



Stillwater County Beartooth Front Zone

Proposed Base Standards

August 7, 2019

Base Standards - Setbacks

What it is: Minimum distance between wellhead and houses, schools, playgrounds wells, rivers and streams

Why it's important: Setbacks require oil construction (well pads, access roads, etc.) to be placed at reasonable distances from homes, wells, streams to protect residents, animals and water from exposure to contaminants; protect physical safety and property; and mitigate noise, light and other impacts.

What we are proposing: A minimum linear distance of 1000 feet from each proposed well pad to:

- any residence that can be occupied
- any water body, including any pond, lake, wetland, and intermittent or perennial stream
- any domestic or agricultural well.

Does not duplicate existing Montana law

What other jurisdictions do:

State	Production Rank	Setback
Colorado	7th	1000 feet (COGCC Rule 318)
North Dakota	2nd	500 feet (NDCC 38-08-05)
Wyoming	8th	500 feet (WOGCC Chapter 3, Section 47)

Montana	Setback
Carbon County Part 2 Zone	750 feet (6.c.ii)

Montana Board of Oil and Gas: No minimum setbacks. 30 day advance notification to any property owner within 1320 feet of a well. (ARM 36.22.620)

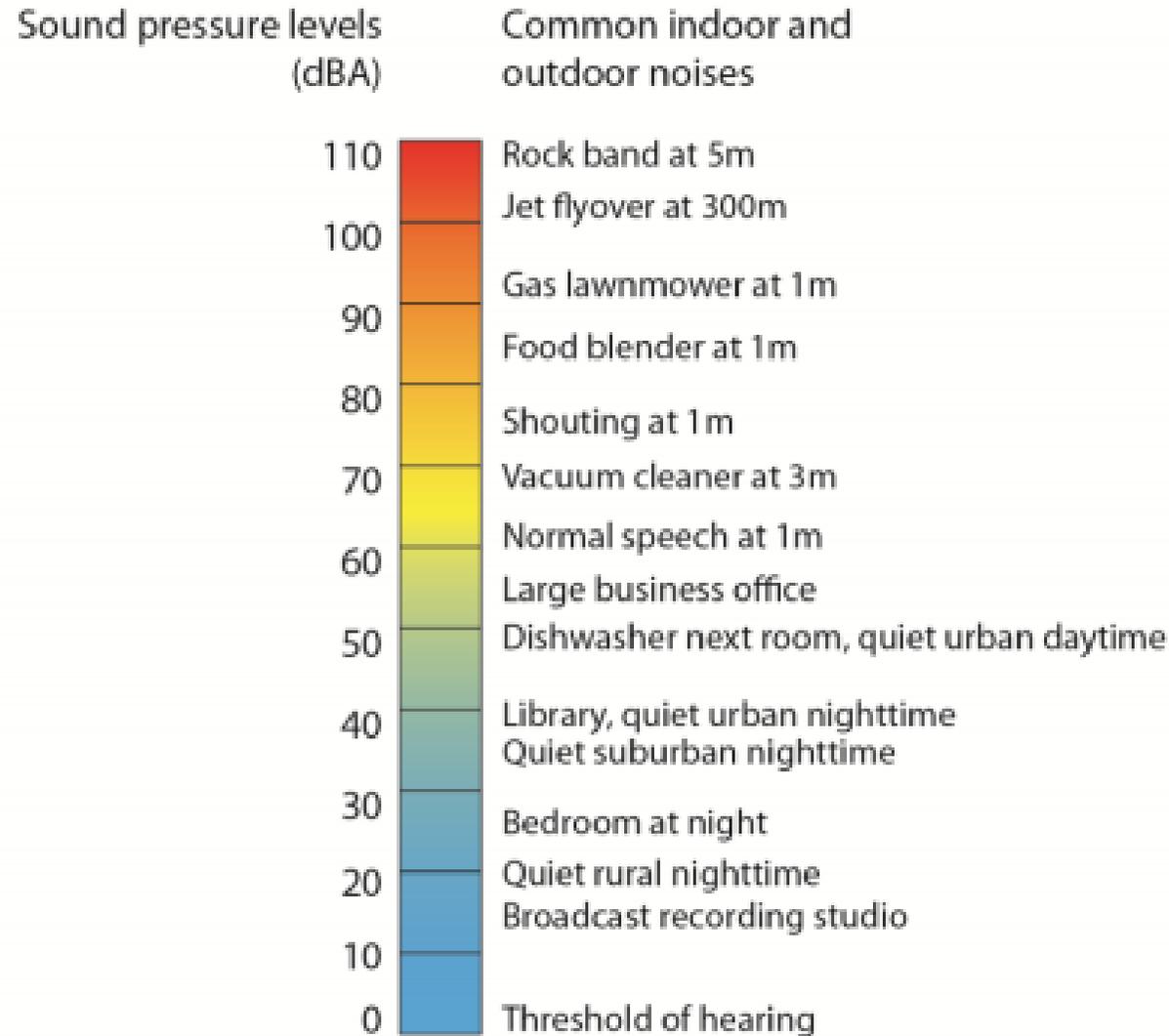
Base Standards – Noise abatement

What it is: Management of allowable noise from all sources at or near a well site.

Why it's important: In rural areas along the Beartooth Front, ambient noise is minimal. During the construction phase there is continuous noise that could be disruptive to human and animal life, and there is ongoing noise from operations that could be disruptive as well.

What we are proposing: Suppression equipment shall be employed as needed to ensure measured average sound pressure levels do not exceed 85 dB at any outer boundary of a lease or drilling unit, or 70 dB at any residence that is existing at the time an OGCUP is approved.

What it means



Does not duplicate existing Montana law

What other jurisdictions do: Colorado

ZONE	7:00 am to 7:00 pm	7:00 pm to 7:00 am
Residential/Agricultural/Rural	55 dBA	50 dBA
Commercial	60 dBA	55 dBA
Light industrial	70 dBA	65 dBA
Industrial	80 dBA	75 dBA

(COGCC Section 802)

Montana Board of Oil and Gas: No administrative rules establishing maximum noise levels for oil and gas operations.

Base Standards – Water testing

What it is: Periodic testing of water sources near a well before drilling (baseline), during extraction, and after extraction is complete.

Why it's important:

- Establishes chemical composition of surface and groundwater prior to drilling (surface owners not legally protected unless this is done);
- Regular testing during well operation determines if contamination has occurred;
- Testing after capping well protects from residual contaminants

What we are proposing: Baseline sampling shall be taken of all domestic and agricultural wells and all surface waters within 1.5 miles of any approved wellbore and at least 2 points within the district along the surface projection of any deviated well, including baseline test, quarterly once well operation begins, and annually for five years after well is capped.

Testing required for these chemicals

Arsenic	Ethyl benzene	Selenium
Barium	Fluoride	Sodium
Benzene	Iron	Specific Conductance
Calcium Carbonate	Magnesium	Strontium
Diesel Range Organics	Gasoline Range Organics	Sulfate
Ethane	Manganese	Toluene
Ethene	Methane	Total Dissolved Solids
Total Petroleum Hydrocarbons	Xylene	

- Field parameters: Temperature, pH, Specific Conductance, Dissolved Oxygen, Redox Potential, Turbidity, Combustibility
- Dissolved gases: Propane, methane, and ethane
- Metals: Calcium, Potassium, Boron, Lead, Strontium, Uranium
- General Chemistry: Bicarbonate Alkalinity, Carbonate Alkalinity, Chloride, Nitrate + Nitrite, Bromide, Total Suspended Solids, Surfactants, pH
- Samples shall be tested for atmospheric and hydrocarbon compositional gases (C1-C6) and methane stable isotopes ($\delta^{13}\text{C}$, $\delta^{12}\text{C}$, $\delta^2\text{H}$, and $\delta^1\text{H}$) if the dissolved methane concentration exceeds 1 mg/L.

(See www.fracfocus.org and ARM 36.22.1015)

Does not duplicate existing Montana law

What other jurisdictions do:

- Wyoming requires baseline sampling, analysis, and monitoring (WOGCC Ch 3, Sec 46)
- Carbon County requires baseline and operational testing for these same chemicals (6.c.iii)
- Gallatin County requires testing for water sources within 1.5 miles of a wellpad

American Petroleum Institute standards:

- Water samples should be collected and tested for a range of chemicals from any nearby surface water or water well based on the anticipated fracture length plus a safety factor (standards API HF1, API HF2)

Montana Board of Oil and Gas:

- Requires disclosure of chemicals but not until after fracking occurs (ARM 36.22.1015)
- Allows trademark exemptions (ARM 36.22.1016)
- Does not have any water sampling, analysis, and monitoring requirements.
- Proposed standards do not conflict with Montana Water Quality Act (§75-5-101, et seq) and water quality administrative rules (ARM 17.30)

Base Standards – Air quality testing

What it is: Oil and gas wells emit volatile organic compounds (VOCs) that can negatively impact humans and animals.

Why it's important: Baseline and ongoing testing of air quality during oil and gas operations is required to monitor potentially dangerous concentrations of pollutants and enable mitigation if it occurs. High concentrations of pollutants have been associated with above normal incidences of heart, lung, and prenatal conditions.

What we are proposing: Baseline sampling shall be taken at a minimum of six (6) points within two (2) miles of any approved wellbore and at least two (2) points along the surface projection of any deviated well; twice per year after well is operational, and annually for five years after well is capped. Results of the testing must comply with standards of the federal Clean Air Act of 1970 (the primary and secondary National Ambient Air Quality Standards) and the Montana Ambient Air Quality Standards.

Does not duplicate existing Montana law

Federal Clean Air Act (42 U.S.C. §7401 et seq, 1970):

- Establishes National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.
- Primary standards protect public health, particularly for asthmatics, children and the elderly. (carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, sulfur dioxide)
- Secondary standards protect public welfare, including damage to animals , crops, vegetation, and buildings (lead, nitrogen dioxide, ozone, particulate matter, sulfur dioxide)

Clean Air Act of Montana (Mont. Code Ann. § 75-2-101, et seq.).

- Administered by the Montana Department of Environmental Quality (MDEQ). The MDEQ is responsible for developing emissions standards, issuing permits, and promulgating rules consistent with the Clean Air Act. Developed Montana Ambient Air Quality Standards.
- Current oil and gas administrative rules relating to air quality are found in ARM 17.8.1710 through 17.8.1713.
- None of these Montana laws requires the sampling and monitoring we are proposing to identify and mitigate localized impacts.

Base Standards – Soil quality testing

What it is: Samples, analyzes, and monitors soil near oil and gas wells for possible contamination.

Why it's important: Contamination of soil can occur through spills of fluids during drilling and fracturing operations. Baseline and ongoing testing of soil quality during oil and gas operations is required to monitor potentially dangerous concentrations of pollutants and enable mitigation if it occurs.

What we are proposing: Baseline sampling shall be taken at a minimum of six (6) points within one mile of any approved wellbore and at least two (2) points along the surface projection of any deviated well. Annual testing once well is in operation, and annually for five years after well is capped.

Testing required for these chemicals

In mg/kg and RL

Chloride	Magnesium
Sulfide	Manganese
Sulfate	Selenium
Mercury	Silver
Arsenic	Strontium
Barium	Radium-not to exceed 5 pCi/g of radium-226 or 228
Boron	Percent moisture (%)
Cadmium	Total dissolved solids
Chromium	PH
Lead	

(See www.fracfocus.org and ARM 36.22.1015)

Does not duplicate existing Montana law

Montana standards

- Requires operators to contain and dispose of all solid waste and produced water from drilling operations so as not to...cause harm to soils (ARM 36.22.1005).
- Disposal of water produced from oil and gas operations may be disposed of in any manner that does not cause harm to soils. (ARM 36.22.1226).
- MBOGC has no regulations requiring the sampling, analysis, and monitoring of soil quality.



Conclusion

- These standards have the overwhelming support of landowners in the proposed district. We believe they are necessary to mitigate the potential damage of future oil and gas drilling.
- They are fair and reasonable. Similar standards are in place in other jurisdictions inside and outside of Montana, and they have not suppressed drilling in any of those places.
- They protect the rights of minerals owners within the district to realize the complete use, development, and recovery of existing minerals, and do not impact landowners who live outside the district.
- The standards are appropriate topics for land use zoning under Montana law, authorized by MCA § 76-2-203 (1) (b) (ii) and (iii)
- The standards do not duplicate or conflict with other laws currently in place in Montana, including regulations of the Montana Board of Oil and Gas Conservation.
- We urge the Planning Board to review, provide feedback, and direct us to finalize these zoning regulations for recommendation to the Stillwater County Commissioners.



Thank you.