

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:

400911300

APPLICATION FOR PERMIT TO:

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

Date Received:

10/06/2015

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER LateralRefilling ☐ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☒Well Name: FlahertyWell Number: 18-13-12NBHName of Operator: EDGE ENERGY LLCCOGCC Operator Number: 10518Address: 800 18TH STREET SUITE 300City: DENVER State: CO Zip: 80202Contact Name: Jeff AnnablePhone: (303)928-7128Fax: (303)218-5678Email: regulatory@petro-fs.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20140065

WELL LOCATION INFORMATION

QtrQtr: NWSW Sec: 18 Twp: 4N Rng: 62W Meridian: 6Latitude: 40.311195Longitude: -104.376041
 Footage at Surface: 2174 feet FNL/FSL FSL 160 feet FEL/FWL FWL
Field Name: WATTENBERGField Number: 90750Ground Elevation: 4546County: WELD

GPS Data:

Date of Measurement: 09/16/2015 PDOP Reading: 1.3 Instrument Operator's Name: Alan HnizdoIf well is ☐ Directional ☒ Horizontal (highly deviated) **submit deviated drilling plan.**Footage at Top of Prod Zone: FNL/FSL 2264 FSL 460 FEL 2264 FSL 460 FWL FWL
 Sec: 13 Twp: 4N Rng: 63W Sec: 13 Twp: 4N Rng: 63W

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 ☐ IndianThe Minerals beneath this Oil and Gas Location will be developed by this Well: NoThe right to construct the Oil and Gas Location is granted by: Surface Use Agreement

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.)

Township 4 North, Range 63 West of the 6th PM
Section 13: All

Total Acres in Described Lease: 640 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: 1752 Feet
Building Unit: 1803 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 406 Feet
Above Ground Utility: 377 Feet
Railroad: 5280 Feet
Property Line: 160 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: 2320 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

Niobrara -Proposed Spacing Unit is described as: T4N, R63W, Sec 13 - S2N2, N2S2.

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		320	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 10880 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 2320 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: 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	20	16	42	0	80	100	80	0
SURF	12+1/4	9+5/8	36	0	500	176	500	0
1ST	8+3/4	7	29	0	6450	540	6450	3000
1ST LINER	6+1/8	4+1/2	11.6	5950	10880			

☐ 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

If Lot 2 were two complete separate Qtr/Qtrs, then the wells would be located in the NWSW qtr/qtr.

Letter to Director for COGCC Rule 318A.e. Proposed Spacing Unit, attached as Proposed Spacing Unit.

Letter to the Director for COGCC Rule 318A.a. Exception Location Request, attached as Exception Loc Request.

COGCC Rule 318A.a. GWA Drilling Window waiver is waived in the SUA, please see highlighted section of attached SUA.

Nearest wellbore permitted or completed in the same formation is the Latham 41-11-14HNB API #05-123-39537. Distance to nearest permitted or existing wellbore penetrating objective formation is Latham 41-11-14HNB API #05-123-39537.

This is a planned Lateral for the submitted Flaherty 18-13-12NBH Form 2 Doc #400911296 Pilot Hole.

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

Location ID: _____

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: Jeff Annable

Title: Regulatory Analyst Date: 10/6/2015 Email: regulatory@petro-fs.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: 11/16/2015

Expiration Date: 11/15/2017

API NUMBER

05 123 42434 01

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>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.</p> <p>2) Comply with Rule 317.j and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log.</p> <p>3) Run and submit Directional Survey from TD to base of surface casing. The operator shall comply with Rule 321, and it shall be the operator's responsibility to ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well.</p>
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Best Management Practices

No BMP/COA Type

Description

1	Planning	Rule 604.c(2)M. Fencing: A meeting with the surface owner will determine a fencing plan.
2	Traffic control	<p>604.c.(2)S. Access Roads: The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times. Traffic will be routed to minimize local interruption. Dust control measures will also be utilized.</p> <p>604.c.(2)D: If required by the local government, a traffic plan shall be coordinated with the local jurisdiction prior to commencement of move in and rig up. Any subsequent modification to the traffic plan must be coordinated with the local jurisdiction.</p>
3	General Housekeeping	Rule 604.c.(2)P. Trash Removal: All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as applicable.
4	Storm Water/Erosion Control	Use water bars, and other measures to prevent erosion and non-source pollution. Implement and maintain BMPs to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Co-locate gas and water gathering lines whenever feasible, and mitigate any erosion problems that arise due to the construction of any pipeline(s).
5	Material Handling and Spill Prevention	Rule 604.c.(2)F. Leak Detention Plan: Pumper will visit the location daily and visually inspect all fittings for leaks. Additionally, monthly documented SPCCP inspections are conducted pursuant to 40 CFR
6	Dust control	Rule 805.c. - Operator shall employ practices for control of fugitive dust caused by their operations. Such practices shall include but are not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during highwind days, and silica dust controls when handling sand used in hydraulic fracturing operations. Additional management practices such as road surfacing, wind breaks and barriers, or automation of wells to reduce truck traffic may also be required if technologically feasible and economically reasonable to minimize fugitive dust emissions.
7	Emissions mitigation	Green Completions - Emission Control System: Measures will be undertaken to reduce emissions of saleable gas and condensate vapors during cleanout and flowback operations prior to the well being placed on production. Test separators and associated flow lines and sand traps shall be installed to accommodate green completions techniques pursuant to COGCC Rules. Edge Energy is working with a midstream operator in the area and will tie into their system for gas transportation and sales as soon as practicable. The ECD shall have an adequate capacity for 1.5 times the largest flowback within a 10 mile radius, will be flanged to route gas to other or permanent oxidizing equipment and shall be provided with the equipment needed to maintain combustions where non-combustible gases are present.
8	Odor mitigation	805 Odors and Dust: Oil & gas facilities and equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare.

9	Drilling/Completion Operations	<p>604.c.(2)I BOPE Testing for Drilling 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 shall 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 shall 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> <p>604.c.(2)L. Drill Stem Tests: Closed chamber drill stem tests shall be allowed. All other drill stem tests shall require approval by the Director. None planned for this well.</p> <p>604.c.(2).K. Pit Level Indicators: Pit level Indicators shall be used on location. No pit is planned on this location.</p> <p>604.c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.</p> <p>207.b. Bradenhead Monitoring: Operator acknowledges and will comply with COGCC Policy for Braden-head Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.</p> <p>Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.</p> <p>604.c.(2)B.i Closed Loop Drilling Systems – Pit Restrictions: Operator will be utilizing a closed loop system</p> <p>604.c.(2)H. Blowout Preventer Equipment (“BOPE”): A double ram and annular preventer will be used during drilling. At least the drilling company shall have a valid well blowout prevention certifications.</p> <p>604.c.(2)J. BOPE for Well Servicing Operations: Adequate BOP equipment shall be used. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid. Backup stabbing valves 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>
10	Drilling/Completion Operations	<p>317.p. Requirement to Log Well: Logging Open hole resistivity log with gamma ray will be run on one of the first wells drilled on this pad to describe the stratigraphy of the vertical section of the wellbore and to adequately verify the setting depth of the surface casing and aquifer coverage. A CBL will be run on all production casing or, in the case of a production liner, the intermediate casing, when these casing strings are run. The Drilling Completion Report-Form 5 for every well on the pad shall identify which well was logged.</p>
11	Final Reclamation	<p>604.c.(2)T. Well Site Cleared: Within 90 days subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site. Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5)</p> <p>604.c.(2).U. Identification of Plugged and Abandoned Wells: The operator shall identify the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). The operator shall also inscribe or imbed the well number and date of plugging upon the permanent monument.</p>

Total: 11 comment(s)

Applicable Policies and Notices to Operators

Policy
<p>Notice Concerning Operating Requirements for Wildlife Protection. http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf</p>

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400911300	FORM 2 SUBMITTED
400911446	OffsetWellEvaluations Data
400911525	DIRECTIONAL DATA
400911528	WELL LOCATION PLAT
400911529	PROPOSED SPACING UNIT
400912250	SURFACE AGRMT/SURETY
400912287	DEVIATED DRILLING PLAN
400912312	EXCEPTION LOC REQUEST

Total Attach: 8 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	11/12/2015 9:38:17 AM
Permit	Per operator changed lot 2 to NWSW and added comment "If Lot 2 were two complete separate Qtr/Qtrs, then the wells would be located in the NWSW qtr/qtr." Permitting Review Complete.	11/10/2015 3:34:13 PM
Permit	Open Hole Logging BMP submitted by operator.	11/10/2015 3:29:54 PM
Permit	Surface Use Agreement has waivers for Rule 318A.a & 318A.c.	11/10/2015 3:29:53 PM
Engineer	Offset Wells Evaluated	10/14/2015 11:26:56 AM
Engineer	Added: This is a planned sidetrack for the submitted Flaherty 18-13-12NBH Form 2 Doc #400911296 Core Hole. to the Comments, added "01" to the API number, and added Planned Sidetrack to the Well Name & Contact tab,	10/9/2015 8:33:16 AM
Permit	Passed completeness.	10/7/2015 12:11:05 PM

Total: 7 comment(s)