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December 17, 2018

Via email and Hand Delivery

Acting Interim Director Mike Leonard
1120 Lincoln Street, Ste. 801
Denver, CO 80203
mike.leonard@state.co.us

Re: City and County of Broomfield Objection and Request for Hearing on Approval
of Crestone Peak Resources' Forms 2 and 2A, Goltl Pad

Dear Mr. Leonard:

In accordance with Commission Rule 305.e.(2), the City and County of Broomfield's Request for Hearing on the Commission's December 7, 2018 approval of Crestone Peak Resources' Forms 2 for the Goltl East and Goltl West wells, and of Crestone's Form 2A (Document No. 401550237) at the proposed the Goltl pad ("approvals"). Broomfield has standing to file this request because it is the Local Government Designee.

The bases for Broomfield's objections are as follows:

1. Broomfield objected to Crestone's Applications for Spacing and Additional Wells for this location. The Commission granted both Applications on August 28, 2018, effective July 31, 2018. Broomfield has filed an appeal of both decisions which ask the Denver District Court to, among other things, vacate the Commission's Reports and deny Crestone's Applications. The appeal is pending as Case No. 2018cv033663. The December 7 approval of the Forms 2s and 2A should be suspended until the appeal is decided.
2. Attachment 1 to this Notice is a copy of Broomfield's Comments on the Goltl Pad Forms 2A and Form 2, which are incorporated by this reference as part of Broomfield's objection and request for hearing. Many of Broomfield's comments were not included in the Commission's approvals. Broomfield asserts that all of its comments should have been conditions in the approvals to ensure that public health, safety, and welfare, as well as the protection of wildlife and the environment, are assured.

3. Broomfield has adopted Best Management Practices and other requirements in Chapters 17-54-70 and 90 of the its Municipal Code. Attachment 2 to this Notice compares Crestone's Form 2A with the Code requirements, and demonstrates that the Form 2A failed to address most of of the BMPs in the Code. The Commission's "Conditions of Approval" to the Forms 2 and 2A included some BMPs, but omitted many that Broomfield believes are necessary to ensure that the public health, safety, and welfare, as well as the protection of wildlife and the environment, are assured.

4. The approvals fail to comply with C.R.S. 34-60-102, and the Colorado Court of Appeals' decision in *Martinez, et al. v. Colorado Oil and Gas Conservation Commission, et al.* 2017 COA 37.

Broomfield requests that this matter be set for hearing in accordance with Commission rules and procedures, and reserves the right to supplement or amend this Notice and its objections before or at the hearing.

Thank you.

Sincerely,
PHILLIP D. BARBER, P.C.

A handwritten signature in dark ink, appearing to read "Phil Barber", written in a cursive style.

Phillip D. Barber

Cc: Julie Prine (By Email)
Marge Humecki (By Email)
Michael Eden (By Email)
Jamie Jost (By Email)
Jill Dorancy (By Email)
Shaun Sullivan (By Email)
Pat Gilbert (By Email)

CITY AND COUNTY OF BROOMFIELD COMMENTS ON THE GOLTL PAD FORMS 2A AND FORM 2

The City and County of Broomfield (Broomfield), through its Local Government Designee, requests that Crestone Peak Resources (Operator) address the following questions and that the conditions of the following referenced permits include conditions relevant to each of the answers to the questions and the comments below.

2A (Document Number 401550237)

1. The permit conditions should detail what are the 3 Modular Large Volume Tanks called out in the Facilities section of the Form 2A, whether or not these are temporary, and what these tanks will contain.
2. Under the Surface & Minerals & Right to Construct section, some of the checked items have changed from those in the 2A Form received by Broomfield. For example: In 'Check all that apply,' the 2A Form submitted to Colorado Oil and Gas Conservation Commission's (COGCC) does not indicate the surface owner *is the mineral owner, is committed to an Oil and Gas Lease, or has signed the Oil and Gas Lease*. Broomfield requests clarification from the COGCC regarding the removal of this statement from the Form 2A.
3. Best Management Practice (BMP) Number 28 in the 2A Form submitted to Broomfield has been removed from the 2A Form posted on to the COGCC's website. This Best Management Practice (BMP) states that *'All newly installed or replaced crude oil and condensate storage tanks will be designed, constructed, and maintained in accordance with NFPA Code 30.'* Broomfield requests clarification from the COGCC regarding the removal of this statement from the Form 2A

4. Please include a Reference Area map associated with the 2A Form posted on COGCC's website. This map was included in the 2A Form submitted to Broomfield for review.
5. The Best Management Practices section of the Form 2A, should have a Best Management Practice for Construction, Drilling/Completion Operations, and Production stating that Crestone Peak Resources will also comport to the requirements of the City and County of Broomfield Use By Special Review regulations, and include all requirements set forth in these comments as conditions of the Form 2A Permit.
6. The site plan should include details regarding the fencing to be utilized during production including color, material, and height. The narrative notes Crestone's intent to work with staff. The fence should be subject to final approval by Broomfield and all of these fencing requirements should be made a condition of the Form 2A Permit.
7. The proposed access road travels along the south side of the site and then is adjacent to the FRICO ditch before crossing the ditch to access CR 11. The Comprehensive Plan anticipates a future open lands corridor with trail along the FRICO ditch. The presence of a roadway to access the well site is inconsistent with this vision and with the use of a trail along the side of the ditch. The access road should be moved farther west to provide more of a buffer between the future truck traffic/private drive and the FRICO ditch and future open lands corridor and can this should made a condition of the Form 2A Permit.
8. Cut sheets for all on-site lighting to be utilized, including during the production phase. All lighting needs to be downward directed and fully shielded and this should be made a condition of the Form 2A Permit.
9. Were alternative sites considered? An alternative site analysis should be provided.
10. The Broomfield Comprehensive Plan action Step OG-7.1 includes designs and operating procedures which should be included on a well

site proposed in Broomfield. Please respond with how Crestone is incorporating these elements into the application and can the following be made a condition of the Form 2A Permit:

- a. Closed loop, pitless drilling, completions and production systems without permanent on-site storage tanks with any required venting through 98% effective emissions control devices
 - b. Operator will commit to using only state of the art technology
 - c. Drilling activities conducted with electricity provided by electric utility line power
 - d. Tier 4 or better diesel engines, diesel and natural gas co-fired engines, natural gas fired spark ignition engines, or electric line power used to power hydraulic fracturing pumps
 - e. "Quiet Fleet" noise mitigation for completions operations
 - f. Sound wall around well drilling and completion activities to mitigate noise and visual impacts
 - g. No open vents to the atmosphere during drilling, completions, and operations, unless specifically approved by Broomfield.
11. How is the operator addressing C scale noise/vibration and can this be made a condition of the Form 2A Permit?
12. Is the operator able to achieve sound level of 60 dB(A) at 500 feet from the new oil and gas facilities for all phases of operation and 50 dB(A) at 1000 feet from the facilities and can this be made a condition of the Form 2A Permit?
13. Would the operator agree to no unloading of tubular goods between 9 PM and 8 AM as indicated as a desired action step in the Comprehensive Plan to meet goals of Community Impacts Mitigation and can this be made a condition of the Form 2A Permit?
14. Please provide an ambient noise survey for the facility pre-construction. The Comprehensive Plan includes this as a desired action step to meet the goals related to Community Impacts

Mitigation. The Comprehensive Plan also requests a noise survey during active drilling, hydraulic fracturing, flowback and operations. Is operator able to provide such noise surveys and can this be made a condition of the Form 2A Permit?

Form 2s

1. Broomfield requests that the COGCC take a close look at the offset well evaluations provided by Crestone Peak Resources to verify the estimates of offset distances of existing wells (including plugged and abandoned wells) from the new proposed horizontal wells.
2. According to the OFFSET WELL EVALUATIONS spreadsheet provided in the Form 2s, there are plugged and abandoned wells and producing wells that have horizontal offsets of less than 150 feet from the proposed new horizontal wells and it is indicated that No Remediation Is Required for these wells. Broomfield requests that the COGCC take a close look to verify the proposed mitigation measures indicated by Crestone Peak Resources are appropriate as defined by the DJ Basin Horizontal Offset Policy.
3. The Best Management Practices section of the Form 2s should have a BMP for Construction, Drilling/Completion Operations, and Production stating that Crestone Peak Resources will also comport to the requirements of the City and County of Broomfield Use By Special Review regulations.

Broomfield BMPs from Chapter 17-54-70 and 90	Crestone Form 2A BMP
Chapter 17-54-70	
Noise. The facility shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, minimize noise and noise impacts to surrounding land uses.	Some noise control but not clear noise is controlled to maximum extent possible.
Light and dust. The facility shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, minimize dust and light pollution.	Not clear that light and noise will be minimized to maximum extent possible.
Air quality. The construction and operation of any oil and gas facility shall avoid causing degradation to air quality. To the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, the installation and operation of any oil and gas facility shall eliminate, capture, or minimize all potentially harmful emissions, minimize dust associated with onsite activities and traffic, and demonstrate how the operator will prevent and mitigate gas leaks and air emissions.	Broomfield's BMP should be incorporated in the permit.
Emergency preparedness and response. Oil and gas operations shall avoid risks of emergency situations such as explosions, fires, gas, oil or water pipeline leaks, ruptures, hydrogen sulfide or other toxic gas or fluid emissions, and hazardous material vehicle accidents or spills. Oil and gas operations shall ensure that, in the event of an emergency, adequate practices and procedures are in place to protect public health and safety and repair damage caused by emergencies.	Not addressed by the permit. Broomfield's BMP should be incorporated in the permit.
A weed control plan that to the maximum extent possible, and to prevent adverse impacts to the environment, avoids causing degradation to vegetation.	Not addressed by the permit. Broomfield's BMP should be incorporated in the permit.
Adequate water supply. Development applications for proposed oil and gas facilities shall demonstrate that the available water supply is the least detrimental to the environment among the available sources and adequate to meet the needs of the development. Approval may be conditioned upon sufficient proof of adequate water supply. Use of city water is prohibited.	Not addressed by the permit. Broomfield's BMP should be incorporated in the permit.
Water quality. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment avoid causing degradation to surface or ground waters within the city.	Permit does not limit degradation of water quality to the maximum extent possible.
Grading, drainage, & erosion. To the maximum extent possible, and to prevent adverse impacts to the environment, oil and gas facilities shall not cause significant erosion or sedimentation and shall be	Broomfield's grading, drainage and erosion control requirements should be incorporated as BMP in the permit.

conducted in accord with the grading, drainage and erosion control plan.	
Risk management plan that anticipates potential risks associated with oil and gas development, particularly in and around land uses, and maintains appropriate safety management plan and emergency response and preparedness plans in place.	Permit does not address. Broomfield's BMP should be incorporated in the permit.
Abandoned wells plan that, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, minimizes risks associated with abandoned wells.	Broomfield's BMP should be incorporated in the permit.
Wetlands protection. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to the environment, avoid causing degradation to wetlands within City of Broomfield. Among other methods to achieve compliance with this standard, the proposed oil and gas facility shall not alter historic drainage patterns and/or flow rates or shall include acceptable mitigation measures to compensate for anticipated drainage impacts.	Well site not located in riparian area or wetland.
Cultural and historic resources. Oil and gas facilities shall avoid causing degradation of cultural or historic or archaeological resources, sites eligible for city designation as an historical landmark, or sites in the National Historic Register. Operator shall have approval from the State Historic Preservation Office detailing required protection and mitigation measures to be implemented to preserve any historical or cultural resources potentially affected by the proposed facility, and to provide a copy of such approval to Broomfield, in consultation with the surface owner and subject to any confidentiality requirements.	Permit does not address. Broomfield's BMP should be incorporated in the permit.
Floodplains and floodways. Facilities and equipment are prohibited in floodways, as defined by the Federal Emergency Management Agency. Facilities and equipment shall not be located in the 100-year floodplain unless all alternate locations outside of the floodplain that allow for extraction or transportation of the resource are more detrimental to health, safety, welfare or the environment than the proposed location in the floodplain. All above-ground oil and gas facilities approved in a floodplain shall comply with the flood protection measures in B.M.C. section 17-40. Tanks in the 500-year floodplain also require flood protection measures.	Not located in a floodplain. No mention of floodway. Is site in a floodway?
Geologic hazard areas other than floodplains and floodways. To the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, oil and gas facilities shall not be located in geologic hazard areas.	No such hazards were identified.
Land disturbance. The installation and operation of any oil and gas facility shall, to the maximum extent	Broomfield's BMP should be incorporated in the

possible, and to prevent adverse impacts to the environment, avoid causing degradation to the surface of the property used for the oil and gas facility. Considerations for application of this standard include, but are not limited to, the natural topography and existing vegetation, unnecessary or excessive site disturbance, and minimization of the amount of cut and fill.	permit.
Natural resources. The installation and operation of any oil and gas facility, pipeline, workover site, or oil and gas access road shall, to the maximum extent, avoid causing degradation to the environment and wildlife including wetlands; floodplain; ponds; creeks, streams and drainageways; 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, open space, parks, recreation and trails master plan; the site's environmental assessment or 20-Day Environmental Clearance Letter; or city-owned open spaces.	Permit does not include any protections. Broomfield's BMP should be incorporated in the permit.
Odor. Oil and gas facilities shall comply with Colorado Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emissions, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, and Regulation No. 7, 5 CCR 1001-9 sections VII and VIII. The operator shall notify the city and county manager no later than twenty-four hours after receiving an odor complaint. Odor emitting from sites shall be controlled. Operator to prevent odors from oil and gas facilities from affecting the health and welfare of the public by proactively addressing and, to the fullest extent, resolving complaints filed by impacted members of the community, in coordination with city and County of Broomfield public health staff.	Notice to Broomfield and control requirements should be included as BMP in permit.
Recreational activity. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, avoid causing degradation to the quality and quantity of recreational activities in the city. Considerations for application of this standard include, but are not limited to, designated environmental resources, trails, and recreational uses, as identified in the comprehensive plan or identifiable on or near the site.	This BMP was not included in the permit. Broomfield's BMP should be incorporated in the permit.

Scenic attributes and character. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, avoid causing degradation to the scenic attributes and character of the area.	Not addressed in permit. Broomfield's BMP should be incorporated in the permit.												
Surrounding buildings. Oil and gas facilities shall be, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, sited and operated in a manner so that the facility is compatible with surrounding buildings. In applying this standard, separation from surrounding buildings shall be considered the most effective measure to ensure compatibility between proposed oil and gas facilities and existing buildings. Considerations for application of this standard may also include, but are not limited to, impacts on used or occupied structures; the natural topography and existing vegetation; the location of surrounding buildings, prevailing weather patterns, including wind directions; and hilltops, ridges, slopes, and silhouetting.	Setbacks included in permit: <table><tr><td></td><td>Well</td><td>Production facility</td></tr><tr><td>Building</td><td>1407 ft</td><td>1862 ft</td></tr><tr><td>Building unit</td><td>1522 ft</td><td>1961 ft</td></tr><tr><td>High Occ Bldg</td><td>5280 ft</td><td>5280 ft</td></tr></table>		Well	Production facility	Building	1407 ft	1862 ft	Building unit	1522 ft	1961 ft	High Occ Bldg	5280 ft	5280 ft
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Transportation, roads, and access. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, be designed and implemented to minimize or mitigate impacts to physical infrastructure of the city transportation system, ensure public safety, and maintain quality of life for other users of the city transportation system, adjacent residents, and affected property owners. Where available, existing private roads shall be used to minimize land disturbance unless traffic safety, visual concerns, noise concerns, or other adverse surface impacts dictate otherwise. Operator shall fund infrastructure improvements required to support extraction activities and pay for significant degradation caused by operations and the resulting cost of repairs. Operator shall comply with hazmat regulations and obtain adequate insurance for exposure related to potential truck accidents.	Broomfield's BMP should be incorporated in the permit.												
Waste management plan. Operator shall recycle drilling, completion, flowback and produced fluids to the maximum extent possible. Waste shall be stored in tanks, transported by tanker trucks and/or pipelines and disposed of at licensed disposal or recycling sites. No disposal of wastewater within the city.	Broomfield's BMP should be incorporated in the permit.												
Chapter 17-54-90													
Color. Facilities shall be painted in a uniform, non-reflective color that blends with the surrounding landscape.	Broomfield's BMP should be incorporated in the permit.												
Anchoring. Anchoring is required within floodplain or	Guy line anchors in the DJ Basin are not installed.												

geological hazard areas, as needed to resist flotation, collapse, lateral movement, sinking, or subsidence, and in compliance with Federal Emergency Management Agency (FEMA). All guy line anchors left buried for future use shall be identified by a marker of bright color not less than four feet in height and not greater than one foot east of the guy line anchor.	Crestone will use an engineered base beam that we guy wire anchor the derricks to.
Burning. No open burning of trash, debris or other flammable materials.	All surface trash, debris, scrap or discarded material connected with the operations of the property shall be removed from the premises or disposed of in a legal manner.
Chains. Traction chains shall be removed from heavy equipment on city streets.	Broomfield's BMP should be incorporated in the permit.
Discharge valves. Discharge valves shall be secured, inaccessible to the public and located within the secondary containment area. Open-ended discharge valves shall be placed within the interior of the tank secondary containment.	Broomfield's BMP should be incorporated in the permit.
Dust suppression and fugitive dust. Dust associated with on-site activities and traffic on access roads shall be minimized throughout construction, drilling and operational activities such that there are no visible dust emissions from access roads or the site to the extent possible given wind conditions.	Crestone Peak Resources places road base, rock and recycled asphalt to assist with dust abatement. During construction, drilling, completions and reclamations phases, Crestone monitors each site and if needed we will run water trucks.
Emergency preparedness and response plan. The applicant shall implement the emergency preparedness and response plan approved by the city and county manager and city council. The plan shall be updated on an annual basis, or as conditions change, such as responsible field personnel and ownership.	Emergency routes will be chosen prior to the commencement of operations and will be clearly marked and maintained throughout drilling, completion and production activities. This BMP is inadequate to address emergency preparedness needs.
Exhaust. All exhaust, including but not limited to, exhaust from all engines, motors, coolers and other equipment shall be vented up or in a direction away from the nearest occupied building.	Where possible, drilling rig and completion equipment engine exhaust will be directed away from occupied buildings to assist in mitigating potential odors. This BMP is inadequate and should include all exhaust.
Air quality. (1) Flares and combustion devices. To the extent used, all flares, thermal oxidizers, or combustion devices shall be designed and	Temporary flowback flaring and oxidizing equipment will include: adequately sized equipment to handle 1.5 times the largest flowback volume of gas experienced in a ten mile

<p>operated as follows:</p> <ol style="list-style-type: none"> The flare and or combustor shall be fired with natural gas. The flare and or combustor shall be designed and operated in a manner that will ensure no visible emissions during normal operation. Visible emissions means observations of smoke for any period or periods of duration greater than or equal to one minute in any fifteen minute period during normal operation, pursuant to EPA Method 22. Visible emissions do not include radiant energy or water vapor. The flare and or combustor shall be operated with a flame present at all times when emissions may be vented to it. All combustion devices shall be equipped with an operating auto-igniter. If using a pilot flame ignition system, the presence of a pilot flame shall be monitored using a thermocouple or other equivalent device to detect the presence of a flame. A pilot flame shall be maintained at all times in the flare's pilot light burner. A telemetry system shall be in place to monitor pilot flame and shall activate a visible and audible alarm in the case that the pilot goes out. If using an electric arc ignition system, the arcing of the electric arc ignition system shall pulse continually and a device shall be installed and used to continuously monitor the electric arc ignition system. 	<p>radius. If there is overrun, Crestone will shut in the well versus freely venting. First sign of salable gas will be turned down the line.</p> <p>This BMP from the permit is inadequate. All of Broomfield's requirements should be incorporated as BMPs in the permit.</p>
<p>Leak and detection and repair (LDAR). Operator shall develop and maintain a leak detection and repair program using modern leak detection technologies for equipment used at the facility. If an infrared (IR) camera is used, operator shall retain an infrared image or video of all leaking components before and after repair. Such records shall be maintained for two years and shall be made available to the city upon request. Any leaks discovered by operator, including any leaks that are reported to operator by a member of the public, shall be reported to the city immediately upon discovery. Operator shall repair leaks immediately. If the city</p>	<p>Crestone will follow and comply with all leak detection and repair and storage tank emission management plan conditions as required by Colorado Air Quality Control Commission Regulation Number 7. This will include at least monthly Audible, Visual and Olfactory (AVO) inspections of the components and tanks at our Production Facilities at most weekly or at least monthly starting on January 1, 2017. In addition, Crestone will perform infra-red camera inspections of these components and the storage tanks at most monthly or at least annually.</p> <p>The Crestone lease operator inspections are done as a routine part of the lease operators job. The</p>

<p>determines that the leak presents an immediate hazard to persons or property, the operator may not operate the affected component, equipment or pipeline segment until the operator has corrected the problem and the city agrees that the affected component, equipment or pipeline segment no longer poses a hazard to persons or property. In the event of leaks that the city believes do not pose an immediate hazard to persons or property, if more than forty-eight hours repair time is needed after a leak is discovered, operator shall contact the city and county manager and provide an explanation of why more time is required. Continuous monitoring to detect leaks or measure hydrocarbon emissions and meteorological data may be required. Any continuous monitoring system shall be able to alert the operator of increases in concentrations. At least once per year, the operator shall notify the city five business days prior to an LDAR inspection of its facilities to provide the city the opportunity to observe the inspection. Plan shall include detailed recordkeeping of the inspections for leaking components.</p>	<p>lease operator would typically visit each of their assigned locations daily. They conduct a visual inspection of the facility which includes all valves, fittings, wellhead, tanks, vapor control systems and all connections. The lease operator also checks our Cygnet automation system for system pressures and flows. The monthly documented inspection is done using an electronic form that is recorded in the EU system. This inspection and documentation requires the lease operator to inspect all aspects of the site and then triggers work orders for any leaks, or housekeeping issues. The Lease operators also conduct a weekly CDPHE Regulation 7 – Audible, Visual, and Olfactory (AVO) inspection, which focus on the tanks and vapor control system. In addition, the sites are inspected with optical gas imaging cameras on a routine schedule, annually for compliance purposes with our Spill Prevention Containment and Countermeasures (SPCC) plan; depending on the status of reclamation the sites are also inspected on either a 14-day, 30-day, annual or rain triggered event in accordance with both the COGCC and the CDPHE Stormwater Management Plans (SWMP).</p> <p>Frequency on valve and fitting inspections: Crestone Lease Operators inspect all equipment on their locations at a minimum of once every 48 hours, but most sites are inspected every 24 hours. Valves and fittings inspections are part of the daily job duties of our lease operators. Any valve or fitting that is found to be leaking is either repaired immediately by the lease operator or shut-in procedures are implemented as described below. Additionally, lease operators conduct a documented monthly inspection of the facility and this includes inspection of all valves and fittings.</p>
<p>Emission control regulations. To the extent used, all equipment shall comply with the following:</p> <ol style="list-style-type: none"> Electrification from the power grid or from renewable sources of all permanent operation equipment that can be electrified. Use of acoustically insulated housing or 	<p>Crestone will, to the maximum extent practicable, use electricity for the drilling rig(s) used during the drilling phase and all permanent production equipment, such as compressors, motors and pump jacks, and shall utilize electric line power in order to mitigate noise and to reduce emissions.</p>

<p>covers to enclose the motor or engine.</p> <ul style="list-style-type: none"> c. Any flare, auto ignition system, recorder, vapor recovery device or other equipment used to meet the hydrocarbon destruction or control efficiency requirement shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. d. Dry seals on centrifugal compressors. e. Routing of emissions from rod-packing and other components on reciprocating compressors to vapor collection systems. f. Emission controls of hydrocarbon emissions of 98% or better for centrifugal compressors and reciprocating compressors. g. Best management practices during liquids unloading activities including the installation of artificial lift, automated plunger lifts and at least 90% emissions reductions when utilizing combustion to control any venting. If manual unloading is permitted, operator shall remain onsite during any manual unloading. h. Reduction or elimination of emissions from oil and gas pipeline maintenance activities such as pigging or blowdowns. If any maintenance activity will involve the intentional venting of gas from a well tank, compressor or pipeline, beyond routine pipeline maintenance activity and pigging, the operator shall provide forty-eight hour advance written notice to the city of such proposed venting. Such notice shall identify the duration and nature of the venting event, a description as to why venting is necessary, a description of what vapors will likely be vented, what steps will be taken to limit the duration of venting, and what steps the operator proposes to undertake to minimize similar events in the future. If emergency venting is required, or if accidental venting occurs, the operator shall provide such notice to the city of such event as soon as, but in no event longer than twenty-four hours from, the time of the event, with the information listed above and with an explanation as to the cause and how 	<p>Broomfield's BMP should be incorporated in the permit.</p>
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<p>the event will be avoided in the future.</p> <ul style="list-style-type: none"> i. Telemetric control and monitoring systems, including surveillance monitors to detect when pilot lights on control devices are extinguished. j. Operator agrees to participate in Natural Gas STAR program or other voluntary programs to encourage innovation in pollution control at facilities. k. Proof of compliance with state-required dust control measures and imposition of an opacity requirement as tested using EPA Method 9. l. Monitoring as needed to respond to emergency events such as process upsets or accidental releases. m. Emission reduction measures to respond to air quality action day advisories posted by the Colorado Department of Public Health and Environment for the Front Range Area, including minimizing vehicle and engine idling; reducing truck traffic and worker traffic; delaying vehicle refueling; suspending or delaying use of fossil fuel powered ancillary equipment; and postponing construction activities. Within thirty days following the conclusion of each annual air quality action day season, operator shall submit a report to the city that details which measures it implemented during any action day advisories. n. Shutdown protocols, approved by the city, with notification and inspection provisions to ensure safe shut-down and timely notification to local communities. o. Ongoing maintenance checks of all equipment to minimize the potential for gaseous or liquid leaks. <p>(4) Air quality action days. Operator shall respond to air quality action day advisories posted by the Colorado Department of Public Health and Environment for the front range area by implementing suggested air emission reduction measures as feasible. Emissions reduction measures shall be implemented for the duration of an air quality action day advisory and may include measures such as:</p>	
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<ul style="list-style-type: none"> a. Minimize vehicle and engine idling; b. Reduce truck traffic and worker traffic; c. Delay vehicle refueling; d. Suspend or delay use of fossil fuel powered ancillary equipment; and e. Postpone construction or maintenance activities, if feasible. f. Operator shall submit a monthly report to the city that details which measures it implemented during any action day advisories. <p>(5) Compliance. The operator shall submit annual reports to the city certifying (a) compliance with these air quality requirements and documenting any periods of material non-compliance, including the date and duration of each such deviation and a compliance plan and schedule to achieve compliance, and (b) that the equipment at the facility continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters. The annual report shall contain a certification as to the truth, accuracy and completeness of the reports, signed by a responsible corporate official. The operator may satisfy this reporting obligation in whole or in part by submitting its AQCC Regulations No. 7 annual reports for the prior calendar year to the city and supplementing them as needed to meet these reporting requirements for covered facilities within the city. The operator will also provide the city with a copy of any self-reporting submissions that operator provides to the CDPHE due to any incidence of non-compliance with any CDPHE air quality rules or regulations at the facility.</p>	
<p>Lighting. During all phases of development and operation, all lighting shall be downward-facing and all bulbs fully shielded to prevent light emissions above a horizontal plane drawn from the bottom of the fixture. Operator shall provide photometric study approved by city prior to start of construction to indicate impact on surrounding properties. During the drilling and completion phases, consistent with applicable law, a minimum thirty-two-foot wall around well pads to reduce light escaping site. Require, consistent with applicable law, best management practices, including downward shielded lighting and lumens</p>	<p>Crestone will comply with OSHA Regulations for all on-site lighting to ensure the safety of their employees and third-party contractors. During the drilling and completions phases, certain lighting mitigation will be used. Examples include tinting and applying mesh for shading. All lighting is temporary and mobile during those phases and are all directed downward.</p> <p>Crestone shall install a 32 foot sound wall around</p>

measurement outside of facility.	the site.
Maintenance of machinery. Routine field maintenance of equipment involving hazardous materials within 300 feet of any water body is prohibited. All fueling shall occur over impervious material and shall not be done during storm events. Operator shall operate and maintain all equipment in accordance with manufacturer specifications. Regular maintenance checks required for all equipment.	Not addressed in permit. Broomfield's BMP should be incorporated in the permit.
Reclamation. Operators will comply with COGCC interim and final reclamation requirements. Seeding will take place when climate is conducive to seed germination. Final facility reclamation will ensure compatibility with neighboring land uses at the time of reclamation.	COGCC rules
Removal of debris. All excess debris shall be removed during construction activities. Site shall remain free of debris and excess materials at all times during operations. No burning of debris permitted for any activity on facility, including, but not limited to, drilling, hydraulic fracturing, flowback, recompletion, redrilling or plugging and abandoning.	All surface trash, debris, scrap or discarded material connected with the operations of the property shall be removed from the premises or disposed of in a legal manner.
Removal of equipment. No permanent storage of equipment. When no longer used, equipment shall be removed within thirty days unless surface owner agrees and city and county manager or his designee agrees to temporary equipment remaining on site for more than thirty days.	The well site will be cleared of all non-essential equipment, trash and debris after ninety days of a well P&A.
<p>Pipelines.</p> <p>(1) Any newly constructed or substantially modified off-location oil and gas flow lines or crude oil transfer lines proposed as part of an applicant's oil and gas facility are subject to use by review under section 17-54-050.</p> <p>(2) To the maximum extent possible, and subject to any provisions contained elsewhere, off-location flow lines and crude oil transfer lines shall be sited to avoid areas containing existing or proposed residential, commercial, and industrial buildings; places of public assembly; surface water bodies; and city open space.</p> <p>(3) To the maximum extent possible, without compromising pipeline integrity and safety,</p>	Not addressed in permit. Broomfield's BMP should be incorporated in the permit.

<p>applicant shall share existing pipeline rights-of-way and consolidate new corridors for pipeline rights-of-way to minimize impact.</p> <p>(4) For off-location flow lines and crude oil transfer lines, setbacks from residential, commercial, or industrial buildings, places of public assembly, the high-water mark of any surface water body and sensitive environmental features will be determined on a case-by-case basis in consideration of the size and type of pipeline proposed and features of the proposed site.</p> <p>(5) Operator shall comply with Broomfield's Public/Private Improvement Permit and easement processes for all crude oil transfer lines and off-location flowlines installed in Broomfield owned property or rights-of-way.</p>	
<p>Spills and releases. Chemical spills and releases, including spills of produced water, oil, condensate, natural gas liquids, all spills outside of secondary containment, and exploration and production waste, shall be reported and cleaned up according to applicable state and federal laws, including the Oil and Pollution Act and the Clean Water Act, as applicable.</p>	<p>COGCC rules, CDPHE rules and federal law</p>
<p>Temporary access roads. Operator will assure that temporary access roads are reclaimed and revegetated within sixty days of discontinued use. Erosion shall be controlled while they are in use.</p>	<p>Broomfield's requirements should be incorporated as a BMP in permit.</p>
<p>Water quality. A water quality control plan that establishes that all facilities shall use most effective performance techniques and best management practices to minimize impacts to water quality, including plans for water quality testing, prevention of illicit or inadvertent discharges, and containment of pollutants as required by Broomfield code and state and federal agencies.</p>	<p>Broomfield's BMP should be incorporated in the permit.</p>
<p>Weed control. Required at the facility until final reclamation and abandonment.</p>	<p>Broomfield's BMP should be incorporated in permit.</p>
<p>Well abandonment or decommissioning. The applicant shall comply with any COGCC rules regarding well abandonment, decommission, or reclamation. Upon plugging and reclaiming a well, the applicant shall provide the city with surveyed coordinates of the decommissioned or reclaimed well. Unless permanent physical marker of the well location. City inspector shall be onsite during</p>	<p>Crestone will identify plugged and abandoned wellbores according to Rule 319.a.(5). including the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). Crestone will also inscribe or imbed the well number and date of plugging upon the</p>

plugging and abandoning.	permanent monument.
Regulations. An operator shall comply with all applicable state and federal laws and regulations, as such regulations exist now and with more stringent regulations adopted in the future.	
Site access and security. Site shall be properly secured, including, but not limited to, security fencing or barriers to prevent unauthorized access to site. Site shall be properly secured prior to the start of drilling. Proposed fencing, barriers, and screening shall be included in visual mitigation plan.	Broomfield's BMP should be incorporated in the permit.
Flammable material. The area twenty-five feet around anything flammable shall be kept free of dry grass or weeds, conform to COGCC safety standards and applicable fire code. The operator's pre-application and application shall be reviewed by NMFRD.	Any material not in use that might constitute a fire hazard will be removed a minimum of twenty-five (25) feet from the wellhead, tanks and separator. Any electrical equipment installations inside the bermed area will comply with API RP 500 classifications and comply with the current national electrical code as adopted by the State of Colorado. NMFRD's review of the application should be required.
Mud tracking. Mud tracking on city streets shall be <i>de minimis</i> . Operator shall take all practical measures to prevent mud and operator shall clean up any mud tracked onto city streets from all construction and operations.	Broomfield's BMP should be incorporated in the permit.
Trailers. A construction trailer is permitted during active drilling and completions only. No residential trailers will be allowed. Only equipment needed for project should be on site.	Broomfield's BMP should be incorporated in the permit.
Visual screening. Require operator to construct a thirty-two-foot wall to screen facility from view and provide noise and light mitigation with such walls to be colors that blend with the surrounding natural background.	See previous comment on light. Form 2A BMP provides: Crestone will utilize 32' sound walls on all four sides of the location during drilling and completion operations. Crestone will be using "Quiet Fleet" technology during completion operations. Crestone will, to the maximum extent practicable, use electricity for the drilling rig(s) used during the drilling phase and all permanent production equipment, such as compressors, motors and pump jacks, and shall utilize electric line power in order to mitigate noise and to reduce emissions.
Wastewater injection wells are prohibited in Broomfield.	Broomfield's BMP should be incorporated in the permit.

<p>Landscaping and berming plan approved by city that includes maintenance and irrigation requirements for planted vegetation throughout the duration of operations, including production.</p>	<p>Broomfield's BMP should be incorporated in the permit.</p>
<p>Risk management. Operator shall submit a site-specific detailed quantitative and qualitative risk management plan for pipelines and oil and gas facilities. Plan must identify risks, include qualitative and quantitative risk assessment, list methods of risk avoidance and control that implement techniques to prevent accidents and losses and reduce the impact or cost of an accident or loss after it occurs.</p>	<p>Broomfield's BMP should be incorporated in the permit.</p>
<p>Safety management plan and management system applicable to all covered processes at the facility. Safety management system shall provide for employees and systems to oversee implementation and periodic revision of plan. Plan shall include the following elements and describe the manner in which each of the following elements will be applied to the covered processes:</p> <ol style="list-style-type: none"> (1) Process safety information. Compilation of written process safety information needed to conduct process hazard analysis. Process safety information shall include information pertaining to hazards of substances and chemicals used by the process, information pertaining to the technology of the process, information pertaining to the equipment used in the process, and information pertaining to the hazards of the substances or chemicals in the process. Documentation that equipment used in the process complies with recognized and generally accepted good engineering practices; (2) Operating procedures. Written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information, and at least annual review of operating procedures to ensure they reflect current operating practices; (3) Employee participation. Plan for ensuring employee participation in conduct and development of process hazards analysis and access to process hazards analysis; (4) Training. Written procedures detailing initial and refresher employee training requirements and documentation of employee training; 	<p>Broomfield's BMP should be incorporated in the permit.</p>

- (5) Mechanical integrity. Written procedures designed to maintain the on-going integrity of process equipment, ensure employees involved in maintenance are properly trained to ensure the ongoing integrity of process equipment, ensure that process equipment is tested and inspected in accordance with manufacturer specifications, correct deficiencies in equipment in a safe and timely manner, and ensure that new equipment is installed or constructed properly;
- (6) Management of change. Written procedures to manage changes to covered processes, technologies, equipment and procedures;
- (7) Pre-startup reviews. Written procedures regarding pre-startup safety reviews;
- (8) Compliance audits. Written procedures requiring an audit every three years to verify compliance with the procedures and practices developed under the safety management plan, and procedures requiring correction of any deficiencies identified in audit; operator will make results of audit available to inspector upon request;
- (9) Incident investigation. Written procedures requiring investigations of all near-misses and incidents, including root cause analysis of all incidents resulting in fatalities or serious environmental harm, establishing a system to promptly address and resolve the incident, and requiring that all employees and contractors whose job tasks are relevant to the investigation of the near miss or incident review the investigation report.
- (10) Hot work. The facility shall ensure that all hot work complies with city and state fire prevention and protection requirements.
- (11) Contractors. Written procedures describing how operator screens, oversees, shares process safety and emergency response and preparedness information with contractors;
- (12) Process hazard analysis. Process hazard analysis for each covered process;
- (13) Incident history. List of all incidents that have occurred 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

<p>accident;</p> <p>(14) Safety culture assessment. Written procedures requiring operator periodically review safety culture, and at a minimum conduct such review after each major accident; and</p> <p>(15) Inherently safer systems analysis. Require analysis at least every 5 years, whenever a change is proposed at the facility that could result in an incident, after an incident if recommended by the investigation report or root cause analysis, and during the design of new processes, equipment or facilities.</p> <p>Safety management plan is subject to review by the city and county manager and city council periodically, but at least every three years and after any incident. City may retain outside consultants to review SMP and may request modifications to safety management plan based on its review and public input.</p>	
<p>Noise. Any equipment used in drilling, completion, maintenance, stimulation, or production of a well shall comply with COGCC Rule 802 and section 25-12-103, C.R.S. (For maximum permissible noise levels, the city may grant relief from these noise level requirements to the extent granted by COGCC.) To the extent possible, exhaust from all engines, motors, coolers, and other mechanized equipment shall be vented in a direction away from occupied buildings.</p>	<p>See previous comment on noise. Form 2A BMPs provide: Crestone will utilize 32' sound walls on all four sides of the location during drilling and completion operations. Crestone will be using "Quiet Fleet" technology during completion operations. Crestone will, to the maximum extent practicable, use electricity for the drilling rig(s) used during the drilling phase and all permanent production equipment, such as compressors, motors and pump jacks, and shall utilize electric line power in order to mitigate noise and to reduce emissions.</p> <p>Crestone will perform a baseline noise survey prior to any operational activity measuring dBA at a distance 350 feet from the noise source or sound levels will be measured at a point twenty-five (25) feet from the structure towards the noise source. In situations where measurement of noise levels at three hundred and fifty (350) feet is impractical or unrepresentative due to topography, the measurement may be taken at a lesser distance and extrapolated to a 350-foot equivalent using the formula stated in Rule 802 of</p>

	<p>the State of Colorado Oil and Gas Conservation Commission. As necessary, based on the survey, Crestone will install temporary sound walls to minimize noise and light impacts during drilling and completions and will install permanent noise mitigation at the facility location as necessary to meet all COGCC regulations.</p>
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