

Submit In Quadruplicate To:

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

**SUNDRY NOTICES AND REPORT OF WELLS**

Operator <b>Denbury Onshore LLC</b>		Lease Name: <b>Unit</b>
Address <b>5320 Legacy Drive</b>		Lease Type (Private/State/Federal): <b>Fee</b>
City <b>Plano</b> State <b>TX</b> Zip Code <b>75024</b>	Well Number: <b>21-12</b> <b>NOV 16 2017</b>	
Telephone Number ( <b>972</b> ) <b>673-2000</b> Fax Number ( )	Unit Agreement Name: <b>BCCMU</b> <b>MONTANA BOARD OF OIL &amp; GAS CONSERVATION • BILLINGS</b>	
Location of well (1/4-1/4 section and footage measurements): <b>NW - SW 1980' FSL &amp; 660' FWL Sec 21, T8S - R54E</b>		Field Name or Wildcat: <b>Bell Creek</b>
If directionally or horizontally drilled, show both surface and bottom hole locations		Section, Township, and Range: <b>Sec 21, T8S - R54E</b>
API Number: <b>25</b> <b>075</b> <b>21861</b>	Well Type (oil, gas, injection, other): <b>Injection</b>	County: <b>Powder River</b>
State County Well		

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

Notice of Intention to Change plans	<input type="checkbox"/>	Subsequent Report of Mechanical Integrity Test	<input type="checkbox"/>
Notice of Intention to Run Mechanical Integrity Test	<input type="checkbox"/>	Subsequent Report of Stimulation or Chemical Treatment	<input type="checkbox"/>
Notice of Intention to Stimulate or to Chemically Treat	<input checked="" type="checkbox"/>	Subsequent Report of Perforation or Cementing	<input type="checkbox"/>
Notice of Intention to Perforate or to Cement	<input type="checkbox"/>	Subsequent Report of Well Abandonment	<input type="checkbox"/>
Notice of Intention to Abandon Well	<input type="checkbox"/>	Subsequent Report of Pulled or Altered Casing	<input type="checkbox"/>
Notice of Intention to Pull or Alter Casing	<input type="checkbox"/>	Subsequent Report of Drilling Waste Disposal	<input type="checkbox"/>
Notice of Intention to Change Well Status	<input type="checkbox"/>	Subsequent Report of Production Waste Disposal	<input type="checkbox"/>
Supplemental Well History	<input type="checkbox"/>	Subsequent Report of Change in Well Status	<input type="checkbox"/>
Other (specify) <u>Fracture Stimulate</u>	<input checked="" type="checkbox"/>	Subsequent Report of Gas Analysis (ARM 36.22.1222)	<input type="checkbox"/>
	<input type="checkbox"/>		<input type="checkbox"/>

**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.

**Denbury requests approval to fracture stimulate the subject well. Please see attached procedure and wellbore diagram for additional information. A treatment report has been included in the procedure along with the necessary CAS numbers. Sage Grouse letter has also been attached.**

**SEE SAGE GROUSE STIPULATIONS**

BOARD USE ONLY	
Approved <u>NOV 17 2017</u>	Date
	Name
	Title

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

11/15/17 

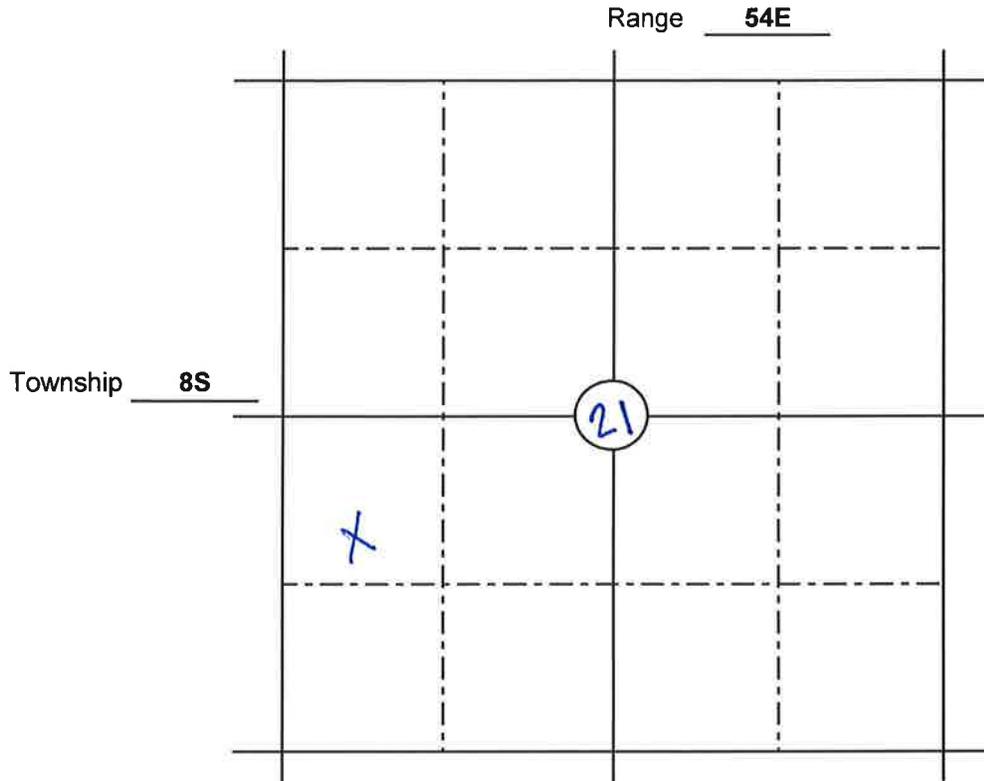
Date Signed (Agent)

**Naomi Johnson - Regulatory Compliance Specialist**

Print Name & Title

### 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.



#### BOARD USE ONLY

#### CONDITIONS OF APPROVAL

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

**RECEIVED**

**NOV 16 2017**

**MONTANA BOARD OF OIL &  
GAS CONSERVATION • BILLINGS**

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

**PROCEDURE To Stimulate Well**

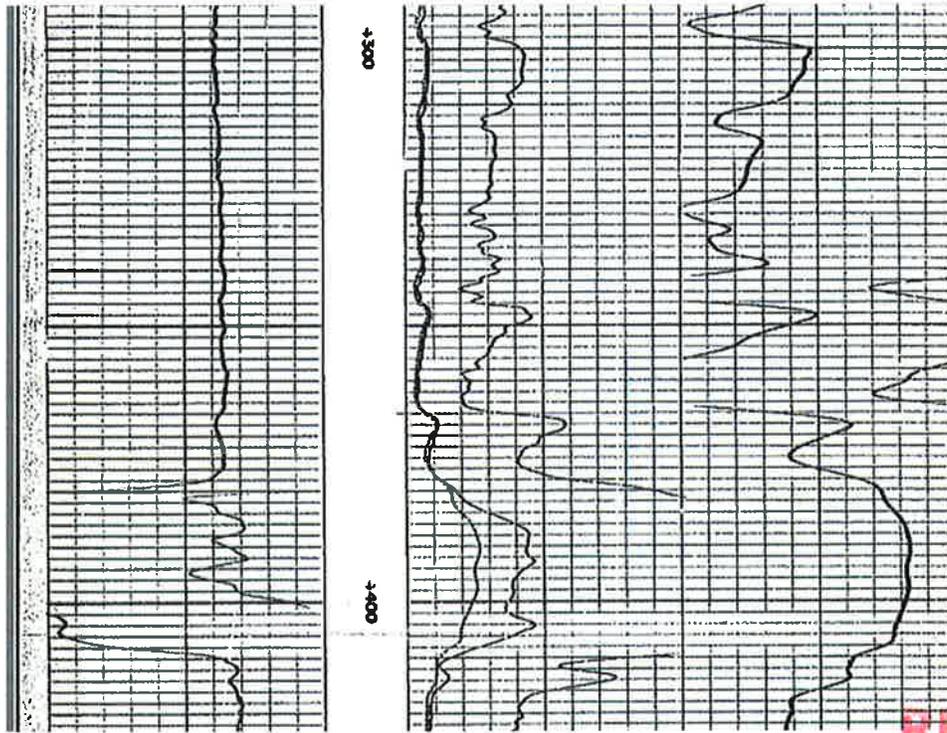
**Bell Creek Unit 21-12**

1980 FSL 660 FWL, Sec 21 – T8S - R54E  
API # 25075218610000

Powder River County, MONTANA

**OBJECTIVE OF OPERATION:**

Test production tubing to treating pressure – Perform small hydraulic fracture stimulation on the Muddy– Flow back well Release to Production



Notes about this well

1. 7/12/2017 Last time tried to tag, tagged paraffin. Need to Hot-oil
2. 3/1/2017 Had 79' of rat hole when tagged in march this year.
3. has a 4-1/2" casing head.
4. Has a 3K tubing head.
5. Not frac'd prior. Had HF job during completion and HCL in 1988.
6. 8/27/2014 Prep'd for CO2. No significant events during WO.

RECEIVED

NOV 16 2017

MONTANA BOARD OF OIL &  
GAS CONSERVATION • BILLINGS

RECEIVED

NOV 16 2017

MONTANA BOARD OF OIL &  
GAS CONSERVATION • BILLINGS



1. **NOTE: Check local Well File before beginning job.**
2. **Pre-Job: Confirm Sundry approval. Secure Wellhead, Flowline, and Electrical. Notify BLM/State as required.**
3. MIRU Hot-oiler. PT Production Casing as directed below. RDMO Hot-oiler.
  - a. **Test to a maximum anticipated PCP of 1500psi for 15 min. Chart it – no more than 10% pressure loss.**
    - i. **If casing fails – contact Plano with procedure moving forward.**
4. MIRU Hot-oiler. Hot-oil tubing w/ water and xylene. RDMO Hot-oiler. SI well.
5. MIRU SL. RIH with 1-1/4” bailer and tag bottom. Record depth. TOOH.
  - a. Notify Plano if tag high for path forward. Jar for sample if high.
6. PU BHP gauges. RIH and take BHP mid-perf. TOOH.
7. PU PX plug. RIH & set in the XN nipple below the packer. TOOH. RDMO SL.
8. MIRU Oil-States. Install BPV. ND WH.
9. NU BOP. Remove BPV. Install 2-3/8” to 2-7/8” Xover, 6ft 2-7/8” L-80 pup joint, 2-7/8” to 3” 1502 Xover, and a 1502 Plug Valve.
  - a. Close pipe rams and test BOP as per Denbury Standards.
  - b. **Test tubing to maximum anticipated treating pressure @5000# for 15 minutes. Chart it -no more than 10% pressure loss. Hold 1000# on the backside (As anticipated for job). Bleed off tubing/casing when complete.**
    - i. **If tubing fails – contact Plano with procedure moving forward.**
10. MIRU SL. RIH and retrieve PX plug. RDMO SL.
11. MIRU 400bbl upright tank. Ensure clean – use hot-oiler if necessary.
  - a. Fill tank with 400bbls of lease water. Use fresh water from Biddle as necessary.
12. MI Flowback Tank and 1502 iron for Flowback/ Frac Operation Relief if necessary.
13. MIRU Frac Company & Equipment. (22 minutes to pump + MIRU-RDMO time – Estimated 4-8 hr job).
  - a. Frac Company responsible for 20,000# 16/30 sand, frac fluid additives (EB will be supplied by Jacam – if necessary) and all frac equipment.

Materials	U.O.M.	LOADING PER/1000 GALLONS		
		Fluid 1 1,050	Fluid 2 8,500	Totals
WG-1SLR, GUAR SLURRY	gal	5	5	48
NE-1, NON EMULSIFIER	gal	2	2	20
BUFFER -4L	gal		1	2
XLB-2, CROSSLINKER	gal		1	9
B-4LE, ENZYME BREAKER	gal		0.3	9
BIO-2L, BIOCID	gal		1	3

RECEIVED

NOV 16 2017

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

- b. **2 pressure relief valves will be installed on treating lines between pumps and wellhead to limit the line pressure to max anticipated treating pressure.**
  - c. **Pressure the Production Casing to 800-1000psi prior to job. Hold & monitor with gauge. Set pop-off at 1400psi (100psi less than PT)**
14. Close 3” Plug Valve. Install 3” Hydraulic valve & test to treating pressure prior to frac.

- a. **Hydraulic valve will be hooked up during frac to accumulator and serve as the remote controlled shut-in device AT THE WELL HEAD.**

15. Perform breaker test with field/Biddle water from tank, Jacam EB (if applicable) and Breaker prior to job.

- a. Record time and ensure fluid breaks prior to pumping.

16. Establish 8-10bpm injection rate with 20# gel for 30 bbls. Record ISIP.

- a. Note friction pressure of 20# gel.

17. Pump the program recommended and attached. Hook up Frac equipment to pull off of 400bbl upright. Hook up diverter line to the flowback equipment.

- a. Note additional friction pressure from X-linker.
- b. Subject to additional pumping depending on pressures.
- c. Call flush based on densometer. 3.5 or greater if decide higher concentration.
  - i. Talk to Frac company about bypassing or dropping tub level prior to flush.
- d. End flush 1/2bbl prior to perforations. **Do NOT over flush.**

STG No.	Proppant Lbs./Gal.	Stage Gals.	Fluid Type or Comment	Proppant Type or Stage Description	Stage/lbs. Proppant	Clean Rate	Clean Bbls.	Slurry Bbls.	Stage Time.
1	0	3000	20# X-Link	Pad	0	10	72	72	7.2
2	1	1500	20# X-Link	SLF 16/30 White	1500	9.6	36	37	3.7
3	2	1500	20# X-Link	SLF 16/30 White	3000	9.2	36	39	3.9
4	3	1500	20# X-Link	SLF 16/30 White	4500	8.8	36	41	4.1
5	4	1500	20# X-Link	SLF 16/30 White	6000	8.5	36	42	4.2
6	0	500	20# Linear	Flush	0	10	12	12	2.5

18. Record the ISIP @5, 10, & 15 minutes after pumping.

19. RDMO Frac Company & Equipment.

- a. Send pump chart and other necessary data to the Plano office.

20. RU 1502 iron & manifold to Gas Buster. Flowback the well as directed by Plano.

- a. Start 9ck. Maximum 1bpm. Expect sand bottoms up. Monitor sand returns for following 40 bbls. (fill 5 gal bucket 8 seconds)
- b. Flowback 110% volume pumped. Do NOT flow back greater than 2BPM.

21. MIRU slickline. RIH w/ 1-1/4" bailer and tag TD. Record depth. TOOH.

- a. Notify Plano if tag high before moving forward. Jar for sample if high.

22. PU PX plug. RIH and set in X nipple above packer in SA. TOOH. RD SL.

23. Install BPV. RD BOP and associated equipment. NU Wellhead. Test. Remove BPV.

24. RU SL. RIH and retrieve PX plug in SA. TOOH. RDMO SL.

25. MIRU CTU if tagged high. Clean out to PBTD. RDMO CTU.

26. Release to operations.

**RECEIVED**

NOV 16 2017



PRESSURE PUMPING LLC

CAS INFORMATION:

Additive	Max Loading / 1000 Gal	Specific Gravity	Additive Quantity	Mass (lbs)
WATER (Customer Supplied)	1,000.00	1.00	9,550	79,695
WG-1SLR, GUAR SLURRY	5.00	1.04	48	117
BIO-2L, BIOCID	0.20	1.00	20	167
NE-1, NON EMULSIFIER	2.00	0.95	2	16
XLB-2, CROSSLINKER	1.00	1.05	9	79
BUFFER -4L	1.00	1.22	9	92
B-4LE, ENZYME BREAKER	0.30	1.03	3	26
CS-1, CLAY STABILIZER	2.00	0.93	20	156
SAND	4,000.00	2.65	15,000	15,000
				Total Slurry Mass (Lbs)
				<b>95,647</b>

Name	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Total Component Mass in HF Fluid (lbs)	Maximum Ingredient Concentration in HF Fluid (% by mass)**
WATER (Customer Supplied)	Water	7732-18-5	100.00%	79,695	83.32144%
SAND	Silica Quartz	14808-60-7	100.00%	15,000	15.68261%
WG-1SLR, GUAR SLURRY	Solvent Naptha (pet.) heavy aliphatic	64742-47-8	60.00%	250	0.26183%
	Guar Gum	9000-30-0	50.00%	209	0.21819%
NE-1, NON EMULSIFIER	Methanol	67-56-1	30.00%	5	0.00498%
	Methanol	67-56-1	30.00%	0	0.00000%
CS-1, CLAY STABILIZER	Isopropanol	67-63-1	10.00%	0	0.00000%
	Nonyl Phenol Ethoxylated	127087-87-0	5.00%	0	0.00000%
BUFFER -4L	Sodium Hydroxide	1310-73-2	30.00%	27	0.02874%
	Water	7732-18-5	70.00%	64	0.06706%
XLB-2, CROSSLINKER	Boric Acid	10043-35-3	10.00%	8	0.00826%
	Sodium Borate	13840-56-7	5.00%	4	0.00413%
	Glycerol	56-81-5	5.00%	4	0.00413%
B-4LE, ENZYME BREAKER	Water	7732-18-5	90.00%	23	0.02426%
	Sodium Chloride	7647-14-5	15.00%	4	0.00404%
	Mannanase Enzymes	37288-54-3	2.00%	1	0.00054%
BIO-2L, BIOCID	Tetrakis(hydroxymethyl) Phosphonium Sulfate	55566-30-8	20.00%	33	0.03490%
	Water	7732-18-5	80.00%	134	0.13960%

100.00%

**RECEIVED**

**NOV 16 2017**

**MONTANA BOARD OF OIL & GAS CONSERVATION - BILLINGS**

**Bell Creek Unit #B 21-12 CO2**

Sect	Tw...	Rng	Rn...
21	008	S	54
			E

Surface Legal Location: 1980 FSL & 660 FWL

Fault Block:

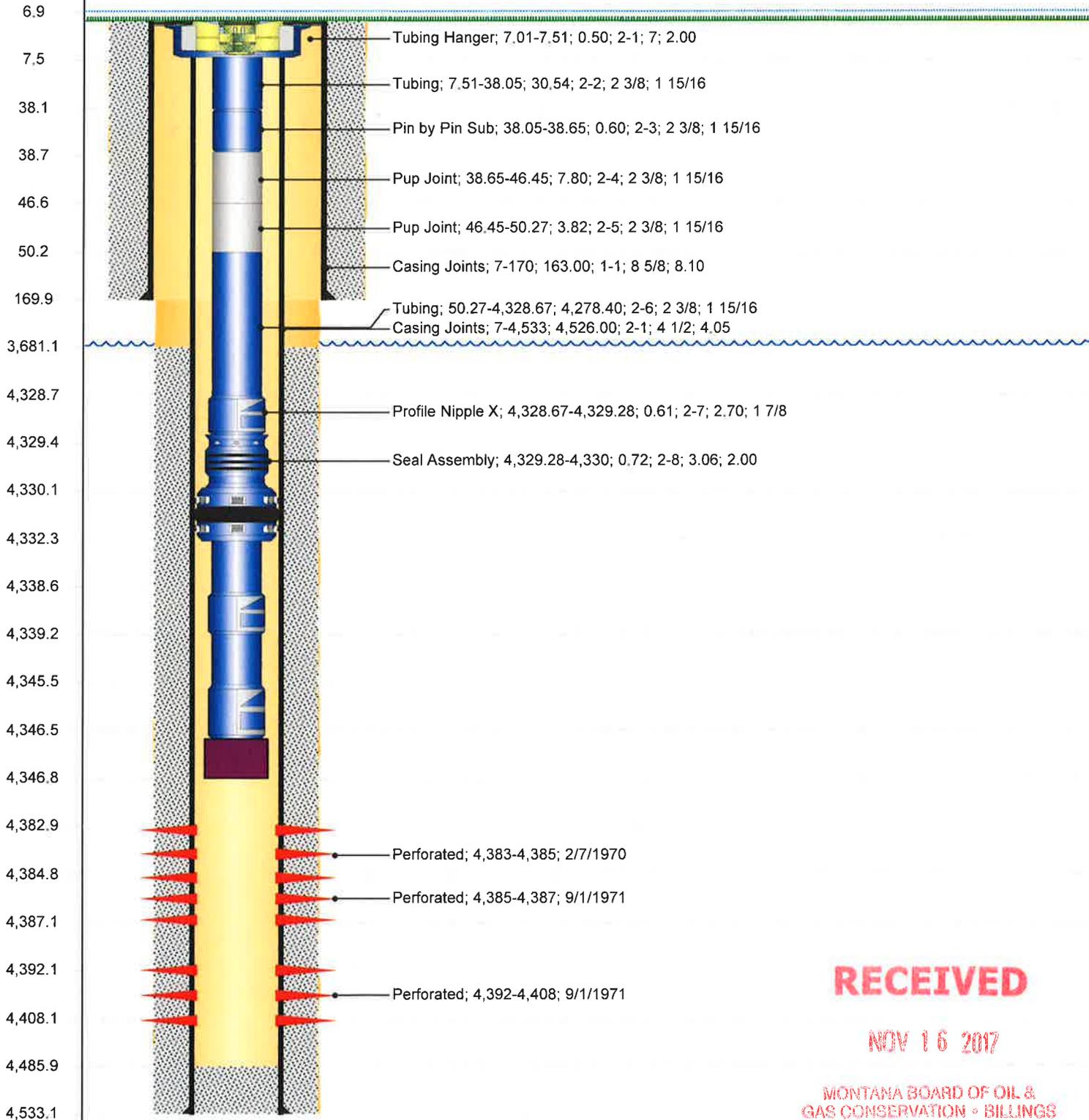
Field Name Bell Creek CO2	API/UJM 25075218610000	State ID#	Well Status A - Active	Well Configuration Type	Assoc.TB/TestSite	Latitude 45° 7' 32.407" N	Longitude 105° 7' 3.066" W		
Gr Elev (ft) 3,545.00	Orig KB Elev (ft) 3,552.00	KB-Gas (ft) 7.00	Total Depth (All) (ftKB) Original Hole - 4,533.0	Total Depth All (TVD) (ftKB)	PBTD (All) (ftKB)				
Spud Date	TD Date	Rig Release Date	Completion Start Date	Completion End Date	On Production Date	First Sales Date	First Inj Date	First Date CO2 Flood	Abandon Date

**TD: 4,533.00**

Original Hole, 11/15/2017 10:03:45 AM

MD (ftKB)

Vertical schematic (actual)

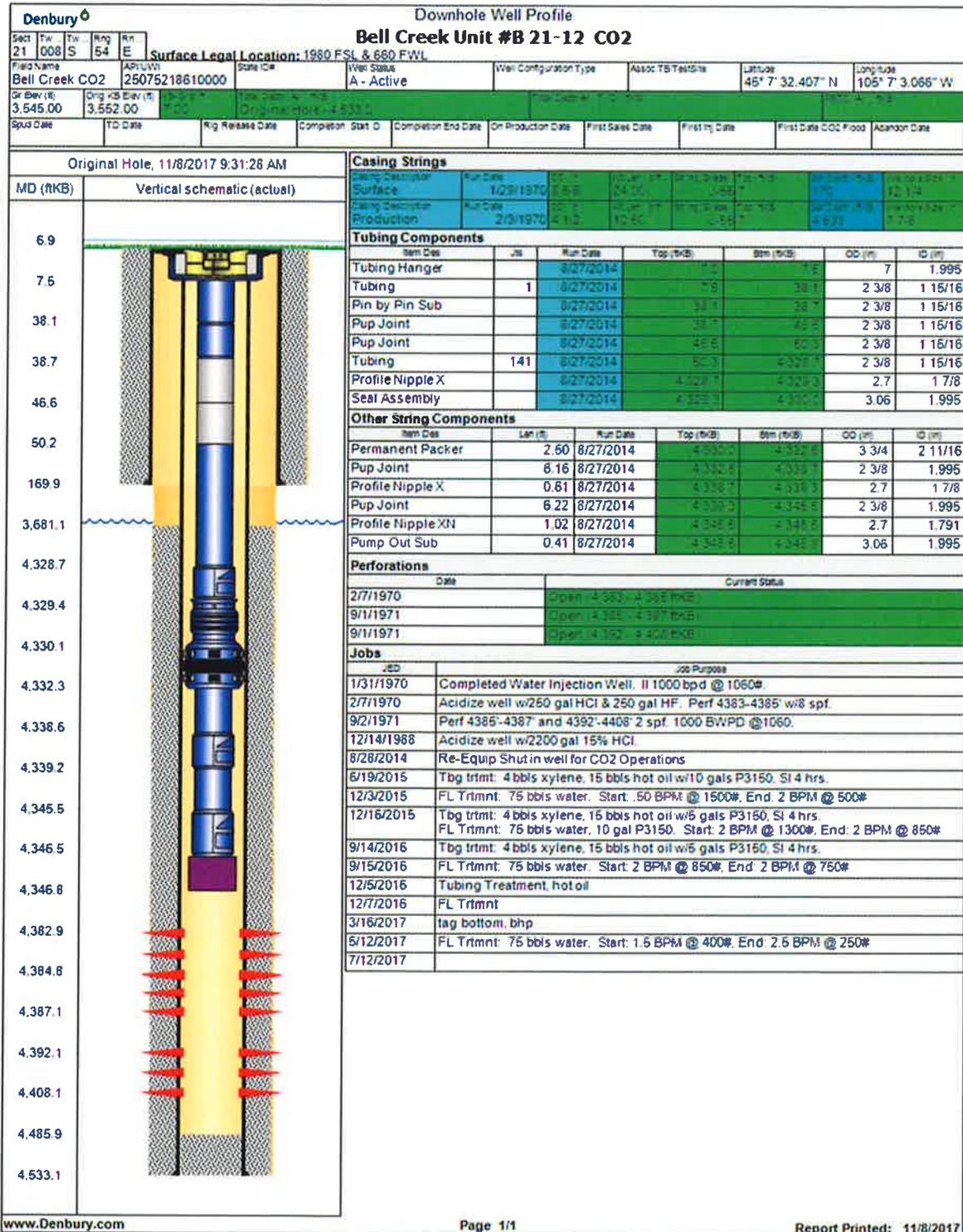


**RECEIVED**

NOV 16 2017

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

PROPOSED – same as original



RECEIVED

NOV 16 2017

# MONTANA SAGE GROUSE HABITAT CONSERVATION PROGRAM



STEVE BULLOCK, GOVERNOR

1539 ELEVENTH AVENUE

STATE OF MONTANA

PHONE: (406) 444-0554  
FAX: (406) 444-6721

PO BOX 201601  
HELENA, MONTANA 59620-1601

Project No. 2572  
Governor's Executive Orders 12-2015 and 21-2015  
Denbury BCU 21-12 - Fracture Stimulate  
API# 25-075-21861

Naomi Johnson  
5320 Legacy Drive  
Plano, TX 75024

November 9, 2017

Dear Ms. Johnson,

The Montana Sage Grouse Habitat Conservation Program received a request for consultation and review of your project or proposed activity on November 8, 2017. Based on the information provided, all or a portion of this project is located within General Habitat for sage grouse.

Executive Orders 12-2015 and 21-2015 set forth Montana's Sage Grouse Conservation Strategy. Montana's goal is to maintain viable sage grouse populations and conserve habitat so that Montana maintains flexibility to manage our own lands, our wildlife, and our economy and a listing under the federal Endangered Species Act is not warranted in the future.

**RECEIVED**

The program has completed its review, including:

**NOV 16 2017**

**Project Description:**

**Project Type:** Gas/Oil Well

**Project Disturbance:** 0.347 Acres

**Construction Timeframe:** November, 2017 to November, 2017, Temporary (< 1 Year)

**Disturbance Timeframe:** November, 2017 to November, 2017, Temporary (< 1 Year)

**MONTANA BOARD OF OIL &  
GAS CONSERVATION • BILLINGS**

**Project Location:**

**Legal:** Township 8 South, Range 54 East, Section 21

**County:** Powder River

**Ownership:** Private



Hosted by the Montana Department of Natural Resources and Conservation  
Director's Office: (406) 444-2074



**Executive Orders 12-2015 and 21-2015 Consistency:**

The project proposes to conduct well work on an existing well in designated General Habitat for sage grouse.

Denbury Inc. will be using a workover rig to perform well work on an existing well with an existing wellsite. There will be no ground disturbance. Well work will only take a few days to complete.

Based on the information you provided, your project is not within two miles of an active sage grouse lek.

**Recommendations:**

These stipulations are designed to maintain existing levels of suitable sage grouse habitat by managing uses and activities in sage grouse habitat to ensure the maintenance of sage grouse abundance and distribution in Montana. Development should be designed and managed to maintain populations and sage grouse habitats.

- Weed management is required within General Habitat for sage grouse. Reclamation of disturbed areas must include control of noxious weeds and invasive plant species, including cheatgrass (*Bromus tectorum*) and Japanese brome (*Bromus japonicas*).

Your activities are consistent with the Montana Sage Grouse Conservation Strategy. Your proposed project or activity may need to obtain additional permits or authorization from other Montana state agencies or possibly federal agencies. They are very likely to request a copy of this consultation letter, so please retain it for your records.

Please be aware that if the location or boundaries of your proposed project or activity change in the future, or if new activities are proposed within one of the designated sage grouse habitat areas, please visit <https://sagegrouse.mt.gov/projects/> and submit the new information.

Thanks for your interest in sage grouse and your commitment to taking the steps necessary to ensure Montana's Sage Grouse Conservation Strategy is successful.

Sincerely,



Carolyn Sime  
Montana Sage Grouse Habitat Conservation Program Manager

**RECEIVED**

**NOV 16 2017**

**MONTANA BOARD OF OIL &  
GAS CONSERVATION • BILLINGS**



cc: Jim Halverson  
Administrator Montana Board of Oil and Gas  
2635 St. Johns Ave.  
Billings, MT 59102

**RECEIVED**

**NOV 16 2017**

**MONTANA BOARD OF OIL &  
GAS CONSERVATION • BILLINGS**



Hosted by the Montana Department of Natural Resources and Conservation  
Director's Office: (406) 444-2074



# 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 REUIREMENTS – 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.