

- d. Truck Washing: All trucks shall be washed at least once a week with a detergent and disinfectant to minimize nuisance conditions, unless spills or leaks are detected which must be disinfected immediately. All wash water shall be properly controlled to prevent runoff.
  - e. Waste Incineration: Infectious waste incineration facilities shall be permitted to burn infectious waste only. Incineration of waste paper, contraband, or other materials is not permitted unless specifically approved as part of the wastestream.
7. *Hazardous Waste Disposal Site and Facility Standards:* All hazardous waste disposal sites and facilities shall meet the standards established by State and Federal regulatory requirements.

**4-10-02-03-03 OIL AND GAS FACILITY**

**4-10-02-03-03-01 Purpose**

This Section is enacted to protect and promote the health, safety, values, convenience, order, prosperity and general welfare of the current and future residents of the County. It is the County's intent by enacting this Section to facilitate the development of oil and gas resources within the unincorporated area of the County while avoiding or mitigating potential land use conflicts between such development and existing, as well as planned, land uses. It is recognized that under state law the surface and mineral estates are separate and distinct interests in land and that one may be severed from the other. Owners of subsurface mineral interests have certain legal rights and privileges, including the right to use that part of the surface estate reasonably required to extract and develop their subsurface mineral interests from a consenting surface owner, subject to compliance with the provisions of this Section and any other applicable statutory and regulatory requirements. Similarly, owners of the surface estate have certain legal rights and privileges, including the right to have the mineral estate developed in a reasonable manner and to have adverse impacts upon their property, associated with the development of the mineral estate, avoided or mitigated through compliance with this Section.

**4-10-02-03-03-02 Definitions**

Oil and Gas Facilities:

- 1. The site and associated equipment used for the production, treatment, and/or storage of oil and gas and waste products; or
- 2. An individual well pad built with one or more wells and operated to produce liquid petroleum and/or natural gas, including associated equipment required for such production; or

3. Temporary storage and construction staging of oil and gas; or
4. Any other oil and gas operation which may cause significant degradation.

For any other definition not listed in this section, the definitions listed in Chapter 11 of the Adams County Development Standards and Regulations and the Colorado Oil and Gas Conservation Commission’s regulations shall govern. If there is a conflict between the definitions in Chapter 11 and the COGCC’s definitions, the COGCC’s definitions shall prevail. If the term is not found in the COGCC’s definitions or in Chapter 11, the term shall have its common meaning along with the spirit and intent of the Development Standards and Regulations and may be subject to interpretation by the Director of Community and Economic Development or his or her designee.

**4-10-02-03-03-03**

***General Provisions***

1. Access: Oil and gas well installation shall be located to provide convenient access, shall accommodate the traffic and equipment related to the oil and gas operations and emergency vehicles, and shall comply with COGCC rules and Adams County Development Standards and Regulations. Oil and gas operations must avoid or minimize impacts to the physical infrastructure of the county transportation system.
2. Building Permit Required: For all new or substantially modified wells, a building permit is required for the installation of permanent electrical, pumps, tank batteries, and all other above-ground structures as well as any other applicable permits including, but not limited to, culvert permits, oversized-load permits, and floodplain use permit.
3. Setbacks: Oil and Gas Facilities shall be at least 1,000 feet from the property line of any existing or platted residences, schools, state licensed daycares, or occupied buildings.
4. Fees and Permits: All applicable County fees adopted by the County, including postage fees and inspection fees, must be paid at time of application and prior to issuance of a building permit, including for all applicable permits required by the Adams County Development Standards and Regulations.
5. Oil and Gas Road Impact and Maintenance Fees:
  - a. Operators must pay oil and gas road impact and maintenance fees, as approved by the Board of County Commissioners, for all proposed oil and gas wells and pads. This fee shall be paid at the time of issuance of an Oil and Gas Facilities Permit Any person or entity required to pay the oil and gas road impact fee may elect to submit an independent study and fee calculation to demonstrate that the nature, timing, or location of the proposed oil and gas development is likely to generate impacts costing less to mitigate than the amount of the fee that would be generated by the use of the fee schedule. Any independent fee study

for oil and gas development shall generally follow the methodology established in the Adams County Oil & Gas Traffic Impact Study.

- i. The preparation of the independent fee calculation study shall be the sole responsibility of the electing party.
- ii. Any person or entity who requests to perform an independent fee calculation study shall pay an application fee for administrative review. An administrative decision related to the independent study may be appealed to the Board of County Commissioners. The appeal shall be filed within 14 days of staff decision and shall follow the appeal process established for OGF Permit Waivers .

5. Safety Standards:

- a. Operator shall implement a safety management plan and maintain a safety management system applicable to all covered processes at the facility. The safety management system shall provide for employees and systems to oversee implementation and periodic revision of the plan. The plan shall include the following elements and describe the manner in which each of the following elements will be applied to the covered processes:
  - i. 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;
  - ii. 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;
  - iii. Employee participation. Plan for ensuring employee participation in conduct and development of process hazards analysis and access to process hazards analysis;
  - iv. Training. Written procedures detailing initial and refresher employee training requirements and documentation of employee training;

- v. 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;
- vi. Management of change. Written procedures to manage changes to covered processes, technologies, equipment and procedures;
- vii. Pre-startup reviews. Written procedures regarding pre-startup safety reviews;
- viii. 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;
- ix. 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.
- x. Hot work. The facility shall ensure that all hot work complies with city and state fire prevention and protection requirements.
- xi. Contractors. Written procedures describing how operator screens, oversees, shares process safety and emergency response and preparedness information with contractors;
- xii. Process hazard analysis. Process hazard analysis for each covered process;
- xiii. 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 accident;
- xiv. Safety culture assessment. Written procedures requiring operator periodically review safety culture, and at a minimum conduct such review after each major accident; and

- xv. 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.
  - xvi. Operator shall make available safety management plan to Adams County at the County's request. Adams County may retain outside consultants to review safety management plan and may request modifications to safety management plan based on its review. Operator must reimburse County for any costs associated with retaining outside consultants.
- b. Automatic safety protective systems and surface safety valves. Operator is required to install automated safety system prior to commencement of production. Automated safety system shall include the installation, monitoring and remote control of a subsurface safety valve and shall be able to remotely shut in wells on demand. Subsurface safety valve shall be equipped to operate remotely via the automated safety protective system. Operator shall test automated safety system quarterly to ensure functionality and provide results of testing to County quarterly.
- c. Incident and accident reporting.
- i. Incidents. Within a week of any safety incident, operator shall submit a report to the County including the following, to the extent available:
    - 1. Fuel source, location, proximity to residences and other occupied buildings, cause, duration, intensity, volume, specifics and degree of damage to properties, if any beyond the facility, injuries to persons, emergency response, and remedial and preventative measures to be taken within a specified amount of time.
  - ii. County may require operator to conduct root cause analysis of any incidents or Grade 1 gas leaks, as defined by the COGCC.
  - iii. Operator shall keep a daily incident log that shall be made available to Adams County upon request. Any spill or release that is reportable to the COGCC shall be simultaneously reported to the County's LGD and applicable fire district.
  - iv. Notification to the County's LGD of all spills of a gallon or more that leaves the facility, all spills of any material on permeable ground at the facility that has a reportable spill quantity under any law and copies of any self-reporting submissions that operator provides to the COGCC.

- v. Notification of the surface owner or the surface owner's tenant of spills and releases in conformance with COGCC Rules.
6. Spill Prevention and Containment. Oil and gas operations shall be in compliance with COGCC safety and spill and release requirements.
- a. Requirements for reporting of spills and releases and rules to minimize liquid spills and releases include the following:
    - i. Berms or other secondary containment devices around crude oil, condensate, and produced water storage tanks enclosing an area sufficient to contain and provide secondary containment for 150% of the largest single tank.
    - ii. Berms or other secondary containment devices shall be sufficiently impervious to contain any spilled or released material.
    - iii. Inspection of all berms and containment devices at regular intervals, but not less than monthly. Berms shall be inspected within forty-eight (48) hours of a precipitation event of 1.0" or more, and Operator shall make necessary repairs as soon as possible, but not more than seventy-two (72) hours after the event.
    - iv. Maintenance of all berms and containment devices in good condition.
    - v. A prohibition on the storage of ignition sources inside the secondary containment area unless the containment area encloses a fired vessel.
    - vi. Construction of containment berms using steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation.
    - vii. Construction of secondary containment areas with a synthetic or engineered liner that contains all primary containment vessels and flowlines and is mechanically connected to the steel ring to prevent leakage.
    - viii. A prohibition on more than two crude oil or condensate storage tanks within a single berm.
    - ix. For locations within 500 feet and upgradient of a surface water body, tertiary containment, such as an earthen berm, around oil and gas facilities.
    - x. 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.

- b. Anchoring. Anchoring is required within floodplain or 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.
7. Chemical Handling and Requirements
- a. The owner or operator of any installation that is required to prepare or have available a material safety data sheet for a hazardous chemical under the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 et seq., and regulations promulgated under that Act, shall submit both a safety data sheet (SDS) for each such chemical and an annual emergency and hazardous chemical inventory form to the LEPC and the local fire district. A comprehensive and universal listing of all hazardous chemicals shall be organized based on the various phases of operation including test wells and drilling and other construction activities submitted prior to construction and with the necessary building permit applications for a Rig and Move Permit. In addition, operator shall have current SDS and quantities on site at all times or available upon request.
  - b. Operator shall not store onsite waste in excess of thirty days.
  - c. Drilling and completion chemicals shall be removed at most sixty days after completion.
  - d. Operator shall not use toxic, including orally toxic, chemicals in hydraulic fracturing fluids including the following:
    1. Benzene
    2. Lead
    3. Mercury
    4. Arsenic
    5. Cadmium
    6. Chromium
    7. Ethylbenzene
    8. Xylenesf
    9. 1,3,5-trimethylbenzene
    10. 1,4-dioxane
    11. 1-butanol
    12. 2-butoxyethanol

13. N,N-dimethylformamide
14. 2-ethylhexanol
15. 2-mercaptoethanol
16. Benzene, 1, 1'-oxybis-,tetrapropylene derivatives, sulfonated, sodium salts
17. Butyl glycidyl ether
18. Polysorbate 80
19. Quaternary ammonium compounds, dicoco alkyl dimethyl, chlorides
20. Bis hexamethylene triamine penta methylene phosphonic acid
21. Diethylenetriamine penta
22. FD&C blue no 1.
23. Tetrakis (triethanolaminato) zirconium (IV) (TTZ)

8. Emergency Preparedness and Response

- a. In General. Oil and gas operations shall not cause unreasonable 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.
- b. Emergency Preparedness Plan. Each Applicant with an operation in the County is required to implement an emergency preparedness plan for each specific oil and gas facility. The plan shall be referred to by the the Office of Emergency Management, and the applicable fire district and filed with the County and updated on an annual basis or as conditions change (responsible field personnel change, ownership changes, etc.). The emergency preparedness plan shall consist of at least the following information:
  - i. Name, address and phone number, including 24-hour emergency numbers for at least two persons located in or near Adams County who are responsible for emergency field operations.
  - ii. An as-built facilities map in a format suitable for input into the County's GIS system depicting the locations and type of above and below ground facilities including sizes, and depths below grade of all oil and gas gathering and transmission lines and associated equipment, isolation valves, surface operations and their functions, as well as transportation routes to and from exploration and development sites, for emergency response and management purposes. The information concerning pipelines



and isolation valves shall be held confidentially by the County's Office of Emergency Management, and shall only be disclosed in the event of an emergency. The County shall deny the right of inspection of the as-built facilities maps to the public pursuant to C.R.S. § 24-72-204.

- iii. Detailed information addressing each potential emergency that may be associated with the operation. This may include any or all of the following: explosions, fires, gas, oil or water pipeline leaks or ruptures, hydrogen sulfide or other toxic gas emissions, or hazardous material vehicle accidents or spills. For each potential emergency, threshold / trigger levels shall be pre-identified that govern when an emergency state is declared by the Applicant.
- iv. The plan shall include a provision that any spill outside of the containment area or which has the potential to leave the facility or to threaten a water body shall be reported to the emergency dispatch and the Director immediately.
- v. Detailed information identifying access or evacuation routes, zone of influence for each emergency scenario identifying impacted facilities and buildings and health care facilities anticipated to be used.
- vi. Project specific emergency preparedness plans are required for any project that involves drilling or penetrating through known zones of hydrogen sulfide gas.
- vii. The plan shall include a provision that obligates the Applicant to reimburse the appropriate emergency response service providers for costs incurred in connection with any emergency.
- viii. Detailed information that the Applicant has adequate personnel, supplies, and funding to implement the emergency response plan immediately at all times during construction and operations.
- ix. The plan shall include provisions that obligate the Applicant to keep onsite and make immediately available to any emergency responders the identification and corresponding Safety Data Sheets (SDS) of all products used, stored or transported to the site. The SDS sheets shall be provided immediately upon request to the Director, a public safety officer, or a health professional. In cases of spills or other emergency events, the plan shall include provisions establishing a notification process to emergency responders of potential products they may encounter, including the products used in the hydraulic fracturing fluids.

- x. The plan shall include a provision establishing a process by which the Applicant engages with the surrounding neighbors and schools to educate them on the risks and benefits of the on-site operations and to establish a process for surrounding neighbors and schools within a half mile radius, unless determined otherwise by the Director of Community and Economic Development, to communicate with the Applicant.
- xi. Operator shall maintain storage of aqueous film forming foam (which shall not contain PFAS), absorption boom and granulated materials for ready deployment in case of leaks or other emergencies. Operator shall notify first responders of the location of said materials.

9. Recycle, Reuse and Disposal of Fluids:

- a. Operator shall recycle drilling, completion, flowback and produced fluids unless technically infeasible.
- b. Waste may be temporarily stored in tanks while awaiting transportation to licensed disposal or recycling sites.
- c. Waste must be transported by pipelines unless technically infeasible.

10. Stormwater Controls:

- a. Oil and gas operations shall be in compliance with COGCC rules related to stormwater management regulations and Adams County Stormwater Quality Regulations as contained in the Adams County Development Standards and Regulations / Ordinances and other applicable federal, state, and county requirements.
- b. The Owner or Operator must provide a stormwater management plan that identifies possible pollutant sources that may contribute pollutants to stormwater, best management practices, sampling procedures (if required), and inspections that, when implemented, will reduce or eliminate any possible water quality impacts.

11. Water Bodies and Water Quality:

- a. General. Oil and gas operations shall not cause adverse impacts to surface or ground waters within Adams County. Operators shall comply with all Adams County rules, COGCC Rules, specifically with respect to spills and releases in floodplains and/or water bodies, and applicable water quality standards set by the Colorado Department of Public Health and Environment.
- b. Water quality plan. Operators shall implement a water quality plan and make available to Adams County upon request, such plan shall include details such as operator's plans for water quality testing, prevention of illicit or inadvertent discharges, stormwater discharge management,

containment of pollutants, and spill notification and response as required by federal and state agencies. The owner or operator shall provide the County with the information it provides to the COGCC ensuring compliance with the water quality protection standards contained in COGCC Rules. The owner or operator shall provide all water source test results to the county and maintain records of such results. The owner or operator shall provide its plans concerning downhole construction details and installation practices, including casing and cementing design, and shall inform the county how the plans establish that the facility does not create significant degradation to surface waters or drinking water aquifers.

- c. Wastewater Injection Wells are prohibited in Adams County.
- d. Floodplain. Any disturbance within a 100-year floodplain will be allowed if the Operator has obtained a Floodplain Use Permit from the County and has complied with all of the County's legally adopted floodplain and engineering regulations. A "100-year floodplain" shall be, for purposes of this Section, a "Special Flood Hazard Area" as identified and mapped by the Federal Emergency Management Agency's National Flood Insurance Program and adopted by the County.

#### 12. Well Plugging and Abandonment:

- a. An operator shall comply with all COGCC rules regarding well abandonment and reclamation, including, but not limited to, removal of all equipment from the location and restoring the surface of the land to its original state. Notice of well plugging and abandonment shall be submitted by the operator to the Community and Economic Development Department within forty-eight (48) hours. Notice shall include surveyed coordinates of the decommissioned well.
- b. Decommissioned oil and gas well assessment. Prior to any hydraulic fracturing, and at periods following hydraulic fracturing, the operator must perform assessment and monitoring of plugged and decommissioned or removed from use, and dry and removed from use oil and gas wells (abandoned wells) within one-quarter mile of the projected track of the borehole of a proposed well. The assessment and monitoring includes:
  - i. Identification of all abandoned wells located within one-quarter mile of the projected track of the borehole of a proposed well based upon examination of COGCC and other publicly available records,
  - ii. A Risk assessment of leaking gas or water to the ground surface or into subsurface water resources, taking into account plugging and cementing procedures described in any

- recompletion or plugged and abandoned (P&A) report filed with the COGCC.
- iii. Notification to the County and COGCC of the results of the risk assessment of the plugging and cementing procedures.
  - iv. Permission from each surface owner who has an abandoned well on the surface owner's property to access the property in order to test the abandoned well. If a surface owner has not provided permission to access after thirty days from receiving notice, the applicant shall not be required to test the abandoned well.
  - v. Soil gas surveys from various depths and at various distances, depending on results of risk assessment, of the abandoned well prior to hydraulic fracturing
  - vi. Soil gas surveys from various depths and at various distances, depending on results of risk assessment, of the abandoned well within one year and then every three years after production has commenced.
  - vii. Notification of the results of the soil gas survey to the County and the COGCC within three weeks of conducting the survey or advising the County that access to the abandoned wells could not be obtained from the surface owner.
  - viii. In the event that contamination is detected during any soils testing, no further operations may continue until the cause of the contamination is detected and resolved and the County has given its approval for additional operations to continue.

b.c. Marking of plugged and abandoned wells. The operator shall permanently mark by a brass plaque set in concrete, similar to a permanent bench mark to monument the plugged and abandoned well's existence and location. Such plaque shall contain all information required on a dry hole marker by the COGCC and the County.

13. Noise. The Operator shall control noise levels as follows:

- a. Prior to operations operator will obtain a baseline noise study that encompasses at least three days, one of those days being a weekend.
- b. Beginning with construction and up to production, the County may require continuous noise monitoring and may require that this be conducted by an approved third party consultant.
- c. The Operator must follow COGCC Regulations for noise level.

- d. The Operator shall post 24-hour, 7 days per week contact information to deal with all noise complaints arising from Operator's oil and gas facility.
  - e. To ensure the Operator controls noise to the allowable levels set forth above, one or more of the following may be required:
    - i. Acoustically insulated housing or cover enclosing the motor or engine;
    - ii. Noise management plan identifying hours of maximum noise emissions, type, frequency, and level of noise to be emitted, and proposed mitigation measures;
    - iii. Obtain all power from utility line power or renewable sources;
    - iv. Utilize the most current equipment to minimize noise impact during drilling, completions, and all phases of operation including the use of "Quiet Fleet" noise mitigation measures for completions;
    - v. Sound walls around well drilling and completion activities to mitigate noise impacts;
    - vi. Restrictions on the unloading of pipe or other tubular goods between 6:00 p.m. and 8:00 a.m.;
    - vii. Any abatement measures required by COGCC for high-density areas, if applicable.
14. Air Emissions: Air contaminant emission sources shall comply with the permit and control provisions of the state air quality control program (C.R.S. § 25-7-101 et seq.) and the rules and regulations promulgated by the State Air Quality Control Commission. The Operator shall employ the following control measures and operating procedures to avoid or minimize all emissions into the atmosphere.
- a. Air quality action days. Operator shall respond to air quality action day advisories posted by the CDPHE 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:
    - i. Minimize vehicle and engine idling;
    - ii. Reduce truck traffic and worker traffic;
    - iii. Delay vehicle refueling;
    - iv. Suspend or delay use of fossil fuel powered ancillary equipment; and
    - v. Postpone construction or maintenance activities, if feasible.

- b. Leak Detection and Repair. Operator shall develop and maintain an LDAR program using modern leak detection technologies for equipment used at the facility that complies with the following requirements:
  - i. Inspections must occur at least semi-annually; more frequent inspections may be required based on the design, location and size of the facility.
  - ii. 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 county upon request.
  - iii. Any leaks discovered by operator, including any verified leaks that are reported to operator by a member of the public, shall be reported to the County no later than twenty-four hours after discovery. The operator shall maintain a weekly log of all reported leaks and shall make that log available upon request from the County.
  - iv. Operator shall repair leaks as soon as possible, but at least within seventy-two hours, unless technically or operationally infeasible. . If the County determines that the leak presents an imminent 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 County 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 County believes do not pose an imminent hazard to persons or property, if more than 48 hours repair time is needed after a leak is discovered, operator shall contact the County and provide an explanation of why more time is required.
  - v. Plan shall include detailed recordkeeping of the inspections for leaking components.
  - vi. At least once per year, the operator shall notify the County five business days prior to an LDAR inspection of its facilities to provide the County the opportunity to observe the inspection.
- c. Well Completions and Emissions Control
  - i. Operators shall utilize EPA Reduced Emission Completions for oil wells and gas wells.
  - ii. Operators must utilize closed loop, pitless drilling, completions and production systems without permanent on-site storage tanks for containment and/or recycling of all drilling,

completion, flowback and produced fluids and any required venting routed to at least 98% effective emissions control devices.

d. Combustion Devices

- i. For any flares or combustion devices used, manufacture test or other data demonstrating hydrocarbon destruction or control efficiency with a design destruction efficiency of at least 98%.
- ii. Flaring shall be eliminated other than during emergencies or upset conditions; all flaring shall be reported to the county
- iii. To the extent used, all flares, thermal oxidizers, or combustion devices shall be designed and operated as follows:
  1. The flare and or combustor shall be fired with natural gas.
  2. 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.
  3. The flare and or combustor shall be operated with a flame present at all times when emissions may be vented to it.
  4. All combustion devices shall be equipped with an operating auto-igniter.
  5. 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.
  6. 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.

e. Liquids Unloading

- i. Best management practices during liquids unloading activities are required including the installation of artificial lift, automated plunger lifts and at least 90% emissions reductions when utilizing combustion to control any venting.
    - ii. If manual unloading is permitted, operator shall remain onsite.
  - f. General air quality protection measures.
    - i. Operators should work to limit truck traffic to and from the site.
    - ii. Hydrocarbon control of at least 98% or better for crude oil, condensate, and produced water tanks with uncontrolled actual emissions of VOCs greater than two TPY VOCs.
    - iii. No venting other than if necessary for safety or during an emergency
    - iv. Operators should consolidate product treatment and storage facilities within a facility.
    - v. Operators should centralize compression facilities within a facility.
    - vi. For operators with existing oil and gas facilities in Adams County, demonstration that the facility will not result in any increase of VOCs from operator's existing and planned development in the County. Operator may include anticipated reductions from plugging and abandoning existing wells located in the County when modeling total VOCs from existing and future development and related activities.
  - g. Site-specific air quality protection measures. To eliminate or minimize air emissions, the County may require any or all of the following depending on the size, location and nature of the facility:
    - i. Ambient Air Monitoring. An air monitoring plan that describes how the operator will conduct baseline monitoring within 500 feet of a proposed facility prior to construction and conduct monitoring during the drilling, completion and production phases of development. The plan shall include monitoring for all potential emissions, including but not limited to, methane, VOCs, Hazardous Air Pollutants (HAPs), Oxides of Nitrogen (NO<sub>x</sub>), Particulate Matter (PM), Fine Particulate Matter (PM 2.5), and Carbon Monoxide (CO). Operator shall pay for the baseline and ongoing monitoring. Baseline and continuous monitoring shall be done by a consultant approved of by the County. Any continuous monitoring system shall be able to alert the operator of increases in monitored air pollutant concentrations.



- ii. The use of electric drill rigs.
- iii. Tier 4 or better diesel engines, diesel and natural gas co-fired Tier 2 or Tier 3 engines, natural gas fired spark ignition engines, or electric line power for hydraulic fracturing pumps.
- iv. The use of liquefied natural gas dual fuel hydraulic fracturing pumps.
- v. Implementation of tankless production techniques.
- vi. Use of quiet design mufflers (also referred to as hospital grade or dual dissipative) or equivalent.
- vii. The use of zero emission dehydrators.
- viii. Use of a pressure-suitable separator and vapor recovery unit (VRU) where applicable.
- ix. Pipeline infrastructure for produced water, natural gas, crude oil and condensate constructed and placed into service prior to the start of any fluid flow from any wellbore.
- x. The use of no-bleed continuous and intermittent pneumatic devices. This requirement can be met by replacing natural gas with electricity or instrument air, or routing the discharge emissions to a closed loop-system or process.
- xi. Automated tank gauging.

15. Odors:

- a. Operator must implement and maintain and make available to the County upon request, an odor mitigation plan that demonstrates how operator will minimize odors from its operations and comply with Colorado Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emissions, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, and Regulation No. 7, 5 CCR 1001-9 sections VII and VIII. The plan shall also provide a plan for timely responding to odor complaints from the community, and for identifying and implementing additional odor control measures to control odors emanating from the oil and gas facility.
- b. Operator must notify the County's LGD no later than 24 hours after receiving odor complaint.
- c. Operator must 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 members of the community, in coordination with County and Tri-County Health Department staff.

- d. To ensure compliance with the odor mitigation plan, the County may require the Operator to implement any of the following measures depending on the size, location and nature of the facility:
    - i. Adding an odorant which is not a masking agent or adding chillers to the muds.
    - ii. Using filtration systems or additives to minimize odors from drilling and fracturing fluids except that operator shall not mask odors by using masking fragrances.
    - iii. Enclose shale shaker to contain fumes from exposed mud, where safe and feasible
    - iv. Wipe down drill pipe each time drilling operation “trips” out of hole
    - v. Increasing additive concentration during peak hours.
16. Water source sampling and testing: Using records of the Colorado Division of Water Resources, the applicant will be required to identify and offer to sample all available water sources located within one-half mile of the proposed well or facility. All sampling must be conducted by third-party consultant approved of by the County. Sampling requirements include:
- a. Initial baseline samples and subsequent monitoring samples.
  - b. Initial collection and testing of baseline samples from available water sources shall occur within twelve months prior to the commencement of drilling a well, or within twelve months prior to the re-stimulation of an existing well for which no samples were collected and tested during the previous twelve months.
  - c. Post-stimulation samples of available water sources shall be collected and tested pursuant to the following time frame:
    - 1. One sample within six months after completion;
    - 2. One sample between twelve and eighteen months after completion; and
    - 3. One sample between sixty and seventy-two months after completion.
    - 4. For multi-well pads, collection shall occur annually during active drilling and completion.
  - d. Operator shall collect a sample from at least one up-gradient and two down-gradient water sources within a one-half mile radius of the facility. If no such water sources are available, operator shall collect samples from additional water sources within a radius of up to one mile from the facility until samples from a total of at least one up-gradient and two down-gradient water sources are collected. Operators

should give priority to the selection of water sources closest to the facility.

- e. An operator may rely on existing groundwater sampling data collected from any water source within the radii described above, provided the data was collected within the twelve months preceding the commencement of drilling the well, the data includes measurement of all of the constituents measured in Table 1, and there has been no significant oil and gas activity within a one-mile radius in the time period between the original sampling and the commencement of drilling the well.
- f. The operator shall make reasonable efforts to obtain the consent of the owner of the water source. If the operator is unable to locate and obtain permission from the surface owner of the Water Source, the operator shall advise the CED Director that the applicant could not obtain access to the water source from the surface owner.
- g. Testing for the analytes listed in Table 1, and subsequent testing as necessary or appropriate.
- h. Standard industry procedures in collecting samples, consistent with the COGCC model Sampling and Analysis Plan, shall be followed.
- i. Reporting the location of the water source using a GPS with sub-meter resolution.
- j. Field observations. Reporting on damaged or unsanitary well conditions, adjacent potential pollution sources, odor, water color, sediment, bubbles, and effervescence.
- k. Test results. Provide copies of all test results described above to the County, the COGCC, and the water source owners within three months after collecting the samples.
- l. Subsequent sampling. If sampling shows water contamination, additional measures may be required including the following:
  1. If free gas or a dissolved methane concentration level greater than one milligram per liter (mg/l) is detected in a water source, determination of the gas type using gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen).
  2. If the test results indicate thermogenic or a mixture of thermogenic and biogenic gas, an action plan to determine the source of the gas.
  3. Immediate notification to the the County , the COGCC, and the owner of the water source if the methane concentration

- increases by more than five mg/l between sampling periods, or increases to more than ten mg/l.
4. Immediate notification to the County , the COGCC and the owner of the water source if BTEX and/or TPH are detected as a result of testing. Such detections may result in required subsequent sampling for additional analytes.
  5. Further water source sampling in response to complaints from water source owners.
  6. Timely production and distribution of test results, well location, and analytical data in electronic deliverable format to the CED Director, the COGCC and the water source owners.

Table 1. Water Quality Analytes

GENERAL WATER QUALITY	Alkalinity Conductivity & TDS Ph Dissolved Organic Carbon (or Total Organic Carbon)Bacteria Hydrogen Sulphide
MAJOR IONS	Bromide Chloride Fluoride Magnesium Potassium Sodium Sulfate Nitrate + Nitrite as N (total)
METALS	Arsenic Barium Boron Chromium Copper Iron Lead Manganese Selenium Strontium
DISSOLVED GASES AND VOLATILE ORGANIC COMPOUNDS	Methane Ethane Propane BTEX as

	Benzene, Toluene, Ethylbenzene, Xylenes Total Petroleum Hydrocarbons (TPH)
OTHER	Water Level Stable isotopes of water (Oxygen, Hydrogen, Carbon) Phosphorus

17. Dust:

- a. Operator shall minimize dust pollution associated with onsite activities and traffic.
- b. No untreated produced water or other process fluids shall be used for dust suppression.
- c. The operator will avoid creating dust or dust suppression activities within 300 feet of the ordinary high-water mark of any water body, unless the dust suppressant is water.
  - i. Safety Data Sheets (SDS) for any chemical-based dust suppressant shall be submitted to the County prior to use.

18. Visual Aesthetics.

- a. Operator shall submit a visual mitigation plan in compliance with COGCC Rules, including but not limited to, a list of the proposed colors for the Facilities, regardless of construction date, which are observable from any public highway, providing for paint that is uniform, noncontrasting, nonreflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to but slightly darker than the surrounding landscape, a listing of the operations' equipment, proposed fencing, and screening. Plan shall indicate the location of all outdoor lighting on the site and any structures and include cut sheets of all proposed fixtures. Fencing shall be required around all well site equipment, including, but not limited to, storage tanks, well heads, and meters if the well site is visible from a subdivision west of Imboden Road. Such fencing shall screen equipment, provide safety precautions, and be compatible with the surrounding environment. Should fencing apply to a well site, the design and construction of such fencing shall be approved by the Community and Economic Development Department prior to the construction of any site. If a chain link fence is required to achieve safety requirements set by the COGCC, then landscaping and other screening mechanisms shall be required that comply with the County's Development Standards and Regulations and the Operator's safety requirements. Operator shall be responsible for obtaining consent by surface owner allowing any required fencing.

- b. Operator shall submit landscaping and berming plan that includes maintenance and irrigation requirements for planted vegetation throughout the duration of operations, including production. Operator shall be required to provide maintenance funding through bonding to ensure funds are available for upkeep. Weed control is required at the facility and along access roads until final reclamation and abandonment. Required sound walls shall be included in the visual mitigation plan and shall comply with the color scheme approved by the County, blending with natural background. All landscaping shall be in compliance with County requirements and in compliance with the safety requirements of the Operator. Existing vegetation shall be minimally impacted. Motorized equipment shall be restricted to the well sites and access roads to the well sites. Operator is responsible for obtaining consent by surface owner allowing landscaping as well as automatic irrigation for landscaping in urban mitigation areas and/or parks/recreation areas. All plant materials shall be kept in a healthy growing condition at all times.
  - c. Operator shall submit lighting mitigation plan for all phases of development and operation, which adheres to best management practices to minimize light escaping the facility including making all lighting downward-facing and fully shielding bulbs to prevent light emissions above a horizontal plane drawn from the bottom of the fixture. Operator shall conduct a photometric study prior to start of construction to indicate impact on surrounding properties and measure the lumens emitted from the facility outside of the walls.
  - d. Sight 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 the visual mitigation plan.
19. 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 the serving fire district.
20. Mud tracking. Operator shall take all practical measures to prevent mud and dirt tracking onto public right of ways and shall remove tracked mud and dirt within a reasonable time not to exceed two hours.
21. 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.
22. Private Roads. The Operator shall construct (unless already constructed) and maintain an access road designed to meet County and fire district standards and support an imposed load of 75,000 pounds that will accommodate

emergency response vehicles such as, but not limited to, law enforcement, emergency command vehicles (cars/SUVs), ambulances, hazardous materials response vehicles, water tenders, and fire apparatus during construction and operation of new tank batteries, new drilling activity and reworks or recompletions of existing wells, unless a local fire department or fire district agrees to a different or lesser standard or waived by the County. With respect to new roads to new tank batteries, the Operator agrees to construct access roads at least twenty (20') feet wide (unless waived by the local fire district and the County's Public Works Department) with a Class 6 road base, or as approved by the local fire district, at least nine inches (9") thick. Best efforts will be made to improve inadequate access to existing tank battery sites identified by the fire district or County, based on service calls and demonstrated problems of accessing the site. Operator and County agree that spot inspections of access roads may be done by the County and/or appropriate emergency response agency, at such County or agency's sole risk and expense, to ensure that emergency access in accordance with this section is maintained. Operator is required to maintain and repair any damaged roads within ten (10) days of County notice. Operator will assure that temporary access roads are reclaimed and revegetated within sixty days of discontinued use. Erosion shall be controlled in accordance with the Erosion and Sediment Control Plan while the roads are in use.

23. Public Roads. Operator shall utilize existing roads and access points where practical and apply for and obtain access permits for its oil and gas facilities from the County's Public Works Department. Requirements for the access permit may include the following: a) access location providing for a safe entrance/exit and utilization of main roadways to minimize impact /conflict with residents on local roadways; b) haul route and traffic data; c) pre/post inspection of roadways used by the Operator; d) collateral or bond to insure that road damage caused by the Operator is repaired; e) dust control (material used for dust control must be pre-approved by the County); f) road maintenance agreement during drilling phase; and g) payment of all applicable fees. Operator shall exercise reasonable efforts to minimize heavy truck traffic on local roads within residential neighborhoods between the hours of 9 p.m. and 6 a.m., and shall work with and show written evidence that the applicable school district(s) has been consulted to minimize traffic conflicts with school buses when schools are in session. Operator shall obtain any legally valid and applicable oversize and/or over weight moving permit from the County's Public Works Department. for all vehicles that exceed legal vehicle dimensions or weights as specified by the Colorado Department of Transportation and the County's Development Standards and Regulations.
24. 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. Burning of debris and other materials is strictly prohibited at all times. .

25. Removal of equipment. No permanent storage of equipment. When no longer used, equipment shall be removed within thirty days unless a Temporary Use Permit for said storage is obtained from the County.
26. 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 are required for all equipment.
27. Burning. No open burning of trash, debris or other flammable materials.
28. Chains. Traction chains shall be removed from heavy equipment on public streets.
29. Off-location flow lines and crude oil transfer lines
  - a. Off-location flow lines and crude oil transfer lines regulated by the COGCC 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.
  - b. Without compromising pipeline integrity and safety, applicant shall share existing pipeline rights-of-way and consolidate new corridors for pipeline rights-of-way to minimize impact.
  - c. 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.
  - d. Operator must conduct leak detection inspections or pressure testing in order to identify flowline leaks or integrity issues.
  - e. Operator must make available to County upon request all records required to be kept by COGCC
  - f. Buried pipelines shall have a minimum of four feet cover.
30. Gathering Lines
  - a. Gathering 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.
  - b. Without compromising pipeline integrity and safety, Operator shall share existing pipeline rights-of-way and consolidate new corridors for pipeline rights-of-way to minimize impact.
  - c. 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.

- d. Operator must make available to County upon request all records submitted to PHMSA or the PUC including those related to inspections, pressure testing, pipeline accidents and other safety incidents.
- e. Well Connects. Well connects do not require permits. Well connects are defined as a pipeline, 10” or less inside diameter and 2 miles or less in length, laid running from the custody transfer point or production facility for a new well(s) to an existing gathering line connection point.

30.31. Temporary surface water lines

i.a. Operator shall use temporary surface water lines, unless infeasible.

j.b. Operator shall use County Road Right-of-Way, and County drainage culverts for the laying and operation of temporary water lines on the surface and in accordance with Adams County Standards and Regulations, unless infeasible.

k.c. Operator will bury temporary water lines at existing driveway and gravel road crossings, or utilize existing culverts, if available, with County approval.

31.32. Financial Assurance.

- a. Operators shall be required to maintain environmental liability insurance to cover gradual pollution events.
- b. Operator shall be required to file and maintain financial assurance as determined on a site specific basis prior to commencing operations, and thereafter during the active life of the facility, the operator shall post and maintain a performance bond or other approved financial instrument with Adams County. Should any corrective actions be required by the County in order to protect the health, safety, welfare, and the environment which result from failure of the operator to follow any regulations, standards, or conditions of approval, the performance bond shall be forfeited in an amount sufficient to defray the expense of said actions, including staff time expended by Adams County involved in such corrective actions.

31.33. Mapping Information. Operator shall agree to provide coordinates and/or exact location of well sites to the County’s GIS Department within forty-eight

(48) hours of final completion of a well site in a format acceptable to the County. Any subsequent changes to a well site location shall also be provided to the County within forty-eight (48) hours of such changes.

**4-10-02-03-03-04      *INSPECTION AND ENFORCEMENT***

1. **Inspection:** In recognition of the potential impacts associated with oil and gas facilities, all wells and accessory equipment and structures may be examined by the inspectors of the county at reasonable times to determine compliance with applicable provisions of this chapter, the International Fire Code, the International Building Code, and all other applicable standards in this title. The County reserves the right in its discretion to make spot inspections or to inspect without notice in the event of an issue potentially involving an immediate risk to public health, safety, welfare, the environment, or wildlife, or damage to the property of another. For the purpose of implementing and enforcing the provisions of this chapter, the inspector and other authorized personnel have the right to enter upon private property. The county may use the information collected on the inspections to enforce the requirements of this chapter. The county may also report this information to appropriate state and federal officials, including but not limited to information regarding alleged violations of state and federal rules. Operator shall make available to County, upon request, all records required to be maintained by these regulations or to show compliance with these regulations, and the rules and regulations promulgated by the COGCC and the CDPHE, including permits, Air Pollutant Emission Notices (APENs) and other documents required to be maintained by the COGCC, CDPHE and these regulations. The County shall charge a yearly inspection fee for all Oil and Gas Facilities in the County. Fees for Oil and Gas Facility inspections shall be assessed according to the County's adopted fee schedule.
2. **State Notification of Violations:** Adams County will cooperate fully with the State of Colorado by notifying the Oil and Gas Conservation Commission of any and all violations of the Colorado Laws and Regulations.
3. **Delinquent Taxes:** One condition of any oil and gas well building permit is that all taxes as provided by statute, shall be paid.
4. **Penalties and Fines:** The County has authority under C.R.S. § 29-20-104, as amended, to impose fines for leaks, spills, and emissions. The following table summarizes the fine schedule for violations of these Development Standards and Regulations:

		<i>Rule Classification</i>		
		Class 1: Paperwork other ministerial regulations, a violation of which presents no direct risk of harm to public health, safety, welfare, and the environment.	Class 2: Regulations related at least indirectly to promoting the public health, safety, welfare, and the environment and wildlife resources, a violation of which presents a possibility of distinct, identifiable actual or threatened adverse impacts to those interests	Class 3: Regulations directly related to protecting public health, safety, welfare, the environment, and wildlife resources, a violation of which presents a significant probability of actual or threatened adverse impacts to those interests.
<i>Degree of threatened or actual impact to public health, safety, welfare, the environment, or wildlife</i>	<u>Major:</u> Actual significant adverse impacts	\$5,000	\$10,000	\$15,000
	<u>Moderate:</u> Threat of significant adverse impacts, or moderate actual adverse impacts	\$1,500	\$5,000	\$10,000
	<u>Minor:</u> No actual adverse impact and little or no threat of adverse impacts	\$200	\$2,500	\$5,000

6. County Violations: In addition to the fines outlined above, the County has authority to cite violations under its control pursuant to Section 1-05-06 Criminal Remedies and Enforcement.
7. Legal Non-conforming: Adams County recognizes that there are oil and gas operations that were legally established prior to the effective date of these regulations that may or

may not conform to these regulations. These operations may continue, provided the operation is not extended, expanded, or altered in a manner that changes and/or alters the nature, character, or extent of the previously approved permit

**4-10-02-03-03-05 RESIDENTIAL CONSTRUCTION Standards**

1. **Residential Construction Standards:** The Director of Community and Economic Development may impose any one (1) or more of the following standards on a specific site basis as a condition of subdivision approval and/or building permits on platted or unplatted land:
  - a. The oil and gas well location shall include a two-hundred-fifty (250) foot buffer in the form of an easement on the Final Plat. No structures may be constructed within the buffer area.
  - b. Access to the oil and gas well location shall be provided by a public street or recorded easement for private access.
  - c. The Final Plat shall include notice to prospective buyers of the location of the oil and gas well and associated easements.
  - d. All oil and gas well flow lines and/or easements shall be graphically depicted on the Final Plat.
  - e. All surface and subsurface agreements shall be noted on the Final Plat by the recorded book and page number.
  - f. Pursuant to Section 4-06-01-02-01-12, where a new home and/or other permanent structure with plumbing is constructed within three hundred (300) feet of an existing oil and gas well, the property owner shall submit a signed waiver acknowledging the existence of the facility.
2. **Plugged and Abandoned, and Former Oil and Gas Production Sites:** This Section is enacted to protect and promote the health, safety, morals, convenience, order, prosperity, or general welfare of the present and future residents of the County. These regulations are based upon the land use authority of the County.
  - a. Prior to submittal of a final plat or site specific development plan, each plugged and abandoned well shall be located and surveyed. The plugged and abandoned well shall be permanently marked by a brass plaque set in concrete similar to a permanent bench mark to monument its existence and location. Such plaque shall contain all information required on a dry hole marker by the Colorado Oil and Gas Conservation Commission and the County.

- b. As a condition of review of any final plat or site specific development plan which contains a plugged and abandoned well or former oil and gas production site or is within 200 feet of such well or site, the owner shall submit a location diagram of the location of the well.
- c. On every final plat or site specific development plan which contains a plugged and abandoned well, there shall be dedicated a well maintenance and workover setback depicted on the plat, the dimensions of which shall be not less than fifty feet in width and 100 feet in length. No structures shall be located within this setback. The plugged and abandoned well shall be located in the center of the setback. There shall be public access for ingress and egress to the setback of a width of not less than twenty feet.
- d. Every final plat and site specific development plan which contains a plugged and abandoned well or a site specific development that includes a property that is less than 200 feet from a plugged and abandon well, shall include the following notation: "The owner shall disclose to prospective purchasers of lots within a radius of 200 feet of the plugged and abandoned well of (1) the location of the plugged and abandoned well, (2) the location of the maintenance and workover setback, and (3) the purpose for the well maintenance and workover setback."
- e. As a condition of building permit review, no dwelling shall be constructed within fifty (50) feet of a plugged and abandoned well.
- f. Prior to issuance of a grading permit within a development containing a known reserve pit site, the reserve pit site shall be tested for expansive soils. Reserve pits containing expansive soils in locations proposed for buildings shall be subject to the provisions of the International Building Code.
- g. No utility lines shall be installed within ten feet of any plugged and abandoned well.

4-10-02-03-03-06

**COGCC AND COUNTY APPROVALS REQUIRED**

Development of the OGF shall not commence unless and until applicant receives an approved OGF Permit, including any approved waiver(s), and receives all required approvals and permits from COGCC.