

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

Lease Name:

Butch Cassidy

Lease Type (Private/State/Federal):

Private

Application for Permit To:

Drill Deepen Re-enter
Oil Gas Other

Well Number:

4H

Operator: Prima Exploration, Inc.

Address: 250 Filmore St, Suite 500

City: Denver

State: CO

Zip: 80206

Telephone Number:

303-755-5681

Field Name or Wildcat:

Elm Coulee Northeast

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Unit Name (if applicable):

N/A

MAR 10 2022

Surface Location of Well (quarter-quarter and footage measurements):

NE 1/4 NW1/4 Sec. 30 T25N R59E 290' FNL 1855' FWL

Objective Formation(s):

Bakken

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Township, Range, and Section:

T25N R59E Section 30

County:

Richland

Elevation (indicate GL or KB):

2192' GL

Size and description of drilling/spacing unit and applicable order, if any:

1280 Acre Section 18/19, MT Docket 118-2019

Formation at total depth:

Bakken

Anticipated Spud Date:

8/30/2022

Hole Size	Casing Size	Weight / Foot	Grade (API)	Depth	Sacks of Cement	Type of Cement
13 1/2"	9 5/8"	36#	J-55 LTC	2,200'	625	See Attached
8 3/4"	7"	32#	HCP110 LTC	11,081'	680	See Attached
6"	4 1/2"	13.5#	HCP110 GBCD	21,132'	564	See Attached

Describe Proposed Operations:

Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.

Please see attached programs.

Prima Exploration, Inc. requests variance to NOT run Open hole logs on the subject well. Offset logs can be found for the ~~Tenneco Oil Company - E.V. Vanderhoof #1~~, Sec. 18 T25N R59E, Richland County, MT.

Young Hairs 4 30

BOARD USE ONLY

By Cmu Consulting Inc.

Approved (date) **MAR 15 2022**

Permit Fee **\$150.00**

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

By *[Signature]*

Check Number **5637**

Signed (Agent) *[Signature]*

Title *Petroleum Engineer*

Permit Expires **SEP 15 2022**

Permit Number **32703**

Title **Ren Gardner - Agent/Petroleum Engineer**

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

API Number: 25 - **083 - 23428**

Date **3/9/2022**

Telephone Number **406-259-4878**

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)
 - 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.

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CONDITIONS OF APPROVAL

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

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

15 MMB Design

Stage #	Stage / Type	PPA	FLUID	TYPE	PUMP	CLEAN VOLUME		SLURRY VOLUME		PROPPANT		AGGREGATE CONCENTRATIONS		SPT-AGE/CELLULAR ASPHERICITY (Concentration)	MICRO-AGE (PSI/2000)	MICRO-AGE (15% HCl/SLU)	
						STAGE (GALL)	STAGE (GALL)	STAGE (GALL)	STAGE (GALL)	STAGE (GALL)	STAGE (GALL)	DVA-75 (D) (BT/100 G AGENT PARTICLES)	DVA-75 (D) (BT/100 G AGENT PARTICLES)				
1	SW - Bad drop		Liberty FR	100 MESH	80	8,000	210	210	0	0	0	0	0.20	0.10			
2	P.F.	0.25	Liberty FR	100 MESH	80	3,333	71	333	0	0	0	0	0.20	0.10			
3	P.F.	0.25	Liberty FR	100 MESH	80	3,333	71	333	0	0	0	0	0.20	0.10			
4	Ramp 2-4.5	1.75	Liberty FR	100 MESH	80	5,000	119	479	483	2,500	43,263	1,300	0.20	0.10			
5	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	7,500	179	719	727	3,750	64,895	1,300	0.20	0.10			
6	Diverters SW		Liberty FR Pad	100 MESH	80	1,500	34	150	0	0	0	0	0.20	0.10			
7	Diverters SW		Liberty FR Pad	100 MESH	80	1,500	34	150	0	0	0	0	0.20	0.10			
8	Diverters SW		Liberty FR Pad	100 MESH	80	1,500	34	150	0	0	0	0	0.20	0.10			
9	Diverters SW		Liberty FR Pad	100 MESH	80	1,500	34	150	0	0	0	0	0.20	0.10			
10	Diverters SW		Liberty FR Pad	100 MESH	80	1,500	34	150	0	0	0	0	0.20	0.10			
11	P.F.	0.50	Liberty FR	100 MESH	80	3,333	71	333	0	0	0	0	0.20	0.10			
12	P.F.	0.50	Liberty FR	100 MESH	80	3,333	71	333	0	0	0	0	0.20	0.10			
13	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	7,500	179	719	727	3,750	64,895	1,300	0.20	0.10			
14	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	7,500	179	719	727	3,750	64,895	1,300	0.20	0.10			
15	Diverters SW		Liberty FR Pad	100 MESH	80	1,500	34	150	0	0	0	0	0.20	0.10			
16	Diverters SW		Liberty FR Pad	100 MESH	80	1,500	34	150	0	0	0	0	0.20	0.10			
17	P.F.	0.50	Liberty FR	100 MESH	80	3,333	71	333	0	0	0	0	0.20	0.10			
18	P.F.	0.50	Liberty FR	100 MESH	80	3,333	71	333	0	0	0	0	0.20	0.10			
19	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	7,500	179	719	727	3,750	64,895	1,300	0.20	0.10			
20	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	7,500	179	719	727	3,750	64,895	1,300	0.20	0.10			
21	Flush		Liberty FR	100 MESH	80	10,000	251	4,000	0	0	0	0	0.20	0.10			
						188,120	4,500	200,120	4,500	200,120	4,500	4	147	127	0	0	
						6,874,250	137,000	7,773,000	137,000	7,773,000	137,000	4	147	127	0	0	
						Total Pounds		Total Pounds		Total Pounds		Total		Total		Total	

Stage #	Stage / Type	PPA	FLUID	TYPE	PUMP	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	CUM. STAGE (GALL)	
1	SW - Bad drop		Liberty FR	100 MESH	80	8,000	210	210	0	0	0	0	0	0	0	0	
2	P.F.	0.25	Liberty FR	100 MESH	80	11,333	281	591	0	0	0	0	0	0	0	0	
3	P.F.	0.25	Liberty FR	100 MESH	80	14,666	352	922	0	0	0	0	0	0	0	0	
4	Ramp 2-4.5	1.75	Liberty FR	100 MESH	80	20,000	471	1,493	483	2,500	43,263	1,300	0	0	0	0	
5	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	25,000	650	2,143	727	3,750	64,895	1,300	0	0	0	0	
6	Diverters SW		Liberty FR Pad	100 MESH	80	26,500	684	2,212	0	0	0	0	0	0	0	0	
7	Diverters SW		Liberty FR Pad	100 MESH	80	28,000	718	2,281	0	0	0	0	0	0	0	0	
8	Diverters SW		Liberty FR Pad	100 MESH	80	29,500	752	2,350	0	0	0	0	0	0	0	0	
9	Diverters SW		Liberty FR Pad	100 MESH	80	31,000	786	2,419	0	0	0	0	0	0	0	0	
10	Diverters SW		Liberty FR Pad	100 MESH	80	32,500	820	2,488	0	0	0	0	0	0	0	0	
11	P.F.	0.50	Liberty FR	100 MESH	80	35,833	891	2,811	0	0	0	0	0	0	0	0	
12	P.F.	0.50	Liberty FR	100 MESH	80	39,166	962	3,132	0	0	0	0	0	0	0	0	
13	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	46,666	1,141	3,873	727	3,750	64,895	1,300	0	0	0	0	
14	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	54,166	1,320	4,614	727	3,750	64,895	1,300	0	0	0	0	
15	Diverters SW		Liberty FR Pad	100 MESH	80	55,666	1,354	4,683	0	0	0	0	0	0	0	0	
16	Diverters SW		Liberty FR Pad	100 MESH	80	57,166	1,388	4,752	0	0	0	0	0	0	0	0	
17	P.F.	0.50	Liberty FR	100 MESH	80	60,500	1,459	5,073	0	0	0	0	0	0	0	0	
18	P.F.	0.50	Liberty FR	100 MESH	80	63,833	1,530	5,394	0	0	0	0	0	0	0	0	
19	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	71,333	1,709	6,135	727	3,750	64,895	1,300	0	0	0	0	
20	Ramp 2-4.5	2.50	Liberty FR	100 MESH	80	78,833	1,888	6,876	727	3,750	64,895	1,300	0	0	0	0	
21	Flush		Liberty FR	100 MESH	80	89,833	2,139	7,617	0	0	0	0	0	0	0	0	
						188,120	4,500	200,120	4,500	200,120	4,500	4	147	127	0	0	
						6,874,250	137,000	7,773,000	137,000	7,773,000	137,000	4	147	127	0	0	
						Total Pounds		Total Pounds		Total Pounds		Total		Total		Total	

Pump Time per Stage: 71 min

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