

FORM  
2

Rev  
12/05

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

400447157

Date Received:

07/16/2013

PluggingBond SuretyID

20090080

## APPLICATION FOR PERMIT TO:

1.  Drill,  Deepen,  Re-enter,  Recomplete and Operate

### 2. TYPE OF WELL

OIL  GAS  COALBED  OTHER \_\_\_\_\_  
SINGLE ZONE  MULTIPLE  COMMINGLE

Refiling

Sidetrack

3. Name of Operator: GREAT WESTERN OPERATING COMPANY LLC 4. COGCC Operator Number: 10110

5. Address: 1700 BROADWAY SUITE 650  
City: DENVER State: CO Zip: 80290

6. Contact Name: Shannon Hartnett Phone: (303)830-9893 Fax: ()  
Email: shartnett@gwogco.com

7. Well Name: Willow Bend LD Well Number: 18-22HC

8. Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

9. Proposed Total Measured Depth: 12670

## WELL LOCATION INFORMATION

10. QtrQtr: NENE Sec: 18 Twp: 1S Rng: 67W Meridian: 6

Latitude: 39.970960 Longitude: -104.923883

Footage at Surface: 335 feet FNL 527 feet FEL

11. Field Name: Spindle Field Number: 77900

12. Ground Elevation: 5233 13. County: ADAMS

### 14. GPS Data:

Date of Measurement: 06/05/2013 PDOP Reading: 1.9 Instrument Operator's Name: B. Hardenbergh

15. 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  
470 FNL 480 FEL 470 FSL 480 FEL  
Sec: 18 Twp: 1S Rng: 67W Sec: 18 Twp: 1S Rng: 67W

16. Is location in a high density area? (Rule 603b)?  Yes  No

17. Distance to the nearest building, public road, above ground utility or railroad: 305 ft

18. Distance to nearest property line: 335 ft 19. Distance to nearest well permitted/completed in the same formation(BHL): 262 ft

## 20. LEASE, SPACING AND POOLING INFORMATION

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL		640	GWA

21. Mineral Ownership:  Fee  State  Federal  Indian Lease #: \_\_\_\_\_

22. Surface Ownership:  Fee  State  Federal  Indian

23. Is the Surface Owner also the Mineral Owner?  Yes  No Surface Surety ID#:

23a. If 23 is Yes: Is the Surface Owner(s) signature on the lease?  Yes  No

23b. If 23 is No:  Surface Owners Agreement Attached or  \$25,000 Blanket Surface Bond  \$2,000 Surface Bond  \$5,000 Surface Bond

24. Using standard QtrQtr, Sec, Twp, Rng format enter entire mineral lease description upon which this proposed wellsite is located (attach separate sheet/map if you prefer):

See attached map

25. Distance to Nearest Mineral Lease Line: 335 ft

26. Total Acres in Lease: 624

### DRILLING PLANS AND PROCEDURES

27. Is H2S anticipated?  Yes  No If Yes, attach contingency plan.

28. Will salt sections be encountered during drilling?  Yes  No

29. Will salt (>15,000 ppm TDS CL) or oil based muds be used during drilling?  Yes  No

30. If questions 28 or 29 are yes, is this location in a sensitive area (Rule 901.e)?  Yes  No

31. Mud disposal:  Offsite  Onsite

If 28, 29, or 30 are "Yes" a pit permit may be required.

Method:  Land Farming  Land Spreading  Disposal Facility Other: \_\_\_\_\_

Note: The use of an earthen pit for Recompletion fluids requires a pit permit (Rule 905b). If air/gas drilling, notify local fire officials.

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
SURF	12+1/4	9+5/8	36	0	1230	273	1230	0
1ST	8+3/4	7	23	0	8361	767	8361	725
1ST LINER	6+1/8	4+1/2	11.6	7496	12670			

32. BOP Equipment Type:  Annular Preventer  Double Ram  Rotating Head  None

33. Comments - No conductor casing will be set- Proposed spacing unit is Sec 18-T1S-R67W- Cement will be set at least 200 feet above the Niobrara- DJ Basin Horizontal Offset Well Policy spreadsheet is attached- Casing 2nd string: uncemented liner with packers and ports

34. Location ID: \_\_\_\_\_

35. Is this application in a Comprehensive Drilling Plan ?  Yes  No

36. Is this application part of submitted Oil and Gas Location Assessment ?  Yes  No

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

Signed: \_\_\_\_\_ Print Name: Shannon Hartnett

Title: Reg. Compl. Spec. Date: 7/16/2013 Email: shartnett@gwogco.com

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: 9/26/2013

**API NUMBER**

05 001 09774 00

Permit Number: \_\_\_\_\_ Expiration Date: 9/25/2015

**CONDITIONS OF APPROVAL, IF ANY:**

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.

**Description**

- 1) Note surface casing depth change from 1025' to 1230'. Increase cement volumes accordingly.
- 2) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.
- 3) Comply with Rule 317.i and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara and from 200' below the Sussex to 200' above Sussex. Verify coverage with cement bond log.
- 4) Comply with Rule 321. 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.

Operator acknowledges the proximity of the following wells: Front Range 3 API # 001-08738, Great Western Front Range 2 API # 001-06862, McElwain #2 API # 001-06288. Operator agrees to: provide mitigation option 4 (per the DJ Basin Horizontal Offset Policy) to mitigate the situation, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42 ("OTHER – AS SPECIFIED BY PERMIT CONDITION") stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well. Operator option 4 of retrievable bridge plug above Niobrara accepted.

Final review completed. Note LGD comments.

**Applicable Policies and Notices to Operators**

Notice Concerning Operating Requirements for Wildlife Protection.

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.

**Attachment Check List**

<b>Att Doc Num</b>	<b>Name</b>
1792845	PROPOSED SPACING UNIT
400447157	FORM 2 SUBMITTED
400447857	SURFACE AGRMT/SURETY
400447859	EXCEPTION LOC WAIVERS
400447862	WELL LOCATION PLAT
400447872	DEVIATED DRILLING PLAN
400448690	EXCEPTION LOC REQUEST
400448693	MINERAL LEASE MAP
400459276	OFFSET WELL EVALUATION
400461049	DIRECTIONAL DATA

Total Attach: 10 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
Permit	Operator requested change of distance to the nearest well.	3/6/2013 9:17:36 AM
LGD	This appears to be City of Thornton Jurisdiction. Please refer this to the City of Thornton for further comment.	8/5/2013 10:03:37 AM
Permit	Passes Completeness.	7/31/2013 2:07:41 PM
Permit	Returned to draft. Unable to upload directional data template.	7/30/2013 3:59:11 PM
Permit	REturned to draft: missing offset well spreadsheet. Line 22b should be N/A because surface owner is the mineral owner. Directional data not loaded.	7/17/2013 12:59:01 PM

Total: 5 comment(s)

## Best Management Practices

No	BMP/COA Type	Description
1	Planning	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed well path with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottom hole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
2	Drilling/Completion Operations	Great Western will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012

Total: 2 comment(s)