

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:

400534169

APPLICATION FOR PERMIT TO:

☒ Drill
 ☐ Deepen
 ☐ Re-enter
 ☐ Recomplete and Operate

Date Received:

01/31/2014

TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER _____Refilling ☐ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐

Well Name: Sprague

Well Number: 3I-9H-N267

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: Bonnie Lamond

Phone: (720)876-5156

Fax: ()

Email: bonnie.lamond@encana.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100017

WELL LOCATION INFORMATION

QtrQtr: SESW Sec: 9 Twp: 2N Rng: 67W Meridian: 6

Latitude: 40.147010

Longitude: -104.898340

Footage at Surface: 521 feet FNL/FSL FSL 1757 feet FEL/FWL FWL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 4981

County: WELD

GPS Data:

Date of Measurement: 10/09/2013 PDOP Reading: 2.4 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 FSL 2188 FEL 350 FSL 2250 FEL
 607 FSL 2188 FEL 350 FSL 2250 FEL
 Sec: 9 Twp: 2N Rng: 67W Sec: 4 Twp: 2N Rng: 67W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ IndianThe 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.)

T2N R67W Sec 9: SW/4. Mineral lease map attached. Surface/Mineral owner is the successor to the original lease.

Total Acres in Described Lease: 160 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: 910 Feet

Building Unit: 959 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 509 Feet

Above Ground Utility: 550 Feet

Railroad: 5280 Feet

Property Line: 521 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: 12/10/2013

SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 161 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 607 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): _____ Unit Number: _____

SPACING & FORMATIONS COMMENTS

Section 4: SE/4SW/4, SW/4SE/4, Section 9: E/2W/2, W/2E/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		400	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 12782 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 40 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H₂S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H₂S 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: Recycle/reuse

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	7771	440	7771	500
2ND	6+1/8	4+1/2	13.5	0	12782	203	12782	7471

☐ 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 the approval of 318A.a. and 318A.c. exception location as the well head is to be located outside of a GWA drilling window and further than 50' from an existing well. Request letter and waivers attached.

Encana requests the approval of the omission of open hole logs; request letter attached.

This application is in a Comprehensive Drilling Plan _____ CDP #: _____

Location ID: 302199

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: 1/31/2014 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:  Director of COGCC Date: 4/14/2014

Expiration Date: 04/13/2016

API NUMBER

05 123 39269 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.</p> <p>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 the Shannon to 200' above Sussex. Verify coverage with cement bond log.</p> <p>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 acknowledges the proximity of the listed non-operated wells. Operator agrees to provide mitigation Option 1 or 2 (per the DJ Basin Horizontal Offset Policy), ensure all applicable documentation is submitted, and submit 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>Sprague 1 (API 123-07257) Unit A #1 (API 123-07286)</p>
	Operator shall comply with Buffer Zone Move-In, Rig-Up Notice Policy dated 12-16-2013.
	<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>Sprague 1-9 (API 123-14823) Sprague 3-9 (API 123-15403) Sprague 42-9 (API 123-19873) Sprague 1 (API 123-09359)</p>
	Operator will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012. (attached)

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	General Housekeeping	Any material not in use that might constitute a fire hazard will be removed a minimum of twenty-five (25) feet from the wellhead, tanks and separator. Any electrical equipment installations inside the bermed area will comply with API RP 500 classifications and comply with the current national electrical code as adopted by the State of Colorado.
2	General Housekeeping	Encana will maintain the site so that all surface trash, debris, scrap or discarded material connected with the operations of the property will be removed from the premises or disposed of in a legal manner.
3	General Housekeeping	The well site will be cleared of all non-essential equipment, trash and debris after ninety days of a well P&A.

4	Material Handling and Spill Prevention	<p>"Encana's Leak Detection Program:</p> <ul style="list-style-type: none"> • annual hydrostatic test on the oil dump line from the separator to the tank battery. • annual hydrostatic "static" tests on our oil tanks. • Annual hydrostatic "static" tests on our produced water tank and water dump line from the separator to the produced water tank. • Lease Operator inspections of all equipment not to exceed 48 hours. • Monthly documented inspections (EU). • Annual environmental inspections of all battery and well equipment and pads. • Annual UT inspections of the pressure vessels and input into Encana's RIPL Predictive Integrity Maintenance Program. (HLP separators and fuel gas separators)
5	Material Handling and Spill Prevention	Encana will utilize 48" tall corrugated galvanized metal berm walls with a capacity in excess of 150% of the largest tank contained within the wall. In addition, Encana's Best Practices mandates the use of impervious liners that extends under each storage tank and up the walls, permanently affixed to the top of the metal berm wall. Protrusions of piping that come through the liner include a fully sealed "boot" to prevent leakage.
6	Construction	At the time of construction, all leasehold roads will be constructed to accommodate local emergency vehicle access requirements, and will be maintained in a reasonable condition.
7	Noise mitigation	Encana will perform a baseline noise survey prior to any operational activity measuring dBA at a distance 350 feet from the noise source (unless there is an occupied structure closer than that – then we measure 25 feet from the structure). If low frequency noise is a concern, we will measure dBC at 25 feet from the occupied structure towards the noise source. As necessary based on the survey, we will install temporary sound walls to minimize noise and light impacts during drilling and completions and will install permanent noise mitigation at the facility location as necessary to meet all COGCC regulations.
8	Drilling/Completion Operations	Flow lines, separators, and sand traps capable of supporting green completions as described in Rule 805 will be installed on subject location at which commercial quantities of gas are reasonably expected to be produced based on existing adjacent wells within 1 mile.
9	Drilling/Completion Operations	Temporary flowback flaring and oxidizing equipment will include: adequately sized equipment to handle 1.5 times the largest flowback volume of gas experienced in a ten mile radius. If there is overrun, Encana will shut in the well versus freely venting
10	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 will 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 will be conducted on a daily basis when practicable.
11	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
12	Drilling/Completion Operations	Backup stabbing valves will be used on well servicing operations during reverse circulation. Valves will be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
13	Drilling/Completion Operations	Encana will use an engineered base beam that we guy wire anchor the derricks to.

14	Drilling/Completion Operations	All newly installed or replaced crude oil and condensate storage tanks will be designed, constructed, and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). Encana will maintain written records verifying proper design, construction, and maintenance, and will make these records available for inspection by the Director. In addition, onsite inspections are conducted internally to insure guidelines are met.
15	Drilling/Completion Operations	Encana will identify plugged and abandoned wellbores according to Rule 319.a.(5). including the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). Encana will also inscribe or imbed the well number and date of plugging upon the permanent monument.
16	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: 16 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

<u>Att Doc Num</u>	<u>Name</u>
1696109	OTHER
1696110	ANTI-COLLISION WAIVER
400534169	FORM 2 SUBMITTED
400538218	MINERAL LEASE MAP
400538221	DEVIATED DRILLING PLAN
400538223	EXCEPTION LOC WAIVERS
400538224	PROPOSED SPACING UNIT
400538225	WELL LOCATION PLAT
400538226	SURFACE AGRMT/SURETY
400538228	DIRECTIONAL DATA
400548316	OffsetWellEvaluations Data
400548960	OPEN HOLE LOGGING EXCEPTION
400550098	EXCEPTION LOC REQUEST

Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed. No LGD or public comment received.	4/3/2014 2:59:03 PM
Permit	Per operator corrected Distance to nearest permitted or existing wellbore penetrating objective formation from 161' to 40'. Removed Notice of intent to conduct operations letter to Building Unit Owners. Added The Certification of Compliance with Pre-Application Notice Rule 305.a. is under "Other". Changed right to construct from SUA to O&G lease. Added Variance request for 318A.m letter. ok to pass.	2/27/2014 2:40:24 PM
Permit	Per operator added "Surface/Mineral owner is the successor to the original lease." to lease info. ON HOLD: Requesting 318A.m Variance Request letter for Distance to nearest permitted or existing wellbore penetrating object formation: approx. 57' from application's wellbore. And corrected distance to wellbore.	2/24/2014 1:54:08 PM
Permit	Request for Exception to Open Hole Logging Rule 317.o letter attached. API#123-27346 Sprague 24-9.	2/24/2014 1:54:08 PM
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.	2/24/2014 1:54:07 PM
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.	2/24/2014 1:53:34 PM
Permit	Passed completeness.	2/5/2014 11:45:46 AM
Permit	Returned to draft at request of Operator.	2/4/2014 10:09:59 AM
Permit	Returned to draft at oper's request.	2/3/2014 12:09:44 PM

Total: 9 comment(s)