

Submit In Quadruplicate To:

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

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MAY 05 2023

SUNDRY NOTICES AND REPORT OF WELLS

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Operator White Rock Oil & Gas, LLC
Address 5810 Tennyson Parkway, Suite 500
City Plano State TX Zip Code 75024
Telephone 214-981-1400 Fax

Lease Name: Halvorsen 31X-19

Type (Private/State/Federal/Tribal/Allotted): Private

Well Number: 31X-19

Location of well (1/4-1/4 section and footage measurements):
1840 FEL 660 FNL NWNE

Unit Agreement Name:

Field Name or Wildcat: Elm Coulee

Township, Range, and Section: 19-24N-57E

API Number:
25 | 083 | 22022
State County Well

Well Type (oil, gas, injection, other):
Oil

County: Richland

Indicate below with an X the nature of this notice, report, or other data:

- Notice of Intention to Change Plans
- Notice of Intention to Run Mechanical Integrity Test
- Notice of Intention to Stimulate or to Chemically Treat
- Notice of Intention to Perforate or to Cement
- Notice of Intention to Abandon Well
- Notice of Intention to Pull or Alter Casing
- Notice of Intention to Change Well Status
- Supplemental Well History
- Other (specify) Chemical disclosure

- Subsequent Report of Mechanical Integrity Test
- Subsequent Report of Stimulation or Treatment
- Subsequent Report of Perforation or Cementing
- Subsequent Report of Well Abandonment
- Subsequent Report of Pulled or Altered Casing
- Subsequent Report of Drilling Waste Disposal
- Subsequent Report of Production Waste Disposal
- Subsequent Report of Change in Well Status
- Subsequent Report of Gas Analysis (ARM 36.22.1222)

Describe Proposed or Completed Operations:

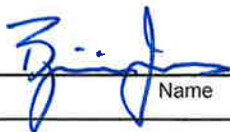
Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

White Rock is submitting this chemical disclosure for frac approval.

**SEE ATTACHED
CONDITIONS OF
APPROVAL**

BOARD USE ONLY

Approved JUN 07 2023
Date


Name

Admin/Reg. Engineer
Title

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

05/03/2023

Date



Signed (Agent)

Eric Linthicum, Regulatory Manager

Print Name and Title

Telephone: 214-666-4826

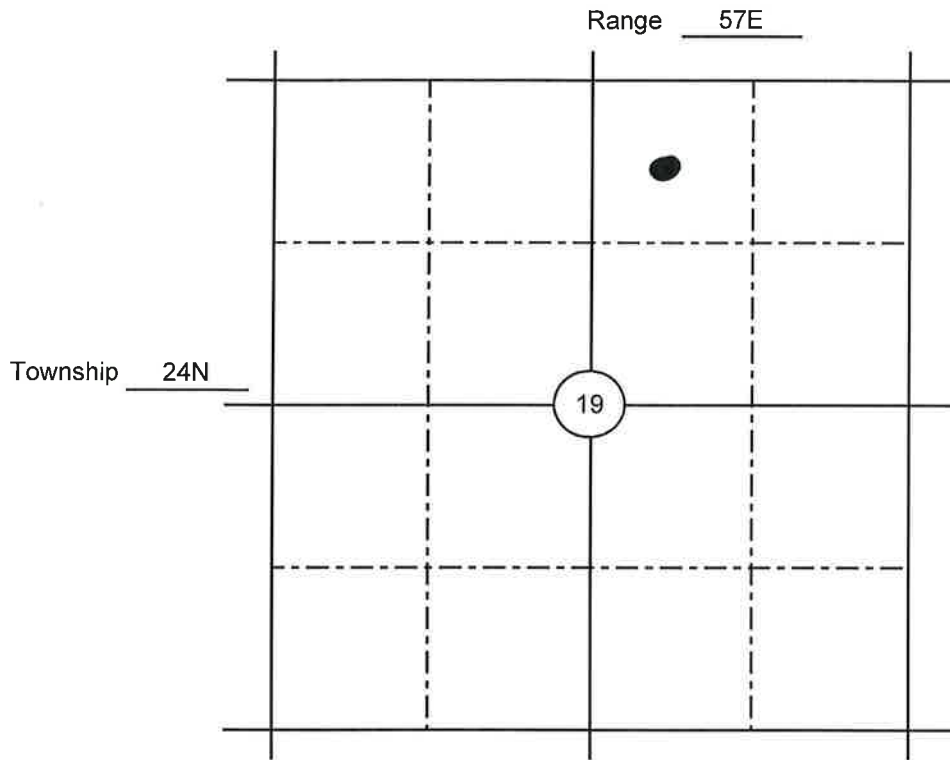
SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.
Plot the location of the well or site that is the subject of this notice or report.

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CONDITIONS OF APPROVAL

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

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

08322022

Fracture Start Date/Time	
Fracture End Date/Time	
State	Montana
County	Richland County
APN Number	
Operator Name	
Well Name	IS Stage
Federal Wells	No
Tribal Wells	No
Longitude	
Latitude	
Long/Lat Projection	
True Vertical Depth (TVD) 8.500'	
Total Clear Fluid Volume* (gal)	2,412,600



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)**
Water	Operator	Current/Start Fluid	Water	7732-18-5	100.00%	20,883,497	0.00000%
Sand (100 Mesh Proppant)	ProFrac	Proppant	Crystalline Silica (quartz)	14808-60-7	100.00%	498,000	0.00000%
Sand (40/70 White Proppant)	ProFrac	Proppant	Crystalline Silica (quartz)	14808-60-7	100.00%	44,057,536	0.00000%
22 DEGREE BAUME Hydrochloric Acid (10%)	EnkiChem	Acidizer	Hydrochloric Acid	7647-01-0	50.00%	11,589	0.01763%
Acid Pack Pro LT	Cooper/Sonata	Acid Inhibitor	Iron(II) chloride hexahydrate Alcohol (C12-14 secondary alcohols) Methyl 9-Deceanoate Methyl 9-undecanoate Sodium sulfonate	9045-50-5 14192-50-6 25601-41-6 39929-17-0 130179-7	17.50% 8.00% 1.00% 1.00% 0.25%	5 27 3 3	0.00001% 0.00004% 0.00000% 0.00000%
ProSlick 974	ProFrac	Friction Reducer	Carboxymethylcellulose	7732-29-7	100.00%	30	0.00000%
ProSurf 170	ProFrac	Surfactant	Polymers	68902-18-2	25.00%	76	0.00005%
BraSlate Q0123x	ProFrac	Biosolids	Hydroxyethyl acrylate	1172-21-1	42.00%	137	0.00012%
ProCheck 170	ProFrac	Sealant	Water	7732-18-5	3.00%	15	0.00002%
			2-Propanol	104-55-2	4.00%	12	0.00002%
			Methanol	67-56-1	2.00%	6	0.00001%
			Petroleum distillates hydrorefined light	64742-47-8	30.00%	8,606	0.00028%
			Ethoxylated Alcohol	68551-12-2	1.50%	430	0.00068%
			Isopropanol	67-58-0	7.00%	1,769	0.00217%
			Ethoxylated Neopentanol	127092-87-0	0.00%	2,012	0.00000%
			Ethyl Alcohol	64-17-5	10.00%	2,612	0.00010%
			Glycerol	111-50-8	7.00%	1,769	0.00012%
			Allyl dimethylhexyl ammonium chloride (D12-10)	6874-65-1	5.00%	1,265	0.00028%
			Methanol	67-56-1	5.00%	1,265	0.00016%

Ingredients Section:

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MONTANA BOARD OF OIL AND GAS ATTACHMENT TO FORM 2 “CONDITIONS OF APPROVAL”

A. Field Inspector must be notified at least **24 hours** in advance of the start of fracture stimulation operation.

B. 36.22.1106 SAFETY AND WELL CONTROL REQUIREMENTS – HYDRAULIC FRACTURING

(1) New and existing wells which will be stimulated by hydraulic fracturing must demonstrate suitable and safe mechanical configuration for the stimulation treatment proposed.

(2) Prior to initiation of fracture stimulation, the operator must evaluate the well. If the operator proposes hydraulic fracturing through production casing or through intermediate casing, **the casing must be tested to the maximum anticipated treating pressure**. If the casing fails the pressure test it must be repaired or the operator must use a temporary casing string (fracturing string).

(a) If the operator proposes hydraulic fracturing through a fracturing string, it must be stung into a liner or run on a packer set not less than 100 feet below the cement top of the production or intermediate casing and must be tested to not less than maximum anticipated treating pressure minus the annulus pressure applied between the fracturing string and the production or immediate casing.

(3) A casing pressure test will be considered successful if the pressure applied has been held for 30 minutes with no more than ten percent pressure loss.

(4) A **pressure relief valve(s)** must be installed on the treating lines between pumps and wellhead to limit the line pressure to the test pressure determined above; the well **must be equipped with a remotely controlled shut-in device** unless waived by the board administrator should the factual situation warrant.

(5) **The surface casing valve must remain open** while hydraulic fracturing operations are in progress; the annular space between the fracturing string and the intermediate or production casing must be monitored and may be pressurized to a pressure not to exceed the pressure rating of the lowest rated component that would be exposed to pressure should the fracturing string fail.

History: 82-11-111, MCA; IMP, 82-11-111, MCA; NEW, 2011 MAR p. 1686, Eff. 8/26/11.

C. 36.22.1010 WORK-OVER, RECOMPLETION, WELL STIMULATION – NOTICE AND APPROVAL

(1) Within 30 days following completion of the well work, a subsequent report of the actual work performed must be submitted on Form No. 2.