

**APPLICATION FOR PERMIT TO:**

**Drill**       Deepen       Re-enter       Recomplete and Operate

|   |   |
|---|---|
| TYPE OF WELL    OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> COALBED <input type="checkbox"/> OTHER _____<br>ZONE TYPE       SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/> | Refiling <input type="checkbox"/><br>Sidetrack <input type="checkbox"/> |
|---|---|

Date Received:  
11/07/2016

Well Name: SIMPSON RANCH 7-90      Well Number: 2-5H6

Name of Operator: SWN PRODUCTION COMPANY LLC      COGCC Operator Number: 10396

Address: PO BOX 12359

City: SPRING      State: TX      Zip: 77391

Contact Name: SYDNEY HANSEN      Phone: (832)7967874      Fax: (    )

Email: SWNSANDWASH@SWN.COM

**RECLAMATION FINANCIAL ASSURANCE**  
Plugging and Abandonment Bond Surety ID: 20110201

**WELL LOCATION INFORMATION**

QtrQtr: Lot 6      Sec: 5      Twp: 7N      Rng: 90W      Meridian: 6

Latitude: 40.599717      Longitude: -107.511253

|                                     |                      |                     |
|-------------------------------------|----------------------|---------------------|
| Footage at Surface: <u>360</u> Feet | FNL/FSL              | FEL/FWL             |
| <u>360</u> Feet                     | FNL <u>1650</u> Feet | FEL <u>        </u> |

Field Name: WILDCAT      Field Number: 99999

Ground Elevation: 6488      County: MOFFAT

GPS Data:  
Date of Measurement: 07/15/2015    PDOP Reading: 1.5    Instrument Operator's Name: BART HUNTING

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 |
| <u>1151</u> FNL <u>2364</u> FWL              | <u>2006</u> FNL <u>2483</u> FWL              |                      |         |
| Sec: <u>5</u> Twp: <u>7N</u> Rng: <u>90W</u> | Sec: <u>8</u> Twp: <u>7N</u> Rng: <u>90W</u> |                      |         |

**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: 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.)

T7N-R90W, Section 5: Lots 6, 7, 10, 11, 15, 16, 17, 18 Section 8: Lots 3, 4, 5, 6, 7

Total Acres in Described Lease: 490 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: 498 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 3131 Feet

Building Unit: 3271 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 3881 Feet

Above Ground Utility: 3813 Feet

Railroad: 5280 Feet

Property Line: 360 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: 1218 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary \_\_\_\_\_ 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           |                         |                               |                                      |

## DRILLING PROGRAM

Proposed Total Measured Depth: 19042 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: 130 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? 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             | 84    | 0             | 60            | 0         | 60      | 0       |
| SURF        | 17+1/2       | 13+3/8         | 54.50 | 0             | 2850          | 1499      | 2850    | 0       |
| 1ST         | 12+1/4       | 9+5/8          | 40    | 0             | 10800         | 1775      | 10800   | 2650    |
| 2ND         | 8+3/4        | 5+1/2          | 20    | 0             | 19042         | 1851      | 19042   | 10600   |

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 The pad was constructed in 2012. The Bulldog 5-31-790 (API 081-07727) was drilled 2012 is now operated by SWN and is a producing offset well.

This application is in a Comprehensive Drilling Plan       No       CDP #: \_\_\_\_\_

Location ID:       428927      

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:       SYDNEY HANSEN      

Title:       REGULATORY ANALYST       Date:       11/7/2016       Email:       SWNSANDWASH@SWN.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:       4/5/2017      

Expiration Date:       04/04/2019      

|                   |
|-------------------|
| <b>API NUMBER</b> |
| 05 081 07836 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 shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017).  |
|                 | 1)Operator shall comply with the most current revision of the Northwest Notification Policy.<br><br>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 Fort Union, Mesaverde Group, Lance, Lewis, Fox Hills and Trout Creek) 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. |
|                 | If conductors are preset, operator shall comply with Notice to Operators: Procedures for Preset Conductors (dated September 1, 2016, revised October 6, 2016).  |

## Best Management Practices

| <u>No</u> | <u>BMP/COA Type</u>            | <u>Description</u>   |
|-----------|--------------------------------|--|
| 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           | Keep well site location, the road, and the pipeline easement free of noxious weeds, litter and debris. Spray for noxious weeds, and implement dust control, as needed. SWN Production Company, LLC (SWN) 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 SWN cross through fences on the leased premises.  |
| 3         | Storm Water/Erosion Control    | A Storm Water Management Plan will be prepared and will meet all requirements of the COGCC & CDPHE.<br><br>SWN will 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         | Drilling/Completion Operations | SWN 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.   |
| 5         | Drilling/Completion Operations | Rule 317.p logging requirements have been met for the location with the offset well, Bulldog 5-31-790, API 081-07727.  |
| 6         | 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 reseeded 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.   |
| 7         | Final Reclamation              | All surface restoration shall be accomplished to the satisfaction of Owner. All reseeded 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: 7 comment(s)

## Applicable Policies and Notices to Operators

|  |
|--|
| Policy   |
| NW Colorado Notification Policy.<br><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.<br><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

| <u>Att Doc Num</u> | <u>Name</u>            |
|--------------------|------------------------|
| 401097802          | FORM 2 SUBMITTED       |
| 401123600          | DIRECTIONAL DATA       |
| 401180238          | SURFACE AGRMT/SURETY   |
| 401198757          | DIRECTIONAL DATA       |
| 401198774          | PLAT                   |
| 401198775          | MULTI-WELL PLAN        |
| 401198776          | DEVIATED DRILLING PLAN |
| 401251807          | OFFSET WELL EVALUATION |

Total Attach: 8 Files

### General Comments

| <u>User Group</u> | <u>Comment</u>  | <u>Comment Date</u> |
|-------------------|---|---------------------|
| Permit            | Final review complete.  | 03/30/2017          |
| Permit            | Corrected acres in lease form 315 to 490 as per operator instructions.<br>Corrected BMP for rule logging as directed by operator.<br>Corrected distance to nearest well in the same formaton from 1169' to 1218' with operator approval.<br>Removed distance to unit boundary as there is no unit or spacing that creates a unit for this well.<br>Removed Open-Hole Logging request with operator approval.  | 03/23/2017          |
| Engineer          | Offset Well Evaluation: Evaluated offset PA well Pleasant #2-5 (API #081-06334), TD at 3479' above the Mesaverde Group in the Lewis Formation. Shallow offset, no mitigation required for Niobrara completions. Distance in plan view is about 130' but separation in 3 dimensions is likely much greater.<br><br>Offset Well Evaluation: Evaluated offset PR horizontal well Bulldog #5-31H-790 (API #081-07727), TD at 17622' in the Niobrara. The production casing (5 ½" by 4 ½" tapered second string) is cemented to 11550' below the intermediate casing shoe (7 5/8" first string) at 10722'. Niobrara top is shown at 11200' above the top of cement. Intermediate casing cement is apparent on the CBL from the shoe up to approximately 4560', then apparent coverage is poor up to the top of the log at 4950'. Potential oil, gas, coalbed, and/or water bearing zones are present in the uncemented intermediate casing interval, including LWIS, FXHLS, LNCE, and potentially FTUN. However, the multiple casing string design allows for added protection from communication with offset stimulation. No mitigation required. | 02/02/2017          |
| 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 430 feet.<br><br>Proposed surface casing setting depth of 2850 feet will not provide full coverage of the Mesaverde Group, based on the Mesaverde top reported for the Bulldog #5-31H-790 well on the same pad. COGCC staff concurs with the Operator's plan to cement the first string 200' into the surface casing. Minimum cement coverage requirements are specified in Condition of Approval #2.  | 02/02/2017          |
| Permit            | The Bulldog 5-31-790 API 081-07727 has a full sweep of logs adequately describng the stratigraphy of the wellbore. Thus the 317.p exception for logging is appropriate.<br>Requested new BMP for 317.p that is appropriate with the exception request.  | 02/01/2017          |
| Engineer          | Uploaded revised directional data and attached new plat, multiwell plan, and deviated drilling plan provided by operator. Removed old attachments. Made corrections to well location, spacing, drilling and casing information per operator.  | 01/31/2017          |
| Permit            | Attached redacted SUA with Operator approval.<br><br>Passed completeness.   | 01/09/2017          |
| Permit            | Returned to Draft:<br>* Need SUA.<br>* Need Wellbore Integrity Contact Email.<br>* Need Open Hole Logging Exception Letter.   | 12/29/2016          |
| Permit            | Corrected Qtr/Qtr to Lot 6, Rounded Ground Elevation up to 6488.  | 12/29/2016          |
| Permit            | Returned to Draft per Operator's Request.   | 11/07/2016          |

Total: 10 comment(s)