

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:

400777592

## APPLICATION FOR PERMIT TO:

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

Date Received:

02/03/2015

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER HORIZONTALRefiling ☐ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐Well Name: DIAMOND T SHEEP 7-92Well Number: 2-26H35Name of Operator: SWN PRODUCTION COMPANY LLCCOGCC Operator Number: 10396Address: PO BOX 12359City: SPRING State: TX Zip: 77391Contact Name: Cheryl RowellPhone: (832)796-7439Fax: (832)796-8817Email: cheryl\_rowell@swn.com

## RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110201

## WELL LOCATION INFORMATION

QtrQtr: NWNW Sec: 26 Twp: 7N Rng: 92W Meridian: 6Latitude: 40.534314Longitude: -107.693108
 Footage at Surface: 648 feet FNL/FSL FNL 911 feet FEL/FWL FWL
Field Name: WILDCATField Number: 99999Ground Elevation: 6679County: MOFFAT

GPS Data:

Date of Measurement: 10/14/2014 PDOP Reading: 1.4 Instrument Operator's Name: JOHN FLOYDIf well is ☐ Directional ☒ Horizontal (highly deviated) **submit deviated drilling plan.**
 Footage at Top of Prod Zone: FNL/FSL 1220 FNL 914 FWL 699 FNL 1080 FWL  
 Sec: 26 Twp: 7N Rng: 92W Sec: 35 Twp: 7N Rng: 92W

## LOCATION SURFACE &amp; MINERALS &amp; 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: YesThe 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.)

See attached lease map.

Total Acres in Described Lease: 960 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: 1080 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 2952 Feet  
Building Unit: 2973 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 3282 Feet  
Above Ground Utility: 2998 Feet  
Railroad: 5280 Feet  
Property Line: 911 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: 377 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 620 Feet (Enter 5280 for distance greater than 1 mile.)

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

## SPACING & FORMATIONS COMMENTS

Spacing Unit Application submitted to COGCC, Docket #1503-00077. On COGCC March 2015 docket.

## 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	540-52	1200	S26 W/2; S35 N2NW/4

## DRILLING PROGRAM

Proposed Total Measured Depth: 14442 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 377 Feet (Including plugged wells)

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? Yes

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:

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	30	20	104	0	80	360	80	0
SURF	17+1/2	13+3/8	54.5	0	1300	726	1300	0
1ST	12+1/4	9+5/8	40	0	8200	1623	8200	1100
2ND	8+3/4	5+1/2	20	0	14442	1411	14442	6900

☐ 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

Spacing Unit Application on COGCC March 2015 Hearing Docket.

Attached Logging Exception Request letter per Rule 317.o.

This is the 2nd well on the pad. Form 2a, doc #400745961 filed to amend as a multi-well pad.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: 438248

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: Cheryl Rowell

Title: Sr. Staff Reg. Analyst Date: 2/3/2015 Email: cheryl\_rowell@swm.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: 3/25/2015

Expiration Date: 03/24/2017

**API NUMBER**

05 081 07817 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

- |  |  |
|--|--|
|  | <p>1) Operator shall comply with the most current revision of the Northwest Notification Policy. See attached notice.</p> <p>2) Operator shall provide cement coverage from the intermediate casing shoe (9+5/8" First String) to a minimum of 200' above the surface casing shoe to provide isolation of all Cretaceous (including Mesa Verde Group, Lewis, Fox Hills [if present] and Lance) and Tertiary (including Fort Union, Wasatch, and Browns Park) oil, gas, and water-bearing sandstone and coalbed formations that are not otherwise covered by surface casing. Verify intermediate casing cement coverage with a cement bond log.</p> <p>3) Operator shall 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.</p> <p>4) Offset well mitigation pressure monitoring of Diamond T Sheep 7-92 #1-26 shall be continuous during stimulation of Diamond T Sheep 7-92 #2-26H35. Operator shall monitor the pressure on the tubing, casing, and all annuli, including the bradenhead annulus in the Diamond T Sheep 7-92 #1-26 well. Operator shall notify COGCC Engineering staff if anomalous pressures are observed in the Diamond T Sheep 7-92 #1-26 well.</p> |
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## **Best Management Practices**

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Planning	When feasible develop multiple well sites by using directional drilling to reduce cumulative impacts and adverse impacts on wildlife resources.
2	General Housekeeping	Fence the well site after drilling to restrict public and wildlife access. Keep well site location, the road, and the pipeline easement free of noxious weeds, liter and debris. Spray for noxious weeds, and implement dust control, as needed. Southwestern Energy Production Company (SEPCO) will not permit the release or discharge of any toxic or hazardous chemicals or chemicals or wastes on Owners' land. Construct and maintain gates where any roads used by SEPCO cross through fences on the leased premises.
3	Storm Water/Erosion Control	Use water bars and other measures to prevent erosion and non-source pollution. Implement and maintain BMP's to control storm water 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.
4	Construction	Remove only the minimum amount of vegetation necessary for the construction of roads and facilities. Conserve topsoil during excavation and reuse as cover on disturbed areas to facilitate regrowth or vegetation. No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment.
5	Interim Reclamation	Utilize only such area around each producing well as is reasonably necessary. Restore the remainder of the well site location to its original condition within a reasonable time after the completion of operations. All reseeding shall be done with grasses consistent with the Rocky Mountain native mix or other grasses reasonably requested by surface owner and during planting period suggested by Owner.
6	Final Reclamation	All surface restoration shall be accomplished to the satisfaction of Owner. All reseeding shall be done with grasses consistent with the Rocky Mountain native mix or other grasses reasonably requested by surface owner and during planting period suggested by Owner. Final reclamation shall be completed to the reasonable satisfaction of the owner as soon as practical after installation (weather permitting) and in accordance with regulatory agency standards.

Total: 6 comment(s)

## **Applicable Policies and Notices to Operators**

NW Colorado Notification Policy.

Notice Concerning Operating Requirements for Wildlife Protection.

## **Attachment Check List**

<b>Att Doc Num</b>	<b>Name</b>
2167973	OPEN HOLE LOGGING EXCEPTION
2167982	UNIT CONFIGURATION MAP
400777592	APD APPROVED
400784473	DIRECTIONAL DATA
400784477	DEVIATED DRILLING PLAN
400785221	WELL LOCATION PLAT
400785650	LEASE MAP
400815137	OFFSET WELL EVALUATION
400815138	FORM 2 SUBMITTED

Total Attach: 9 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Corrected distance from WELL to Public Road from 3803' (CR81) to 3282' (subdivision road to southeast) per operator and COGCC Online GIS Map.	3/25/2015 3:06:46 PM
Permit	Attached unit map as per opr. Distance to wellbore is measured from TOP of Diamond T Sheep 7-92 #1-26 to TOP of this well. Final review complete.	3/25/2015 10:14:42 AM
Permit	Attached corrected Open Hole Logging Exception as per opr.	3/3/2015 10:59:11 AM
Permit	Corrected the distance to the lease line from 620' to 1080' as per opr. Corrected Plugging bond from 20110200 to 20110201 as per opr. Logging exception is incorrect. Notified Opr.	2/10/2015 10:09:30 AM
Engineer	Evaluated offset well Diamond T Sheep 7-92 #1-26. Cement is reportedly absent in the interval from 2100' to 1296' behind the intermediate casing (9+5/8" First String), an interval that is a potential freshwater resource in the Mesa Verde Group or an overlying Tertiary Formation. Offset mitigation is required. COGCC notified the operator on 2/9/2015 to develop a mitigation measure. Operator responded on 2/10/2015, and agreed to Interim Statewide Horizontal Offset Policy Mitigation Option 4 (Alternate Measures). Mitigation will consist of pressure monitoring of Diamond T Sheep 7-92 #1-26 during stimulation and flowback of Diamond T Sheep 7-92 #2-26H35, as described in Condition of Approval #4.	2/9/2015 3:52:11 PM
Engineer	The operator reported formation tops of 4012' and 5700' for the Trout Creek Formation (member of the Mesa Verde Group) and the Mancos Formation, respectively, for the offset well (Diamond T Sheep 7-92 #1-26, API No. 081-07804), located on the same pad as this proposed well. Based on this information alone and the lack of nearby log tops for Tertiary formations, the operator's proposed surface casing setting depth of 1,300 feet may not provide full coverage across the Browns Park Formation, the Wasatch Formation, and the Fort Union Formation, which are possible fresh water aquifers. The 9-5/8" First String will likely provide full coverage of the Mesa Verde Group, based on the reported offset log top of 5700' for the Mancos Formation. COGCC concurs with the operator's plan to lap cement into larger casing strings for full cement isolation in this well. Minimum cement coverage requirements are specified in Conditions of Approval #2.	2/9/2015 3:09:55 PM
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 500 feet.	2/9/2015 3:00:08 PM
Engineer	"Distance to nearest permitted or existing wellbore penetrating objective formation: 377 Feet (Including plugged wells)" appears to be the wellbore separation between the completed intervals. A second, existing wellbore is located on the same pad as this proposed well, and the wellbore separation in the shallow portion of the hole will be less than 150 feet.	2/9/2015 2:56:29 PM
Permit	Passed completeness.	2/5/2015 2:43:09 PM
Permit	Two formations listed on horizontal well. Return to draft.	2/5/2015 12:41:52 PM

Total: 10 comment(s)