

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:
401049575

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
05/18/2016

TYPE OF WELL OIL GAS COALBED OTHER _____
ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Refiling
Sidetrack

Well Name: Marr 0780 Well Number: 4-6H
Name of Operator: SANDRIDGE EXPLORATION & PRODUCTION LLC COGCC Operator Number: 10598
Address: 123 ROBERT S KERR AVE
City: OKLAHOMA CITY State: OK Zip: 73102
Contact Name: Laci Bevans Phone: (405)429-5610 Fax: ()
Email: lbevans@sandridgeenergy.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160010

WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 7 Twp: 7N Rng: 80W Meridian: 6
Latitude: 40.598361 Longitude: -106.415631

Footage at Surface: 400 feet FNL/FSL FNL 2406 feet FEL/FWL FEL

Field Name: WILDCAT Field Number: 99999
Ground Elevation: 8130 County: JACKSON

GPS Data:
Date of Measurement: 04/18/2016 PDOP Reading: 1.2 Instrument Operator's Name: C.M., G.W.

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

Footage at Top of Prod Zone: FNL/FSL FNL 2310 FSL 100 FEL/FWL FEL 2310 FWL 100
Bottom Hole: FNL/FSL FNL 2310 FSL 100 FEL/FWL FEL 2310 FWL 100
Sec: 6 Twp: 7N Rng: 80W Sec: 6 Twp: 7N Rng: 80W

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: No

The 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.)

Lease info: Sec 6-7N-80W-ALL and other lands

Total Acres in Described Lease: 8145 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: 100 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 2200 Feet

Building Unit: 2240 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 1650 Feet

Above Ground Utility: 2271 Feet

Railroad: 5280 Feet

Property Line: 400 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: 660 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 100 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

The location from which this well will be drilled from is existing and on private surface. All minerals this well will penetrate and produce from are all private/fee.

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	531-26	640	Sec 6: All

DRILLING PROGRAM

Proposed Total Measured Depth: 12246 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

3275 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? Yes

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: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Surface casing will be drilled with water based mud, surface cuttings, if passing COGCC rule 910 levels, may be reused beneficially. All other sections drilled will use oil based mud and those cuttings will be disposed of at commercial site.

Beneficial reuse or land application plan submitted? No

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	26	16+1/4	42	0	90	190	90	0
SURF	12+1/4	9+5/8	36	0	2500	629	2500	0
1ST	8+3/4	5+1/2	20	0	12246	2151	12246	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: 413754

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: Laci Bevans

Title: Regulatory Analyst Date: 5/18/2016 Email: lbevans@sandridgeenergy.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: 6/29/2016

Expiration Date: 06/28/2018

API NUMBER
05 057 06556 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>
	Operator acknowledges the proximity of the Hebron #2-07H (057-06499) well. Operator agrees to: provide mitigation option 4 to include: The Operator shall monitor the bradenhead pressure of the proposed well and well Hebron #2-07H (057-06499). Monitoring shall occur from 24 hours prior to stimulation and shall continue until 24 hours after stimulation is complete. Recording shall be at a frequency of at least once per 24 hours with the capability of recording the maximum pressure observed during each 24 hour period. Operator shall notify COGCC Engineering staff if bradenhead pressures increase by more than 200 psig.
	1) Operator shall comply with the most current revision of the Northwest Notification Policy. 2) Operator shall provide cement coverage from the production casing shoe (5+1/2" First String) to a minimum of 200' above the surface casing shoe to provide full isolation of the Coalmont Formation. Verify production casing cement coverage with a cement bond log.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from the kick-off point 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 and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which open-hole logs were run.

Total: 1 comment(s)

Applicable Policies and Notices to Operators

Policy
NW Colorado Notification Policy. http://cogcc.state.co.us/documents/reg/Policies/nw_notification_procedures.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>
401049575	APD APPROVED
401049670	SURFACE AGRMT/SURETY
401049671	DRILLING PLAN
401049672	DEVIATED DRILLING PLAN
401049673	DEVIATED DRILLING PLAN
401049777	WELL LOCATION PLAT
401055864	DEVIATED DRILLING PLAN
401069382	DIRECTIONAL DATA
401070142	OFFSET WELL EVALUATION

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	The final review is complete.	06/27/2016
Permit	Corrected the value for "Completed portion of wellbore to a unit boundary from "300" to "100" due to the bottom hole location in reference to the northern unit boundary. Corrected the field name from "North Park Horizontal Niobrara" to "Wildcat". Passes permitting.	06/27/2016
Engineer	<p>Evaluated offset horizontal PR well Hebron #2-07H (057-06499). Total depth at 10,790' and completed in the Niobrara. First string cement appears to be poor or absent above 6000' on the cement bond log. Niobrara top reported at 6205' but top perforation at 6470'. Uncemented intervals of the Coalmont Formation are likely between the Pierre Formation top and the surface casing shoe at 950'. Mitigation required.</p> <p>From Sundry Form 4 document # 400969382, "Per a review of the wellbores, it was determined by SandRidge that the planned completed portion of the lateral between the referenced well and the Hebron 2-07H is greater than 800 feet and that the fracture orientation will be in an east/west direction and not north/south. SandRidge believes there is zero chance of communication between the wellbores as the perf intervals will be greater than 600 feet."</p> <p>Evaluated offset horizontal PR well Hebron #3-12H. Completed in the Niobrara. Remedial cementing performed to isolate Coalmont Formation. No mitigation required.</p> <p>Evaluated offset DG well Hebron #01-18HR (057-06536) Form 5 Drilling Completion Report# 401022570. This well meets standards; no offset mitigation required.</p>	06/23/2016
Engineer	Added offset well evaluation information provided by operator. Changed distance to well owned by another operator to 3275' per operator (Trowsell 7-80 #8-1 API#057-06440).	06/23/2016
Engineer	<p>Offset water well check: COGCC evaluated offset water wells within one mile of this proposed well's surface hole location. This information was used in addition to locally-available geophysical logs and hydrogeologic information to evaluate the adequacy of the operator's proposed surface casing setting depth. The deepest water well within one mile is 140 feet.</p> <p>The Coalmont Formation is considered a potential freshwater resource in the North Park Basin (CGS Ground Water Atlas of Colorado, 2003). The proposed surface casing setting depth of 2500' will not cover the entire Coalmont Formation, based on the operator's drilling prognosis in the drilling plan. Minimum cement isolation standards are specified in Condition of Approval #2.</p>	06/23/2016
Engineer	Changed attachment labeled anti-collision waiver to deviated drilling plan (anticollision report). Emailed operator regarding distance to wellbore owned by other operator, lack of offset well spreadsheet, mitigation of Hebron #2-07H (057-06499).	06/08/2016
Permit	Passed completeness.	06/02/2016
Permit	Returned to draft per operator request.	06/01/2016

Total: 8 comment(s)