanks, in order to reduce emissions.

Flowline

A surface or subsurface pipeline carrying oil, gas or water that connects the wellhead to a manifold or to production facilities, such as heater-treaters and separators, and then to the gathering system.

Formation

A body of rock that is sufficiently distinctive and continuous that it can be mapped. In stratigraphy, a formation is a body of strata (layers) of predominantly one type or combination of types. Subdivisions of formations are called members.

FracFocus Chemical Disclosure Registry

This website provides a central location for public and industry to communicate and relay information on the chemicals used during the process of hydraulic fracturing of oil or gas wells. The FracFocus website provides impartial and balanced education tools to the public on the topic of hydraulic fracturing.

Fractionation

The process by which saturated hydrocarbons are removed from natural gas and separated into distinct products, or "fractions," such as propane, butane, and ethane.

Fracturing ("fracing", pronounced fracking, aka hydraulic fracking). Fracking is a technique used to stimulate production in oil and gas wells. Fluid is pumped into the well at pressures high enough to fracture the oil/gas bearing formation. This allows injection of propanant (sand) into the formation which props open the fracture and enhances flow of oil and gas back into the well bore. (Also see Hydraulic Fracturing).

Freeboard

Storage volume required in a pit for containment of fluids above the normal fluid storage line, measured from the lowest elevation of the top of the pit. Generally, pits are constructed with 2 feet of freeboard and must be able to contain precipitation in addition to drilling or completion fluids. COGCC requires continuous mechanical monitoring of freeboard for both lined and unlined pits.

Fresh Water

Fresh water is defined by Arapahoe County as a having Total Dissolved Solids (TDS) concentration of less than 5,000 mg/l and containing no E & P Waste. Operators often define "fresh water" as having TDS of up to 10,000 mg/l and brackish water as having TDS in the range of 5,000 – 20,000. (See "Brine Water" definition).

Fugitive Emissions

Unintended leaks of gas from the processing, transmission, and/or transportation of fossil fuels.

Gas STAR Program

A flexible, voluntary partnership that encourages oil and natural gas companies to adopt proven, cost-effective technologies and practices that improve operational efficiency and reduce methane emissions.

Gathering System

The flowline network and process facilities that transport and control the flow of oil or gas from the wells to a main storage facility, processing plant or shipping point. A gathering system includes pumps, separators, emulsion treaters, tanks, regulators, compressors, dehydrators, valves and associated equipment.

Gilsonite

A very pure, shiny black, brittle form of natural asphalt. It is used in making inks, paints, and varnishes.

Green Completions

Practices intended to reduce emissions of salable gas and condensate vapors during cleanout and flowback operations prior to the well being placed on production. Green completion essentially requires natural gas companies to capture the gas at the well head immediately after well completion instead of releasing it into the atmosphere or flaring it.

Groundwater

Water that collects or flows beneath the earth's surface, filling the pore spaces in soil, sediment, and rocks. Groundwater originates from rain and melting snow and is the source water for aquifers, springs, and wells. The upper surface of groundwater is the water table.

Hazardous Waste

A waste that is dangerous or potentially harmful to health or the environment. Hazardous wastes can be liquids, solids, gases, or sludges. They can be discarded commercial products, like cleaning fluids or pesticides, or the by-products of manufacturing processes.

High Occupancy Building Unit

Defined by COGCC as any public school, non-public school, nursing facility, hospital, correctional facility or child care center. The COGCC requires a setback of 1,000 feet from wells to high occupancy buildings. Exceptions can be granted by COGCC but have not been so far.

H₂S (Hydrogen Sulfide) Gas

Hydrogen Sulfide gas is highly poisonous, and even fatal, in very low concentrations. It is associated with the production of oil and gas, particularly in West Texas and Southeast New Mexico. In the early days of oil and gas, drillers kept canaries in cages at the drilling platform. If the canary dropped off its perch, all hands would leave the area immediately.

Hydraulic Fracturing (aka Fracking)

A controlled operation that pumps a fluid and a propping agent through the wellbore to the target geological formation at high pressure in multiple stages, in order to create fractures in the formation to facilitate the flow of hydrocarbons into the well. The fractures which are created in the rock act as flow channels for the oil and gas to the well. The process has been used throughout the oil and gas industry for about 60 years; however, recent technological advances in hydraulic fracturing and

horizontal drilling have made it possible to produce from formations that were previously unproductive.

Hydrocarbon

A substance (such as coal, oil or natural gas) that contains only hydrogen and carbon.

Initial well completion

For an oil or gas well facility producing oil, the date when the first oil is produced through wellhead equipment into lease tanks from the ultimate producing interval after casing has been run; and for an oil or gas well facility producing gas, the date when the oil or gas well facility is capable of producing gas through wellhead equipment from the ultimate producing interval after casing has been run.

Injection Well

Any hole drilled into the earth into which oil and gas liquids or gasses are injected for the purpose of secondary recovery, storage, pressure maintenance, or disposal, pursuant to authorization granted by the COGCC. Produced water disposal is safely injected beneath any fresh water zones.

Intermediate Casing

The string of casing set in a well after the surface casing but before production casing is set to keep the hole from caving and to seal off formations. In deep wells, one or more intermediate strings may be required.

Kelly and Kelly Bushing (KB)

A long square or hexagonal steel bar with a hole drilled through the middle for a fluid path. The Kelly is used to transmit rotary motion from the rotary table or Kelly Bushing to the drillstring, while allowing the drillstring to be lowered or raised during rotation. The Kelly goes through the Kelly Bushing, which is driven by the rotary table. The Kelly Bushing has slightly larger dimensions so that the Kelly can move freely up and down inside. The Kelly Bushing elevation relative to sea level is used for reporting well elevations.

Kick

A kick is a well control problem in which the pressure found within the drilled rock is higher than the mud hydrostatic pressure acting on the borehole or rock face. When this occurs, the greater formation pressure has a tendency to force formation fluids into the wellbore. This forced fluid flow is called a kick. If the flow is successfully controlled, the kick is considered to have been killed. An uncontrolled kick that increases in severity may result in what is known as a "blowout."

Landman

A landman or "petroleum landman" is an individual who performs various services for oil and gas exploration and production companies. These services include: negotiating for the acquisition or divestiture of mineral rights; negotiating business agreements that provide for the exploration and/or development of minerals; determining ownership in minerals through the research of public and private records; reviewing the status of title, curing title defects and otherwise reducing title risk associated with ownership in minerals; managing rights and/or obligations derived from ownership of interests in minerals; and unitizing or pooling of interests in minerals.

In simple terms, a landman is a person who negotiates with mineral owners regarding the leasing of their mineral rights on behalf of an oil company or as an independent contractor.

Landowner

Any owner of record of federal, tribal, state, county, municipal, or private land. Ownership is commonly divided into “surface owner” and “mineral owner”. In Colorado, most mineral rights have been severed from the surface rights.

Lithology

The lithology of a rock unit is a description of its physical characteristics visible at outcrop, in hand or core samples or with low magnification microscopy, such as color, texture, grain size, or composition.

LGD (Local Government Designee)

The Local Government Designee receives all notifications of oil and gas operations under the rules and regulations of the Colorado Oil and Gas Conservation Commission (COGCC). The Designee is responsible for distributing notifications to affected departments within the local government and provides a coordinated response to oil and gas operators and the COGCC.

Local Emergency Planning Committees (LEPCs)

Community-based organizations that assist in preparing for emergencies, particularly those concerning hazardous materials. Under the Emergency Planning and Community Right-to-Know Act (EPCRA), Local Emergency Planning Committees (LEPCs) must develop an emergency response plan, review the plan at least annually, and provide information about chemicals in the community to citizens. Plans are developed by LEPCs with stakeholder participation. There is one LEPC for each of the more than 3,000 designated local emergency planning districts. The LEPC membership must include (at a minimum):

Elected state and local officials; Police, fire, civil defense, and public health professionals; Environment, transportation, and hospital officials; Facility representatives; Representatives from community groups and the media.

Some required elements of the community emergency response plan, developed by the LEPC, include:

- Identification of facilities and transportation routes of extremely hazardous substances;
- Description of emergency response procedures, on and off site;
- Designation of a community coordinator and facility emergency coordinator(s) to implement the plan;
- Outline of emergency notification procedures;
- Description of how to determine the probable affected area and population by releases;
- Description of local emergency equipment and facilities and the persons responsible for them;
- Outline of evacuation plans;
- A training program for emergency responders (including schedules);
- Methods and schedules for exercising emergency response plans.

Though LEPCs were created with the Federal law EPCRA, through EPA, they are often funded partially by the U.S. Department of Transportation's Hazardous Materials Emergency Preparedness grant program. Other sources of funding may include local jurisdictions, industry, businesses, NGOs, and other public or private grants.

Location

A definable area where an operator has disturbed or intends to disturb the land surface in order to locate an oil and gas facility.

Log or Well Log or Well Bore Log

A detailed record of geological formations penetrated during drilling. The term refers to all of the following: the record of borehole cuttings, drill stem tests, and electric, acoustic, and radioactivity logs.

Mechanical Integrity Test

The act of setting a packer or retrievable bridge plug above the perforations in a wellbore and applying pressure to the annulus in order to ensure soundness of the casing.

Methane or CH₄

The lightest and most abundant of the hydrocarbon gases and the principal component of natural gas. Methane is a colorless, odorless gas that is stable under a wide range of pressure and temperature conditions.

Midstream

The midstream sector involves the transportation (by pipeline, rail, barge, oil tanker or truck), storage, and wholesale marketing of crude or refined petroleum products.

Mineral

An element or chemical compound that has been formed as a result of geological processes. For the purpose of this glossary, the word “minerals” refers to crude oil and natural gas products.

Mineral Owner

A person who owns the minerals under a tract of land but may not own the surface.

Mineral Rights

Property rights that confer to the holder the right to exploit an area for the minerals it contains. Minerals include oil and gas. Mineral rights are usually severed from surface property rights; however, in Arapahoe County some surface owners are also mineral rights owners.

MIRU

Abbreviation for move in and rig up.

Modified Closed Loop drilling system (Arapahoe County definition, based on Anadarko’s definition)

A combination of open pit and closed looped systems. Air or fresh water is used to drill the first part of the hole (just below all fresh water aquifers) when a closed loop system of closed tanks is used for the remainder of the drilling and/or completion or recompletion procedures. See the definition of closed-loop drilling systems.

Monitoring Wells

A groundwater monitoring well consists of a pipe installed in the ground, after boring into a groundwater source, which collects water for testing purposes.

An oil and gas stratigraphic test well (or monitor well) is drilled to obtain information on the thickness, lithology, porosity, and permeability of the rock layers. Monitor wells are drilled vertically rather than horizontally.

MSDS (Material Safety Data Sheet)

Required by OSHA, it summarizes information about a chemical or chemical product, including other names for the chemical, chemical composition, safety precautions for use, such as personal protective equipment, and a medical response synopsis, in case of exposure. Recently the term has been changed to Safety Data Sheet (SDS).

Mud (Drilling Mud)

A mixture of clays, water, and chemicals pumped down the drill string while an oil well is being drilled to lubricate and cool the drill bit, carry away rock cuttings, and maintain pressure so that oil or gas does not escape from the formations encountered prior to setting casing and cementing.

Mud Logger

An engineer, geologist, or technician in the oil and gas industry who works on a drilling location and collects samples of cuttings for subsequent analysis and archiving. A mud logger looks for traces of oil and gas and records their respective depths as the drill bit progresses through hydrocarbon-bearing formations.

National Environmental Policy Act (NEPA)

The National Environmental Policy Act was signed into law on January 1, 1970. The Act establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the federal agencies. The Act also establishes the Council on Environmental Quality (CEQ).

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking including its alternatives. There are three levels of analysis: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

Categorical Exclusion: At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant environmental impact. A number of agencies have developed lists of actions which are normally categorically excluded from environmental evaluation under their NEPA regulations.

EA/FONSI: At the second level of analysis, a federal agency prepares a written environmental assessment (EA) to determine whether or not a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI).

FONSI may address measures which an agency will take to mitigate potentially significant impacts.

EIS: If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.

If a federal agency anticipates that an undertaking may significantly impact the environment, or if a project is environmentally controversial, a federal agency may choose to prepare an EIS without having to first prepare an EA. After a final EIS is prepared and at the time of its decision, a federal agency will prepare a public record of its decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process.

New Source Performance Standard

Pollution control standards issued by the United States Environmental Protection Agency (EPA). The term is used in the Clean Air Act Extension of 1970 (CAA) to refer to air pollution emission standards, and in the Clean Water Act (CWA) referring to standards for discharges of industrial wastewater to surface waters.

Niobrara Formation

The Niobrara formation is roughly 82-87 Million years old (Upper Cretaceous Geologic time period) and is still in the early stages of development. The formation is part chalk and part shale. While the Niobrara formation extends from Canada to New Mexico, only certain parts of the formation are capable of producing oil and natural gas. Currently, the most productive zones are in the Denver-Julesberg basin of northeast Colorado and southeastern Wyoming. The average depth for Niobrara petroleum producing zones are approximately 7,000 feet deep. Recent innovation in horizontal drilling and multi-stage hydraulic fracturing have made this formation an economically viable resource.

NOV (Notice of Violation)

Issued by a regulatory agency for an item or items of non-compliance, generally identified during an inspection by the agency.

Oil Base Mud

An invert-emulsion mud, or an emulsion whose continuous phase is oil (see Drilling Mud).

Oil Lease or Oil and Gas Lease

An oil lease is essentially an agreement between parties to allow a Lessee (the oil and gas company and their production crew) to have access to the property and minerals (oil and gas) on the property of the Lessor. The lease agreement is a legal contract of terms. It contains certain elements, which confirm all the terms of the agreement.

The lease must be dated and the lease also sets the time that the lease is effective. It establishes the primary term of the lease. The date clause is an essential.

The parties section of the lease lists the names of all parties who are bound to the lease.

In the consideration section of the lease it gives the legal terms and ensures that the lease is legally enforceable by all parties.

The use of the property and the purpose for the leasing are in the granting clause. This clause states what rights the lessee has and what is the property subject to the lease.

An important part of the lease is the Lessee rights and how long these rights are in force. There may be other provisions including drilling, delay rental, pooling, shut-in royalty, and continuous drilling clauses among others.

Of great importance to the landowner, the Lessor, is the royalty clause. This clause states the percentage or share of production proceeds that the Lessor receives and how the royalty is received.

Occupational Safety and Health Administration (OSHA)

A federal agency created in 1970 that oversees the federal laws requiring employers to provide employees with a workplace free from hazardous conditions. OSHA laws protect safety and health of workers and give workers the right to know what materials they are handling.

Oil and Gas Location

The definable area where an operator has disturbed or intends to disturb the land surface in order to locate an oil and gas facility. Facilities include oil and gas wells, tank batteries, lease roads, pipelines, compressor stations, gas plants, and storage facilities.

Oil and Gas Location Assessment (OGLA or Form 2A)

The COGCC Form 2A that is required to be submitted for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of the OGLA will allow for construction of the location; however, it does not supersede any land use rules applied by the local land use authority.

Operations

Oil and gas operations means exploration for oil and gas, including the conduct of seismic operations and the drilling of test bores; the siting, drilling, deepening, recompletion, reworking, or abandonment of an oil and gas well, underground injection well, or gas storage well; production operations related to any such well, including the installation of flowlines and gathering systems; the generation, transportation, storage, treatment, or disposal of exploration and production wastes; and any construction, site preparation, or reclamation activities associated with such operations.

Operator

In the Oil and Gas industry, Operator means the individual, company, trust, or foundation that conducts or manages exploration, development, and production of an oil or gas well or lease. Generally, it is the oil company by whom the drilling contractor is engaged.

Ozone

Ozone is a gas composed of three atoms of oxygen. Ozone occurs both in the Earth's upper atmosphere and at ground level. Ozone can be good or bad, depending on where it is found.

Good Ozone. Ozone occurs naturally in the Earth's upper atmosphere 6 to 30 miles above the Earth's surface, where it forms a protective layer that shields us from the sun's harmful ultraviolet rays. Manmade chemicals are known to destroy this beneficial ozone. An area where the protective "ozone layer" has been significantly depleted-for example, over the North or South Pole, is sometimes called "the ozone hole." The United States, along with over 180 other countries, recognized the threats posed by ozone depletion and in 1987 adopted a treaty called the Montreal Protocol to phase out the production and use of ozone-depleting substances. EPA has established regulations to phase out ozone-depleting chemicals in the United States.

Bad Ozone: In the Earth's lower atmosphere, near ground level, ozone is formed when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of sunlight. Ozone at ground level is a harmful air pollutant.

Packer

An expanding plug used in a well to seal off certain sections of the tubing or casing when cementing and acidizing or when a production formation is to be isolated.

Paraffin

A hydrocarbon compound that often precipitates on production components as a result of the changing temperatures and pressures within the production system. Heavy paraffins occur as wax-like substances that may build up on the completion components and may, if severe, restrict production. Paraffin is normally found in the tubing close to surface; however, it can form at the perforations, or even inside the formation.

Payout

When the costs of drilling, producing, and operating have been recouped from the sale of products from a well.

Perforation

Holes punched in the well casing by perforating “guns” to connect the well to the reservoir. After perforation most oil and gas wells are fracked by injecting pressurized water, sand, and trace levels of chemicals through the perforation holes. See perforating gun definition below.

Perforating gun

A special tool used downhole for shooting holes in the well’s casing opposite the producing formation. The gun, a steel tube of various lengths, has steel projectiles placed at intervals over its outer circumference, perpendicular to the gun’s long axis. When lowered into the well’s casing on a wireline opposite the formation to be produced, the gun is electronically fired, shooting holes in the casing that permit the flow of oil or gas into the casing.

Permeability

The ability of a rock to transmit fluids. Formations that transmit fluids readily, such as sandstones, are described as permeable and tend to have many large, well-connected pores. Impermeable formations, such as shales and siltstones, tend to be finer grained or of a mixed grain size, with smaller, fewer, or less interconnected pores.

Pig

A device inserted into a pipeline to clean the pipes or detect leaks. A cleaning pig removes loose sediment or scale buildup. A “smart pig” is used to inspect pipelines for the purpose of preventing leaks that can be explosive and dangerous to the environment.

Pits

Pits used during drilling or initial completion operations at a well are listed here. The four types are: ancillary, completion, flowback, and reserve pits.

- Ancillary Pits:** Used to contain fluids during drilling operations and initial completion procedures.
- Completion Pits:** Used to contain fluids and solids from initial completion operations and not constructed for drilling operations.
- Flowback Pits:** Used to contain fluids and solids produced from initial completion operations (e.g. fluids that come out of the formation immediately after fracking).
- Multi-Well Pits** Often the size of two football fields or larger, these pits generally start out with drinking water or groundwater provided from water wells, or purchased from a municipality or water-provider. As the water is recycled, for use over and over, with subsequent drilling and completions, the water becomes more saline (higher TDS – see TDS definition) because the pit water is in contact with formation water (saline due to the origin of the sediments in inland seas or deep ocean water). The trace amounts of hydrocarbons in the pit water also increase with each completion due to contact between the water and the oil- and gas-bearing formations.
- Reserve Pits:** Used to store drilling fluids or to contain wastes generated during drilling operations and initial completion.

Play

The activities associated with petroleum development in an area. Drilling and production activity in the Niobrara in formation in the Denver Basin is referred to as the Niobrara play.

Plug

To fill a well's borehole with cement to prevent the flow of water, gas, or oil from one strata to another when a well is abandoned; to screw a metal plug into a pipeline to shut off drainage or to divert the stream of oil to a connecting line to stop the flow of oil or gas.

Plugging and Abandonment (P&A)

The cementing of a well, the removal of its associated production facilities, the removal or abandonment in-place of its flowline, and the reclamation of the wellsite.

Pooling

The combination of all or portions of multiple oil and gas leases to form a unit for the drilling of a single oil and/or gas well. The unit is generally one or a combination of government survey quarter-quarter sections. Generally the interest owners in the pooled unit share the revenue from the well on the basis of surface acreage or mineral acreage owned by each interest owner in the pooled unit. For example, let's say that in your area the oil and gas regulations require that 80 acres be under lease to obtain an oil/gas drilling permit. You own 40 acres and your neighbor owns 40 adjacent acres. The oil

and gas company can lease these under separate leases and separate terms and then “pool” these parcels to drill the well. Each landowner will receive income based on the terms of their particular lease.

Porosity

The percentage of pore volume or void space, or that volume within rock that can contain fluids. Porosity can be a relic of deposition (primary porosity, such as space between grains that were not compacted together completely) or can develop through alteration of the rock (secondary porosity, such as when feldspar grains or fossils are preferentially dissolved from sandstones). Porosity can be generated by the development of fractures, in which case it is called fracture porosity. Shale gas reservoirs tend to have relatively high porosity, but the alignment of platy grains such as clays makes their permeability very low.

Produced Water

Naturally-occurring (“connate”) water that exists in the formation and is “produced” along with hydrocarbons. This water is generally saline (due to formation deposition in marine environments), containing minerals such as barium, calcium, iron, and magnesium, in addition to sodium chloride (NaCl). Produced water is generally disposed in disposal wells. If the water is not very saline, it can be released at the surface with a permit and may require treatment before land application. No produced water in Arapahoe County is released at the surface because it is too saline. When drilling and hydraulic fracturing occur, produced water flows are high due to “flowback” of water injected during the completion operations. Approximately 50% of all produced water that is released from drilling and stimulation comes out of the well in the first few days to a week, and is stored in holding and treatment tanks. After the well is serviced, water can keep flowing from the well for long periods of time depending on the quantity of water in the target formation. The remainder of this water is stored in holding tanks, for eventual disposal.

Production Casing

The innermost casing string that straddles and isolates the producing interval.

Production tubing

A kind of casing tube used in a wellbore through which production fluids are produced. Production tubing is run into the drilled well after the casing is run and cemented in place. Production tubing protects wellbore casing from wear, tear, corrosion, and deposition of by-products, such as sand/silt, paraffins, and asphaltenes. Along with other components that constitute the production string, it provides a continuous bore from the production zone to the wellhead through which oil and gas can be produced. It is usually between five and ten centimeters in diameter and is held inside the casing through the use of expandable packing devices. The purpose and design of production tubing is to enable quick, efficient, and safe installation, removal and re-installation. If there is more than one zone of production in the well, up to four lines of production tubing can be inserted into the well casing.

PPE (Personal Protective Equipment)

Personal Protective Equipment, required by OSHA, as protection from exposure at locations, facilities and plants. PPE includes safety goggles, hearing protection, hard hats, steel-toed shoes and fire retardant clothing. For oil and gas facilities, it can also include respiratory equipment (masks) and personal monitors that emit a warning sound if H₂S gas is known to occur in the area (Hydrogen Sulfide gas is highly poisonous and even fatal, in very low concentrations).

Pull out of the hole

To remove the drillstring from the wellbore. Synonyms: come out of the hole, trip out

Pump Jack

A pump connected to a source of power to produce fluids from a well that resembles a bobbing horse when operating.

Roughneck

A member of the drilling crew who works under the direction of the driller to make or break connections as drill pipe is tripped in or out of the hole. On most drilling rigs, roughnecks are also responsible for maintaining and repairing much of the equipment found on the drill floor and derrick.

Resource Conservation and Recovery Act (RCRA)

Passed in 1976 and expanded in 1980 as CERCLA, the act regulates land-based disposal of waste. The objectives of RCRA are to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, to encourage recycling, and to ensure that wastes are managed in an environmentally sound manner. RCRA regulates the management of solid waste (e.g., garbage), hazardous waste, and underground storage tanks holding petroleum products or certain chemicals and focuses on hazardous waste. Rather than being a ban on land-based disposal, it focuses on the use of "manifests" and the "cradle-to-grave" tracking system. All hazardous waste must obtain an identification number, and be accompanied by a "manifest" which tracks the waste. Each time the waste changes hands, a copy is sent back, ensuring that everyone along the chain is informed, and preventing unidentified wastes from arriving at disposal facilities. Both RCRA and CERCLA are related to the transportation, storage, treatment or disposal of hazardous substances.

Reclamation

The process of returning or restoring the surface of disturbed land as nearly as practicable to its condition prior to the commencement of oil and gas operations or to landowner specifications with an approved variance.

Recompletion

The modification of an existing well for the purpose of producing oil or gas from a different producing formation.

Release

Any unauthorized discharge of E&P waste to the environment over time. Includes spills, leaks, and discharges.

Remediation

The action of remedying something, in particular of reversing or stopping environmental damage.

Reserve Pit

Pit used to store fluids from drilling operations or to contain wastes generated during drilling operations and initial completion.

Reservoir

A porous, permeable sedimentary rock formation or a portion of a formation containing oil and/or gas enclosed or surrounded by layers of less permeable or impervious rock.

Reworking

Conducted to restore economically viable production from a formation already producing, where the production rate has decreased over time.

Rig

The machine used to drill a wellbore. In onshore operations, the rig includes virtually everything except living quarters. Major components of the rig include the mud tanks, the mud pumps, the derrick or mast, the drawworks, the rotary table or topdrive, the drillstring, the power generation equipment and auxiliary equipment. Offshore, the rig includes the same components as onshore, but not those of the vessel or drilling platform itself. Synonym: drilling rig.

Royalty

Funds received from the production of oil or gas, free of costs, except taxes.

Safe Drinking Water Act (SDWA)

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. Under SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The Safe Drinking Water Act, originally enacted into law in 1974, focuses on ensuring that public drinking water meets appropriate safety standards; in contrast, the Clean Water Act regulates pollution in our nation's lakes, rivers, and other bodies of water.

Salt Water Disposal Well

A well, often a depleted oil or gas well, into which produced water can be injected for safe disposal. Disposal wells are subject to regulatory requirements to avoid contamination of fresh water aquifers or producing horizons. (Also see Injection Well).

Sand

A detrital grain between 0.0625 mm and 2 mm in diameter. Sand is larger than silt but smaller than a granule according to the Udden-Wentworth scale. Sand is also a term used for quartz grains or for sandstone.

Scale Inhibitor

A chemical treatment used to control or prevent scale deposition in the production conduit or completion system. Scale-inhibitor chemicals may be continuously injected through a downhole injection point in the completion, or periodic squeeze treatments may be undertaken to place the inhibitor in the reservoir matrix for subsequent commingling with produced fluids.

Scrubber

A device to remove dirt, water, foreign matter, or undesired liquids that are part of the gas flowstream. A scrubber is used to protect downstream rotating equipment or to recover valuable liquids from gas.

Secondary Recovery

The second stage of hydrocarbon production during which an external fluid, such as water or gas, is injected into the reservoir through injection wells into rock that has fluid communication with

production wells. The purpose of secondary recovery is to maintain reservoir pressure and to displace hydrocarbons toward the producing wellbore. The most common secondary recovery techniques are gas injection and waterflooding.

Seismic Survey

A seismic survey is a technique similar to an ultrasound that is used to develop images of the rock layers below ground. Combined with information from a test well (or monitor well), seismic surveys help in determining the location and size of oil and gas reservoirs. Sound waves are bounced off underground rock formations and the waves that reflect back to the surface are captured by recording sensors. Analyzing the time the waves take to return provides valuable information about rock types and possible gases or fluids in rock formations.

Separator

A cylindrical vessel used to separate oil, gas, and water from the total fluid stream produced by the well. Separators can either be vertical or horizontal units. Gravity segregation is the main force that accomplishes the separation which means the heaviest fluid settles to the bottom and the lightest fluid rises to the top.

Setback

Regulated distance from an oil and gas well location to residences, schools, nursing homes or community buildings. Measured from the center of the well to the nearest wall of the residence or other building. Setbacks do not take the size of the drilling or production pad into account so the actual distance between a building and the well pad equipment can be approximately 200 feet less than the measured setback.

COGCC requires a 500-foot setback from most buildings, and 1,000 feet from schools and high-occupancy buildings.

Severed Mineral Interest

An interest in the minerals in, on and under a given tract of land owned by a person other than the surface owner.

Shale

A sedimentary rock that forms from the compaction of silt and clay-size mineral particles that we commonly call "mud". Shales are deposited by water in low velocity environments such as deep ocean basins, lakes, and swamps. Black shales contain organic material that sometimes breaks down to form natural gas or oil.

Shoe

A short assembly typically manufactured from a heavy steel collar and profiled cement interior, that is screwed to the bottom of a casing string. The rounded profile helps guide the casing string past any ledges or obstructions that would prevent the string from being correctly located in the wellbore.

Synonyms: casing shoe.

Shut in

To close the valves at the wellhead so the well stops flowing or producing. Wells can be shut in on a temporary basis. Under COGCC rules, a shut in well is capable of producing or injection by opening valves and must have a mechanical integrity test within 2 years of shut in status.

Slickwater Frac

Slickwater or slick water fracturing is a method or system of hydro-fracturing which involves adding chemicals to water to reduce the viscosity and increase the fluid flow. It is typically used in highly-pressurized, deeper shales, while fracturing fluids containing nitrogen foam are more common in shallower shales and those that have lower reservoir pressure.

Slugs

Under certain operating conditions, gas and liquid in a pipeline are not evenly distributed throughout the pipeline, but travel as large plugs with most liquid or mostly gas. These plugs are called slugs.

Slug Catcher

Pipelines can produce large quantities of condensed liquids which can damage pipeline equipment. The slug catcher is a vessel that crudely separates the fluids so that they can be slowly drained off.

Stratigraphic Test Well

A well drilled to obtain information pertaining to a specific geological condition that might lead toward the discovery of an accumulation of hydrocarbons. Such wells are customarily drilled without the intention of being completed for hydrocarbon production.

Stratigraphic Trap

A variety of geologic features capable of retaining hydrocarbons, formed by changes in rock type or pinch-outs, unconformities, or sedimentary features such as reefs. Structural traps, in contrast, consist of geologic structures in deformed strata such as faults and folds whose geometries permit retention of hydrocarbons.

Stimulation

A treatment performed to restore or enhance the productivity of a well. Stimulation falls into 2 groups: Hydraulic Fracturing treatments or Matrix treatments (acidizing).

Surface Casing

The first string of casing (after the conductor casing) that is set in a well. It varies in length from a few hundred to several thousand feet and extends below all known drinking water sources. It is cemented in place before the remaining portion of the well is drilled, in order to cement and protect the aquifers. After the surface casing cement has dried, the remaining portion of the well is drilled.

Surface Use Agreements

Contracts that dictate how an operator will interact with the surface owner when developing the land and extracting resources from the mineral estate. The surface owner commonly receives compensation for signing the surface use agreement.

TD

Total Depth of a well measured along the wellbore.

TDS

Total Dissolved Solids, measured in a liquid sample, in parts per million (ppm). Generally used to quantify “saltiness” of produced water (water that is produced from a well along with oil and gas). The

most common chemical constituents are calcium, phosphates, nitrates, sodium, potassium, and chloride.

Temporarily Abandoned (T&A)

A well may be temporarily abandoned under COGCC rules for a period not to exceed 6 months. After the 6 months has expired, the operator is required to plug and abandon the well with removal of borehole equipment and placement of cement into the well bore.

Thermogenic Gas

Formed at deeper depths (see biogenic gas) by thermal cracking of sedimentary organic matter into hydrocarbon liquids and gas or by thermal cracking of oil at high temperatures into gas.

Toxic Substances Control Act (TSCA)

A United States law, passed by Congress in 1976 and administered by the Environmental Protection Agency. It regulates the introduction of new or already existing chemicals. When the TSCA was put into place, all existing chemicals were considered to be safe for use and subsequently grandfathered in. Its three main objectives are to assess and regulate new commercial chemicals before their entrance into the market, to regulate chemicals (which were already existing in 1976) that posed an "unreasonable risk to health or to the environment", and to regulate these chemicals' distribution and use.

Upstream

The oil sector commonly known as the exploration and production (E&P) sector.

Urban Mitigation Area

An area where: (A) At least twenty-two (22) Building Units or one High Occupancy Building Unit, existing or under construction, are located within a 1,000' radius of the proposed Oil and Gas Location; or (B) At least eleven (11) Building Units or one High Occupancy Building Unit, existing or under construction, are located within any semi-circle of the 1,000 radius mentioned in section (A) above. The Urban Mitigation Area basically describes the setbacks in a subdivision.

Vapor Recovery

A means of recovering natural gas vapor, reducing emissions, and making the gas a useable and profitable product. Both Vapor Recovery Units (VRUs) and Vapor Recovery Towers (VRTs) are used in Colorado.

Venting

Venting is the direct release of methane gas to the atmosphere. Venting occurs at a number of points in the oil and gas development process (well completion; well maintenance; pipeline maintenance; tank maintenance; etc.). During oil and gas development, huge quantities of gas may vent to the atmosphere. For example, during well completion, after a well is fracked, the wellbore and surrounding formation must be cleaned out. The solids and fluids from the well go into pits, while the gases are allowed to escape into the atmosphere, or they are burned off (flared). It has been estimated that a single well in Wyoming's Jonah field will emit 115 tons of VOCs, and 4 tons of hazardous air pollutants such as benzene, toluene, ethylbenzene, xylene and hexanes. If the gas is flared, rather than vented, the emissions of VOCs and HAPs are reduced to 29 and 1 ton, respectively; but flaring of completion gases also results in the release of more than a ton of nitrogen oxides, and almost half a ton of carbon monoxide per well.

VOC (Volatile Organic Compound)

Organic compounds that have a high vapor pressure at ordinary room temperature. Their high vapor pressure results from a low boiling point, which causes large numbers of molecules to evaporate or sublime from the liquid or solid form of the compound and enter the surrounding air. Most scents or odors are of VOCs.

Underground Natural Gas Storage

Most existing gas storage in the United States is in depleted natural gas or oil fields that are close to consumption centers. Conversion of a field from production to storage duty takes advantage of existing wells, gathering systems, and pipeline connections. Depleted oil and gas reservoirs are the most commonly used underground storage sites because of their wide availability.

Wastewater Cleanup

A process in which dirty water is stripped of its solids and made suitable for recycling into a mud system or disposal into sewer systems or other places. In closed mud systems, water containing colloidal matter can be cleaned and recycled.

Water Base Mud

A drilling fluid (mud) in which water or saltwater is the major liquid phase as well as the wetting (external) phase. General categories of water-base muds are fresh water, seawater, salt water, lime, potassium and silicate.

Waterflood

A method of secondary oil recovery whereby water is pumped into reservoir rock to force out oil that has ceased to flow under its own pressure.

Well

A well with the principal production of which at the mouth of the well is oil or gas, as defined by the Colorado Oil and Gas Conservation Act.

Well Log

A continuous measurement of formation properties with electrically powered instruments to infer formation properties and make decisions about drilling and production operations. The record of measurement is a long strip of paper. Measurements include electrical properties (resistivity and conductivity at various frequencies), sonic properties, active and passive nuclear measurements, dimensional measurements of the wellbore, and wireline-conveyed sidewall coring tools. The logging tool is lowered into the open wellbore on a wireline. Once lowered to the bottom of the interval of interest, the measurements are taken on the way out of the wellbore. This is done in an attempt to maintain tension on the cable (which stretches) as constant as possible for depth correlation purposes.

Wildcat Well

An exploration well. Often far from known productive wells. The significance of this type of well is that by definition, little if anything about the subsurface geology is known with certainty. This higher degree of uncertainty necessitates that the drilling crews be appropriately skilled, experienced and aware of what various well parameters are telling them about the formations they drill. The crews must operate top-quality equipment, especially the blowout preventers, since a kick could occur at virtually

any time. A “kick” without a functioning blowout preventer was one of the reasons for the 2010 Deepwater Horizon oil spill in the Gulf of Mexico.

Working Interest

The right granted to the lessee of a property to explore, produce and own oil, gas or other minerals. The working interest owners bear the exploration, development, and operating costs on either a cash, penalty or carried basis.

Workover

Remedial work to the equipment within a well, pipework, or relating to attempts to increase the rate of flow.

Zone

An interval or unit of rock differentiated from surrounding rocks on the basis of its fossil content or other features, such as faults or fractures. For example, a fracture zone contains numerous fractures. A biostratigraphic zone contains a particular fossil or fossils.

Partial List of Sources:

https://cogcc.state.co.us/COGIS_Help/glossary.htm

https://cogcc.state.co.us/rr_docs_new/rules/100.htm

<http://cogcc.state.co.us/documents/reg/Rules/LATEST/900series.pdf>

<http://www.eia.gov/tools/glossary/index.cfm?id=G>

http://www.earthworksaction.org/issues/detail/flaring_and_venting#.VYm08_IVhBc

<http://www.glossary.oilfield.slb.com/en/Terms/o/operator.aspx>

file:///G:/DSIM/_Oil%20&%20Gas/Oil%20&%20Gas%20Glossary/Oil%20Gas%20Glossary%20by%20Madrona%20Energy.html

<http://www.usmineralexchange.com/education/oil-and-gas-terminology>

http://www.dec.ny.gov/docs/materials_minerals_pdf/dgeisv1ch11.pdf

<http://repository.law.ttu.edu/bitstream/handle/10601/582/Kramer%2035%20Envtl.pdf?sequenc>

Setbacks, Noise, Light, Visual Mitigation, Traffic and Wildlife Rules in Other Front Range Jurisdictions

From 4-20 and Partially Updated 8-21

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
ADAMS	July 2021		<u>Setbacks:</u> 2,000' from property line, schools, daycares, high occupancy buildings, environmentally sensitive areas, parks and open space.
AURORA	June 2021		<u>Setbacks:</u> Adopted COGCC 2,000' setback for occupied buildings, with variance process. 350' setback from parks and open spaces 350' setback from buried infrastructure 500' setback from 100 year floodplain One mile setback from existing or planned reservoir sites 350' setback from domestic water well
BOULDER	December 2020		<u>Setbacks:</u> In ALL cases well pad must be 2,000' from existing dwelling and residential unit, educational facility or licensed daycare, public trails and trailheads
BROOMFIELD	July 2021		<u>Setbacks:</u> 2000' from athletic fields, amphitheater, auditorium, childcare facility, correctional facility, dwelling unit, event center, hospital, life care institution, nursing home/nursing facility, recreational facility, school or school facility, or undeveloped residential lot.
COMMERCE CITY	March 2021		<u>Setbacks:</u> 2000' from existing residential use, platted resident use, high occupancy building unit, public park or public recreation facility (not including trails or city open space), outdoor venues, playgrounds, permanent sports fields or other similar places of outdoor public assembly, senior living or assisted living facilities. 1,000' from public water supply wells and reservoirs.

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
LARIMER	July 2021; Rules not published on website yet.		<p>Setbacks: 2,000' from building units, high occupancy building (case by case basis, setback could be more), schools, hospitals, medical clinics, senior living and assisted living facilities and state licensed day care facility.</p> <p>Unless approved by a special review process, facilities must be 2,000' from publicly maintained trails and trailheads, community park lands, public and regional parks, public water supply intakes or wells and buildings units that are not subject to a waiver from all unit owners and tenants specifically agreeing to a proposed oil and gas facility location</p> <p>2,000' and can go down to 1,000' from residential homes.</p> <p>Road setbacks are as follows: arterial roads: 110', major collector roads: 100', minor collector roads: 70', and local county roads: 60'.</p>
THORNTON	August 2017 (not updated since)		<p>Setbacks: 1000' from occupied building; 750' from platted residential lot; 500' from high water mark of any water body.</p> <p>500' from well pad and any above ground production facility from the boundary line of property where O&G facility location is situated.</p>
WELD	April 2019		500' from a building unit, high occupancy building, designated outdoor activity area, school facility and child care facility
ADAMS	September 2019; Revised in July 2021 – this table not updated yet		<p>Noise: Baseline noise study over 3 days Noise Management Plan County may require continuous noise monitoring Post 24/7 Contact Info May require: insulated housing; Obtain electric power to use electric equipment</p> <p>Restrictions on unloading pipe & tubular goods, 6PM – 8AM</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
ADAMS CONTINUED			<p>Tier 4 or better diesel engines (far less noise, fewer emissions)</p> <p>Light: Downward lighting Fully shielded bulbs</p>
AURORA	June 2021		<p>Noise: Noise Mitigation Plan Baseline Noise Study</p> <p>Comply with COGCC Noise rules for Residential/Agricultural/Rural</p> <p>For complaints measure noise at 1,000' from sound wall</p> <p>Operator shall address low-frequency noise/vibration through berming, sound walls and other BMPs</p> <p>Light: Lighting must be downcast and not shine beyond the boundaries of the well site.</p> <p>Lighting Plan required</p>
BOULDER	Adopted Rules March 2017 December 2020		<p>Noise: Monitoring Plan Baseline Noise Report Noise Modelling with expected noise levels, list of noise-mitigating equipment, list of noise sources Ambient Noise Testing Sound walls and other physical barriers to prevent noise from leaving the site.</p> <p>Plan for noise complaints</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
			<p>Cannot exceed dBA (high frequency) noise exceeding limits set by the COGCC.</p> <p>Cannot exceed 60 dBC (low frequency).</p> <p>Light: Lighting and Photometric Study</p> <p>Will be designed to protect surrounding properties, roadways, livestock, and wildlife from light pollution and glare.</p> <p>Limitations on the location and specifications on type of lighting.</p>
BROOMFIELD	April 2021		<p>Noise:</p> <p>Noise modelling for each phase (construction, drilling, completion and production).</p> <p>Noise Mitigation Plan</p> <p>The facility shall prevent adverse impacts to public health, safety and welfare, and the environment, by eliminating or minimizing and mitigating noise and vibration impacts to surrounding land uses.</p> <p>Obtain all power from utility line power or renewable sources;</p> <p>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;</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
BROOMFIELD CONTINUED			<p>Sound walls around well drilling and completion activities to mitigate noise impacts;</p> <p>Restrictions on the unloading of pipe or other tubular goods between 6:00 p.m. and 8:00 a.m.;</p> <p>Use of quiet design mufflers (also referred to as hospital grade or dual dissipative) or equivalent.</p> <p>Industrial operations that cannot meet the standards of chapter 9-36 B.M.C., shall not operate from 10:00 p.m. to 7:00 a.m.</p> <p><u>Daytime noise limit:</u> 55 dBA in residential, 65 dBA in agricultural and PUD</p> <p><u>Nighttime noise limit:</u> 40 dbA nighttime</p> <p><u>Light:</u> Light Mitigation Plan required – include location of outdoor lighting.</p> <p>Photometric Study</p> <p>BMPs to minimize light escaping the facility. Downward facing and shielded.</p> <p>Construct a 32-foot wall to screen facility from view and provide noise and light mitigation.</p>
FT. COLLINS	Operating Agreement with Prospect Energy October 2019	Currently working to update their Land Development Code	<u>Noise:</u> Noise Report and Mitigation Plan Required for all applications with a 3-day baseline noise analysis, modelled out to 350’ for

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
			mitigation measures. 350' measured from the boundary of the noise source.
LARIMER	New rules adopted July 2021 not published yet on web	Proposed Rules for March 23, 2020 hearing	<p>Noise: Noise Report and Noise Mitigation Plan</p> <p>Requires electric powered engines for drilling and production, unless electricity is not available.</p> <p>Limit of 55 db(A) day and 50 db(A) night. Increase of 10 db(A) allowed during the day for 15 minute intervals. Same as existing Noise Ordinance.</p> <p>If site is remote, semi-industrial noise levels are allowed.</p> <p>Decibel levels based on zoning designation of adjacent land</p> <p>Quiet mufflers for non-electric equipment; Acoustically insulated motors/generators/engines.</p> <p>If the site is in a remote location, the light industrial noise standard may be used</p> <p>Recompletions shall be subject to the light industrial noise levels</p>
THORNTON	August 2017 (not updated since)		<p>Noise: Noise Management/Noise Mitigation</p> <p>Conform to COGCC rules, except when located in the city. 60 db(A) (high frequency) limit in the city. Measurement taken when no traffic.</p> <p>Electric motors and rigs where electricity available.</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
THORNTON CONTINUED			Noise and Light: Requirement for noise and lighting study if a residential property is within 500'
WELD	June 2019		Noise: Noise limits based on adjacent land uses 7AM-7PM and 7PM-7AM Light: Downward & inward & shielded to avoid glare on public roads and building units within 1320'; Lighting level limits depends on ambient lighting: Operators shall ensure that lighting at the Oil and Gas Location does not exceed the assigned allowable base lumens.
ADAMS	September 2019; Revised in July 2021 – this table not updated yet		Visual Mitigation: Visual Mitigation Plan to include: Proposed colors, location of outdoor lighting, fencing and berming to screen the facility (fencing must be approved by Community and Economic Development Dept.) Landscaping required. Site shall be properly secured. Remove debris promptly.
AURORA	June 2021		Visual Mitigation: Visual Mitigation Plan Use of low-profile equipment and fencing; Proposed use of berms, bales and sound walls.
BROOMFIELD	April 2021		Visual Mitigation: Landscaping and Visual Mitigation Plan

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
BROOMFIELD CONTINUED			Fencing and Screening Mitigation Plan 32' wall to screen the facility from view and provide noise and light mitigation with colors that blend with the surrounding natural background.
BOULDER	December 2020		Visual Mitigation: Landscaping and Screening Plan, denoting visual screening; an irrigation plan may be required. Weed Control Plan Revegetation and Reclamation Plan
COMMERCE CITY	March 2021		Visual Mitigation: Site-Specific Visual Mitigation Plan with photographic simulations of the site. Landscaping Plan with use of drought-tolerant species Interim Reclamation Plan Existing Vegetation Analysis Weed Control Plan Lighting Plan Fencing 8' high Oil and gas development 7 near planned residential or commercial development may require 8 a staged Visual Mitigation Plan.
AURORA	June 2021		Traffic: Traffic Analysis Letter Traffic Management Plan Reduce traffic on ozone action days
BOULDER	December 2020		Traffic: Transportation Impact Study, for each segment of proposed traffic routes in County and types, sizes, weight, number of

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
BOULDER CONTINUED			<p>axles, volumes, and frequencies (daily, weekly, total) and timing (times of day) of all vehicles to be used during all phases of the proposed oil and gas operation.</p> <p>Traffic Control Plan for any traffic that will impede flow on public roadways. With traffic control safety measures.</p> <p>Avoid traffic hazards and minimize use of County-owned gravel roads.</p> <p>Traffic and Road Use Plan</p> <p>Minimize traffic and engine idling on air quality action days.</p>
BROOMFIELD			<p>Avoid or minimize and mitigate community impacts including those related to traffic, noise, odor and air pollution, dust, light pollution, and visual impacts.</p> <p>A protocol must include emissions associated with truck traffic for drilling, completions, production and plugging and abandonment operations.</p> <p>Traffic Study</p> <p>Traffic Management Plan</p> <p>Operator and subcontractors shall comply with Broomfield and other jurisdictions' requirements related to traffic restrictions.</p> <p>Anticipated truck traffic volumes will be converted to equivalent single axle loads and compared with existing volumes.</p> <p>Identification of the need for any additional traffic lanes.</p> <p>Restriction of idling or parking on shoulders of roads.</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
BROOMFIELD CONTINUED			<p>Restriction of Class 7 vehicles or higher from facilities to periods outside of peak am and pm traffic periods (generally 7-9 a.m. and 3-6 p.m. during weekdays or in other specific instances as determined by the traffic engineer).</p> <p>Periodic training of employees and subcontractors on traffic safety and traffic requirements.</p> <p>Reasonable bond to cover any damage to public infrastructure during active drilling and completion;</p> <p>Implement emission reduction measures to respond to air quality action day advisories. Includes worker traffic and delaying of refueling.</p> <p>Minimization of truck traffic to and from the site;</p> <p>Incident history: List of all incidents, including traffic incidents, at the operator's facilities within the last ten years, along with any investigation reports, root cause analysis and operational or process changes that resulted from the investigation of the accident;</p>
COMMERCE CITY			<p><u>Traffic:</u> May require a neighborhood meeting re traffic.</p> <p>Provide proposed truck traffic routes and 2 access roads for each site.</p> <p>Proposed facility will not result in any undue adverse impacts on character of neighborhood or traffic conditions.</p> <p>Traffic Control Plan with haul routes Traffic Impact Study Traffic Mitigation Plan</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
			Traffic Standards: includes repairs to City roads.
LARIMER	Adopted July 2021; Effective September 2021		Traffic: Rules not published yet.
THORNTON	August 2017		Traffic: No rules or traffic plans required. Oil and gas developments can have a large impact on traffic and road degradation and Thornton is exploring additional regulatory options to mitigate traffic concerns, preserve road conditions, and ensure for the safety of the traveling public.
WELD	June 2019		Traffic: Traffic Impact Analysis required.
ADAMS	September 2019		Wildlife: Operator may be required to submit Environmental Impact Assessment.
AURORA	June 2021		Wildlife: Wildlife Impact Mitigation Plan, consult with CPW Investigation of whether location is near a significant wildlife habitat
BOULDER	December 2020		Wildlife: Vibration Monitoring and Control Plan with Identification of wildlife resources; The Director may impose additional conditions on the conduct of seismic testing that are necessary and reasonable to protect the public health, safety, and welfare, the environment or wildlife resources. If the proposed oil and gas facility or oil and gas operation is on or within 1,500 feet of Boulder County Parks and Open Space property or property over which Boulder County owns a conservation easement, the Parks and Open Space Director may refer the Application to the Parks and Open Space Advisory Committee (“POSAC”) for a public hearing. After the public hearing, the POSAC may forward 12-13 recommendations for

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
<p>BOULDER CONTINUED</p>			<p>assuring the protection of environmental, ecological, wildlife, recreational, historical, archeological, and agricultural resources of the open space, which may include recommendations to deny the Application or to modify the location or density of the oil and gas facility.</p> <p><u>In Site and Area Information requirements:</u></p> <ul style="list-style-type: none"> • A map of critical wildlife habitat and wildlife migration corridors or routes as identified by the Boulder County Comprehensive Plan and the presence of: species listed in the Boulder County Wildlife Species of Concern listing; Tier 1 and Tier 2 species as identified by the Colorado Parks and Wildlife (“CPW”); and of federally-designated threatened or endangered species, as mapped by governmental agencies or discovered upon inspection, on and within one mile of the parcel(s) on which the oil and gas facilities are proposed to be located. • A map of critical wildlife habitat and wildlife migration corridors or routes as identified by the Boulder County Comprehensive Plan and the presence of: species listed in the Boulder County Wildlife Species of Concern listing; Tier 1 and Tier 2 species as identified by the Colorado Parks and Wildlife (“CPW”); and of federally-designated threatened or endangered species, as mapped by governmental agencies or discovered upon inspection, on and within one mile of the parcel(s) on which the oil and gas facilities are proposed to be located. <p>An independent expert’s report (i) identifying the presence and population numbers of: species listed in the Boulder County Wildlife Species of Concern listing; Tier 1 and Tier 2 species as identified by CPW; and federally-designated threatened or</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
BOULDER CONTINUED			<p>endangered species, (ii) identifying the anticipated impacts of the proposed oil and gas facilities and operations on wildlife and wildlife habitat, and (iii) recommending measures for avoiding or minimizing such impacts.</p> <p>An independent expert’s assessment of the impacts of the proposed use of water described in subsections (a) and (b) above. Impacts to, at a minimum, downstream users, groundwater users, agricultural lands and users, terrestrial and aquatic wildlife, plant communities, and recreation must be considered.</p> <p>Above-ground oil and gas facilities are prohibited in floodways. Above-ground oil and gas facilities must be located outside a floodplain unless the Applicant proves that no other sites can be reasonably used, or if reasonably necessary to avoid or sufficiently minimize and mitigate adverse impacts to public health, safety, and welfare, the environment and wildlife.</p> <p>Oil and gas facilities and operations will avoid or sufficiently minimize and mitigate adverse impacts associated with lighting on public health, safety, and welfare, the environment and wildlife. Lighting associated with oil and gas facilities or operations will be designed to protect surrounding properties, roadways, livestock, and wildlife from light pollution and glare.</p> <p>Oil and gas operations will avoid or sufficiently minimize and mitigate adverse impacts to public health, safety, and welfare, the environment and wildlife from noise.</p>
BROOMFIELD	April 2021		<p><u>Wildlife:</u> City will deny a permit application where the proposed oil and gas operations cannot be conducted in a manner that protects</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
<p>BROOMFIELD CONTINUED</p>			<p>and minimizes adverse impacts to public health, safety, welfare, the environment and wildlife.</p> <p>Monitor and inspect oil and gas facilities in all phases of development and operation for the protection of public health, safety, welfare, and the environment, including wildlife resources.</p> <p>Fencing and screening mitigation plan. A plan detailing how the Operator will screen or fence the proposed facility in order to mitigate visual impacts, protect wildlife and prevent unauthorized persons from entering the facility.</p> <p>Impacts of Water Use. An independent expert’s assessment of the impacts of the proposed use of water; Impacts to, at a minimum, downstream users, groundwater users, agricultural lands and users, terrestrial and aquatic wildlife, plant communities, and recreation must be considered.</p> <p>Identification and assessment of potential impacts to the environment and wildlife including wetlands; floodplain; ponds; creeks, streams and drainage ways; migratory birds and raptors; ground nesting birds; prairie dogs; burrowing owls; state and federal threatened and endangered species for both flora and fauna; any other applicable wildlife issues including den sites for mammals, like coyotes and foxes; fish and other aquatic life; wildlife corridors; significant habitat;</p> <p>Prior to construction, operator shall submit a 20-Day Environmental Clearance Letter confirming that any environmental and wildlife conditions identified in the environmental assessment have been mitigated and addressed.</p>

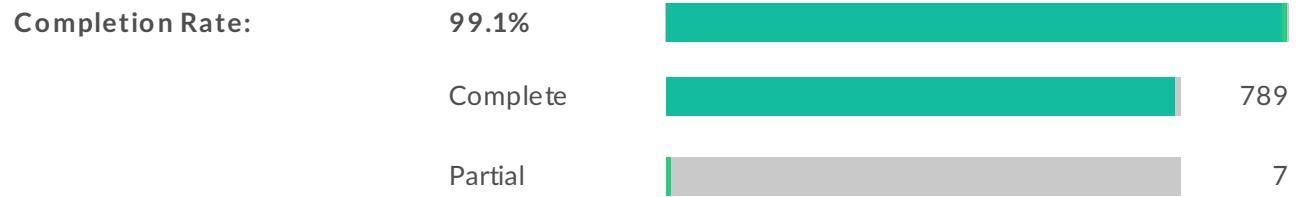
Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
<p>BROOMFIELD CONTINUED</p>			<p>The installation and operation of any oil and gas facility, pipeline, workover site, or oil and gas access road shall avoid causing degradation to the environment and wildlife including to wetlands; floodplain; ponds; creeks, streams and drainage ways; migratory birds and raptors; prairie dogs; burrowing owls; state and federal threatened and endangered species for both flora and fauna; any other applicable wildlife concerns including den sites for mammals, like coyotes and foxes; fish and other aquatic life; wildlife corridors; significant habitat; natural landmarks and prominent natural features such as distinctive rocks, outcroppings, and landforms; vegetation including grasses, shrubs, and trees; and visual or scenic resources as identified in the comprehensive plan.</p> <p>A twenty-day letter confirmed by the City stating that any environmental and wildlife conditions identified in the environmental assessment have been addressed;</p> <p>In instances where an operator is seeking an environmental or wildlife variance, operator must confer with the City's Open Space and Trails Advisory Committee (OSTAC).</p> <p>In the event of any compliant that an oil and gas facility is causing an adverse impact to public health, safety, welfare, the environment, or wildlife, the City may require the Operator to take any or all of the following actions to eliminate or mitigate the cause of the adverse impact: (1) Institute a protocol to determine the cause of the impact; (2) Employ best management practices to eliminate or mitigate the cause of the impact. Best management practices may include the use of a new technology or method; (3) Provide any information related to activities at the facility at the City's request.</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
COMMRECE CITY			<p><u>Wildlife:</u> A Landscaping Plan to supplement the Visual Mitigation Plan with the use of drought tolerant species that are native and less desirable to wildlife and suitable for the climate and soil conditions of the area.</p> <p>Wildlife Mitigation Plan for surface Operations that will be located within 1/2 mile of a sensitive wildlife habitat or open space with the location of existing sensitive wildlife habitats, natural areas, or open space within 1500' of the well site or Production Site, if any; When Operations will be located within or adjacent to a sensitive wildlife area or city designated open space, the Operator shall consult with the Colorado Parks and Wildlife to obtain recommendations for appropriate site-specific and cumulative impact mitigation procedures. The Operator shall implement such mitigation procedures as are recommended by the Colorado Parks and Wildlife after consultation with the City. When Operations are adjacent to or within a federal wildlife or natural area, the Operator shall consult with the relevant federal authority to satisfy any applicable federal rules or regulations relevant to Operations.</p> <p>Endangered Species. The Operator shall not engage in activities that Colorado Parks and Wildlife, or other relevant federal authorities, indicates would threaten endangered species.</p> <p>To the maximum extent practicable, exterior lighting shall be downcast to reduce spill-over to adjacent properties and directed away from residential and sensitive wildlife areas or shielded from said areas to eliminate glare.</p> <p>BMPs are designed to prevent or reduce impacts caused by Oil and Gas Operations to air, water, soil, or biological resources,</p>

Jurisdiction	Adopted Rule and Date	Proposed Rule and Date	Rule Specifics
COMMERCE CITY CONTINUED			and to minimize adverse impacts to public health, safety and welfare, including the environment and wildlife resources.
THORNTON	August 2017		<u>Wildlife:</u> No wildlife rules.

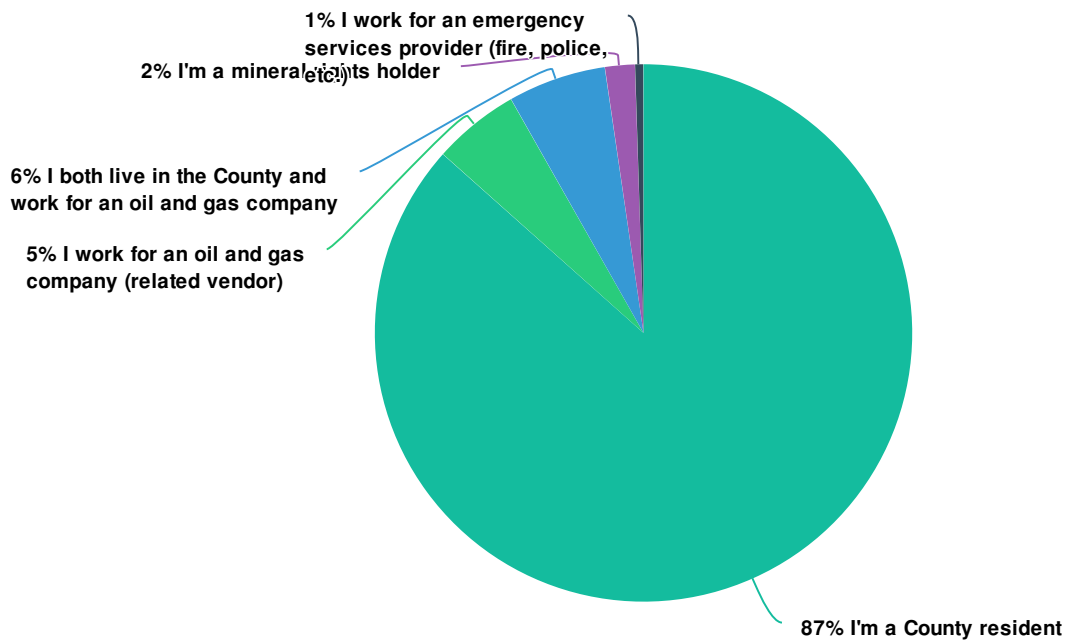
Oil & Gas Survey Report February 10, 2020

Response Counts



Totals: 796

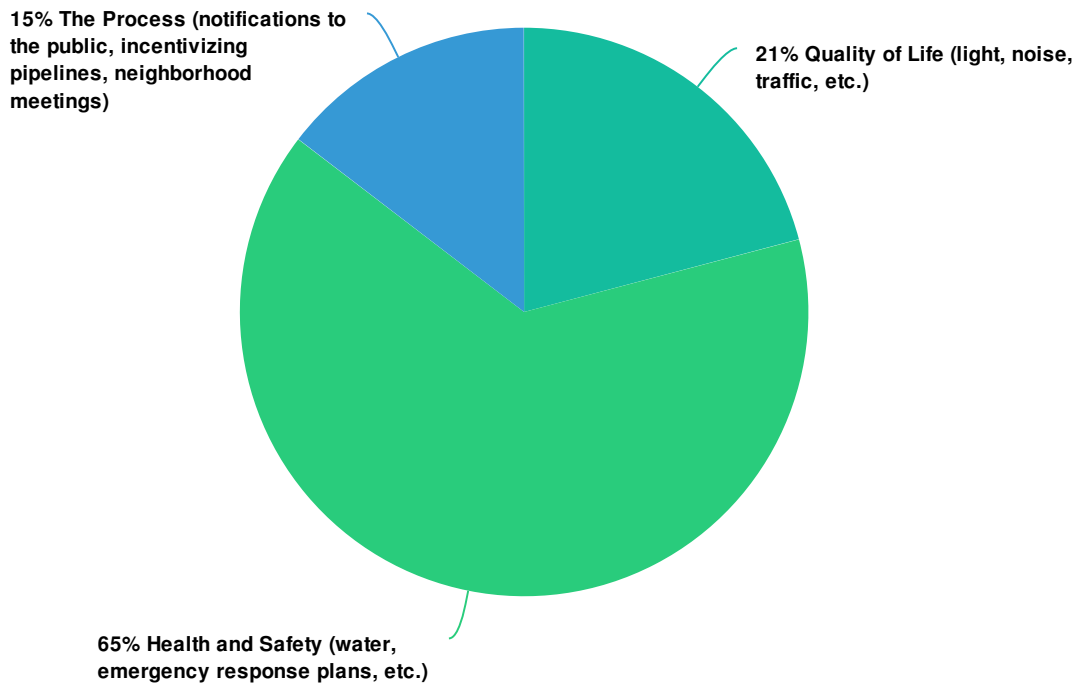
1. The County is taking a balanced approach to this process and wants to hear from many people. You may not live in the County, but have a vested interest in the issue, so we want to make sure all voices are heard. Please choose the category you most identify with.



Value	Percent	Responses
I'm a County resident	86.6%	688
I work for an oil and gas company (related vendor)	5.2%	41
I both live in the County and work for an oil and gas company	5.9%	47
I'm a mineral rights holder	1.8%	14
I work for an emergency services provider (fire, police, etc.)	0.5%	4

Totals: 794

2. Of these three areas (Quality of Life, Health and Safety and The Process), which is the most important for the County to address with regulations?



Value	Percent	Responses
Quality of Life (light, noise, traffic, etc.)	20.9%	164
Health and Safety (water, emergency response plans, etc.)	64.5%	507
The Process (notifications to the public, incentivizing pipelines, neighborhood meetings)	14.6%	115

Totals: 786

3. How important is it to be notified at each of the following phases regarding oil and gas development and operations?

	Extremely important	Important	Not sure	Somewhat important	Not Important at all	Responses
When an operator applies with the County Count Row %	443 56.1%	140 17.7%	18 2.3%	94 11.9%	94 11.9%	789
When the County approves an application Count Row %	474 59.9%	143 18.1%	19 2.4%	93 11.8%	62 7.8%	791
Before construction of well pads begin Count Row %	485 61.4%	133 16.8%	22 2.8%	85 10.8%	65 8.2%	790
Before operations (drilling/fracking) begin Count Row %	506 64.3%	124 15.8%	16 2.0%	68 8.6%	73 9.3%	787
Totals Total Responses						791

4. How important are the following issues related to oil and gas development and operations?

	Extremely important	Important	Not sure	Somewhat Important	Not important at all	Responses
The amount/volume of water used by operators Count Row %	435 55.2%	122 15.5%	34 4.3%	87 11.0%	110 14.0%	788
Sampling water quality after drilling Count Row %	566 71.6%	121 15.3%	7 0.9%	59 7.5%	38 4.8%	791
The economic impacts and/or benefits of the oil and gas industry Count Row %	389 49.2%	156 19.7%	40 5.1%	112 14.2%	94 11.9%	791
Having separate and distinct requirements for oil and gas development in remote areas vs. residential settings Count Row %	453 57.3%	161 20.4%	43 5.4%	71 9.0%	62 7.8%	790
Totals Total Responses						791

5. Rate the following on your agreement with each statement regarding how the County could address these issues when drafting regulations.

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Responses
Increased traffic (that can occur from development) concerns me Count Row %	367 46.5%	230 29.1%	59 7.5%	103 13.0%	31 3.9%	790
It's important to regulate increased volume in traffic Count Row %	358 45.4%	248 31.4%	77 9.8%	82 10.4%	24 3.0%	789
It's important to protect quality of roadways from effects of heavy equipment Count Row %	428 54.1%	292 36.9%	39 4.9%	23 2.9%	9 1.1%	791
Roadway safety for motorists, pedestrians and cyclists is important Count Row %	488 61.8%	263 33.3%	18 2.3%	14 1.8%	7 0.9%	790
Odor/air quality is important to regulate Count Row %	547 69.2%	146 18.5%	37 4.7%	43 5.4%	17 2.2%	790
Light emissions is important to regulate Count Row %	408 51.6%	211 26.7%	61 7.7%	82 10.4%	28 3.5%	790
Water quality is important to regulate Count Row %	588 74.6%	146 18.5%	10 1.3%	30 3.8%	14 1.8%	788
The visual impacts of well sites is important to regulate Count Row %	380 48.1%	209 26.5%	65 8.2%	88 11.1%	48 6.1%	790
Totals Total Responses						791

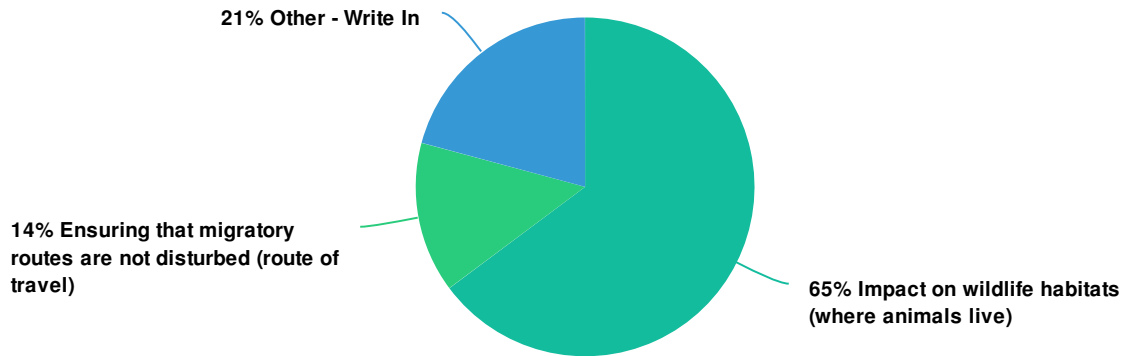
6. Regarding visual impact of well sites (drilling rigs, tanks, pads, etc.), would these mitigation techniques lessen the impact on neighboring communities?

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Responses
Berms (an artificial ridge or embankment) Count Row %	179 22.8%	257 32.7%	168 21.4%	97 12.4%	84 10.7%	785
Fencing Count Row %	155 19.7%	236 30.0%	124 15.8%	159 20.2%	113 14.4%	787
Limits on the height of tanks Count Row %	229 29.1%	224 28.5%	121 15.4%	132 16.8%	81 10.3%	787
Limits on the quantity of tanks at a well site Count Row %	265 33.7%	200 25.4%	93 11.8%	149 18.9%	80 10.2%	787
Landscaping Count Row %	224 28.5%	281 35.8%	122 15.5%	85 10.8%	74 9.4%	786
Use of setbacks (<i>a regulated distance from an oil and gas well location to nearby structures like residences and homes</i>). Count Row %	422 53.5%	151 19.1%	64 8.1%	65 8.2%	87 11.0%	789
Totals Total Responses						789

7. How important is it to regulate the following issues related to oil and gas development and operations?

	Extremely important	Important	Not sure	Somewhat important	Not important at all	Responses
Impact of light emissions Count Row %	358 45.3%	203 25.7%	66 8.3%	97 12.3%	67 8.5%	791
Impact of noise Count Row %	478 60.4%	173 21.9%	16 2.0%	95 12.0%	29 3.7%	791
Impact of odor Count Row %	525 66.3%	136 17.2%	20 2.5%	71 9.0%	40 5.1%	792
Ground water quality Count Row %	608 77.1%	114 14.4%	7 0.9%	34 4.3%	26 3.3%	789
Totals Total Responses						792

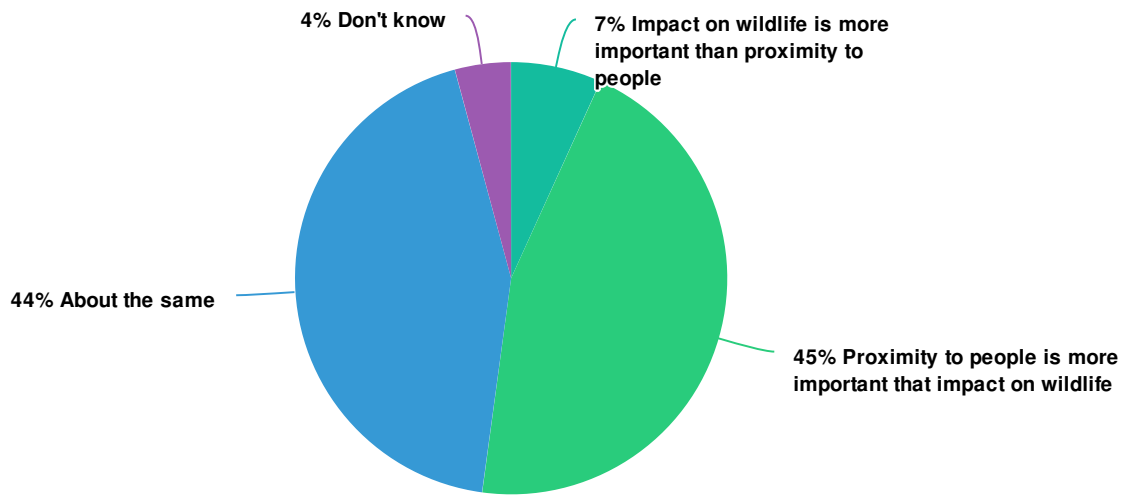
8. What is more important in regard to wildlife?



Value	Percent	Responses
Impact on wildlife habitats (where animals live)	64.8%	504
Ensuring that migratory routes are not disturbed (route of travel)	14.4%	112
Other - Write In	20.8%	162

Totals: 778

9. Is the impact of oil and gas development/operations on wildlife habitat more important to you than the proximity of wells to people and homes?



Value	Percent	Responses
Impact on wildlife is more important than proximity to people	6.8%	53
Proximity to people is more important than impact on wildlife	45.4%	356
About the same	43.7%	343
Don't know	4.2%	33

Totals: 785

10. Please rank the following issues for Arapahoe County to regulate in order of importance.

Traffic Impacts

Statistics

Average 69.4

StdDev 27.6

Light Emissions

Statistics

Average 65.9

StdDev 30.4

Odor/Air Quality

Statistics

Average 81.8

StdDev 27.2

Water Quality

Statistics

Average 88.6

StdDev 22.7

Noise Emissions

Statistics

Average	75.2
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StdDev	27.2
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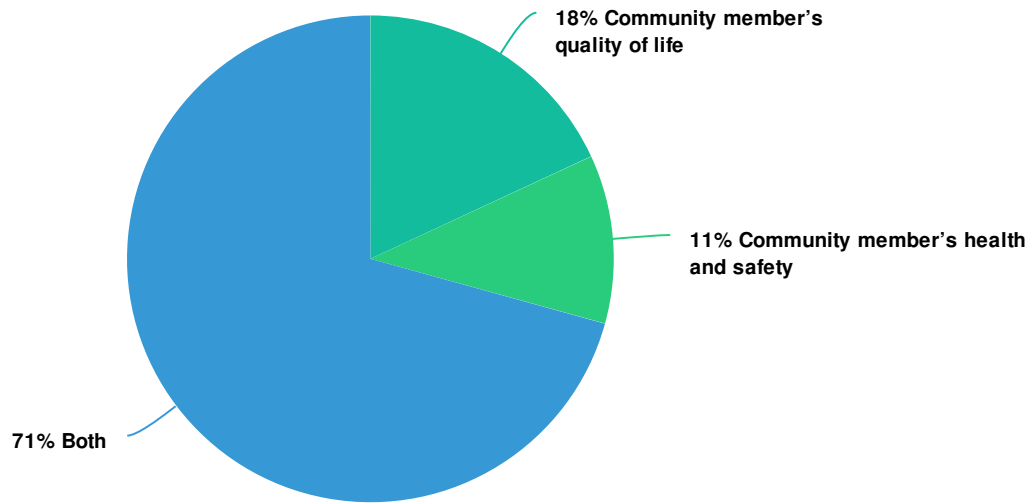
Visual Impacts

Statistics

Average	67.2
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StdDev	30.5
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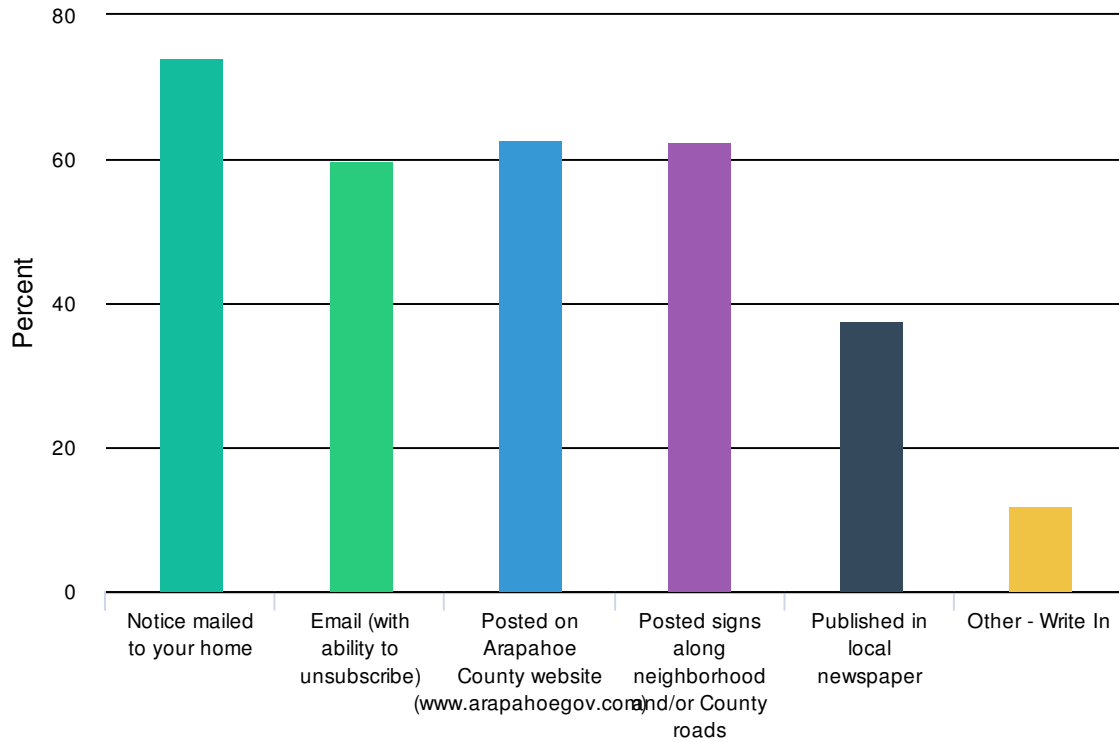
11. Do odor emissions from oil and gas operations affect the following?



Value	Percent	Responses
Community member's quality of life	18.1%	133
Community member's health and safety	11.2%	82
Both	70.7%	519

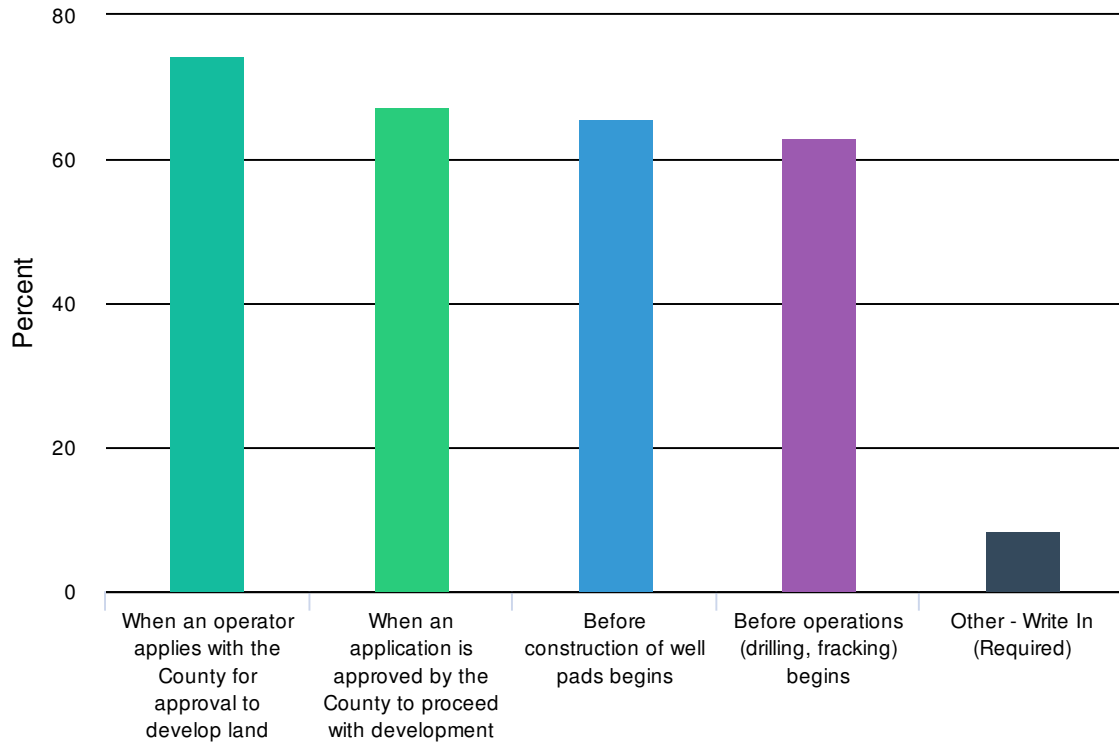
Totals: 734

12. What methods/channels should oil and gas companies use to notify the community about oil and gas development/activity? Check any/all that apply



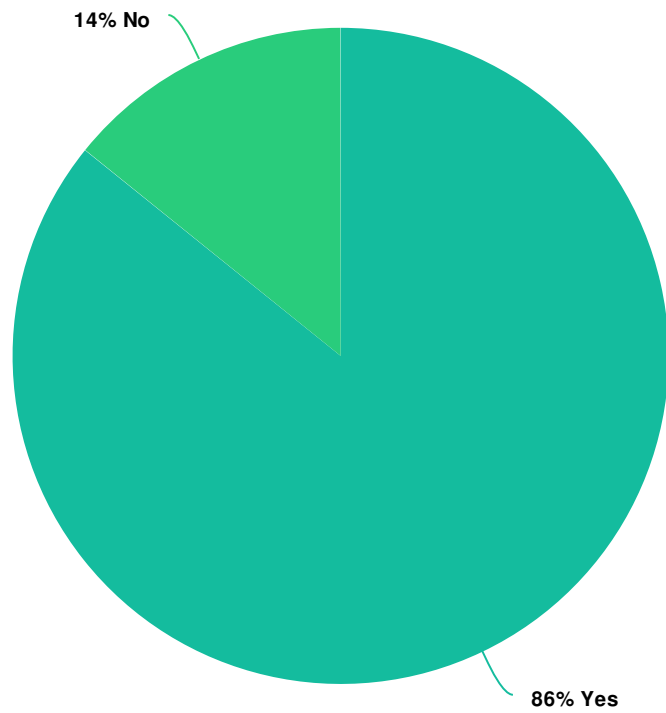
Value	Percent	Responses
Notice mailed to your home	74.1%	583
Email (with ability to unsubscribe)	59.7%	470
Posted on Arapahoe County website (www.arapahoegov.com)	62.8%	494
Posted signs along neighborhood and/or County roads	62.3%	490
Published in local newspaper	37.5%	295
Other - Write In	11.8%	93



13. When should oil and gas companies notify members of the community about potential development/activity? Check any/all that apply



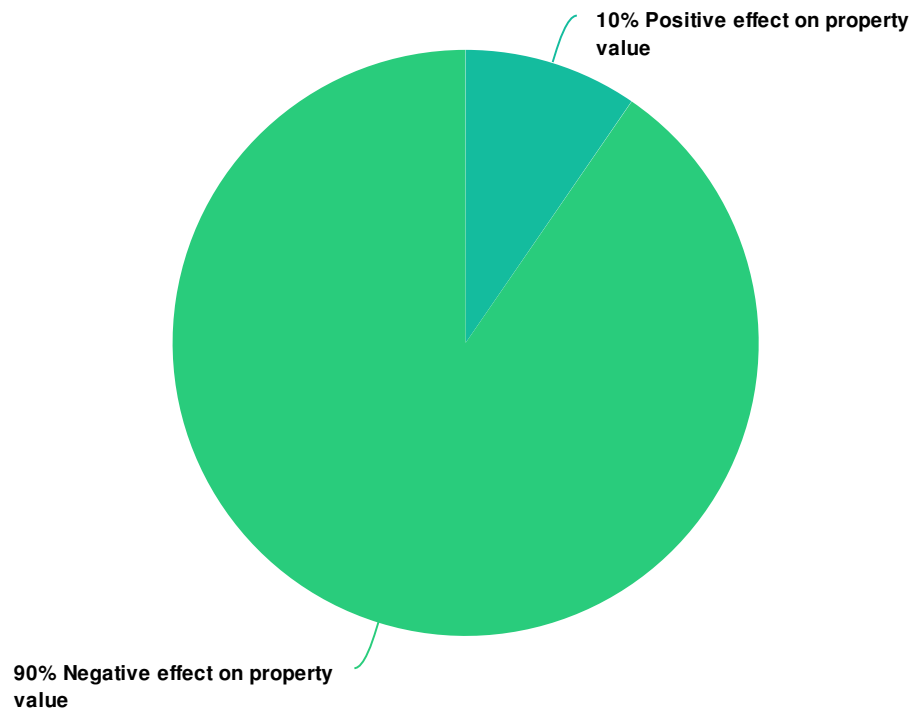
Value	Percent	Responses
When an operator applies with the County for approval to develop land	74.4%	585
When an application is approved by the County to proceed with development	67.2%	528
Before construction of well pads begins	65.6%	516
Before operations (drilling, fracking) begins	63.0%	495
Other - Write In (Required)	8.5%	67



14. Do you believe oil and gas development can have an effect on property value?



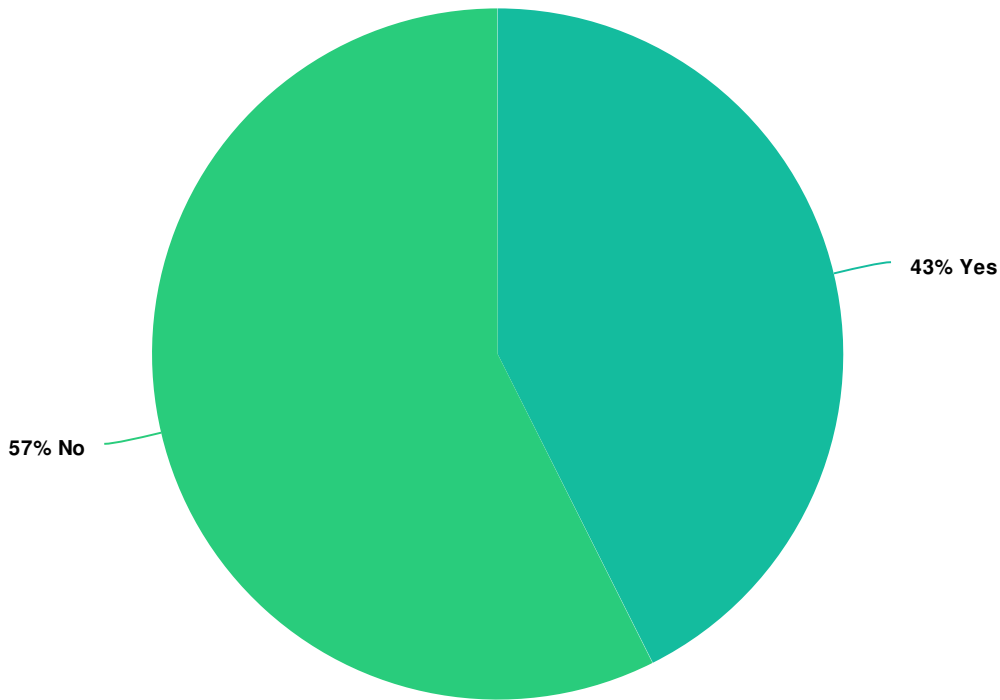
Value		Percent	Responses
Yes		85.8%	674
No		14.2%	112
			Totals: 786



15. If yes,



Value		Percent	Responses
Positive effect on property value		9.6%	63
Negative effect on property value		90.4%	594
			Totals: 657

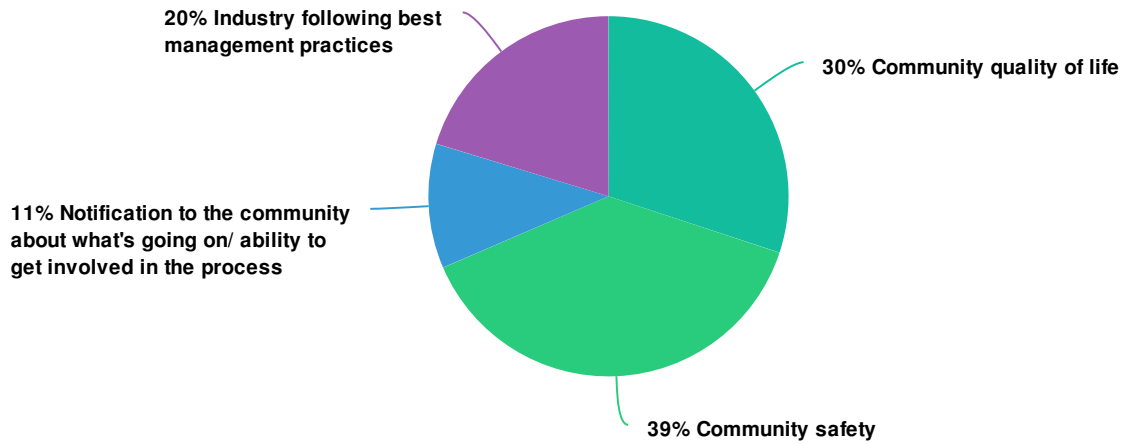
16. Pipelines reduce impact to roadways, lessen traffic impacts, reduce air emissions and reduce truck traffic noise. Would you support a streamlined process for implementing pipelines, even if it resulted in fewer opportunities for public input?



Value		Percent	Responses
Yes		42.6%	332
No		57.4%	447

Totals: 779

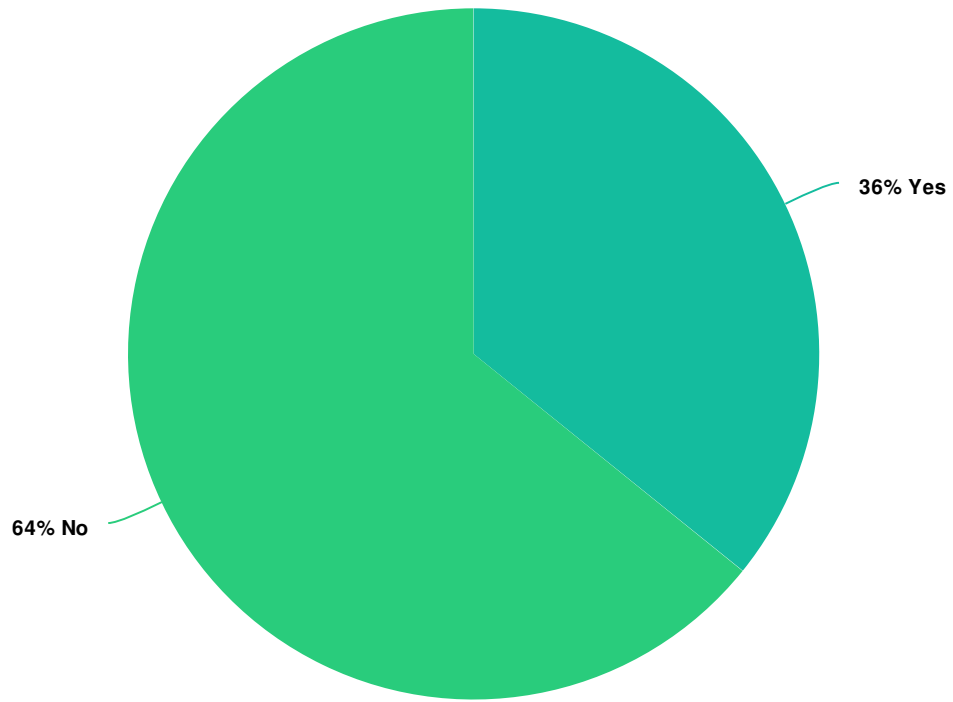
17. What do you feel is most important for County officials to consider when drafting oil and gas regulations?





Value	Percent	Responses
Community quality of life	30.1%	237
Community safety	38.5%	303
Notification to the community about what's going on/ ability to get involved in the process	11.2%	88
Industry following best management practices	20.3%	160

Totals: 788

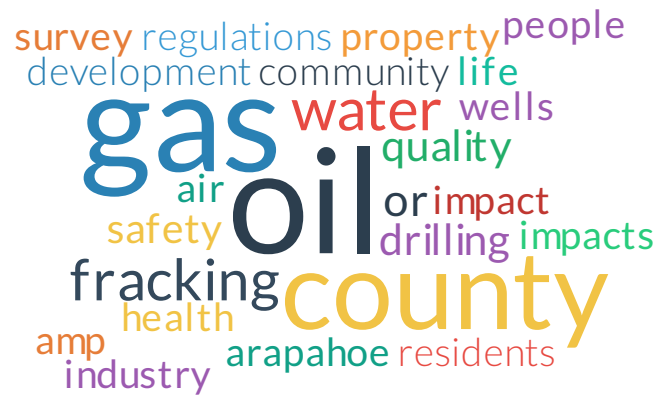
18. Are there any issues that were not listed in this survey that you feel should be considered for regulations?



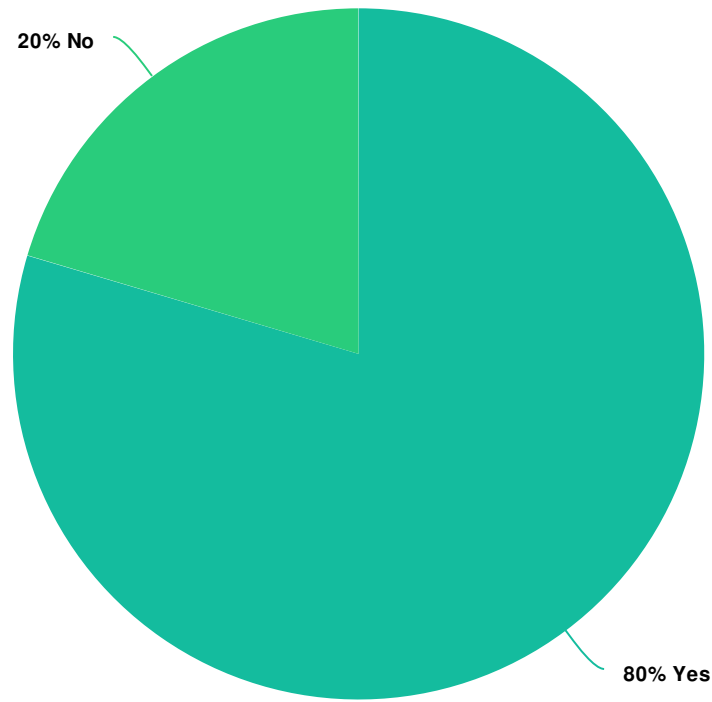
Value		Percent	Responses
Yes		35.8%	279
No		64.2%	500

Totals: 779

19. If yes, what?



20. Do you want to stay informed about the process the County is following to draft regulations?



Value		Percent	Responses
Yes		79.6%	629
No		20.4%	161

Totals: 790

An Act

SENATE BILL 19-181

BY SENATOR(S) Fenberg and Foote, Court, Gonzales, Lee, Moreno, Story, Williams A., Winter;
also REPRESENTATIVE(S) Becker and Caraveo, Arndt, Benavidez, Bird, Buckner, Duran, Gonzales-Gutierrez, Gray, Herod, Hooton, Jackson, Jaquez Lewis, Kennedy, Kipp, Lontine, McCluskie, Melton, Michaelson Jenet, Mullica, Roberts, Singer, Sirota, Snyder, Sullivan, Tipper, Valdez A., Weissman.

CONCERNING ADDITIONAL PUBLIC WELFARE PROTECTIONS REGARDING THE CONDUCT OF OIL AND GAS OPERATIONS, AND, IN CONNECTION THEREWITH, MAKING AN APPROPRIATION.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. In Colorado Revised Statutes, 24-65.1-202, repeal (1)(d) as follows:

24-65.1-202. Criteria for administration of areas of state interest. (1) (d) ~~Unless an activity of state interest has been designated or identified or unless it includes part or all of another area of state interest, an area of oil and gas development shall not be designated as an area of state interest unless the state oil and gas conservation commission identifies such~~

Capital letters or bold & italic numbers indicate new material added to existing law; dashes through words or numbers indicate deletions from existing law and such material is not part of the act.

~~area for designation.~~

SECTION 2. In Colorado Revised Statutes, 24-65.1-302, **repeal** (3) as follows:

24-65.1-302. Functions of other state agencies. (3) Pursuant to ~~section 24-65.1-202 (1)(d), the oil and gas conservation commission of the state of Colorado may identify an area of oil and gas development for designation by local government as an area of state interest.~~

SECTION 3. In Colorado Revised Statutes, 25-7-109, **add** (10) as follows:

25-7-109. Commission to promulgate emissions control regulations. (10) (a) THE COMMISSION SHALL ADOPT RULES TO MINIMIZE EMISSIONS OF METHANE AND OTHER HYDROCARBONS, VOLATILE ORGANIC COMPOUNDS, AND OXIDES OF NITROGEN FROM OIL AND NATURAL GAS EXPLORATION AND PRODUCTION FACILITIES AND NATURAL GAS FACILITIES IN THE PROCESSING, GATHERING AND BOOSTING, STORAGE, AND TRANSMISSION SEGMENTS OF THE NATURAL GAS SUPPLY CHAIN.

(b) (I) THE COMMISSION SHALL REVIEW ITS RULES FOR OIL AND NATURAL GAS WELL PRODUCTION FACILITIES AND COMPRESSOR STATIONS AND SPECIFICALLY CONSIDER ADOPTING MORE STRINGENT PROVISIONS, INCLUDING:

(A) A REQUIREMENT THAT LEAK DETECTION AND REPAIR INSPECTIONS OCCUR AT ALL WELL PRODUCTION FACILITIES ON, AT A MINIMUM, A SEMIANNUAL BASIS OR THAT AN ALTERNATIVE APPROVED INSTRUMENT MONITORING METHOD IS IN PLACE PURSUANT TO EXISTING RULES;

(B) A REQUIREMENT THAT OWNERS AND OPERATORS OF OIL AND GAS TRANSMISSION PIPELINES AND COMPRESSOR STATIONS MUST INSPECT AND MAINTAIN ALL EQUIPMENT AND PIPELINES ON A REGULAR BASIS;

(C) A REQUIREMENT THAT OIL AND NATURAL GAS OPERATORS MUST INSTALL AND OPERATE CONTINUOUS METHANE EMISSIONS MONITORS AT FACILITIES WITH LARGE EMISSIONS POTENTIAL, AT MULTI-WELL FACILITIES, AND AT FACILITIES IN CLOSE PROXIMITY TO OCCUPIED DWELLINGS; AND

(D) A REQUIREMENT TO REDUCE EMISSIONS FROM PNEUMATIC DEVICES. THE COMMISSION SHALL CONSIDER REQUIRING OIL AND GAS OPERATORS, UNDER APPROPRIATE CIRCUMSTANCES, TO USE PNEUMATIC DEVICES THAT DO NOT VENT NATURAL GAS.

(II) THE COMMISSION MAY, BY RULE, PHASE IN THE REQUIREMENT TO COMPLY WITH THIS SUBSECTION (10)(b) ON THE BASES OF PRODUCTION CAPABILITY, TYPE AND AGE OF OIL AND GAS FACILITY, AND COMMERCIAL AVAILABILITY OF CONTINUOUS MONITORING EQUIPMENT. IF THE COMMISSION PHASES IN THE REQUIREMENT TO COMPLY WITH THIS SUBSECTION (10)(b), IT SHALL INCREASE THE REQUIRED FREQUENCY OF INSPECTIONS AT FACILITIES THAT ARE SUBJECT TO THE PHASE-IN UNTIL THE FACILITIES ACHIEVE CONTINUOUS EMISSION MONITORING.

(c) NOTWITHSTANDING THE GRANT OF AUTHORITY TO THE OIL AND GAS CONSERVATION COMMISSION IN ARTICLE 60 OF TITLE 34, INCLUDING SPECIFICALLY SECTION 34-60-105 (1), THE COMMISSION MAY REGULATE AIR POLLUTION FROM OIL AND GAS FACILITIES LISTED IN SUBSECTION (10)(a) OF THIS SECTION, INCLUDING DURING PRE-PRODUCTION ACTIVITIES, DRILLING, AND COMPLETION.

SECTION 4. In Colorado Revised Statutes, 29-20-104, **amend** (1) introductory portion, (1)(g), and (1)(h); and **add** (1)(i), (2), and (3) as follows:

29-20-104. Powers of local governments - definition. (1) Except as expressly provided in section 29-20-104.5, the power and authority granted by this section ~~shall~~ DOES not limit any power or authority presently exercised or previously granted. Each local government within its respective jurisdiction has the authority to plan for and regulate the use of land by:

(g) Regulating the use of land on the basis of the impact ~~thereof~~ OF THE USE on the community or surrounding areas; ~~and~~

(h) ~~Otherwise planning for and regulating the use of land so as to provide planned and orderly use of land and protection of the environment in a manner consistent with constitutional rights.~~ REGULATING 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. NOTHING IN THIS SUBSECTION (1)(h) IS INTENDED TO ALTER, EXPAND, OR DIMINISH THE AUTHORITY OF LOCAL GOVERNMENTS TO REGULATE AIR QUALITY UNDER SECTION 25-7-128. FOR PURPOSES OF THIS SUBSECTION (1)(h), "MINIMIZE ADVERSE IMPACTS" MEANS, TO THE EXTENT NECESSARY AND REASONABLE, TO PROTECT PUBLIC HEALTH, SAFETY, AND WELFARE AND THE ENVIRONMENT BY AVOIDING ADVERSE IMPACTS FROM OIL AND GAS OPERATIONS AND MINIMIZING AND MITIGATING THE EXTENT AND SEVERITY OF THOSE IMPACTS THAT CANNOT BE AVOIDED. THE FOLLOWING MATTERS ARE COVERED BY THIS SUBSECTION (1)(h):

(I) LAND USE;

(II) THE LOCATION AND SITING OF OIL AND GAS FACILITIES AND OIL AND GAS LOCATIONS, AS THOSE TERMS ARE DEFINED IN SECTION 34-60-103 (6.2) AND (6.4);

(III) IMPACTS TO PUBLIC FACILITIES AND SERVICES;

(IV) 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, AND TRAFFIC AND TRANSPORTATION IMPACTS;

(V) FINANCIAL SECURITIES, INDEMNIFICATION, AND INSURANCE AS APPROPRIATE TO ENSURE COMPLIANCE WITH THE REGULATIONS OF THE LOCAL GOVERNMENT; AND

(VI) ALL OTHER NUISANCE-TYPE EFFECTS OF OIL AND GAS DEVELOPMENT; AND

(i) OTHERWISE PLANNING FOR AND REGULATING THE USE OF LAND SO AS TO PROVIDE PLANNED AND ORDERLY USE OF LAND AND PROTECTION OF THE ENVIRONMENT IN A MANNER CONSISTENT WITH CONSTITUTIONAL RIGHTS.

(2) TO IMPLEMENT THE POWERS AND AUTHORITY GRANTED IN SUBSECTION (1)(h) OF THIS SECTION, A LOCAL GOVERNMENT WITHIN ITS RESPECTIVE JURISDICTION HAS THE AUTHORITY TO:

(a) INSPECT ALL FACILITIES SUBJECT TO LOCAL GOVERNMENT REGULATION;

(b) IMPOSE FINES FOR LEAKS, SPILLS, AND EMISSIONS; AND

(c) IMPOSE FEES ON OPERATORS OR OWNERS TO COVER THE REASONABLY FORESEEABLE DIRECT AND INDIRECT COSTS OF PERMITTING AND REGULATION AND THE COSTS OF ANY MONITORING AND INSPECTION PROGRAM NECESSARY TO ADDRESS THE IMPACTS OF DEVELOPMENT AND TO ENFORCE LOCAL GOVERNMENTAL REQUIREMENTS.

(3) (a) TO PROVIDE A LOCAL GOVERNMENT WITH TECHNICAL EXPERTISE REGARDING WHETHER A PRELIMINARY OR FINAL DETERMINATION OF THE LOCATION OF AN OIL AND GAS FACILITY OR OIL AND GAS LOCATION WITHIN ITS RESPECTIVE JURISDICTION COULD AFFECT OIL AND GAS RESOURCE RECOVERY:

(I) ONCE AN OPERATOR, AS DEFINED IN SECTION 34-60-103 (6.8), FILES AN APPLICATION FOR THE LOCATION AND SITING OF AN OIL AND GAS FACILITY OR OIL AND GAS LOCATION AND THE LOCAL GOVERNMENT HAS MADE EITHER A PRELIMINARY OR FINAL DETERMINATION REGARDING THE APPLICATION, THE LOCAL GOVERNMENT HAVING LAND USE JURISDICTION MAY ASK THE DIRECTOR OF THE OIL AND GAS CONSERVATION COMMISSION PURSUANT TO SECTION 34-60-104.5 (3) TO APPOINT A TECHNICAL REVIEW BOARD TO CONDUCT A TECHNICAL REVIEW OF THE PRELIMINARY OR FINAL DETERMINATION AND ISSUE A REPORT THAT CONTAINS THE BOARD'S CONCLUSIONS.

(II) ONCE A LOCAL GOVERNMENT HAS MADE A FINAL DETERMINATION REGARDING AN APPLICATION SPECIFIED IN SUBSECTION (3)(a)(I) OF THIS SECTION OR IF THE LOCAL GOVERNMENT HAS NOT MADE A FINAL DETERMINATION ON AN APPLICATION WITHIN TWO HUNDRED TEN DAYS AFTER FILING BY THE OPERATOR, THE OPERATOR MAY ASK THE DIRECTOR OF THE OIL AND GAS CONSERVATION COMMISSION PURSUANT TO SECTION 34-60-104.5 (3) TO APPOINT A TECHNICAL REVIEW BOARD TO CONDUCT A TECHNICAL REVIEW OF THE FINAL DETERMINATION AND ISSUE A REPORT THAT CONTAINS THE BOARD'S CONCLUSIONS.

(b) A LOCAL GOVERNMENT MAY FINALIZE ITS PRELIMINARY DETERMINATION WITHOUT ANY CHANGES BASED ON THE TECHNICAL REVIEW

REPORT, FINALIZE ITS PRELIMINARY DETERMINATION WITH CHANGES BASED ON THE REPORT, OR RECONSIDER OR DO NOTHING WITH REGARD TO ITS ALREADY FINALIZED DETERMINATION.

(c) IF AN APPLICANT OR LOCAL GOVERNMENT REQUESTS A TECHNICAL REVIEW PURSUANT TO SUBSECTION (3)(a) OF THIS SECTION, THE PERIOD TO APPEAL A LOCAL GOVERNMENT'S DETERMINATION PURSUANT TO RULE 106 (a)(4) OF THE COLORADO RULES OF CIVIL PROCEDURE IS TOLLED UNTIL THE REPORT SPECIFIED IN SUBSECTION (3)(a) OF THIS SECTION HAS BEEN ISSUED, AND THE APPLICANT IS AFFORDED THE FULL PERIOD TO APPEAL THEREAFTER.

SECTION 5. In Colorado Revised Statutes, 30-15-401, **amend** (1) introductory portion, (1)(m)(II) introductory portion, and (1)(m)(II)(B) as follows:

30-15-401. General regulations - definitions. (1) In addition to those powers granted by sections 30-11-101 and 30-11-107 and by parts 1, 2, and 3 of this article 15, the board of county commissioners ~~has the power to~~ MAY adopt ordinances for control or licensing of those matters of purely local concern that are described in the following enumerated powers:

(m) (II) Ordinances enacted to regulate noise on public and private property pursuant to ~~subparagraph (I) of this paragraph (m) shall~~ SUBSECTION (1)(m)(I) OF THIS SECTION DO not apply to:

(B) Property used for: Manufacturing, industrial, or commercial business purposes; AND public utilities regulated pursuant to title 40. C.R.S.; and oil and gas production subject to the provisions of article 60 of title 34, C.R.S.

SECTION 6. In Colorado Revised Statutes, 34-60-102, **amend** (1)(a) introductory portion, (1)(a)(I), and (1)(b) as follows:

34-60-102. Legislative declaration. (1) (a) It is declared to be in the public interest AND THE COMMISSION IS DIRECTED to:

(I) ~~Foster~~ REGULATE the ~~responsible, balanced~~ development AND production ~~and utilization~~ of the natural resources of oil and gas in the state of Colorado in a manner ~~consistent with protection of~~ THAT PROTECTS

public health, safety, and welfare, including protection of the environment and wildlife resources;

(b) It is ~~not~~ NEITHER the intent nor the purpose of this ~~article~~ ARTICLE 60 to require or permit the proration or distribution of the production of oil and gas among the fields and pools of Colorado on the basis of market demand. It is the intent and purpose of this ~~article~~ ARTICLE 60 to permit each oil and gas pool in Colorado to produce up to its maximum efficient rate of production, subject to the PROTECTION OF PUBLIC HEALTH, SAFETY, AND WELFARE, THE ENVIRONMENT, AND WILDLIFE RESOURCES AND THE prevention of waste ~~consistent with the protection of public health, safety, and welfare, including protection of the environment and wildlife resources~~ AS SET FORTH IN SECTION 34-60-106 (2.5) AND (3)(a), and subject further to the enforcement and protection of the coequal and correlative rights of the owners and producers of a common source of oil and gas, so that each common owner and producer may obtain a just and equitable share of production ~~therefrom~~ FROM THE COMMON SOURCE.

SECTION 7. In Colorado Revised Statutes, 34-60-103, **amend** the introductory portion, (5.5), (11), (12), and (13); and **add** (5.3), (6.2), and (6.4) as follows:

34-60-103. Definitions. As used in this ~~article~~ ARTICLE 60, unless the context otherwise requires:

(5.3) "LOCAL GOVERNMENT" MEANS, EXCEPT WITH REGARD TO SECTION 34-60-104 (2)(a)(I), A:

(a) MUNICIPALITY OR CITY AND COUNTY WITHIN WHOSE BOUNDARIES AN OIL AND GAS LOCATION IS SITED OR PROPOSED TO BE SITED; OR

(b) COUNTY, IF AN OIL AND GAS LOCATION IS SITED OR PROPOSED TO BE SITED WITHIN THE BOUNDARIES OF THE COUNTY BUT IS NOT LOCATED WITHIN A MUNICIPALITY OR CITY AND COUNTY.

(5.5) "Minimize adverse impacts" means, to ~~wherever reasonably practicable~~ THE EXTENT NECESSARY AND REASONABLE TO PROTECT PUBLIC HEALTH, SAFETY, AND WELFARE, THE ENVIRONMENT, AND WILDLIFE RESOURCES, TO:

(a) Avoid adverse impacts from oil and gas operations; ~~on wildlife resources;~~ AND

(b) Minimize AND MITIGATE the extent and severity of those impacts that cannot be avoided.

~~(c) Mitigate the effects of unavoidable remaining impacts; and~~

~~(d) Take into consideration cost-effectiveness and technical feasibility with regard to actions and decisions taken to minimize adverse impacts to wildlife resources.~~

(6.2) "OIL AND GAS FACILITY" MEANS EQUIPMENT OR IMPROVEMENTS USED OR INSTALLED AT AN OIL AND GAS LOCATION FOR THE EXPLORATION, PRODUCTION, WITHDRAWAL, TREATMENT, OR PROCESSING OF CRUDE OIL, CONDENSATE, EXPLORATION AND PRODUCTION WASTE, OR GAS.

(6.4) "OIL AND GAS LOCATION" MEANS A DEFINABLE AREA WHERE AN OIL AND GAS OPERATOR HAS DISTURBED OR INTENDS TO DISTURB THE LAND SURFACE IN ORDER TO LOCATE AN OIL AND GAS FACILITY.

(11) "Waste", as applied to gas:

(a) Includes the escape, blowing, or releasing, directly or indirectly into the open air, of gas from wells productive of gas only, or gas in an excessive or unreasonable amount from wells producing oil or both oil and gas; and the production of gas in quantities or in such manner as unreasonably reduces reservoir pressure or, SUBJECT TO SUBSECTION (11)(b) OF THIS SECTION, unreasonably diminishes the quantity of oil or gas that ultimately may be produced; excepting gas that is reasonably necessary in the drilling, completing, testing, and in furnishing power for the production of wells; AND

(b) DOES NOT INCLUDE THE NONPRODUCTION OF GAS FROM A FORMATION IF NECESSARY TO PROTECT PUBLIC HEALTH, SAFETY, AND WELFARE, THE ENVIRONMENT, OR WILDLIFE RESOURCES AS DETERMINED BY THE COMMISSION.

(12) "Waste", as applied to oil:

(a) Includes underground waste; inefficient, excessive, or improper use or dissipation of reservoir energy, including gas energy and water drive; surface waste; open-pit storage; and waste incident to the production of oil in excess of the producer's aboveground storage facilities and lease and contractual requirements, but excluding storage, other than open-pit storage, reasonably necessary for building up or maintaining crude stocks and products ~~thereof~~ OF CRUDE STOCKS for consumption, use, and sale; AND

(b) DOES NOT INCLUDE THE NONPRODUCTION OF OIL FROM A FORMATION IF NECESSARY TO PROTECT PUBLIC HEALTH, SAFETY, AND WELFARE, THE ENVIRONMENT, OR WILDLIFE RESOURCES AS DETERMINED BY THE COMMISSION.

(13) "Waste", in addition to the meanings as set forth in subsections (11) and (12) of this section:

(a) Means, SUBJECT TO SUBSECTION (13)(b) OF THIS SECTION:

(a) (I) Physical waste, as that term is generally understood in the oil and gas industry;

(b) (II) The locating, spacing, drilling, equipping, operating, or producing of any oil or gas well or wells in a manner ~~which~~ THAT causes or tends to cause reduction in quantity of oil or gas ultimately recoverable from a pool under prudent and proper operations or ~~which~~ THAT causes or tends to cause unnecessary or excessive surface loss or destruction of oil or gas; AND

(c) (III) Abuse of the correlative rights of any owner in a pool due to nonuniform, disproportionate, unratable, or excessive withdrawals of oil or gas ~~therefrom~~ FROM THE POOL, causing reasonably avoidable drainage between tracts of land or resulting in one or more producers or owners in ~~such~~ THE pool producing more than ~~his~~ AN equitable share of the oil or gas from ~~such~~ THE pool; AND

(b) DOES NOT INCLUDE THE NONPRODUCTION OF OIL OR GAS FROM A FORMATION IF NECESSARY TO PROTECT PUBLIC HEALTH, SAFETY, AND WELFARE, THE ENVIRONMENT, OR WILDLIFE RESOURCES AS DETERMINED BY THE COMMISSION.

SECTION 8. In Colorado Revised Statutes, 34-60-104, **amend** (1), (2)(a)(I), and (2)(a)(II) as follows:

34-60-104. Oil and gas conservation commission - report - publication - repeal. (1) (a) There is hereby created, in the department of natural resources, the oil and gas conservation commission. ~~of the state of Colorado.~~

(b) THIS SECTION IS REPEALED ON THE EARLIER OF JULY 1, 2020, OR THE DATE ON WHICH ALL RULES REQUIRED TO BE ADOPTED BY SECTION 34-60-106 (2.5)(a), (11)(c), AND (19) HAVE BECOME EFFECTIVE. THE DIRECTOR SHALL NOTIFY THE REVISOR OF STATUTES IN WRITING OF THE DATE ON WHICH THE CONDITION SPECIFIED IN THIS SUBSECTION (1)(b) HAS OCCURRED BY E-MAILING THE NOTICE TO REVISOROFSTATUTES.GA@STATE.CO.US.

(2) (a) (I) ~~Effective July 1, 2007~~ ON THE EFFECTIVE DATE OF THIS SECTION (2)(a)(I), AS AMENDED, the commission ~~shall consist~~ CONSISTS of nine members, seven of whom shall be appointed by the governor with the consent of the senate. ~~and two of whom;~~ The executive director of the department of natural resources and the executive director of the department of public health and environment, ~~shall be~~ OR THE EXECUTIVE DIRECTORS' DESIGNEES, ARE ex officio voting members. At least two members shall be appointed from west of the continental divide, and, to the extent possible, consistent with this ~~paragraph (a)~~ SUBSECTION (2)(a), the other members shall be appointed taking into account the need for geographical representation of ~~other~~ areas of the state with high levels of CURRENT OR ANTICIPATED oil and gas activity or employment. ~~Three members shall~~ ONE MEMBER MUST be ~~individuals~~ AN INDIVIDUAL with substantial experience in the oil and gas industry; ~~and at least two of said three members shall have a college degree in petroleum geology or petroleum engineering;~~ one member ~~shall~~ MUST be a local government official; one member ~~shall~~ MUST have formal training or substantial experience in environmental ~~or wildlife~~ protection; one member ~~shall~~ MUST have formal training or substantial experience in WILDLIFE PROTECTION; ONE MEMBER MUST HAVE TECHNICAL EXPERTISE RELEVANT TO THE ISSUES CONSIDERED BY THE COMMISSION OR FORMAL TRAINING OR SUBSTANTIAL EXPERIENCE IN soil conservation or reclamation; ~~and~~ one member ~~shall~~ MUST be actively engaged in agricultural production ~~and also~~ OR be a royalty owner; AND ONE MEMBER MUST HAVE FORMAL TRAINING OR SUBSTANTIAL EXPERIENCE IN PUBLIC HEALTH.

Excluding the executive directors from consideration, no more than four members of the commission ~~shall~~ MAY be members of the same political party.

(II) Subject to ~~paragraph (b) of this subsection (2)~~ SUBSECTION (2)(b) OF THIS SECTION, nothing in this ~~paragraph (a) shall be construed to require~~ SUBSECTION (2)(a) REQUIRES a holdover member of the commission holding office on July 1, ~~2007~~ 2019, to comply with ~~the provisions of this paragraph (a)~~ THIS SUBSECTION (2)(a), as amended, unless ~~such~~ THE person is reappointed to the commission for another term of office. Nothing in this ~~subparagraph (II) shall alter, impair, or negate~~ SUBSECTION (2)(a) ALTERS, IMPAIRS, OR NEGATES the authority of the governor to remove or appoint members of the commission pursuant to ~~paragraph (b) of this subsection (2)~~ SUBSECTION (2)(b) OF THIS SECTION.

SECTION 9. In Colorado Revised Statutes, add 34-60-104.3 as follows:

34-60-104.3. Oil and gas conservation commission - report - publication. (1) THERE IS HEREBY CREATED, IN THE DEPARTMENT OF NATURAL RESOURCES, THE OIL AND GAS CONSERVATION COMMISSION.

(2) (a) THE COMMISSION CONSISTS OF SEVEN MEMBERS, FIVE OF WHOM SHALL BE APPOINTED BY THE GOVERNOR WITH THE CONSENT OF THE SENATE. THE EXECUTIVE DIRECTOR OF THE DEPARTMENT OF NATURAL RESOURCES AND THE EXECUTIVE DIRECTOR OF THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, OR THE EXECUTIVE DIRECTORS' DESIGNEES, ARE EX OFFICIO NONVOTING MEMBERS. A MAJORITY OF THE VOTING COMMISSIONERS CONSTITUTE A QUORUM FOR THE TRANSACTION OF ITS BUSINESS.

(b) EACH APPOINTED COMMISSIONER MUST BE A QUALIFIED ELECTOR OF THIS STATE. EACH APPOINTED COMMISSIONER, BEFORE ENTERING UPON THE DUTIES OF OFFICE, SHALL TAKE THE CONSTITUTIONAL OATH OF OFFICE. EXCLUDING THE EXECUTIVE DIRECTORS FROM CONSIDERATION, NO MORE THAN THREE MEMBERS OF THE COMMISSION MAY BE MEMBERS OF THE SAME POLITICAL PARTY. TO THE EXTENT POSSIBLE, CONSISTENT WITH THIS SUBSECTION (2), THE MEMBERS SHALL BE APPOINTED TAKING INTO ACCOUNT THE NEED FOR GEOGRAPHICAL REPRESENTATION OF AREAS OF THE STATE WITH HIGH LEVELS OF CURRENT OR ANTICIPATED OIL AND GAS ACTIVITY OR

EMPLOYMENT. THE APPOINTED MEMBERS OF THE COMMISSION SHALL DEVOTE THEIR ENTIRE TIME TO THE DUTIES OF THEIR OFFICES TO THE EXCLUSION OF ANY OTHER EMPLOYMENT AND ARE ENTITLED TO RECEIVE COMPENSATION AS DESIGNATED BY LAW.

(c) ONE APPOINTED MEMBER MUST BE AN INDIVIDUAL WITH SUBSTANTIAL EXPERIENCE IN THE OIL AND GAS INDUSTRY; ONE APPOINTED MEMBER MUST HAVE SUBSTANTIAL EXPERTISE IN PLANNING OR LAND USE; ONE APPOINTED MEMBER MUST HAVE FORMAL TRAINING OR SUBSTANTIAL EXPERIENCE IN ENVIRONMENTAL PROTECTION, WILDLIFE PROTECTION, OR RECLAMATION; ONE APPOINTED MEMBER MUST HAVE PROFESSIONAL EXPERIENCE DEMONSTRATING AN ABILITY TO CONTRIBUTE TO THE COMMISSION'S BODY OF EXPERTISE THAT WILL AID THE COMMISSION IN MAKING SOUND, BALANCED DECISIONS; AND ONE APPOINTED MEMBER MUST HAVE FORMAL TRAINING OR SUBSTANTIAL EXPERIENCE IN PUBLIC HEALTH.

(d) NO PERSON MAY BE APPOINTED TO SERVE ON THE COMMISSION OR HOLD THE OFFICE OF COMMISSIONER IF THE PERSON HAS A CONFLICT OF INTEREST WITH OIL AND GAS DEVELOPMENT IN COLORADO. EXAMPLES OF CONFLICTS OF INTEREST INCLUDE BEING REGISTERED AS A LOBBYIST AT THE LOCAL OR STATE LEVELS, SERVING IN THE GENERAL ASSEMBLY WITHIN THE PRIOR THREE YEARS, OR SERVING IN AN OFFICIAL CAPACITY WITH AN ENTITY THAT EDUCATES OR ADVOCATES FOR OR AGAINST OIL AND GAS ACTIVITY. THIS SUBSECTION (2)(d) SHALL BE CONSTRUED REASONABLY WITH THE OBJECTIVE OF DISQUALIFYING FROM THE COMMISSION ANY PERSON WHO MIGHT HAVE AN IMMEDIATE CONFLICT OF INTEREST OR WHO MAY NOT BE ABLE TO MAKE BALANCED DECISIONS ABOUT OIL AND GAS REGULATION IN COLORADO. A PERSON WHO HAS WORKED WITH OR FOR AN ENERGY OR ENVIRONMENTAL ENTITY NEED NOT BE DISQUALIFIED IF THE PERSON'S EXPERIENCE SHOWS SUBJECT MATTER KNOWLEDGE COUPLED WITH AN ABILITY TO RENDER INFORMED, THOROUGH, AND BALANCED DECISION-MAKING.

(e) MEMBERS OF THE COMMISSION SHALL BE APPOINTED FOR TERMS OF FOUR YEARS EACH; EXCEPT THAT THE INITIAL TERMS OF TWO MEMBERS ARE TWO YEARS. THE GOVERNOR SHALL DESIGNATE ONE MEMBER OF THE COMMISSION AS CHAIR OF THE COMMISSION. THE CHAIR SHALL DELEGATE ROLES AND RESPONSIBILITIES TO COMMISSIONERS AND THE DIRECTOR. THE GOVERNOR MAY AT ANY TIME REMOVE ANY APPOINTED MEMBER OF THE COMMISSION, AND BY APPOINTMENT THE GOVERNOR SHALL FILL ANY

VACANCY ON THE COMMISSION. IN CASE ONE OR MORE VACANCIES OCCUR ON THE SAME DAY, THE GOVERNOR SHALL DESIGNATE THE ORDER OF FILLING VACANCIES.

(3) THE COMMISSION SHALL REPORT TO THE EXECUTIVE DIRECTOR OF THE DEPARTMENT OF NATURAL RESOURCES AT SUCH TIMES AND ON SUCH MATTERS AS THE EXECUTIVE DIRECTOR MAY REQUIRE.

(4) PUBLICATIONS OF THE COMMISSION CIRCULATED IN QUANTITY OUTSIDE THE EXECUTIVE BRANCH ARE SUBJECT TO THE APPROVAL AND CONTROL OF THE EXECUTIVE DIRECTOR OF THE DEPARTMENT OF NATURAL RESOURCES.

(5) THIS SECTION TAKES EFFECT ON THE EARLIER OF JULY 1, 2020, OR THE DATE ON WHICH ALL RULES REQUIRED TO BE ADOPTED BY SECTION 34-60-106 (2.5)(a), (11)(c), AND (19) HAVE BECOME EFFECTIVE. THE DIRECTOR SHALL NOTIFY THE REVISOR OF STATUTES IN WRITING OF THE DATE ON WHICH THE CONDITION SPECIFIED IN THIS SUBSECTION (5) HAS OCCURRED BY E-MAILING THE NOTICE TO REVISOROFSTATUTES.GA@STATE.CO.US.

SECTION 10. In Colorado Revised Statutes, 34-60-104.5, **amend** (2)(d); and **add** (3) as follows:

34-60-104.5. Director of commission - duties. (2) The director of the commission shall:

(d) (I) Appoint, pursuant to section 13 of article XII of the state constitution, such clerical and professional staff and consultants as may be necessary for the efficient and effective operation of the commission, INCLUDING AT LEAST ONE AND UP TO TWO DEPUTY DIRECTORS; and ~~staff~~

(II) Exercise general supervisory control over ~~said~~ THE staff; and

(3) (a) UPON RECEIPT OF REQUEST FOR TECHNICAL REVIEW FILED PURSUANT TO SECTION 29-20-104 (3)(a), THE DIRECTOR OF THE COMMISSION SHALL APPOINT TECHNICAL REVIEW BOARD MEMBERS. THE MEMBERSHIP OF THE TECHNICAL REVIEW BOARD MUST INCLUDE SUBJECT MATTER EXPERTS IN LOCAL LAND USE PLANNING AND OIL AND GAS EXPLORATION AND PRODUCTION AND MAY INCLUDE SUBJECT MATTER EXPERTS IN ENVIRONMENTAL SCIENCES, PUBLIC HEALTH SCIENCES, OR OTHER

DISCIPLINES RELEVANT TO THE DISPUTED ISSUES, AS DETERMINED BY THE DIRECTOR. THE TECHNICAL REVIEW BOARD SHALL CONDUCT A TECHNICAL REVIEW OF THE PRELIMINARY OR FINAL SITING DETERMINATION PURSUANT TO THE CRITERIA SPECIFIED IN SUBSECTION (3)(b) OF THIS SECTION AND, AT ITS DISCRETION, MAY MEET TO CONFER INFORMALLY WITH THE PARTIES. THE TECHNICAL REVIEW MUST BE COMPLETED BY ISSUANCE OF A REPORT WITHIN SIXTY DAYS AFTER THE DIRECTOR APPOINTS THE EXPERTS.

(b) A TECHNICAL REVIEW:

(I) MUST ADDRESS THE ISSUES IN DISPUTE AS IDENTIFIED BY THE OPERATOR AND THE LOCAL GOVERNMENT, WHICH MAY INCLUDE IMPACTS TO THE RECOVERY OF THE RESOURCE BY THE PRELIMINARY OR FINAL SITING DETERMINATION OF THE LOCAL GOVERNMENT; WHETHER THE LOCAL GOVERNMENT'S DETERMINATION WOULD REQUIRE TECHNOLOGIES THAT ARE NOT AVAILABLE OR ARE IMPRACTICABLE GIVEN THE CONTEXT OF THE PERMIT APPLICATION; AND WHETHER THE OPERATOR IS PROPOSING TO USE BEST MANAGEMENT PRACTICES; AND

(II) MUST NOT ADDRESS THE ECONOMIC EFFECTS OF THE PRELIMINARY OR FINAL DETERMINATION AND MUST RESULT IN THE ISSUANCE OF A REPORT.

SECTION 11. In Colorado Revised Statutes, 34-60-105, **amend** (1); and **add** (4) as follows:

34-60-105. Powers of commission. (1) (a) The commission has jurisdiction over all persons and property, public and private, necessary to enforce ~~the provisions of this article, and has~~ THIS ARTICLE 60, the power to make and enforce rules ~~regulations~~; and orders pursuant to this ~~article~~ ARTICLE 60, and to do whatever may reasonably be necessary to carry out ~~the provisions of this article~~ THIS ARTICLE 60.

(b) Any delegation of authority to any other state officer, board, or commission to administer any other laws of this state relating to the conservation of oil or gas, or either of them, is hereby rescinded and withdrawn, and ~~such~~ THAT authority is unqualifiedly conferred upon the commission, as provided in this section; EXCEPT THAT, AS FURTHER SPECIFIED IN SECTION 34-60-131, NOTHING IN THIS ARTICLE 60 ALTERS, IMPAIRS, OR NEGATES THE AUTHORITY OF:

(I) THE AIR QUALITY CONTROL COMMISSION TO REGULATE, PURSUANT TO ARTICLE 7 OF TITLE 25, THE EMISSION OF AIR POLLUTANTS FROM OIL AND GAS OPERATIONS;

(II) THE WATER QUALITY CONTROL COMMISSION TO REGULATE, PURSUANT TO ARTICLE 8 OF TITLE 25, THE DISCHARGE OF WATER POLLUTANTS FROM OIL AND GAS OPERATIONS;

(III) THE STATE BOARD OF HEALTH TO REGULATE, PURSUANT TO SECTION 25-11-104, THE DISPOSAL OF NATURALLY OCCURRING RADIOACTIVE MATERIALS AND TECHNOLOGICALLY ENHANCED NATURALLY OCCURRING RADIOACTIVE MATERIALS FROM OIL AND GAS OPERATIONS;

(IV) THE SOLID AND HAZARDOUS WASTE COMMISSION TO:

(A) REGULATE, PURSUANT TO ARTICLE 15 OF TITLE 25, THE DISPOSAL OF HAZARDOUS WASTE FROM OIL AND GAS OPERATIONS; OR

(B) REGULATE, PURSUANT TO SECTION 30-20-109 (1.5), THE DISPOSAL OF EXPLORATION AND PRODUCTION WASTE FROM OIL AND GAS OPERATIONS; AND

(V) A LOCAL GOVERNMENT TO REGULATE OIL AND GAS OPERATIONS PURSUANT TO SECTION 29-20-104;

(c) Any person, or the attorney general on behalf of the state, may apply for ~~any~~ A hearing before the commission, or the commission may initiate proceedings, upon any question relating to the administration of this ~~article~~ ARTICLE 60, and jurisdiction is conferred upon the commission to hear and determine the ~~same~~ QUESTION and enter its rule ~~regulation~~; or order with respect ~~thereto~~ TO THE QUESTION.

(4) (a) EXCEPT AS SPECIFIED IN SUBSECTION (4)(b) OF THIS SECTION, NOTHING IN THIS ARTICLE 60 AUTHORIZES THE STATE OR ITS LOCAL GOVERNMENTS, INCLUDING THE COMMISSION, BOARDS OF COUNTY COMMISSIONERS, AND MUNICIPALITIES, TO REGULATE THE ACTIVITIES OF:

(I) FEDERALLY RECOGNIZED INDIAN TRIBES, THEIR POLITICAL SUBDIVISIONS, OR TRIBALLY CONTROLLED AFFILIATES, UNDERTAKEN OR TO BE UNDERTAKEN WITH RESPECT TO MINERAL EVALUATION, EXPLORATION,

OR DEVELOPMENT ON LANDS WITHIN THE EXTERIOR BOUNDARIES OF AN INDIAN RESERVATION LOCATED WITHIN THE STATE; OR

(II) THIRD PARTIES, UNDERTAKEN OR TO BE UNDERTAKEN WITH RESPECT TO MINERAL EVALUATION, EXPLORATION, OR DEVELOPMENT ON INDIAN TRUST LANDS WITHIN THE EXTERIOR BOUNDARIES OF AN INDIAN RESERVATION LOCATED WITHIN THE STATE.

(b) REGULATION BY THE STATE OR ITS LOCAL GOVERNMENTS, INCLUDING THE COMMISSION, BOARDS OF COUNTY COMMISSIONERS, AND MUNICIPALITIES, APPLICABLE TO NON-INDIANS CONDUCTING OIL AND GAS OPERATIONS ON LANDS WITHIN THE EXTERIOR BOUNDARIES OF THE SOUTHERN UTE INDIAN RESERVATION MAY APPLY TO LANDS WHERE BOTH THE SURFACE AND THE OIL AND GAS ESTATES ARE OWNED IN FEE BY A PERSON OTHER THAN THE SOUTHERN UTE INDIAN TRIBE, REGARDLESS OF WHETHER THE LANDS ARE COMMUNITIZED OR POOLED WITH INDIAN MINERAL LANDS.

(c) NOTHING IN THIS ARTICLE 60 ALTERS THE AUTHORITY FOR THE REGULATION OF AIR POLLUTION ON THE SOUTHERN UTE INDIAN RESERVATION AS SET FORTH IN ARTICLE 62 OF TITLE 24 AND PART 13 OF ARTICLE 7 OF TITLE 25.

SECTION 12. In Colorado Revised Statutes, 34-60-106, **amend** (1) introductory portion, (1)(f), (2) introductory portion, (2)(b), (2)(c), (6), (7), (13), and (15); **repeal** (2)(d); and **add** (2.5), (11)(c), (18), (19), and (20) as follows:

34-60-106. Additional powers of commission - rules - repeal.

(1) The commission also ~~has authority to~~ SHALL require:

(f) (I) That no operations for the drilling of a well for oil and gas shall be commenced without first:

(A) ~~Giving to the commission notice of intention~~ APPLYING FOR A PERMIT to drill, WHICH MUST INCLUDE PROOF EITHER THAT: THE OPERATOR HAS FILED AN APPLICATION WITH THE LOCAL GOVERNMENT WITH JURISDICTION TO APPROVE THE SITING OF THE PROPOSED OIL AND GAS LOCATION AND THE LOCAL GOVERNMENT'S DISPOSITION OF THE APPLICATION; OR THE LOCAL GOVERNMENT WITH JURISDICTION DOES NOT

REGULATE THE SITING OF OIL AND GAS LOCATIONS; and ~~without first~~

(B) Obtaining a permit from the commission, under ~~such rules and regulations as may be~~ prescribed by the commission; and

(II) Paying to the commission a filing and service fee to be established by the commission for the purpose of paying the expense of administering this ~~article~~ ARTICLE 60 as provided in section 34-60-122, which fee may be transferable or refundable, at the option of the commission, if ~~such~~ THE permit is not used; ~~but no such fee shall exceed two hundred dollars;~~ AND

(III) (A) NOTWITHSTANDING ANY OTHER PROVISION OF LAW, INCLUDING SUBSECTION (11) OF THIS SECTION, UNTIL THE COMMISSION HAS PROMULGATED ANY RULES REQUIRED TO BE ADOPTED BY SUBSECTIONS (2.5)(a), (11)(c), AND (19) OF THIS SECTION AND EACH RULE SPECIFIED IN THIS SUBSECTION (1)(f)(III)(A) HAS BECOME EFFECTIVE, THE DIRECTOR MAY DELAY THE FINAL DETERMINATION REGARDING A PERMIT APPLICATION IF THE DIRECTOR DETERMINES, PURSUANT TO OBJECTIVE CRITERIA TO BE PUBLISHED BY THE DIRECTOR WITHIN THIRTY DAYS AFTER THE EFFECTIVE DATE OF THIS SUBSECTION (1)(f)(III) AND FOLLOWING A PUBLIC COMMENT PERIOD, THAT THE PERMIT REQUIRES ADDITIONAL ANALYSIS TO ENSURE THE PROTECTION OF PUBLIC HEALTH, SAFETY, AND WELFARE OR THE ENVIRONMENT OR REQUIRES ADDITIONAL LOCAL GOVERNMENT OR OTHER STATE AGENCY CONSULTATION.

(B) THIS SUBSECTION (1)(f)(III) WILL BE REPEALED IF THE RULES SPECIFIED IN SUBSECTION (1)(f)(III)(A) OF THIS SECTION HAVE BECOME EFFECTIVE. THE DIRECTOR SHALL NOTIFY THE REVISOR OF STATUTES IN WRITING OF THE DATE ON WHICH ALL RULES SPECIFIED IN SUBSECTION (1)(f)(III)(A) OF THIS SECTION HAVE BECOME EFFECTIVE BY E-MAILING THE NOTICE TO REVISOROFSTATUTES.GA@STATE.CO.US. THIS SUBSECTION (1)(f)(III) IS REPEALED, EFFECTIVE UPON THE DATE IDENTIFIED IN THE NOTICE THAT THE RULES SPECIFIED IN SUBSECTION (1)(f)(III)(A) OF THIS SECTION HAVE BECOME EFFECTIVE OR, IF THE NOTICE DOES NOT SPECIFY THAT DATE, UPON THE DATE OF THE NOTICE TO THE REVISOR OF STATUTES.

(2) The commission ~~has the authority to~~ MAY regulate:

(b) The ~~shooting~~ STIMULATING and chemical treatment of wells;

AND

(c) The spacing AND NUMBER of wells ALLOWED IN A DRILLING UNIT.
and

~~(d) Oil and gas operations so as to prevent and mitigate significant adverse environmental impacts on any air, water, soil, or biological resource resulting from oil and gas operations to the extent necessary to protect public health, safety, and welfare, including protection of the environment and wildlife resources, taking into consideration cost-effectiveness and technical feasibility.~~

(2.5) (a) IN EXERCISING THE AUTHORITY GRANTED BY THIS ARTICLE 60, THE COMMISSION SHALL REGULATE OIL AND GAS OPERATIONS IN A REASONABLE MANNER TO PROTECT AND MINIMIZE ADVERSE IMPACTS TO PUBLIC HEALTH, SAFETY, AND WELFARE, THE ENVIRONMENT, AND WILDLIFE RESOURCES AND SHALL PROTECT AGAINST ADVERSE ENVIRONMENTAL IMPACTS ON ANY AIR, WATER, SOIL, OR BIOLOGICAL RESOURCE RESULTING FROM OIL AND GAS OPERATIONS.

(b) THE NONPRODUCTION OF OIL AND GAS RESULTING FROM A CONDITIONAL APPROVAL OR DENIAL AUTHORIZED BY THIS SUBSECTION (2.5) DOES NOT CONSTITUTE WASTE.

(6) The commission has the authority, as it deems necessary and convenient, to conduct any hearings or to make any determinations it is otherwise empowered to conduct or make by means of an appointed ADMINISTRATIVE LAW JUDGE OR hearing officer, but recommended findings, determinations, or orders of any ADMINISTRATIVE LAW JUDGE OR hearing officer ~~shall not become final until adopted by the commission~~ IN ACCORDANCE WITH SECTION 34-60-108 (9). Upon appointment by the commission, a member of the commission may act as a hearing officer.

(7) (a) The commission ~~has the authority to~~ MAY establish, charge, and collect docket fees for the filing of applications, petitions, protests, responses, and other pleadings. ~~No such fees shall exceed two hundred dollars for any application, petition, or other pleading initiating a proceeding nor one hundred dollars for any protest or other responsive pleadings, and any party to any commission proceeding shall pay no more than one such fee for each proceeding in which it is a party.~~ All such fees

shall be deposited in the oil and gas conservation and environmental response fund established by section 34-60-122 and ~~shall be~~ ARE subject to appropriations by the general assembly for the purposes of this ~~article~~ ARTICLE 60.

(b) THE COMMISSION SHALL BY RULE ESTABLISH THE FEES FOR THE FILING OF APPLICATIONS IN AMOUNTS SUFFICIENT TO RECOVER THE COMMISSION'S REASONABLY FORESEEABLE DIRECT AND INDIRECT COSTS IN CONDUCTING THE ANALYSIS, INCLUDING THE ANNUAL REVIEW OF FINANCIAL ASSURANCE PURSUANT TO SUBSECTION (13) OF THIS SECTION, NECESSARY TO ASSURE THAT PERMITTED OPERATIONS WILL BE CONDUCTED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF THIS ARTICLE 60.

(11) (c) THE COMMISSION SHALL ADOPT RULES THAT:

(I) ADOPT AN ALTERNATIVE LOCATION ANALYSIS PROCESS AND SPECIFY CRITERIA USED TO IDENTIFY OIL AND GAS LOCATIONS AND FACILITIES PROPOSED TO BE LOCATED NEAR POPULATED AREAS THAT WILL BE SUBJECT TO THE ALTERNATIVE LOCATION ANALYSIS PROCESS; AND

(II) IN CONSULTATION WITH THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, EVALUATE AND ADDRESS THE POTENTIAL CUMULATIVE IMPACTS OF OIL AND GAS DEVELOPMENT.

(13) The commission shall require every operator to provide assurance that it is financially capable of fulfilling ~~any~~ EVERY obligation imposed ~~under subsections (11), (12), and (17) of this section~~ BY THIS ARTICLE 60 AS SPECIFIED IN RULES ADOPTED ON OR AFTER THE EFFECTIVE DATE OF THIS SUBSECTION (13), AS AMENDED. THE RULE-MAKING MUST CONSIDER: INCREASING FINANCIAL ASSURANCE FOR INACTIVE WELLS AND FOR WELLS TRANSFERRED TO A NEW OWNER; REQUIRING A FINANCIAL ASSURANCE ACCOUNT, WHICH MUST REMAIN TIED TO THE WELL IN THE EVENT OF A TRANSFER OF OWNERSHIP, TO BE FULLY FUNDED IN THE INITIAL YEARS OF OPERATION FOR EACH NEW WELL TO COVER FUTURE COSTS TO PLUG, RECLAIM, AND REMEDIATE THE WELL; AND CREATING A POOLED FUND TO ADDRESS ORPHANED WELLS FOR WHICH NO OWNER, OPERATOR, OR RESPONSIBLE PARTY IS CAPABLE OF COVERING THE COSTS OF PLUGGING, RECLAMATION, AND REMEDIATION. For purposes of this subsection (13), references to "operator" ~~shall~~ include an operator of an underground natural gas storage cavern and an applicant for a certificate of closure under

subsection (17) of this section. In complying with this requirement, an operator may submit for commission approval, without limitation, one or more of the following:

(a) A guarantee of performance where the operator can demonstrate to the commission's satisfaction that it has sufficient net worth to guarantee performance of ~~any~~ EVERY obligation imposed by ~~rule under subsections (11), (12), and (17) of this section.~~ Such THIS ARTICLE 60. THE COMMISSION SHALL ANNUALLY REVIEW THE guarantee and demonstration of net worth. ~~shall be annually reviewed by the commission.~~

(b) A certificate of general liability insurance in a form acceptable to the commission ~~which~~ THAT names the state as an additional insured and ~~which~~ covers occurrences during the policy period of a nature relevant to an obligation imposed by ~~rule under subsections (11), (12), and (17) of this section~~ THIS ARTICLE 60;

(c) A bond or other surety instrument;

(d) A letter of credit, certificate of deposit, or other financial instrument;

(e) An escrow account or sinking fund dedicated to the performance of ~~any~~ EVERY obligation imposed by ~~rule under subsections (11), (12), and (17) of this section~~ THIS ARTICLE 60;

(f) A lien or other security interest in real or personal property of the operator. ~~Such~~ THE lien or security interest ~~shall~~ MUST be in a form and priority acceptable to the commission in its sole discretion. ~~and shall be reviewed annually by~~ The commission SHALL ANNUALLY REVIEW THE LIEN OR SECURITY.

(15) The commission may, as it deems appropriate, assign its inspection and monitoring function, but not its enforcement authority, through intergovernmental agreement or by private contract; except that ~~no such~~ AN assignment ~~shall~~ MUST NOT allow for the imposition of any new tax or fee by the assignee in order to conduct ~~such~~ THE assigned inspection and monitoring and ~~no such assignment shall~~ MUST NOT provide for compensation contingent on the number or nature of alleged violations referred to the commission by the assignee. ~~No local government may~~

~~charge a tax or fee to conduct inspections or monitoring of oil and gas operations with regard to matters that are subject to rule, regulation, order, or permit condition administered by the commission. Nothing in this subsection (15) shall affect the ability of a local government to charge a reasonable and nondiscriminatory fee for inspection and monitoring for road damage and compliance with local fire codes, land use permit conditions, and local building codes:~~

(18) THE COMMISSION SHALL PROMULGATE RULES TO ENSURE PROPER WELLBORE INTEGRITY OF ALL OIL AND GAS PRODUCTION WELLS. IN PROMULGATING THE RULES, THE COMMISSION SHALL CONSIDER INCORPORATING RECOMMENDATIONS FROM THE STATE OIL AND GAS REGULATORY EXCHANGE AND SHALL INCLUDE PROVISIONS TO:

(a) ADDRESS THE PERMITTING, CONSTRUCTION, OPERATION, AND CLOSURE OF PRODUCTION WELLS;

(b) REQUIRE THAT WELLS ARE CONSTRUCTED USING CURRENT PRACTICES AND STANDARDS THAT PROTECT WATER ZONES AND PREVENT BLOWOUTS;

(c) ENHANCE SAFETY AND ENVIRONMENTAL PROTECTIONS DURING OPERATIONS SUCH AS DRILLING AND HYDRAULIC FRACTURING;

(d) REQUIRE REGULAR INTEGRITY ASSESSMENTS FOR ALL OIL AND GAS PRODUCTION WELLS, SUCH AS SURFACE PRESSURE MONITORING DURING PRODUCTION; AND

(e) ADDRESS THE USE OF NONDESTRUCTIVE TESTING OF WELD JOINTS.

(19) THE COMMISSION SHALL REVIEW AND AMEND ITS FLOWLINE AND INACTIVE, TEMPORARILY ABANDONED, AND SHUT-IN WELL RULES TO THE EXTENT NECESSARY TO ENSURE THAT THE RULES PROTECT AND MINIMIZE ADVERSE IMPACTS TO PUBLIC HEALTH, SAFETY, AND WELFARE AND THE ENVIRONMENT, INCLUDING BY:

(a) ALLOWING PUBLIC DISCLOSURE OF FLOWLINE INFORMATION AND EVALUATING AND DETERMINING WHEN A DEACTIVATED FLOWLINE MUST BE INSPECTED BEFORE BEING REACTIVATED; AND

(b) EVALUATING AND DETERMINING WHEN INACTIVE, TEMPORARILY ABANDONED, AND SHUT-IN WELLS MUST BE INSPECTED BEFORE BEING PUT INTO PRODUCTION OR USED FOR INJECTION.

(20) THE COMMISSION SHALL ADOPT RULES TO REQUIRE CERTIFICATION FOR WORKERS IN THE FOLLOWING FIELDS:

(a) COMPLIANCE OFFICERS WITH REGARD TO THE FEDERAL "OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970", 29 U.S.C. SEC. 651 ET SEQ., INCLUDING SPECIFICALLY WORKING IN CONFINED SPACES;

(b) COMPLIANCE OFFICERS WITH REGARD TO CODES PUBLISHED BY THE AMERICAN PETROLEUM INSTITUTE AND AMERICAN SOCIETY OF MECHANICAL ENGINEERS, OR THEIR SUCCESSOR ORGANIZATIONS;

(c) THE HANDLING OF HAZARDOUS MATERIALS;

(d) WELDERS WORKING ON OIL AND GAS PROCESS LINES, INCLUDING:

(I) KNOWLEDGE OF THE FLOWLINE RULES PROMULGATED PURSUANT TO SUBSECTION (19) OF THIS SECTION;

(II) A MINIMUM OF SEVEN THOUSAND HOURS OF DOCUMENTED ON-THE-JOB TRAINING, WHICH REQUIREMENT CAN BE MET BY AN EMPLOYEE WORKING UNDER THE SUPERVISION OF A PERSON WITH THE REQUISITE SEVEN THOUSAND HOURS OF TRAINING; AND

(III) PASSAGE OF THE INTERNATIONAL CODE COUNCIL EXAM F31, NATIONAL STANDARD JOURNEYMAN MECHANICAL, OR AN ANALOGOUS SUCCESSOR EXAM, FOR ANY PERSON WORKING ON PRESSURIZED PROCESS LINES IN UPSTREAM AND MIDSTREAM OPERATIONS.

SECTION 13. In Colorado Revised Statutes, 34-60-108, **add** (9) as follows:

34-60-108. Rules - hearings - process. (9) WHENEVER ANY HEARING OR OTHER PROCEEDING IS ASSIGNED TO AN ADMINISTRATIVE LAW JUDGE, HEARING OFFICER, OR INDIVIDUAL COMMISSIONER FOR HEARING, THE ADMINISTRATIVE LAW JUDGE, HEARING OFFICER, OR COMMISSIONER, AFTER THE CONCLUSION OF THE HEARING, SHALL PROMPTLY TRANSMIT TO THE

COMMISSION AND THE PARTIES THE RECORD AND EXHIBITS OF THE PROCEEDING AND A WRITTEN RECOMMENDED DECISION THAT CONTAINS THE FINDINGS OF FACT, CONCLUSIONS, AND RECOMMENDED ORDER. A PARTY MAY FILE AN EXCEPTION TO THE RECOMMENDED ORDER; BUT IF NO EXCEPTIONS ARE FILED WITHIN TWENTY DAYS AFTER SERVICE UPON THE PARTIES, OR UNLESS THE COMMISSION STAYS THE RECOMMENDED ORDER WITHIN THAT TIME UPON ITS OWN MOTION, THE RECOMMENDED ORDER BECOMES THE DECISION OF THE COMMISSION AND SUBJECT TO SECTION 34-60-111. THE COMMISSION UPON ITS OWN MOTION MAY AND, WHERE EXCEPTIONS ARE FILED SHALL, CONDUCT A DE NOVO REVIEW OF THE MATTER UPON THE SAME RECORD, AND THE RECOMMENDED ORDER IS STAYED PENDING THE COMMISSION'S FINAL DETERMINATION OF THE MATTER. THE COMMISSION MAY ADOPT, REJECT, OR MODIFY THE RECOMMENDED ORDER.

SECTION 14. In Colorado Revised Statutes, 34-60-116, **amend** (1), (3), (6), (7)(a)(II), (7)(a)(III), (7)(c), and (7)(d)(I); and **add** (7)(a)(IV) as follows:

34-60-116. Drilling units - pooling interests. (1) (a) To prevent or to assist in preventing waste, to avoid the drilling of unnecessary wells, or to protect correlative rights, the commission, upon its own motion or on a proper application of an interested party, but after notice and hearing as provided in this section, may establish one or more drilling units of specified size and shape covering any pool or portion of a pool.

(b) THE APPLICATION MUST INCLUDE PROOF THAT EITHER:

(I) THE APPLICANT HAS FILED AN APPLICATION WITH THE LOCAL GOVERNMENT HAVING JURISDICTION TO APPROVE THE SITING OF THE PROPOSED OIL AND GAS LOCATION AND THE LOCAL GOVERNMENT'S DISPOSITION OF THE APPLICATION; OR

(II) THE LOCAL GOVERNMENT HAVING JURISDICTION DOES NOT REGULATE THE SITING OF OIL AND GAS LOCATIONS.

(3) The order establishing a drilling unit:

(a) IS SUBJECT TO SECTION 34-60-106 (2.5); AND

(b) May authorize one or more wells to be drilled and produced

from the common source of supply on a drilling unit.

(6) (a) When two or more separately owned tracts are embraced within a drilling unit, or when there are separately owned interests in all or a part of the drilling unit, then persons owning ~~such~~ THE interests may pool their interests for the development and operation of the drilling unit.

(b) (I) In the absence of voluntary pooling, the commission, upon the application of ~~any interested person~~ A PERSON WHO OWNS, OR HAS SECURED THE CONSENT OF THE OWNERS OF, MORE THAN FORTY-FIVE PERCENT OF THE MINERAL INTERESTS TO BE POOLED, may enter an order pooling all interests in the drilling unit for the development and operation ~~thereof~~. ~~Each such~~ OF THE DRILLING UNIT. MINERAL INTERESTS THAT ARE OWNED BY A PERSON WHO CANNOT BE LOCATED THROUGH REASONABLE DILIGENCE ARE EXCLUDED FROM THE CALCULATION.

(II) THE pooling order shall be made after notice and A hearing and ~~shall~~ MUST be upon terms and conditions that are just and reasonable and that afford to the owner of each tract or interest in the drilling unit the opportunity to recover or receive, without unnecessary expense, ~~his~~ A just and equitable share.

(c) Operations incident to the drilling of a well upon any portion of a unit covered by a pooling order shall be deemed for all purposes to be the conduct of ~~such~~ operations upon each separately owned tract in the unit by the several owners ~~thereof~~ OF EACH SEPARATELY OWNED TRACT. That portion of the production allocated or applicable to each tract included in a unit covered by a pooling order shall, when produced, be deemed for all purposes to have been produced from ~~such~~ THE tract by a well drilled ~~thereon~~ ON IT.

(7) (a) Each pooling order must:

(II) Determine the interest of each owner in the unit and provide that each consenting owner is entitled to receive, subject to royalty or similar obligations, the share of the production from the wells applicable to the owner's interest in the wells and, unless the owner has agreed otherwise, a proportionate part of the nonconsenting owner's share of the production until costs are recovered and that each nonconsenting owner is entitled to own and to receive the share of the production applicable to the owner's

interest in the unit after the consenting owners have recovered the nonconsenting owner's share of the costs out of production; ~~and~~

(III) Specify that a nonconsenting owner is immune from liability for costs arising from spills, releases, damage, or injury resulting from oil and gas operations on the drilling unit; AND

(IV) PROHIBIT THE OPERATOR FROM USING THE SURFACE OWNED BY A NONCONSENTING OWNER WITHOUT PERMISSION FROM THE NONCONSENTING OWNER.

(c) (I) A nonconsenting owner of a tract in a drilling unit that is not subject to any lease or other contract for ~~the development thereof~~ for oil and gas DEVELOPMENT shall be deemed to have a landowner's proportionate royalty of:

(A) ~~twelve and one-half~~ FOR A GAS WELL, THIRTEEN percent until ~~such time as~~ the consenting owners recover, only out of the nonconsenting owner's proportionate ~~seven-eighths~~ EIGHTY-SEVEN-PERCENT share of production, the costs specified in subsection (7)(b) of this section; OR

(B) FOR AN OIL WELL, SIXTEEN PERCENT UNTIL THE CONSENTING OWNERS RECOVER, ONLY OUT OF THE NONCONSENTING OWNER'S PROPORTIONATE EIGHTY-FOUR-PERCENT SHARE OF PRODUCTION, THE COSTS SPECIFIED IN SUBSECTION (7)(b) OF THIS SECTION.

(II) After recovery of the costs, the nonconsenting owner then owns his or her full proportionate share of the wells, surface facilities, and production and then is liable for further costs as if the NONCONSENTING owner had originally agreed to drilling of the wells.

(d) (I) THE COMMISSION SHALL NOT ENTER an order pooling an unleased nonconsenting mineral owner ~~shall not be entered by the commission~~ under subsection (6) of this section over protest of the owner unless the commission has received evidence that the unleased mineral owner has been tendered, no less than sixty days before the hearing, a reasonable offer, MADE IN GOOD FAITH, to lease upon terms no less favorable than those currently prevailing in the area at the time application for the order is made and that ~~such~~ THE unleased mineral owner has been furnished in writing the owner's share of the estimated drilling and

completion cost of the wells, the location and objective depth of the wells, and the estimated spud date for the wells or range of time within which spudding is to occur. The offer must include a copy of or link to a brochure supplied by the commission that clearly and concisely describes the pooling procedures specified in this section and the mineral owner's options pursuant to those procedures.

SECTION 15. In Colorado Revised Statutes, 34-60-122, amend (1)(b) as follows:

34-60-122. Expenses - fund created. (1) (b) On and after July 1, 2014 2019, the commission shall ensure that the ~~two-year average of the~~ unobligated portion of the fund does not exceed ~~six million dollars~~ FIFTY PERCENT OF TOTAL APPROPRIATIONS FROM THE FUND FOR THE UPCOMING FISCAL YEAR and that there is an adequate balance in the ~~environmental response account created pursuant to subsection (5) of this section~~ FUND TO SUPPORT THE OPERATIONS OF THE COMMISSION AND to address environmental response needs.

SECTION 16. In Colorado Revised Statutes, 34-60-128, amend (3)(b); and **repeal** (4) as follows:

34-60-128. Habitat stewardship - rules. (3) In order to minimize adverse impacts to wildlife resources, the commission shall:

(b) Provide for commission consultation and consent of the affected surface owner, or the surface owner's appointed tenant, on permit-specific conditions for wildlife habitat protection THAT DIRECTLY IMPACT THE AFFECTED SURFACE OWNER'S PROPERTY OR USE OF THAT PROPERTY. Such PERMIT-SPECIFIC conditions FOR WILDLIFE HABITAT PROTECTION shall be discontinued when final reclamation has occurred. PERMIT-SPECIFIC CONDITIONS FOR WILDLIFE HABITAT PROTECTION THAT DO NOT DIRECTLY IMPACT THE AFFECTED SURFACE OWNER'S PROPERTY OR USE OF THAT PROPERTY, SUCH AS OFF-SITE COMPENSATORY MITIGATION REQUIREMENTS, DO NOT REQUIRE THE CONSENT OF THE SURFACE OWNER OR THE SURFACE OWNER'S APPOINTED TENANT.

(4) ~~Nothing in this section shall establish, alter, impair, or negate the authority of local and county governments to regulate land use related to oil and gas operations.~~

SECTION 17. In Colorado Revised Statutes, **add** 34-60-131 as follows:

34-60-131. No land use preemption. LOCAL GOVERNMENTS AND STATE AGENCIES, INCLUDING THE COMMISSION AND AGENCIES LISTED IN SECTION 34-60-105 (1)(b), HAVE REGULATORY AUTHORITY OVER OIL AND GAS DEVELOPMENT, INCLUDING AS SPECIFIED IN SECTION 34-60-105 (1)(b). A LOCAL GOVERNMENT'S REGULATIONS MAY BE MORE PROTECTIVE OR STRICTER THAN STATE REQUIREMENTS.

SECTION 18. Appropriation. (1) For the 2019-20 state fiscal year, \$851,010 is appropriated to the department of natural resources. This appropriation consists of \$763,180 cash funds from the oil and gas conservation and environmental response fund created in section 34-60-122 (5)(a), C.R.S., and \$87,830 cash funds from the wildlife cash fund created in section 33-1-112 (1)(a), C.R.S. To implement this act, the department may use this appropriation as follows:

(a) \$535,508 from the oil and gas conservation and environmental response fund for use by the oil and gas conservation commission for program costs, which amount is based on an assumption that the oil and gas conservation commission will require an additional 5.0 FTE;

(b) \$83,930 from the wildlife cash fund for wildlife operations, which amount is based on an assumption that the division of parks and wildlife will require an additional 1.0 FTE;

(c) \$6,038, which consists of \$3,900 from the wildlife cash fund and \$2,138 from the oil and gas conservation and environmental response fund, for vehicle lease payments;

(d) \$39,000 from the oil and gas conservation and environmental response fund for leased space; and

(e) \$186,534 from the oil and gas conservation and environmental response fund for the purchase of legal services.

(2) For the 2019-20 state fiscal year, \$186,534 is appropriated to the department of law. This appropriation is from reappropriated funds received from the department of natural resources under subsection (1)(e) of this

section and is based on an assumption that the department of law will require an additional 1.0 FTE. To implement this act, the department of law may use this appropriation to provide legal services for the department of natural resources.

SECTION 19. Applicability. This act applies to conduct occurring on or after the effective date of this act, including determinations of applications pending on the effective date.

SECTION 20. Safety clause. The general assembly hereby finds,


determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.



Leroy M. Garcia
PRESIDENT OF
THE SENATE



KC Becker
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

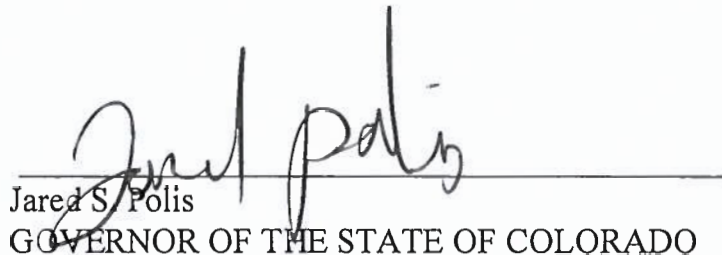


Cindi L. Markwell
SECRETARY OF
THE SENATE



Marilyn Eddins
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

APPROVED April 16, 2019 at 4:08 p.m.
(Date and Time)



Jared S. Polis
GOVERNOR OF THE STATE OF COLORADO