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):
SWSW Section 24, T30N, R58E, 395' FSL & 1085' FWL

Proposed Total Depth and Bottom-hole Location(s) if directional or horizontal well:
32186' MD, 10242' TVD
Lot 1 Section 1, T30N, R58E, 240' FNL & 550' FEL NENE

Adl Well Order 147-2026

Lease Name: REECE FED
Lease Type (Private/State/Federal): Private
Well Number: 24-13-12-1 4HF
Field Name or Wildcat: Elm Coulee NE
Unit Name (if applicable): N/A
Objective Formation(s): Middle Bakken
Township, Range, and Section: T30N, R58E, Section 24
County: Roosevelt
Elevation (indicate GL or KB): 2264' 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:
2650 acre spacing unit per Board Order 146-2026	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	2322	956	See Attached
8 ¾"	7"	32#	P-110	11510	862	See Attached
6"	4½"	13.5#	P-110	32186	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 Leonard 1-13 (API#25085211790000). Well 7 10 miles away, request not approved

BOARD USE ONLY

Approved (date) NOV 0 4 2026
By Benjamin J Davis
Title Technical Program Coordinator

Permit Fee $150.00
Check Number 001432
Permit Expires MAY 0 4 2027
Permit Number 33337

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

API Number: 25 - 085 - 22189

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

Signed (Agent) _____
Title Regulatory Specialist
Date 2/25/2026
Telephone Number 720-250-8737

Samples Required: NONE X 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)
- [x] Other federal, state, county, or local permit or authorization: (specify type) BLM

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:

SEE ATTACHED
CONDITIONS OF APPROVAL

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

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Phoenix Operating LLC Propose Well Stimulation

Estimated Fluids: 480,000 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 (% by mass)**
Produced Brine Water	Operator	Carrier	Produced Brine Water	7732-18-5	100.0000%	*940*	*0.00050%*
Water	Operator	Carrier	Water	7732-18-5	100.0000%	*168,134,400*	*88.86095%*
AII-7	Liberty Energy	Acid Additive Mixture	MSDS and Non-MSDS Ingredients Listed Below				
IC-50S	Italmatch Chemicals	Iron Control	MSDS and Non-MSDS Ingredients Listed Below				
K-BAC 50510W	Italmatch Chemicals	Biocide	MSDS and Non-MSDS Ingredients Listed Below				
DF-36S	Italmatch Chemicals	Defoamer	MSDS and Non-MSDS Ingredients Listed Below				
HCL-28	Liberty Energy	Acid	MSDS and Non-MSDS Ingredients Listed Below				
FRS-HV8100	Liberty Energy	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below				
ACI-410	Italmatch Chemicals	Corrosion Inhibitor	MSDS and Non-MSDS Ingredients Listed Below				
Crystalline Silica Quartz	Liberty Energy	Proppant	MSDS and Non-MSDS Ingredients Listed Below				
C-SI 144SF	Creedence Energy Services	Scale Inhibitor	MSDS and Non-MSDS Ingredients Listed Below				
HCL-15	Liberty Energy	Acid	MSDS and Non-MSDS Ingredients Listed Below				
C-STIM 101SF	Creedence Energy Services	Biosurfactant	MSDS and Non-MSDS Ingredients Listed Below				
Liberty Clean Out Fluid	Liberty Energy	Cleanup Solution	MSDS and Non-MSDS Ingredients Listed Below				
FRP-10S	Liberty Energy	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below				
C-STIM 1010S	Creedence Energy Services	Biosurfactant	MSDS and Non-MSDS Ingredients Listed Below				
Enviro-Syn HCR-7000-WL	Fluid Energy Group	Solvent	MSDS and Non-MSDS Ingredients Listed Below				
Soda Ash	Liberty Energy	Buffer	MSDS and Non-MSDS Ingredients Listed Below				
FRS-HV8200	Liberty Energy	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below				
C-SI 148SF	Creedence Energy Services	Biosurfactant	MSDS and Non-MSDS Ingredients Listed Below				
HCl-36	Liberty Energy	Acid	MSDS and Non-MSDS Ingredients Listed Below				
K-BAC 50510	Italmatch Chemicals	Biocide	MSDS and Non-MSDS Ingredients Listed Below				
DFR-2S	Liberty Energy	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below				
FRP-1S	Liberty Energy	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below				
C-SI 148	Creedence Energy Services	Surfactant	MSDS and Non-MSDS Ingredients Listed Below				
Enviro-Syn HCR-7000-WL+	Fluid Energy Group	Solvent	MSDS and Non-MSDS Ingredients Listed Below				
C-STIM 1010C	Creedence Energy Services	Biosurfactant	MSDS and Non-MSDS Ingredients Listed Below				
WA-100	Italmatch Chemicals	Wetting agent	MSDS and Non-MSDS Ingredients Listed Below				
BEZ-58	Liberty Energy	Breaker	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	97.5700%	*20,563,200*	*10.86789%*
			polyacrylamide	9003-05-8	0.8688%	*183,098*	*0.09677%*
			hydrotreated distillate, light	64742-47-8	0.7108%	*149,808*	*0.07918%*
			Water	7732-18-5	0.2887%	*60835*	*0.03215%*
			Water	7732-18-5	0.1670%	*35190*	*0.01860%*
			Methanol	67-56-1	0.0770%	*16223*	*0.00857%*

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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 (% by mass)**
			Alcohols	68551-12-2	0.0770%	*16223*	*0.00857%*
			Methanol	67-56-1	0.0716%	*15081*	*0.00797%*
			Water	7732-18-5	0.0676%	*14257*	*0.00754%*
			Arylsulfonic acid	68584-22-5	0.0192%	*4056*	*0.00214%*
			Glycolipid	2768394-42-7	0.0192%	*4056*	*0.00214%*
			Hydrochloric Acid	7647-01-0	0.0131%	*2765*	*0.00146%*
			Aminoethyl Ethanolamine Tri(methylene phosphonic acid)	129828-36-0	0.0119%	*2514*	*0.00133%*
			Polyamino polyether methylene phosphonate	130668-24-5	0.0119%	*2514*	*0.00133%*
			Polyacrylamide	9003-05-8	0.0101%	*2125*	*0.00112%*
			Hydro-treated distillate, light	64742-47-8	0.0101%	*2125*	*0.00112%*
			Quaternary ammonium compounds,benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	0.0089%	*1871*	*0.00099%*
			Glutaraldehyde	111-30-8	0.0044%	*936*	*0.00049%*
Enviro-Syn HCR-7000-WL			Proprietary Ingredient	Proprietary	0.0044%	*922*	*0.00049%*
			Water	7732-18-5	0.0040%	*850*	*0.00045%*
			Water	7732-18-5	0.0037%	*788*	*0.00042%*
			Water	7732-18-5	0.0037%	*770*	*0.00041%*
			Water	7732-18-5	0.0036%	*761*	*0.00040%*
			Water	7732-18-5	0.0034%	*714*	*0.00038%*
			Water	7732-18-5	0.0032%	*684*	*0.00036%*
			Oxygenate and paraffinic stream	876065-86-0	0.0032%	*674*	*0.00036%*
			2-hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	0.0031%	*650*	*0.00034%*
			Water	7732-18-5	0.0030%	*634*	*0.00033%*
			Water	7732-18-5	0.0030%	*629*	*0.00033%*
			Methanol	67-56-1	0.0028%	*584*	*0.00031%*
			Water	7732-18-5	0.0028%	*584*	*0.00031%*
			Ethyl alcohol	64-17-5	0.0025%	*535*	*0.00028%*
			Water	7732-18-5	0.0025%	*533*	*0.00028%*
			Water	7732-18-5	0.0024%	*506*	*0.00027%*
			Water	7732-18-5	0.0020%	*432*	*0.00023%*
			Water	7732-18-5	0.0018%	*371*	*0.00020%*
			Water	7732-18-5	0.0017%	*367*	*0.00019%*
			Isotridecanol, ethoxylated	9043-30-5	0.0017%	*357*	*0.00019%*
			Hydrochloric Acid	7647-01-0	0.0017%	*354*	*0.00019%*
			Water	7732-18-5	0.0016%	*334*	*0.00018%*
			2-Propenoic acid, polymer with 2-propenamide, sodium salt	25987-30-8	0.0014%	*298*	*0.00016%*
			2-Propenoic acid, polymer with 2-propenamide, sodium salt	25987-30-8	0.0013%	*284*	*0.00015%*
			Distillates (petroleum), hydrotreated light	64742-47-8	0.0013%	*275*	*0.00015%*
			Hydrochloric Acid	7647-01-0	0.0013%	*272*	*0.00014%*
			Ethylene Glycol	107-21-1	0.0013%	*272*	*0.00014%*
			Propylene Glycol	57-55-6	0.0013%	*268*	*0.00014%*
			Pyridinium, 1-(phensylmethyl)-, ethyl methyl derivs., chlorides	68909-18-2	0.0013%	*266*	*0.00014%*
			Hydrochloric Acid	7647-01-0	0.0013%	*266*	*0.00014%*
			Methanol	67-56-1	0.0012%	*250*	*0.00013%*
			Ethylene Glycol	107-21-1	0.0011%	*241*	*0.00013%*
			Distillates (petroleum), hydrotreated light	64742-47-8	0.0011%	*240*	*0.00013%*
Enviro-Syn HCR-7000-WL+			Redacted ingredients	Proprietary	0.0011%	*226*	*0.00012%*
			Propylene glycol	57-55-6	0.0011%	*226*	*0.00012%*
			Tall oil fatty acid	61790-12-3	0.0011%	*226*	*0.00012%*
			Poly(oxy-1,2-ethanediyl), alpha-hexyl-omega-hydroxy-	31726-34-8	0.0011%	*226*	*0.00012%*
			Formic Acid	64-18-6	0.0011%	*226*	*0.00012%*

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Hydralic Fracturing Fluid Components Information Disclosure

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			Sodium chloride	7647-14-5	0.0011%	*226*	*0.00012%*
			Sodium benzoate	532-32-1	0.0011%	*226*	*0.00012%*
			Water	7732-18-5	0.0011%	*223*	*0.00012%*
			Methanol	67-56-1	0.0010%	*219*	*0.00012%*
			Formic acid	64-18-6	0.0009%	*195*	*0.00010%*
			Cinnamaldehyde	104-55-2	0.0009%	*195*	*0.00010%*
			Citric acid	77-92-9	0.0009%	*195*	*0.00010%*
			Acetophenone, thiourea, formaldehyde polymer	68527-49-1	0.0009%	*195*	*0.00010%*
			Ethylene Glycol	107-21-1	0.0009%	*195*	*0.00010%*
			Hemicellulase	9025-56-3	0.0008%	*161*	*0.00008%*
			Cellulase Enzyme	9012-54-8	0.0008%	*161*	*0.00008%*
			Hydrochloric Acid	7647-01-0	0.0006%	*134*	*0.00007%*
			Nonylphenol ethoxylated	127087-87-0	0.0006%	*133*	*0.00007%*
			Styrene-Ethylene/Propylene-(Styrene) (SEP(S))	68648-89-5	0.0006%	*128*	*0.00007%*
			Sucrose	57-50-1	0.0005%	*107*	*0.00006%*
			Sodium Carbonate	497-19-8	0.0005%	*99*	*0.00005%*
			Isopropyl alcohol	67-63-0	0.0005%	*98*	*0.00005%*
			Dipropylene glycol, monomethyl ether	34590-94-8	0.0005%	*98*	*0.00005%*
			Phosphonic acid, [[[2-[(2-hydroxyethyl)(phosphonomethyl) amino]ethyl]imino]bis(methylene)]bis -, compd with 2-aminoethanol	129828-36-0	0.0004%	*94*	*0.00005%*
			Polyamino Polyether Methylene Phosphonate	130668-24-5	0.0004%	*94*	*0.00005%*
			Phosphonic acid, [[[2-[(2-hydroxyethyl)(phosphonomethyl) amino]ethyl]imino]bis(methylene)]bis -, compd with 2-aminoethanol	129828-36-0	0.0004%	*91*	*0.00005%*
			Polyamino Polyether Methylene Phosphonate	130668-24-5	0.0004%	*91*	*0.00005%*
			Methanol	67-56-1	0.0004%	*89*	*0.00005%*
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	0.0004%	*89*	*0.00005%*
			2-Propenoic acid polymer with acrylamide, sodium salt	25987-30-8	0.0004%	*88*	*0.00005%*
			Polypropylene glycol	25355-69-4	0.0004%	*88*	*0.00005%*
			Dimethyl silicone fluid, silica compound	63148-62-9	0.0002%	*53*	*0.00003%*
			Alkyl oxirane polymer	64366-70-7	0.0002%	*49*	*0.00003%*
			Polyalkylene glycol	52624-57-4	0.0002%	*49*	*0.00003%*
			Alcohols, C12-16, ethoxylated	68551-12-2	0.0002%	*46*	*0.00002%*
			Glutaraldehyde	111-30-8	0.0002%	*44*	*0.00002%*
			Acrylic polymer dispersion	9065-11-6	0.0002%	*44*	*0.00002%*
			Alochols	68551-12-2	0.0002%	*42*	*0.00002%*
			Arylsulfonic Acid	68584-22-5	0.0002%	*42*	*0.00002%*
			Glycolipid	2768394-42-7	0.0002%	*42*	*0.00002%*
			Alcohols	68551-12-2	0.0002%	*42*	*0.00002%*
			Arylsulfonic Acid	68584-22-5	0.0002%	*42*	*0.00002%*
			Glycolipid	2768394-42-7	0.0002%	*42*	*0.00002%*

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