FORM NO. 22 R 10/09 | SUBMIT IN QUADRUPLICATE TO: | ARM 36.22.307 ARM 36.22.601

**MONTANA BOARD OF OIL AND GAS CONSERVATION**
**2535 ST. JOHNS AVENUE, BILLINGS, MONTANA 59102**

Application for Permit To:

Drill [X] Deepen [ ] Re-enter [ ]
Oil [X] Gas [ ] Other _____ [ ]

Operator: PHOENIX OPERATING LLC
Address: 4643 SOUTH ULSTER STREET, SUITE 1510
City: DENVER State: CO Zip: 80237
Telephone Number: 303-548-1953

Surface Location of Well (quarter-quarter and footage measurements):
Lot 3 Section 3, T29N, R56E, 525' FNL & 2276' FWL NENW

Proposed Total Depth and Bottom-hole Location(s) if directional or horizontal well:
31257' MD, 9788' TVD
SESE Section 22, T29N, R56E, 240' FSL & 550' FEL

Lease Name: MANKIND
Lease Type (Private/State/Federal): Private
Well Number: 3-10-15-22 4H
Field Name or Wildcat: ~~McCabe West~~ Wildcat
Unit Name (if applicable): N/A
Objective Formation(s): Middle Bakken
Township, Range, and Section: T29N, R56E, Section 3
County: Roosevelt
Elevation (indicate GL or KB): 2210' GL (Graded)

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| Size and description of drilling/spacing unit and applicable order, if any: | Formation at total depth: | Anticipated Spud Date: |
|---|---|---|
| 2560 acre spacing unit per Board Order 137-2026 | Middle Bakken | 5/1/2026 |

| Hole Size | Casing Size | Weight / Foot | Grade (API) | Depth | Sacks of Cement | Type of Cement |
|---|---|---|---|---|---|---|
| 13 1/2" | 9 5/8" | 36# | J-55 | 2113 | 870 | See Attached |
| 8 ¾" | 7" | 32# | P-110 | 10602 | 754 | See Attached |
| 6" | 4½" | 13.5# | P-110 | 31257 | 1019 | See Attached |

Describe Proposed Operations:
Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.
See attachments for details.

Phoenix requests a variance from running open hole logs on the subject well. Offset logs can be found for the McCabe Farms 1-4 (API#25085216280000).

SEE ATTACHED CONDITIONS OF APPROVAL

**BOARD USE ONLY**

Approved (date) OCT 19 2026
By _____
Title CHIEF FIELD INSPECTOR

Permit Fee $150.00
Check Number 001599
Permit Expires APR 19 2027
Permit Number 33325

THIS PERMIT IS SUBJECT TO THE CONDITIONS OF APPROVAL STATED ON THE BACK

API Number: 25 - 085 - 22181

The undersigned hereby certifies that the information contained on this application is true and correct:

Signed (Agent) _____
Title Regulatory Specialist
Date 2/17/2026
Telephone Number 720-250-8737

Samples Required: NONE _____ ALL _____ FROM _____ feet to _____ feet
Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO. Required samples must be washed, dried and delivered prepaid to:

Montana Board of Oil and Gas Conservation
2535 St. Johns Avenue
Billings, MT 59102

## SUPPLEMENTAL INFORMATION

Note: Additional information or attachments may be required by Rule or by special request.

1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.

2. Attach an 8 1/2 x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a 1/2 mile radius of the well.

3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut/fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor). Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.

4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications.

5. Describe the proposed plan for the treatment and/or the disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.)

6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

- [ ] No additional permits needed
- [ ] 310 Permit (apply through county conservation district)
- [x] Air quality permit (apply through Montana Department of Environmental Quality)
- [ ] Water discharge permit (apply through Montana Department of Environmental Quality)
- [ ] Water use permit (apply through Montana Department of Natural Resources and Conservation)
- [ ] Solid waste disposal permit (apply through Montana Department of Environmental Quality)
- [ ] State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
- [ ] Federal drilling permit (specify agency)
- [ ] Other federal, state, county, or local permit or authorization: (specify type) _____

NOTICES:

1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.

2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

**BOARD USE ONLY** | CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

**WARNING: Failure to comply with conditions of approval may void this permit.**

## Phoenix Operating LLC Propose Well Stimulation

Estimated Fluids: 340,000 bbls
Max Anticipated Treating Pressure: 9600 psi

Hydralic Fracturing Fluid Components Information Disclosure

| Trade Name | Supplier | Purpose | Ingredients | Chemical Abstract Service Number (CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Mass per Component (LBS) | Maximum Ingredient Concentration in HF Fluid |
|---|---|---|---|---|---|---|---|
| Produced Brine Water | Operator | Carrier | Produced Brine Water | 7732-18-5 | 100.0000% | *9,400* | *0.00760%* |
| Water | Operator | Carrier | Water | 7732-18-5 | 100.0000% | *107,586,000* | *87.35530%* |
| FRP-1S | Liberty Energy | Friction reduction | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| Crystalline Silica Quartz | Liberty Energy | Proppant | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| IC-50S | WST | Iron Control | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| C-SI 148 | Creedence Energy Service | Surfactant | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| C-STIM 1010S | Creedence Energy Service | Biosurfactant | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| Liberty Clean Out Fluid | Liberty Energy | Cleanup Solution | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| K-BAC 50510 | Italmatch Chemicals | Biocide | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| FRS-HV8200 | Liberty Energy | Friction reduction | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| WA-100 | WST | Wetting Agent | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| K-BAC 50510W | Italmatch Chemicals | Biocide | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| Soda Ash | Liberty Energy | Buffer | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| FRP-2F | Liberty Energy | Friction Reducer | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| FRP-132V | Liberty Energy | Friction Reducer | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| DF-36S | WST | Defoamer | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| FRP-HVT60 | Liberty Energy | Friction Reducer | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| FRP-1K | Liberty Energy | Friction Reducer | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| HCL-28 | Liberty Energy | Solvent | MSDS and Non-MSDS Ingredients Listed Below | | | | |
| The trade name(s) of the additive(s) used, supplier(s), and the purpose(s) of the additive(s) are listed above. The ingredient(s) for the above additive(s) are listed below. | | | | | | | |
| | | | Crystalline Silica in the form of Quartz | 14808-60-7 | 98.5693% | *15,341,000* | *12.45630%* |
| | | | Water | 7732-18-5 | 0.2626% | *40,866* | *0.03320%* |
| | | | Water | 7732-18-5 | 0.2240% | *34,859* | *0.02830%* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Distillates (petroleum), hydrotreated light | 64742-47-8 | 0.1577% | 24,546 | 0.01990% |
| | | | Methanol | 67-56-1 | 0.1125% | 17,514 | 0.01420% |
| | | | Water | 7732-18-5 | 0.0439% | 6,840 | 0.00560% |
| | | | Phosphonic acid, [[[2-[(2-hydroxyethyl)(phosphonome | 129828-36-0 | 0.0249% | 3,873 | 0.00310% |
| | | | Polyamino Polyether Methylene Phosphonate | 130668-24-5 | 0.0249% | 3,873 | 0.00310% |
| | | | Alcohols | 68551-12-2 | 0.0188% | 2,919 | 0.00240% |
| | | | Arylsulfonic Acid | 68584-22-5 | 0.0188% | 2,919 | 0.00240% |
| | | | Glycolipid | 2768394-42-7 | 0.0188% | 2,919 | 0.00240% |
| | | | Hydrochloric Acid | 7647-01-0 | 0.0171% | 2,660 | 0.00220% |
| | | | Alcohols, C12-16, ethoxylated | 68551-12-2 | 0.0130% | 2,018 | 0.00160% |
| | | | Water | 7732-18-5 | 0.0045% | 707 | 0.00060% |
| | | | Oxygenate and paraffinic stream | 876065-86-0 | 0.0043% | 674 | 0.00060% |
| | | | Water | 7732-18-5 | 0.0033% | 506 | 0.00040% |
| | | | Petroleum distillates, hydrotreated light | 64742-47-8 | 0.0027% | 413 | 0.00030% |
| | | | Distillate (petroleum), hydrotreated light | 64742-47-8 | 0.0025% | 383 | 0.00030% |
| | | | Distillates (petroleum), hydrotreated light | 64742-47-8 | 0.0019% | 300 | 0.00020% |
| | | | Distillates, petroleum, hydrotreated light | 64742-47-8 | 0.0014% | 220 | 0.00020% |
| | | | Methanol | 67-56-1 | 0.0014% | 219 | 0.00020% |
| | | | Distillates (petroleum), hydrotreated light | 64742-47-8 | 0.0013% | 202 | 0.00020% |
| | | | Quaternary ammonium compounds,benzyl-C12-16-alk | 68424-85-1 | 0.0006% | 93 | 0.00010% |
| | | | Quaternary ammonium compounds, benzyl-C12-16-alk | 68424-85-1 | 0.0006% | 89 | 0.00010% |
| | | | Alcohols, C12-16, ethoxylated, liquids | 68551-12-2 | 0.0003% | 50 | 0.00000% |
| | | | Sodium Carbonate | 497-19-8 | 0.0003% | 50 | 0.00000% |
| | | | Glutaraldehyde | 111-30-8 | 0.0003% | 46 | 0.00000% |
| | | | Glutaraldehyde | 111-30-8 | 0.0003% | 44 | 0.00000% |
| | | | Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branc | 69011-36-5 | 0.0002% | 28 | 0.00000% |
| | | | Ethyl alcohol | 64-17-5 | 0.0002% | 27 | 0.00000% |
| | | | Ethyl alcohol | 64-17-5 | 0.0002% | 25 | 0.00000% |
| | | | Alcohols, C10-16 | 68002-97-1 | 0.0001% | 21 | 0.00000% |
| | | | Alcohols, C12-14 | 68439-50-9 | 0.0001% | 21 | 0.00000% |
| | | | Alcohols, C12-16 | 68551-12-2 | 0.0001% | 21 | 0.00000% |
| | | | Poly(oxy-1,2-ethandiyl), a-(carboxymethyl)-w-[(9Z)-9- | 57635-48-0 | 0.0001% | 17 | 0.00000% |
| | | | Ammonium chloride | 12125-02-9 | 0.0001% | 13 | 0.00000% |
| | | | Water | 7732-18-5 | 0.0000% | 7 | 0.00000% |
| | | | 2-hydroxypropane-1,2,3-tricarboxylic acid | 77-92-9 | 0.0000% | 7 | 0.00000% |
| | | | Ethoxylated Decyl Alcohol | 78330-20-8 | 0.0000% | 4 | 0.00000% |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Tridecyl Alcohol | 9043-30-5 | 0.0000% | *1* | ***0.00000%*** |
| | | | Methanol | 67-56-1 | 0.0000% | *1* | ***0.00000%*** |
| | | | Polypropylene Glycol | 25322-69-4 | 0.0000% | *1* | ***0.00000%*** |