

FORM  
2  
Rev  
08/13

State of Colorado  
Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
400816584

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

Date Received:  
04/01/2015

TYPE OF WELL    OIL     GAS     COALBED     OTHER \_\_\_\_\_  
ZONE TYPE      SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES

Refiling   
Sidetrack

Well Name: Horsetail      Well Number: 08B-1742  
Name of Operator: WHITING OIL & GAS CORPORATION      COGCC Operator Number: 96155  
Address: 1700 BROADWAY STE 2300  
City: DENVER      State: CO      Zip: 80290  
Contact Name: Larry Brown      Phone: (307)237-9310      Fax: ( )  
Email: ld\_brown@bresnan.net

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20030110

WELL LOCATION INFORMATION

QtrQtr: NWNE      Sec: 8      Twp: 10N      Rng: 57W      Meridian: 6  
Latitude: 40.859922      Longitude: -103.773314

Footage at Surface: 330 feet      FNL/FSL      FEL/FWL  
FNL      1949 feet      FEL

Field Name: WILDCAT      Field Number: 99999  
Ground Elevation: 4892      County: WELD

GPS Data:  
Date of Measurement: 12/09/2014    PDOP Reading: 2.4    Instrument Operator's Name: Dallas Nielsen

If well is  Directional       Horizontal (highly deviated)      **submit deviated drilling plan.**

Footage at Top of Prod Zone:    FNL/FSL      FEL/FWL      Bottom Hole:    FNL/FSL      FEL/FWL  
620    FNL    2157    FEL      100    FSL    2310    FEL  
Sec: 8    Twp: 10N    Rng: 57W      Sec: 17    Twp: 10N    Rng: 57W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership:  Fee       State       Federal       Indian

The Surface Owner is:  is the mineral owner beneath the location.  
(check all that apply)  is committed to an Oil and Gas Lease.  
 has signed the Oil and Gas Lease.  
 is the applicant.

The Mineral Owner beneath this Oil and Gas Location is:  Fee       State       Federal       Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: oil and gas lease

Surface damage assurance if no agreement is in place: \_\_\_\_\_      Surface Surety ID: \_\_\_\_\_

## LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

Tract 1 6th PM T10N R57W  
Sec 7: Gr acs: 312.4500 Net acs: 312.4500  
L3(36.18), L4(36.27), E2SW, W2SE, E2SE  
Sec 18: Gr acs: 160.0000 Net acs: 160.0000  
NE  
Tract 2 6th PM T10N R57W  
Sec 7: Gr acs: 232.0900 Net acs: 232.0900  
L1(36.00), L2(36.09), E2NW, E2NE  
Tract 3 6th PM T10N R57W  
Sec 8: Gr acs: 480.0000 Net acs: 480.0000  
W2, W2E2  
Sec 17: Gr acs: 80.0000 Net acs: 80.0000  
N2NW

Total Acres in Described Lease: 1264 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5280 Feet  
Building Unit: 5280 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 329 Feet  
Above Ground Utility: 3385 Feet  
Railroad: 5280 Feet  
Property Line: 330 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).  
- Enter 5280 for distance greater than 1 mile.  
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit  
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: \_\_\_\_\_

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 213 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 100 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## SPACING & FORMATIONS COMMENTS

## OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR	535-658	1280	All 8 & 17

## DRILLING PROGRAM

Proposed Total Measured Depth: 16176 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 213 Feet (Including plugged wells)

Will a closed-loop drilling system be used? No

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H<sub>2</sub>S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Other

Cuttings Disposal: ONSITE Cuttings Disposal Method: Other

Other Disposal Description:

Bioremediation

Beneficial reuse or land application plan submitted?

Reuse Facility ID:  or Document Number:

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	24	16	65	0	80	179	80	0
SURF	13+1/2	9+5/8	36	0	1780	790	1780	0
1ST	8+3/4	7	29	0	6272	420	6272	0
1ST LINER	6	4	11.6	5454	16176			

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

**RULE 502.b VARIANCE REQUEST**

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

**OTHER LOCATION EXCEPTIONS**

Check all that apply:

Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_

Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

**OPERATOR COMMENTS AND SUBMITTAL**

Comments

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? \_\_\_\_\_ Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Larry Brown

Title: Agent Date: 4/1/2015 Email: ld\_brown@bresnan.net

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: *Matthew Lee* Director of COGCC Date: 4/30/2015

Expiration Date: 04/29/2017

**API NUMBER**  
05 123 41448 00

**Conditions Of Approval**

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

**COA Type**

**Description**

	<p>Note changes to submitted form.  1) Provide 48 hour notice of MIRU via electronic Form 42.  2) Set 1780' of surface casing.  3) Provide cement coverage to a minimum of 200' above Niobrara. Verify coverage with cement bond log.  4) Run and submit Directional Survey from TD to base of surface casing. Ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well.</p>
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## Best Management Practices

No	<b>BMP/COA Type</b>	<b>Description</b>
1	Planning	Wells Planned within 1500 feet are shown on the multi-well plan map.
2	Storm Water/Erosion Control	Stormwater management plans (SWMP) are in place to address construction, drilling and operations associated with oil and gas development throughout the State of Colorado. BMPs will be constructed as necessary to prevent stormwater from leaving the construction site. BMPs used will vary according to the location, and will remain until the pad is reclaimed.
3	Material Handling and Spill Prevention	<p>Spill Prevention Control and Countermeasures (SPCC) plans are in place to address any possible spill associated with oil and gas operations throughout the State of Colorado.</p> <ul style="list-style-type: none"> <li>• Materials and fluids will be stored in a neat and orderly fashion.</li> <li>• Waste will be collected regularly and disposed of at an offsite facility.</li> <li>• Prompt cleanup is required of spills to minimize waste materials entering the stormwater runoff.</li> <li>• Drip pans will be used during fueling and maintenance to contain spills or leaks.</li> <li>• Cleanup of trash and discarded material will be done at the end of the work day.</li> <li>• Cleanup will consist of monitoring the road, location and any other work areas.</li> <li>• Material to be cleaned up includes trash, scrap, and contaminated soil.</li> </ul>
4	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with an open-hole resistivity log with gamma-ray from TD to into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on the production casing (or intermediate casing if production liner is run). All wells on the pad will have the horizontal portion of the wellbore logged with a measured-while-drilling log with gamma-ray. The Form 5, Completion Report, for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run." The Form 5 for a well without open-hole logs shall clearly identify (by API#, well name & number) the well in which open-hole logs were run.

Total: 4 comment(s)

### Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400816584	FORM 2 SUBMITTED
400818461	WELL LOCATION PLAT
400818462	DEVIATED DRILLING PLAN
400818463	DEVIATED DRILLING PLAN
400818464	DRILLING PLAN
400818465	DIRECTIONAL DATA
400819064	OffsetWellEvaluations Data

Total Attach: 7 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed. No LGD or public comment received.	4/27/2015 2:25:45 PM
Engineer	Requested confirmation for: Is H2S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? Will oil based drilling fluids be used? Operator rep. ml_brown@bresnan.net stated NO on both.	4/27/2015 1:16:23 PM
Permit	Added open hole logging BMP per operator's request. Removed 317.p exception request	4/27/2015 11:22:19 AM
Permit	In Process-Spacing order finalized. Changed spacing order from 535-415 to 535-658 per the operator's request.	4/27/2015 8:28:52 AM
Engineer	Operator supplied new "Distance to nearest permitted or existing wellbore penetrating objective formation".	4/20/2015 12:05:19 PM
Permit	Changed distance to nearest well in the same formation per the operator's request. Notified Engineering.	4/17/2015 3:00:46 PM
Engineer	Increased surface casing from 1650' to 1780' and cement qty proportionally. Base of Upper Pierre aquifer is 1760' in offset 123-05791, gs 4935').  Evaluated existing wells within 1500' of proposed directional.	4/13/2015 3:12:17 PM
Permit	Requested revised distance to nearest well in the same formation and penetrating the objective formation.	4/7/2015 3:30:05 PM
Permit	W/O hearings order to revise density.	4/7/2015 1:32:35 PM
Permit	Passed Completeness	4/3/2015 10:53:37 AM

Total: 10 comment(s)