

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:

401101086

APPLICATION FOR PERMIT TO:

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

Date Received:

08/31/2016

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

Well Name: Castle 0780

Well Number: 5-17H20

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: Spence Laird

Phone: (405)4296518

Fax: ()

Email: slaird@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: 40.585647

Longitude: -106.387583

Footage at Surface: 343 Feet FNL/FSL FSL 119 Feet FEL/FWL FWL

Field Name: WILDCAT

Field Number: 99999

Ground Elevation: 8119

County: JACKSON

GPS Data:

Date of Measurement: 02/19/2016 PDOP Reading: 1.3 Instrument Operator's Name: RRM

If well is ☐ Directional ☐ Horizontal (highly deviated) **submit deviated drilling plan.**
 Footage at Top of Prod Zone: FNL/FSL FNL 2310 FEL 300 FSL 2310 FEL
 Sec: 17 Twp: 7N Rng: 80W Sec: 20 Twp: 7N Rng: 80W

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.)

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: 571 Feet
Building Unit: 3849 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 5280 Feet
Above Ground Utility: 325 Feet
Railroad: 5280 Feet
Property Line: 2977 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: 18719 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? 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 will be worked on location following Doc # 401062567. Production casing/horizontal will be drilled with OBM and hauled off location to commercial.

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+0/0 | 20+0/0 | 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 | 18719 | 3187 | 18719 | 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 Sandridge has a mineral lease in Sec 17 & 20 7N80W(ALL) as well.

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: Spence Laird

Title: Regulatory Supervisor Date: 8/31/2016 Email: slaird@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

API NUMBER

05 057 06587 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

| <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 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. 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> |
|--------------------|----------------------------|
| 401101086 | FORM 2 SUBMITTED |
| 401101184 | DEVIATED DRILLING PLAN |
| 401101187 | DEVIATED DRILLING PLAN |
| 401101188 | DEVIATED DRILLING PLAN |
| 401101190 | DIRECTIONAL DATA |
| 401108545 | SURFACE AGRMT/SURETY |
| 401108560 | DRILLING PLAN |
| 401109112 | WELL LOCATION PLAT |
| 401129020 | OffsetWellEvaluations Data |

Total Attach: 9 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|--|---------------------------|
| Permit | 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 & gas lease, and has signed the oil & 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" & Cuttings disposal method was corrected to "Commercial Disposal" to coincide with the related Form 2A#401052693. | 10/14/2016 11:05:40 AM |
| Permit | Passes initial review. | 10/14/2016 11:05:22 AM |
| Engineer | Added revised offset well evaluation provided by operator. No well belonging to another operator within 1,500 feet is checked. Removed distance to well owned by another operator of 5280. Changed attachment labeled anti-collision waiver to deviated drilling plan (anticollision report). Offset Well Evaluation: Existing offset wells within 1,500 feet of the wellbores planned on this pad are horizontal Niobrara wells. No mitigation required. | 10/12/2016 11:39:42 AM |
| Engineer | Emailed operator regarding offset well evaluation. | 10/4/2016 8:09:05 AM |
| Engineer | 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. 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. | 10/4/2016 8:08:13 AM |
| Permit | Passes completeness. | 9/22/2016 2:35:22 PM |
| Permit | Returned to draft. 1.) If "Is committed to an Oil & Gas Lease" is selected than "Is the mineral owner beneath the Oil & 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. | 9/8/2016 12:24:58 PM |

Total: 7 comment(s)