

FORM
2

Rev
08/16

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:

401174640

APPLICATION FOR PERMIT TO:

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

TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER _____

Refilling ☐

ZONE TYPE SINGLE ZONE ☐ MULTIPLE ZONES ☒ COMMINGLE ZONES ☒

Sidetrack ☐

Date Received:

12/29/2016

Well Name: Federal

Well Number: 5-8B (H5SE)

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: Jason Eckman

Phone: (970)285-2656

Fax: ()

Email: jason.eckman@encana.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: _____

WELL LOCATION INFORMATION

QtrQtr: SENE Sec: 5 Twp: 8S Rng: 92W Meridian: 6

Latitude: 39.392135

Longitude: -107.684402

Footage at Surface: 1394 Feet FNL/FSL FNL 1040 Feet FEL/FWL FEL

Field Name: MAMM CREEK

Field Number: 52500

Ground Elevation: 6903

County: GARFIELD

GPS Data:

Date of Measurement: 10/18/2016 PDOP Reading: 2.6 Instrument Operator's Name: Brian Taggart

If well is ☒ Directional ☐ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL FNL/FWL Bottom Hole: FNL/FSL FEL/FWL
1560 FNL 890 FEL 1560 FNL 890 FEL
Sec: 5 Twp: 8S Rng: 92W Sec: 5 Twp: 8S Rng: 92W

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: 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.)

Lot 1 & 2 & S2NE4, SE4NW4, E2SW4 & SE4 of Section 5 T8S, R 92W
NE4, SE4, E2SW4 & E2NW4 of Section 8, T8S, R92W

Total Acres in Described Lease: 907 Described Mineral Lease is: ☐ Fee ☐ State ☒ Federal ☐ Indian

Federal or State Lease # COC 69612

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 890 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 5280 Feet
Above Ground Utility: 5280 Feet
Railroad: 5280 Feet
Property Line: 3826 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 proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 1900 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 1820 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): Encore East Unit Number: 78130X

SPACING & FORMATIONS COMMENTS

Encore East is a Federal Unit

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
WILLIAMS FORK-ILES	WFILS			

DRILLING PROGRAM

Proposed Total Measured Depth: 10269 Feet

Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged wells:

Enter distance if less than or equal to 1,500 feet: _____ Feet ☒ No well belonging to another operator within 1,500 feet

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 609

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: ONSITE Cuttings Disposal Method: Other

Other Disposal Description:

Drilling Fluids Disposal: OFFSITE
Other Disposal Description: Drilling Fluids Disposal Method - Recycled and reused offsite.
Cuttings Disposal Method - Onsite in cuttings management area (as shown on Construction Layout Drawings).

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	24+0/0	16	42	0	60	181	60	0
SURF	12+1/4	9+5/8	36	0	1325	463	1325	0
1ST	8+1/2	7	26	0	9144	669	9144	1729
OPEN HOLE	6+1/8			9144	10269	0		

☐ 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 _____

This application is in a Comprehensive Drilling Plan _____ No _____ CDP #: _____

Location ID: _____ 324249 _____

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: _____ Jason Eckman _____

Title: _____ Sr. Regulatory Analyst _____ Date: _____ 12/29/2016 _____ Email: _____ jason.eckman@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: _____ 4/5/2017 _____

Expiration Date: _____ 04/04/2019 _____

API NUMBER

05 045 23501 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

	If conductors are preset, operator shall comply with Notice to Operators: Procedures for Preset Conductors (dated September 1, 2016, revised October 6, 2016).
	Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017)
	<p>1)Operator shall comply with the most current revision of the Northwest Notification Policy.</p> <p>2)Operator shall comply with the most current revision of the Mamm Creek Field Notice to Operators, with the following exception: All field notice requirements specified in that Notice to Operators are superseded by the requirements of the most current revision of the Northwest Colorado Notification Policy (see Condition of Approval #1). Operator shall submit the primary cement job Cement Bond Log (CBL) with either the Form 4 Sundry Notice - Request to Complete or the Form 5 Drilling Completion Report.</p> <p>3)Operator shall comply with the most current revision of the Mamm Creek Field Notice to Operators, with the following exception: All field notice requirements specified in that Notice to Operators are superseded by the requirements of the most current revision of the Northwest Colorado Notification Policy (see Condition of Approval #1).</p> <p>4)Operator shall comply with the Notice to Operators Drilling Wells in the Buzzard, Mamm Creek, and Rulison fields, Garfield County and Mesa County – Procedures and Submittal Requirements for Compliance with COGCC Order Nos. 1-107, 139-56, 191-22, and 369-2 (July 8, 2010).</p> <p>5)Operator shall provide cement coverage from the production casing shoe (7" FIRST STRING) to a minimum of 500' above the Lower Wasatch (as defined by COGCC in the report "Casing and Cement Standards for Geologic Isolation Piceance Basin Bradenhead Monitoring Area and Nearby Fields," dated April 18, 2016, COGCC Document No. 2056199, Appendix A Field Scout Cards and Annotated Type Logs) to provide isolation of the Lower Wasatch, all Mesaverde Group formations including the Ohio Creek Formation, and underlying formations, if penetrated. Verify production casing cement coverage with a cement bond log. This requirement shall supersede the top of cement requirements in the Mamm Creek Field Notice to Operators.</p>

Best Management Practices

No BMP/COA Type

Description

1	Drilling/Completion Operations	The existing well on the pad (MCU 4-4C API# 05-045-09424) has had a full set of logs ran that meet Rule 317 p. criteria.
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Total: 1 comment(s)

Applicable Policies and Notices to Operators

Policy
Mamm Creek Field Area Notice to Operators. http://cogcc.state.co.us/documents/reg/Policies/Mamm%20Creek%20Drilling.pdf
Piceance Rulison Field - Notice to Operators. http://cogcc.state.co.us/documents/reg/Policies/NoticeToOp-20060623-2.pdf
NW Colorado Notification Policy. http://cogcc.state.co.us/documents/reg/Policies/nw_notification_procedures.pdf
Bradenhead Pressure Reporting-Garfield County (Mamm Creek & Rulison Fields) Mesa County (Buzzard Field). http://cogcc.state.co.us/documents/reg/Policies/NT0_07082010.pdf
Notice Concerning Operating Requirements for Wildlife Protection. http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401174640	FORM 2 SUBMITTED
401175206	DEVIATED DRILLING PLAN
401175227	LEASE MAP
401186580	WELL LOCATION PLAT
401186612	DIRECTIONAL DATA

Total Attach: 5 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Removed extra copy of directional data spreadsheet with operator approval. Corrected logging BMP as per operator. Final review complete.	03/29/2017
Permit	Removed plugging bond. Corrected waste management plans to match form 2A and notified operator. Preliminary review complete.	02/23/2017
Engineer	Offset water well check: There are no permitted water wells within one mile of this proposed surface hole location. Offset Well Evaluation: Existing offset oil and gas wells within 1,500 feet of this wellbore meet standards. No mitigation required. Removed zero values from casing tab. Unchecked no offset wells within 1500 feet.	02/06/2017
Permit	Passes completeness. Plugging bond needs removal.	02/03/2017
Permit	Returned to draft: * Update Cultural Distances to match Form 2A.	01/23/2017
Permit	Corrected what Operator had not corrected: type of lease and label of Well Location Plat.	01/23/2017
Permit	Returned to draft: --Missing top of pay zone footages; indicate well type --label "PLAT" as Well Location Plat --indicate type of lease: federal --upload directional data template using COGCC template --access road map not required on APD --casing tab complete? proposed TD is 10269'. --need comment on distance to overhead utility at 145'. Does not meet safety setback. Explain.	01/06/2017

Total: 7 comment(s)