

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:  
401101901

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

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

Refiling   
Sidetrack

Date Received:  
08/31/2016

Well Name: Castle 0780      Well Number: 7-17H20  
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: SWSW      Sec: 9      Twp: 7N      Rng: 80W      Meridian: 6  
Latitude: 40.585619      Longitude: -106.387480

Footage at Surface:      332      Feet      FSL      147      Feet      FWL

Field Name: WILDCAT      Field Number: 99999

Ground Elevation: 8119      County: JACKSON

GPS Data:  
Date of Measurement: 02/19/2016    PDOP Reading: 1.4    Instrument Operator's Name: RRM

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

Footage at Top of Prod Zone:    FNL/FSL      FEL/FWL      Bottom Hole:    FNL/FSL      FEL/FWL  
368    FNL    990    FEL      330    FSL    990    FEL  
Sec: 17    Twp: 7N    Rng: 80W      Sec: 20    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:    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.)

Township 7 North, Range 80 West of the 6th PM:  
Section 4: Lot 2(41.06), Lot 3(40.80), Lot 4(40.53), SWNE, W/2SE, SESE, SW/4, S/2NW  
Section 5: Lot 1(40.38), Lot 2(40.35), Lot 3(40.32), S/2NE, SE/4, E/2SW, SENW  
Section 8: E/2, SW/4, E/2NW, SWNW  
Section 9: All  
Section 16: All  
Section 17: N/2  
Township 8 North, Range 80 West of the 6th PM:  
Section 32: E/2SE, SWSE, SESW  
Section 33: S/2 less ROW

Total Acres in Described Lease: 3664 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: 570 Feet  
Building Unit: 3872 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 5280 Feet  
Above Ground Utility: 342 Feet  
Railroad: 5280 Feet  
Property Line: 2969 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 300 Feet (Enter 5280 for distance greater than 1 mile.)

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

## SPACING & FORMATIONS COMMENTS

## 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	531-22	1280	Sec 17 & 20

## DRILLING PROGRAM

Proposed Total Measured Depth: 18136 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 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? 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 hole will be drilled using water based mud (WBM) and all other could use OBM to drill. All WBM cuttings will be treated on location and reused beneficially (doc #401062567).

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: \_\_\_\_\_ or Document Number: 401062567

## 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	20	94	0	90	40	90	0
SURF	12+1/4	9+5/8	36	0	2400	629	2400	0
1ST	8+3/4	5+1/2	20	0	18136	3093	18136	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: 439603

Is this application being submitted with an Oil and Gas Location Assessment application? No

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: 8/31/2016 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:  Director of COGCC Date: 10/17/2016

Expiration Date: 10/16/2018

<b>API NUMBER</b>
05 057 06589 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

	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

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with openhole 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 openhole logs were run.

Total: 1 comment(s)

## Applicable Policies and Notices to Operators

Policy
NW Colorado Notification Policy. <a href="http://cogcc.state.co.us/documents/reg/Policies/nw_notification_procedures.pdf">http://cogcc.state.co.us/documents/reg/Policies/nw_notification_procedures.pdf</a>
Notice Concerning Operating Requirements for Wildlife Protection. <a href="http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf">http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf</a>

## Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
401101901	FORM 2 SUBMITTED
401101933	DIRECTIONAL DATA
401101935	DEVIATED DRILLING PLAN
401101936	DEVIATED DRILLING PLAN
401101938	DEVIATED DRILLING PLAN
401108566	DRILLING PLAN
401108567	SURFACE AGRMT/SURETY
401109131	WELL LOCATION PLAT
401129026	OffsetWellEvaluations Data

Total Attach: 9 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	<p>Final review is complete.                      The Operator corrected the lease description to reflect the minerals beneath the surface location. Also the surface owner is the mineral owner, is committed to an oil &amp; gas lease, and has signed the oil &amp; gas lease.                      Per the corrections the distance to the nearest lease line from the completed portion of the wellbore is now "0".                      Cuttings disposal was changed to "OFFSITE" &amp; Cuttings disposal method was corrected to "Commercial Disposal" to coincide with the related Form 2A#401052693.</p>	10/14/2016 11:22:10 AM
Permit	Passes initial review.	10/14/2016 11:22:06 AM
Engineer	<p>Added revised offset well evaluation provided by operator.</p> <p>Offset Well Evaluation: Existing offset wells within 1,500 feet of the wellbores planned on this pad are horizontal Niobrara wells. No mitigation required.</p>	10/12/2016 11:47:28 AM
Engineer	Emailed operator regarding offset well evaluation.	10/4/2016 8:33:36 AM
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 150 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 2400' 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>	10/4/2016 8:33:05 AM
Permit	Passes completeness.	9/22/2016 2:59:48 PM
Permit	<p>Returned to draft.</p> <p>1.) If "Is committed to an Oil &amp; Gas Lease" is selected than "Is the mineral owner beneath the Oil &amp; Gas location" must also be selected.                      2.) The Surface Use Agreement is not signed.                      3.) Please remove the last comment on the Drilling Plan attachment.                      4.) The depiction of the wellbore trajectory through Sec. 8 of 7N80W is missing from the Well Location Plat.                      5.) Is the doc# and Well name correct in the Related Forms tab?</p>	9/13/2016 3:14:51 PM

Total: 7 comment(s)