

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.)

Total Acres in Described Lease: _____ 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: _____ Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1016 Feet
 Building Unit: 2467 Feet
 High Occupancy Building Unit: 5280 Feet
 Designated Outside Activity Area: 5280 Feet
 Public Road: 1930 Feet
 Above Ground Utility: 556 Feet
 Railroad: 5280 Feet
 Property Line: 1930 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: 5280 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

Subject formation is unspaced and will be the formation for disposal.

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
ENTRADA	ENRD			

DRILLING PROGRAM

Proposed Total Measured Depth: 8875 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? No

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
SURF	17+1/2	13+3/8	54.4	0	1005	595	1005	0
1ST	12+1/4	9+5/8	40	0	6830	1510	6830	1800
2ND	8+3/4	7	29	0	8875	880	8875	3398

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 well has been drilled. The information contained in the Form 2 is the as-drilled information. The well will be converted to a saltwater disposal well. This well is an existing vertical well. No offset well evaluation is being submitted as it is not required. The Offset Well Area of Review was submitted with the Form 31.

Please contact Angela Callaway at acallaway@upstreampm.com if you have any questions on this form. Thank you.

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

Location ID: 447872

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: Angela Callaway

Title: Permit Agent Date: 12/8/2017 Email: acallaway@upstreampm.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: 7/8/2018

Expiration Date: 07/07/2020

API NUMBER

05 057 06585 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>
	<p>1) Operator shall comply with the most current revision of the Northwest Colorado Notification Policy.</p> <p>2) Within 30 days of approval of this Form 2, operator is to provide a conclusive, written demonstration with attached exhibits on a Sundry Notice using drilling records, bradenhead pressures, logs, water well records and/or any offset oil & gas well records to demonstrate that fluids (oil, gas, and water) and coal seams are adequately isolated to prevent cross-zone migration. If the demonstration is acceptable, the Condition of Approval requiring full isolation of the Coalmont will be waived. Operator is to monitor the bradenhead of the well and perform a Bradenhead Test and report on a Form 17 if the bradenhead pressure exceeds 50 psi. Bradenhead tests reported on a Form 17 will be required annually if the pressure continues to exceed 50 psi.</p>
	<p>Operator will use qualified containment devices for all appropriate chemicals/hazardous materials and injection equipment (pumps) used onsite during the operation of the injection well.</p> <p>All tanks and aboveground vessels containing fluids must have secondary containment structures. All secondary containment structures/areas must be lined. Operator must ensure a minimum of 110 percent secondary containment for the largest structure containing fluids within each bermed area at the facility during operations. The construction and lining of the secondary containment structures/areas shall be supervised by a professional engineer or their agent.</p> <p>Operator shall equip and maintain on all tanks an electronic fluid level monitoring device.</p>
	<ol style="list-style-type: none"> 1. Injection is not authorized until approval of Subsequent Forms 31 and 33. 2. Retrieve water sample(s) from injection zone(s) before stimulating formation. Samples must be analyzed for Total Dissolved Solids at a minimum. 3. PRIOR TO PERFORMING OPERATIONS: Approval of Form 4 is required for acid and fracturing jobs. (New as of 4/13/2016). 4. PRIOR TO PERFORMING OPERATIONS: Operator is required to contact COGCC to discuss Step Rate Test or Injectivity Test criteria for Maximum Surface Injection Pressure determination. Prior approval of Form 4 is required for step rate and injectivity tests. 5. For ALL NEW DRILL UNDERGROUND INJECTION WELLS a suite of open-hole Resistivity/Gamma Ray and Density/Neutron logs IS REQUIRED from Surface Casing shoe to TD. A PDF, TIFF, or PDS visual image and a LAS or DLIS file version of each log is required. 6. For all new and converted Underground Injection Control wells a Cement Bond Log (CBL) is required on the cased portions of the hole from the bottom of the casing to the top of the next shallower casing string for all casing strings other than the Surface Casing. Only a PDF, TIFF, or PDS visual image is required. 7. Operator must provide all tops of formations encountered from surface to TD on the Form 5 when submitted.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Open-hole Resistivity Log with Gamma Ray Log and Cement Bond Logs with Gamma-Ray were previously run and were attached to the Form 5, Completion Report which is linked as a related form.

Total: 1 comment(s)

Applicable Policies and Notices to Operators

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

Att Doc Num	Name
2618767	SURFACE AGRMT/SURETY-ADDENDUM
401480283	FORM 2 SUBMITTED
401480413	WELL LOCATION PLAT
401480554	SURFACE AGRMT/SURETY

Total Attach: 4 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	Final Approval: Changed Surface Hole location QtrQtr from NWNE to NENW.	07/08/2018
Permit	Final review complete.	07/06/2018
Permit	Preliminary review complete.	03/29/2018
UIC	Cement questions to be resolved by Engineering Staff.	03/12/2018
Engineer	<p>Opened in process Form 5P to review cement tops. Cement job summary (401397009) and CBL (2nd run) for first string do not indicate cement to surface. Cement job summary (401395032) and CBL (1st run) for second string do not indicate cement to surface. Emailed operator. 1/2/18: Per operator, the actual TOC for the 9 5/8" is 1800' and the TOC for the 7" is 3398' according to the WBD attached. Need a geologic isolation demonstration or remediation for this well. COA's for full cement isolation not met. Emailed operator: A condition of approval on the sundry to add the intermediate casing was not met. The COA is:</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 full isolation of the Coalmont Formation. Verify intermediate casing cement coverage with a cement bond log.</p> <p>Please provide additional formation tops: Midcoal, Pierre, Sussex, Shannon and add them to the wellbore diagram.</p> <p>The low TOC will need to be addressed with one of the following options:</p> <p>Option 1: Remediate the production casing to provide cement coverage specified in the COA. A sundry notice for intent is required. Rule 317.e requires prior written approval on a Form 4 Sundry Notice prior to casing repair operations or any changes to the casing or cement in the wellbore. Verbal approval can be obtained for unforeseen casing repairs during well operations.</p> <p>Option 2: Provide a conclusive, written demonstration with attached exhibits on a Sundry Notice using drilling records, bradenhead pressures, logs, water well records and/or any offset oil & gas well records to demonstrate that fluids (oil, gas, and water) and coal seams are adequately isolated to prevent cross-zone migration. If the demonstration is acceptable, then we will waive the COA requirement.</p> <p>Please let me know if you have any questions.</p>	12/15/2017
Permit	Removed lease information; corrected typo in operator comments; Removed unit boundary as there is no unit. Corrections made with operator concurrence. Form is ready to pass through completeness.	12/12/2017

Total: 6 comment(s)