



August 12, 2024

Colorado Energy and Carbon Management Commission
Attn: Mr. Aaron Ray, Interim Director
1120 Lincoln Street, Suite 801
Denver, Colorado, 80203

Re: **Draco OGDG - Consolidated Public Comment Response**
ECMC Docket Number 240100004
Weld County, Colorado

Dear Director Ray:

Extraction Oil and Gas, Inc. (Extraction) would like to thank each of the public commentators that took the time to comment on our proposed Draco OGDG. Their concerns and engagement are a valuable part of the Colorado Energy and Carbon Management Commission (ECMC) process. Our neighboring communities are our communities, too, and operating safely and responsibly on the land we all share is at the core of our operations. We work closely with local and state safety officials to exceed regulatory standards and to ensure that our neighboring communities have transparent, comprehensive information about our operations. Extraction is committed to safe carbon neutral development of natural resources at the Draco development and along the Front Range of Northern and Central Colorado. We maintain and develop the highest operating standards in the industry, and our commitment to producing energy responsibly minimizes our environmental footprint and benefits the communities in which we operate. We look forward to continuing to adhere to these operational standards at the Draco Pad.

The following sections outlines the primary concerns raised in public comments and Extraction's corresponding responses.

Aquifer Protection and Hydraulic Fracturing Fluid Constituents Concerns

The oil and natural gas industry coordinates with the ECMC regarding all water related regulatory oversight. To protect and safeguard our water sources, each of our wells is lined with multiple concentric layers of steel and cement casing to ensure proper well construction and integrity. Horizontal drilling will occur well below the water table – at minimum, 7,500' below ground level. For reference, that equates to hydraulic fracturing activity occurring at roughly 22 football fields below the nearest source of groundwater.

Hydraulic fracturing fluid, or "fracking fluid," is 99.5 percent water and sand. The remaining percentage is made up of chemicals commonly found in everyday products, such as toothpaste, detergent, and even ice cream, that often can be purchased at your grocery store.

Water Use Concerns

Extraction works with public and private water suppliers to lease water or excess water that's not in competition with residential users. Extraction commits to utilizing approximately 6.7 million gallons of recycled water as an input to planned completion operations at the Draco Development.



Offset Wells Protection Concerns

The ECMC requires all operators to review the well records of plugged and abandoned wells within 1500 feet of each planned new lateral well. The ECMC independently reviews these same wells and requires additional investigations as necessary. Additionally, Extraction reviews well records of abandoned wells within 2000 feet of each planned new lateral well.

Plugging and Abandoning Operations Concerns

Extraction has committed to collaborating with the Town of Erie to plug and abandon 22 legacy wells and associated infrastructure. Although a specific abandonment timeline cannot be provided at this time, Civitas will work closely with the Town of Erie to adhere to their regulatory requirements and standards once we have a firm timeline for the plugging and abandoning operations.

Air Quality Concerns

Civitas has a proven track record of industry-leading emissions reductions achieved through the implementation of best practices. These same strategies will be applied at the Draco Pad to eliminate emissions at the source.

1. Utility Power and Reduced Emissions

- Drilling and production operations will be powered by utility electricity.
- Completions operations will utilize a low-emission Tier IV equivalent fleet.

2. State-of-the-Art Facilities and Operations

- Compressed air pneumatics will replace natural gas for all pneumatic actuation on location.
- A pressurized maintenance vessel will be used, eliminating gas venting during maintenance.
- Extraction will utilize a tankless design. Eliminating emissions associated with oil and water storage and processing tanks.
- Continuous air monitoring will be conducted in accordance with CDPHE regulations.
- Rigorous inspection, leak detection, and repair protocols will be implemented.

3. Legacy Well Remediation and Emissions Offset

- Civitas is committed to plugging and abandoning 22 legacy oil and gas facilities, eliminating 4.86 tons of VOC emissions annually.
- To offset any remaining direct emissions (Scope 1), we purchase certified offsets from the four largest and most reputable registries.
- Indirect emissions (Scope 2) are offset through green e-certified renewable energy credits, resulting in carbon-neutral operations.

By combining these strategies, Civitas is demonstrating its commitment to environmental stewardship and sustainable operations.

Health Concerns

On February 21, 2017, CDPHE released the "Assessment of Potential Public Health Effects from Oil and Gas operations in Colorado". Following that report, the CDPHE released another study (October 17, 2019) titled, Human Health Risk Assessment for Oil & Gas Operations in Colorado. The earlier study reviewed more than 10,000 air samples in regions of Colorado where people are living near oil and natural gas development. It concluded that all



measured air concentrations were below short- and long-term safe levels. The second 2019 study took the air measurements further by developing a dispersion model, with layers of conservative measures considered.

Since those studies have been conducted, oil and gas operators, and Extraction specifically, have undergone a paradigm shift in industry practices, specifically during flowback. Today's flowback techniques eliminate any open air flowback tanks and in some cases, all tanks. These changes have eliminated many of the emission sources previously implicated in air quality impacts.

In 2019, Extraction built upon these third-party studies and worked with CTEH, LLC (CTEH) to design and perform monitoring studies to characterize the short- and long- term impacts on local air quality and public health from discrete operational phases at ongoing oil and gas development. These studies were performed alongside operations that employed a variety of best management practices.

Finally, Extraction's operations have been overseen by the Colorado Air Monitoring Mobile Lab (CAMML) to collect science-based third-party data near well pads that employ a variety of best management practices. All data from these monitoring studies can be found in the references. In these instances, the CAMML has repeatedly shown that oil and gas development can be performed safely and without exceeding criteria established by regulation for the protection of public health, welfare, and the environment.

Geologic Concerns

Extraction has thoroughly analyzed data from nearby wells and coal mine maps in the area. Our findings confirm that the proposed Draco Pad oil and gas location and associated well head locations will not intersect with any existing coal mines. Moreover, the wells will be drilled and completed at a depth exceeding 7,000 feet below the deepest point of any nearby coal mine.

Seismic Activity Concerns

There is no documented correlation between seismicity or surface disturbances and producing wells within the DJ Basin, which includes approximately 15,000 wells drilled in the past decade many of which are beneath neighborhoods.

Traffic Concerns

Prior to commencing operations at the Draco Pad, Extraction will commission a Traffic Impact Analysis (TIA) and a Traffic Impact Survey (TIS) from a qualified independent traffic expert for pre-production operations truck traffic. We will collaborate with the Town of Erie to implement appropriate traffic mitigation measures based on these studies.

Due to the installation of oil and produced water pipeline takeaways, minimal truck traffic is anticipated during production operations.

Noise Concerns

Pre-Production: Sound walls will be erected around the location prior to the commencement of the drilling phase and will remain until the completions phase is completed; these walls stand 32' tall and utilize acoustic fabric to aid in the attenuation of sound emanating from equipment on the location. Additionally, a utility powered drilling rig will be used during drilling operations and a "quiet completions fleet" will be used for hydraulic fracturing.



Production: Utility powered facilities will be utilized during production operations mitigating a majority of the noise generated during production operations.

Light Concerns

Pre-Production: Lighting will be carefully managed to minimize light pollution. Lights will be angled downward to reduce halo effects, and their height will be adjusted to prevent light spillage onto neighboring properties. Only lights essential for safety and regulatory compliance will be used.

Production: No permanent lighting will be installed on the location eliminating any potential impacts from lighting during production operations.

Viewshed Concerns

The Draco development incorporates multiple BMPs that reduce or eliminate visual impacts, both perceived and real. During development operations the pad will be screened by a 32-foot full wrap soundwall, effectively eliminating sight lines to all but the tallest equipment utilized during the development effort. After production has commenced, the well pad will be modified to incorporate soil berms and fencing to limit or eliminate sight lines from existing or planned neighboring communities.

Extended Reach Laterals Concerns

Civitas Resources, Inc., Extraction's parent company, possesses substantial expertise in drilling and completing extended reach laterals within the DJ Basin. Civitas and its subsidiaries have successfully drilled and completed wells comparable to those proposed for the Draco Development.

Please feel free to contact us with questions or for more information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeff Annable".

Jeff Annable
Manager, Well and Location Permitting
Extraction Oil & Gas, Inc.