

FORM

2

Rev
12/05

State of Colorado

Oil and Gas Conservation Commission

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Date Received:

07/12/2013

PluggingBond SuretyID

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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: ENCANA OIL & GAS (USA) INC4. COGCC Operator Number: 1001855. Address: 370 17TH ST STE 1700City: DENVER State: CO Zip: 80202-56326. Contact Name: Chris McRickard Phone: (720)876-5586 Fax: (720)876-6584Email: chris.mcrickard@encana.com7. Well Name: Bohrer Well Number: 2C-19H-E368

8. Unit Name (if appl): _____ Unit Number: _____

9. Proposed Total Measured Depth: 11480

WELL LOCATION INFORMATION

10. QtrQtr: SWNW Sec: 19 Twp: 3n Rng: 68w Meridian: 6Latitude: 40.214420Longitude: -105.052450

Footage at Surface: 1382 feet FNL/FSL 762 feet FEL/FWL FWL

11. Field Name: Wattenberg Field Number: 9075012. Ground Elevation: 5059 13. County: WELD

14. GPS Data:

Date of Measurement: 06/12/2013 PDOP Reading: 1.9 Instrument Operator's Name: John Rice15. If well is ☐ Directional ☒ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL 836 FNL 592 FEL 900 FEL 460 FEL
 Bottom Hole: FNL/FSL 900 FNL 460 FEL 900 FNL 460 FEL
 Sec: 19 Twp: 3n Rng: 68w Sec: 19 Twp: 3n Rng: 68w

16. Is location in a high density area? (Rule 603b)? ☐ Yes ☒ No17. Distance to the nearest building, public road, above ground utility or railroad: 439 ft18. Distance to nearest property line: 63 ft 19. Distance to nearest well permitted/completed in the same formation(BHL): 119 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.)
NIOBRARA	NBRR		320	GWA

21. Mineral Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian Lease #: _____22. Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian23. 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 ☐ No23b. 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):

-Please see attached mineral lease map. [T3N R68W Sec 19: Part of the W/2NE/4, Part of the N/2NW/4, Part of the S/2NW/4.] - Horizontal Wellbore crosses lease lines within drilling and spacing unit; distance to lease line is 0'; distance to unit boundary is 460'.

25. Distance to Nearest Mineral Lease Line: 0 ft

26. Total Acres in Lease: 101

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
CONDUCTOR	22	16	30	0	80	80	80	0
SURF	12+1/4	9+5/8	40	0	800	100	800	0
1ST	8+3/4	7	26	0	7260	409	7260	500
2ND	6+1/8	4+1/2	13.5	0	11480	173	11480	6960

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

33. Comments - Encana requests the approval of a 318A.a.(1), 318A.c(1) and 603.a(2) exception location as the well head is to be located outside of a GWA drilling window, further than 50' from an existing well and closer than 150' to a property line. Request letter and waivers attached. - This well is closer than 150' to the nearest permitted or producing BHL. A 318A.m. variance request letter and waivers are attached.- Encana requests the approval of the omission of open hole logs; request letter attached.- Proposed spacing unit is T3N R68W Section 19: N/2- The distance to nearest well permitted/completed in the same formation (BHL) is found on page 8 of the Anti-Collision report.-Per operator:"The disturbed area for the Bohrer Trust 19H-E368 drill pad straddles two parcels which are both owned by the Kermit O. Bohrer Trust."

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: Chris McRickard

Title: Permitting Analyst

Date: 7/12/2013

Email: chris.mcrickard@encana.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:  Director of COGCC Date: 11/18/2013

API NUMBER

05 123 38448 00

Permit Number: _____ Expiration Date: 11/17/2015

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

Operator will place an explicit comment on the Drilling Completion Report documenting which well on this pad or quarter section was logged with a full suite of open hole logs.

Operator must meet water well testing requirements per Rule 318A.

- 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.
- 2) Comply with Rule 317.i and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log.
- 3) 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.

Date retrieval failed for the subreport 'IntPolicy_NTO' located at '\\DorDorSterling\oFarmReports\policy_nto.rdl'. Please

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400441616	FORM 2 SUBMITTED
400441927	DEVIATED DRILLING PLAN
400441928	DIRECTIONAL DATA
400441931	WELL LOCATION PLAT
400445454	PROPOSED SPACING UNIT
400447022	30 DAY NOTICE LETTER
400447024	EXCEPTION LOC REQUEST
400447025	EXCEPTION LOC WAIVERS
400447067	OFFSET WELL EVALUATION
400447278	VARIANCE REQUEST
400447279	MINERAL LEASE MAP
400447289	OTHER

Total Attach: 12 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Per operator: "The disturbed area for the Bohrer Trust 19H-E368 drill pad straddles two parcels which are both owned by the Kermit O. Bohrer Trust."	11/18/2013 11:27:14 AM
Permit	Final Review Completed. Public comment addressed (see comments); no LGD comment received.	11/15/2013 1:59:38 PM
Permit	ON HOLD: w/o response to public comment on 2A.	8/9/2013 11:04:00 AM
Public	Bohrer 19H-0368 Production Facility and well pad Impact – The proposed site and well pad concentrates the impact of 9 wells to one +7 acre disturbance. This + 7 acre area along with the neighboring residential properties will bear the full surface impact. This concentrated impact increases the likelihood of dust, noise and sound issues along with the anticipated negative property value effects. For most, this negative impact is beared without surface compensation. From a sectional view (Section 19), the applying operator has a proposed pad for the south half of the section (Boyd 19H), has an active drill pad located in the NW/NW (Bohrer Trust 21-19) and is applying for the 9 well (Bohrer 19H-0368) pad being discussed.	3/3/2013 9:22:45 PM

Using the idea surface impact should be associated with spacings, 5 of the wells should be moved to different drilling pads. The 2A-19H-E368, 2B-19H-E368, and possibly the 2C-19H-E368 would be closer to the heel orientation and thus spacing if drilled from the existing Bohrer Trust 21-19 drill pad. The 2I-19H-E368 and 2H-19H-368 would be closer to the under application Boyd 19H pad. The shorter reach out should be a cost savings to the operator. The Boyd 19H pad being located in an old dairy operation and the Bohrer Trust pad having already been constructed would lessen any new impact. This would lessen the impact of Bohrer drill pad by 4 to 5 wells and help align impact to benefit.

A step back and look at a larger view picture. The proposed applications for wells in Section 19 coupled with the 16 wells in Section 18 to the north would impact the 2 mile section of WCR 1 with 31 Horizontal (HZ) wells. Using a very conservative Model that 1 HZ well equals 5 conventional wells in production equivalent; the impact to this 2 mile stretch of County road would be 155 wells. This doesn't even take into consideration that the Section 18 wells are 7000' laterals and could increase production equivalents may be 20% higher for an aggregate impact of 170+ conventional wells. These equivalent statistics are very enlightening to the seriousness of the effects that this concentration will bring.

Serious consideration should be given to moving wells pads for all of section 19 to the east side of the section. The Bohrer well pad if moved to the east side would impact less personal residences and due to parcel sizes more align impact to surface compensation (meaning adjacent property owners to the surface disturbance would be less). The Boyd H19 pad would move from an abandon dairy to a field. This realignment would reduce the public impact by at least half. WCR 3 is not a through road and has minimal traffic compared to WCR 1 which is a main artery.

Access Road-

The proposed application asks for another access to WCR 1. This should be denied. The operator already has an access road to an active drill pad and production facility at the north end of section 19. The 2 well sites are connected by a field. This access is a County Right of way section line. Boulder County Vermillion Road connecting from the west would allow for truck traffic to only cross WCR 1 to enter instead of having to turn. Less desirable, there is also another alternative, the south side of the N ½ of section 19. Henson Drive is a residential road but a lease road could be connected to it.

Safety Concerns-

What protection, assurances, and considerations are to be given to the three residential houses at +/- 700' from the well pad and connecting production facility. The impact of a fire caused by lightning, grass fire, equipment malfunction, or human error is significantly magnified by the size and capacity of the production facility. What is the emergency response plan the operator has for the facility and their neighbors? The residential housing built in the recent past has sprinkler system requirements (Mtn View Fire District) due the lack of water pressure/supply to the water system in the area. Should this not be a major factor in deciding whether an industrial facility be placed close to residential property. What are the safety control features to be required of this facility? Are the neighbors of this production facility to rely on the public (Mtn View Fire District) to have adequate foam capabilities for a response to an incident or will the operator be responsible? Will it be a requirement or COA for this facility to be manned and lit? Is there enough experience and engineering controls to allow a facility of this size and capacity to be integrated with residential property?

Overview-

-There are less obtrusive areas for the well pad and production facility to be placed which would better align impact to benefit received. The east side of the section is less populated and thus operations would be less impactful to public and private activities.

	<p>-There would be a direct effect to Public Safety if Section 19 wells were to be moved to the east side of the section. Traffic impact to WCR 1 would be cut in half, both reducing volume and congestion and reducing liability.</p> <p>-Condition of Approval (COA) regarding the capabilities of either the operator or the public to have sufficient resources to respond to a fire incident at this large of capacity facility should be required.</p> <p>-COA regarding noise levels. Facility should not be allowed to be commissioned until all noise level requirements are tested and verified.</p>	
Permit	Ok to pass.	7/22/2013 10:20:04 AM
Permit	Operator requests approval of a Rule 603.a.(2) exception location: Wellhead is to be located less than 150' from a property line. Request letter and waivers attached.	7/22/2013 10:19:26 AM
Permit	Operator requests approval of a Rule 318Am exception location: Wellbore is to be located less than 150' from an existing wellbore. Request and waivers attached.	7/22/2013 10:19:26 AM
Permit	Operator requests approval of a Rule 318Aa exception location: Wellhead is to be located outside of a GWA drilling window. Request and Waiver attached.	7/22/2013 10:19:25 AM
Permit	Operator's request for omission of open hole logs.	7/22/2013 10:19:23 AM
Permit	Horizontal wellbore crosses lease lines within drilling and spacing unit; distance to lease line is 0'; distance to unit boundary is 460'.	7/22/2013 10:19:22 AM
Permit	This form has passed completeness.	7/15/2013 4:22:21 PM

Total: 11 comment(s)

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	- Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
2	Drilling/Completion Operations	- 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 wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole 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.

Total: 2 comment(s)