



**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 SEC 7: N/2, mineral lease map attached.

Total Acres in Described Lease: 317 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: 460 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 674 Feet

Building Unit: 674 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 318 Feet

Above Ground Utility: 297 Feet

Railroad: 4171 Feet

Property Line: 316 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: 12/12/2013

**SPACING and UNIT INFORMATION**

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 124 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

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

**SPACING & FORMATIONS COMMENTS**

T1N R68W SEC 7: S/2NW/4, SW/4; SEC 18: 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.)
CODELL	CODL		560	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 15974 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 124 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: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

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	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	8113	461	8113	500
2ND	6+1/8	4+1/2	13.5#	0	15974	310	15974	7813

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 Encana requests approval of exception location to Rule 318A.a and 318A.c as the well head is to be located outside of a GWA window and further than 50' from an existing well; request letter and waivers are attached. Encana requests permission of the omission of open-hole logging according to Rule 317.o; exception request letter attached. The subject well is closer than 150' to the nearest permitted or producing wellbore—a 318A.m exception location request letter is attached. Eleven of the fifteen APDs were approved last fall, four were withdrawn due to spacing unit boundary discrepancies, which are now updated.

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

Location ID: 305447

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: Bonnie Lamond

Title: Permitting Analyst Date: 3/17/2014 Email: bonnie.lamond@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: *Matthew Lee* Director of COGCC Date: 4/13/2014

Expiration Date: 04/12/2016

**API NUMBER**  
05 123 39245 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>Operator acknowledges the proximity of the listed wells. Operator agrees to provide mitigation Option 1 or 2 (per the DJ Basin Horizontal Offset Policy, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42(s) ("OFFSET MITIGATION COMPLETED") for the remediated wells, referencing the API Number of the proposed horizontal well(s) stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>Thomas E Unit 1 (API 123-10710) Woolley 12-7 (API 123-22988) Woolley A 1-7 (API 123-09093)</p>
	<p>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 and from 200' below Shannon to 200' above Sussex. 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.</p>
	<p>Operator shall comply with Buffer Zone Move-In, Rig-Up Notice Policy dated 12-16-2013.</p>

## Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank 800-5 C
2	Drilling/Completion Operations	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.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	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.
5	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.
6	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.

Total: 6 comment(s)

### 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>
400553440	FORM 2 SUBMITTED
400562984	OffsetWellEvaluations Data
400567540	MINERAL LEASE MAP
400567670	DEVIATED DRILLING PLAN
400567671	OTHER
400567672	PROPOSED SPACING UNIT
400567673	EXCEPTION LOC REQUEST
400567677	ANTI-COLLISION WAIVER
400567678	WELL LOCATION PLAT
400567679	EXCEPTION LOC WAIVERS
400567680	EXCEPTION LOC WAIVERS
400567681	DIRECTIONAL DATA
400572755	OPEN HOLE LOGGING EXCEPTION

Total Attach: 13 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed. LGD comment addressed (see BMP's on form 2A); no public comment received.	4/11/2014 11:31:25 AM
Permit	The Certification of Compliance with Rule 305.a is under other. ok to pass.	3/31/2014 11:12:39 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.	3/31/2014 11:12:33 AM
Permit	Operator requests approval of a Rule 318Aa and Rule 318Ac exception location: Wellhead is to be located outside of a GWA drilling window and will be located more than 50' from an existing well location. Request and waivers attached.	3/31/2014 10:39:02 AM
Permit	Request for Exception to Open Hole Logging Rule 317.o letter attached.	3/31/2014 10:39:00 AM
LGD	<p>The Town of Erie requests that the BMP's outlined in the EnCana Oil Gas (USA)/Town of Erie Memorandum of Understanding (outlined below) be conditions of approval of the issuance of this permit.</p> <ol style="list-style-type: none"> <li>1. Maximize equipment and wellhead setbacks from occupied buildings and residences to the extent feasible and practicable, as determined by Encana.</li> <li>2. Prior to commencement of any new drilling or completion operations, provide notification to landowners within one-half (1/2) mile of the wellsite.</li> <li>3. Prior to commencement of any new drilling or completion operations, provide to an Erie designated staff member the following for the wellsite for informational purposes only, which Encana may revise from time to time during operations:               <ol 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 revegetation 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; and</li> <li>(f) updates of this information if any plans change during operations.</li> </ol> </li> <li>4. Utilize steel-rim berms around tanks and separators instead of sand or soil berms.</li> <li>5. Utilize closed-loop systems for drilling and completion operations to minimize the need for earthen pits.</li> <li>6. Utilize a high-low pressure vessel (HLP) and vapor recovery unit (VRU) for new wells drilled. Encana may remove the VRU system at such time Encana determines that the VRU system is no longer necessary, but no earlier than one (1) year after the new well is drilled.</li> </ol>	3/19/2014 8:46:10 AM
Permit	Form passes completeness.	3/18/2014 4:03:35 PM

Total: 7 comment(s)