

**APPLICATION FOR PERMIT TO:**

**Drill**       Deepen       Re-enter       Recomplete and Operate

TYPE OF WELL    OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> COALBED <input type="checkbox"/> OTHER _____ ZONE TYPE       SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Refiling <input checked="" type="checkbox"/> Sidetrack <input type="checkbox"/>
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Date Received:  
09/01/2015

Well Name: Waste Connections      Well Number: 3C-29H-M168  
 Name of Operator: ENCANA OIL & GAS (USA) INC      COGCC Operator Number: 100185  
 Address: 370 17TH ST STE 1700  
 City: DENVER      State: CO      Zip: 80202-5632  
 Contact Name: Erin Lind      Phone: (720)876-5827      Fax: ( )  
 Email: erin.lind@encana.com

**RECLAMATION FINANCIAL ASSURANCE**  
 Plugging and Abandonment Bond Surety ID: 20100017

**WELL LOCATION INFORMATION**  
 QtrQtr: NESW      Sec: 29      Twp: 1N      Rng: 68W      Meridian: 6  
 Latitude: 40.018900      Longitude: -105.031870  
 Footage at Surface: 1509 feet      FNL/FSL FSL 1411 feet      FEL/FWL FWL  
 Field Name: WATTENBERG      Field Number: 90750  
 Ground Elevation: 5140      County: WELD  
 GPS Data:  
 Date of Measurement: 02/20/2013      PDOP Reading: 2.1      Instrument Operator's Name: John Rice  
 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  
    612      FSL      888      FWL      1650      FNL      900      FWL  
    Sec: 29      Twp: 1N      Rng: 68W      Sec: 20      Twp: 1N      Rng: 68W

**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: Bond  
 Surface damage assurance if no agreement is in place: Blanket      Surface Surety ID: 20090011

**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.)

T1N, R68W: Section 29: W/2NW/4 and other lands.

Total Acres in Described Lease: 480 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: 1583 Feet  
 Building Unit: 1583 Feet  
 High Occupancy Building Unit: 5280 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 1458 Feet  
 Above Ground Utility: 3962 Feet  
 Railroad: 9769 Feet  
 Property Line: 256 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: 126 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 612 Feet (Enter 5280 for distance greater than 1 mile.)

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

**SPACING & FORMATIONS COMMENTS**

Spacing Unit: T1N, R68W: Sec. 20: W/2, Sec. 29: W/2

**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		640	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 16590 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 126 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

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     318A    

**DRILLING WASTE MANAGEMENT PROGRAM**

Drilling Fluids Disposal:     OFFSITE          Drilling Fluids Disposal Methods:     Land application    

Cuttings Disposal:     OFFSITE          Cuttings Disposal Method:     Beneficial reuse    

Other Disposal Description:

Beneficial reuse or land application plan submitted?     Yes    

Reuse Facility ID:     431606          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	30	16	30	0	80	80	80	0
SURF	12+1/4	9+5/8	36	0	851		851	0
1ST	8+3/4	7	26	0	7735	512	7735	500
2ND	6+1/8	4+1/2	13.5	0	12438	282	12438	7435

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 The pad has been built and there will be no additional surface disturbance required. The location does not require a variance from any of the rules listed in Rule 306.d.(1).(A).(ii). No Form 2A required. Town of Erie BMPs included. There have been no changes to the original permit and the original offset evaluation is still valid. There have been no changes to the location. I certify that there have been no changes on land use, or lease description.

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

Location ID: 434375

Is this application being submitted with an Oil and Gas Location Assessment application? No

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

Signed: \_\_\_\_\_ Print Name: Erin Lind

Title: Regulatory Analyst Date: 9/1/2015 Email: erin.lind@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).

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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: 11/16/2015

Expiration Date: 11/15/2017

**API NUMBER**

05 123 38124 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.

<u>COA Type</u>	<u>Description</u>
	<p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU for the first well activity with a rig on the pad and provide 48 hour spud notice via Form 42 for all subsequent wells drilled on the pad.</p> <p>2) Comply with Rule 317.j. and provide cement coverage from TD to a minimum of 200' above Niobrara and from 200' below Sussex to 200' above Sussex. Verify coverage with cement bond log.</p>
	<p>Operator acknowledges the proximity of the listed wells. Operator agrees to: provide mitigation option 1 or 2 (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 ("OFFSET MITIGATION COMPLETED") stating that appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>Costigan E Unit 1 (05-123-12414) William H Peltier 2 (05-123-12614) Pratt F Unit 1 (05-123-17769) Barb LTD K Unit 1 (05-123-10759) Hippen 1-32 (05-123-11395)</p>
	<p>Note change in surface casing setting depth to 851'. Adjust cement volume accordingly.</p>

## Best Management Practices

No	BMP/COA Type	Description
1	Community Outreach and Notification	<p>Prior to commencement of any new drilling or completion operations, provide to an Erie designated staff member the following for the well-site for informational purposes only, which Encana may revise from time to time during operations:</p> <ul style="list-style-type: none"> <li>a) A summary of planned operations, including identified access points and operational timeline, for posting to a local community information web-page</li> <li>b) A site plan for site preparation, mobilization and demobilization</li> <li>c) A plan for interim reclamation and vegetation of the site and final reclamation of the site</li> <li>d) A plan for noise, light and dust mitigation, to the extent feasible</li> <li>e) A traffic management plan</li> <li>f) Updates of this information if any change during operations</li> </ul>
2	Community Outreach and Notification	<p>Prior to commencement of any new drilling or completion operations, provide notification to landowners within one-half (1/2) mile of the well-site.</p>
3	Construction	<p>Maximize equipment and wellhead setbacks from occupied buildings and residences to the extent feasible and practicable, as determined by Encana.</p>
4	Drilling/Completion Operations	<p>Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.</p>
5	Drilling/Completion Operations	<p>Adequate blowout prevention equipment will be used on all well servicing operations.</p>
6	Drilling/Completion Operations	<p>Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.</p>
7	Drilling/Completion Operations	<p>Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.</p>
8	Drilling/Completion Operations	<p>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 asconstructed gyro survey will be submitted to COGCC with the Form 5.</p>
9	Drilling/Completion Operations	<p>Utilize steel-rim berms around tanks and separators instead of sand or soil berms</p>
10	Drilling/Completion Operations	<p>One of the first wells drilled on the pad will be logged with Cased-hole Pulsed Neutron Log with Gamma Ray Log from TD into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. The horizontal portion of every well will be logged with a measured-while-drilling gamma-ray log. The Form 5, Completion Report, for each well on the pad will list all logs run in that well and have those logs attached. The Form 5 for each well shall clearly state "No open-hole logs were run" and shall reference the Rule 317.p Exception granted for the well.</p>

Total: 10 comment(s)

## Applicable Policies and Notices to Operators

Policy
Notice Concerning Operating Requirements for Wildlife Protection. <a href="http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf">http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf</a>
Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area. <a href="http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf">http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf</a>

### Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400868158	FORM 2 SUBMITTED
400893475	WELL LOCATION PLAT
400893476	OPEN HOLE LOGGING EXCEPTION

Total Attach: 3 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Per operator changed distance to nearest unit boundary from 460' to 612'. Final Review Completed.	11/13/2015 9:43:32 AM
Permit	Permitting Review Complete.	11/4/2015 12:12:34 PM
Permit	Operator requested Exception to Open Hole Logging Rule 317.p. See attached.	11/4/2015 12:12:33 PM
Permit	Pass completeness	9/11/2015 8:06:16 AM
Permit	Return to draft  Does not follow 317.p guidance. Please include BMP listed on Open Hole Logging Exception Letter on Operator BMP/COA tab.	3/4/2015 1:43:13 PM

Total: 5 comment(s)