

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.)

E2 and a portion of the SW4 of Sec 22, T1N, R65W

Total Acres in Described Lease: 443 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: 460 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1194 Feet

Building Unit: 1243 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 1326 Feet

Above Ground Utility: 1310 Feet

Railroad: 5280 Feet

Property Line: 569 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: 660 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): _____ Unit Number: _____

SPACING & FORMATIONS COMMENTS

E/2 of Section 22, T1N, R65W

OBJECTIVE FORMATIONS

| Objective Formation(s) | Formation Code | Spacing Order Number(s) | Unit Acreage Assigned to Well | Unit Configuration (N/2, SE/4, etc.) |
|------------------------|----------------|-------------------------|-------------------------------|--------------------------------------|
| CODELL | CODL | | 320 | GWA |

DRILLING PROGRAM

Proposed Total Measured Depth: 12081 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 660 Feet (Including plugged wells)

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 318A

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? No

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 | 13+1/2 | 9+5/8 | 36 | 0 | 1300 | 1150 | 1300 | 0 |
| 1ST | 8+3/4 | 7 | 26 | 0 | 7732 | 750 | 7732 | 2500 |
| 2ND | 6+1/8 | 4+1/2 | 13.5 | 0 | 12081 | 475 | 12081 | 5000 |

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 Distance to nearest well (including plugged wells) was measured to the Drake 01N-65W-22-1C well via the Anti-Collision Report in the Deviated Drilling plan. Surface Use Agreement includes COGCC Waivers for Rules 305, 306, 318A.a, 318A.C & 603.a.(2) - See highlighted portion of SUA page 4, #9. COGCC Waivers. Per Rule 317.o, Verdad will run an open hole log on one of the first wells drilled on the pad.

This application is in a Comprehensive Drilling Plan _____ CDP #: _____

Location ID: _____

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: Shauna DeMattee

Title: Regulatory Analyst Date: 10/3/2014 Email: sdemattee@progressivepcs.net

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: 10/31/2014
 Expiration Date: 10/30/2016

| |
|-------------------|
| API NUMBER |
| 05 123 40504 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> |
|-----------------|---|
| | 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU. 2) Comply with Rule 317.i and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log. 3) Comply with Rule 321. Run and submit Directional Survey from TD to base of surface casing. Ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well. |
| | ok to pass. |
| | Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged. |

Best Management Practices

| <u>No</u> | <u>BMP/COA Type</u> | <u>Description</u> |
|-----------|---------------------|--|
| 1 | Planning | Multi-well Pads. It is a multi-well pad located in a manner which allows for resource extraction while maintaining the highest distances possible from the offsetting residential areas. |
| 2 | Traffic control | Access roads. The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times. |

| | | |
|----|--|--|
| 3 | Material Handling and Spill Prevention | Berm construction. Tank berms shall be constructed of steel rings with a synthetic or engineered liner and designed to contain 150% of the capacity of the largest tank. All berms will be visually checked periodically to ensure proper working condition. |
| 4 | Material Handling and Spill Prevention | Load-lines. All load-lines shall be bull-plugged or capped. |
| 5 | Material Handling and Spill Prevention | Tank specifications. Tanks will be designed, constructed and maintained in accordance with NFPA Code 30. The tanks are visually inspected once a day for issues, and recorded inspections are conducted once a month. |
| 6 | Noise mitigation | Lighting abatement measures shall be implemented, including the installation lighting shield devices on all of the more conspicuous lights, low density sodium lighting where practicable; and rig shrouding is not believed necessary as this is an industrial area and the only building unit within 1,000' is owned by the operator, however, at its election the operator may install temporary engineering controls consisting of perimeter sound walls shall be used on the location during drilling and completion activities to provide noise relief. Permanent equipment on location shall be muffled to reduce noise, or shall be appropriately buffered. |
| 7 | Drilling/Completion Operations | Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling. |
| 8 | Drilling/Completion Operations | Green Completions – Emission Control Systems. Test separators and associated flow lines and sand traps shall be installed on-site to accommodate Green completions techniques pursuant to COGCC Rules. In the anticipated absence of a viable gas sales line, the flow-back gas shall be thermally oxidized in an emissions control device (ECD), which will be installed and kept in operable condition for least the first 90-days of production pursuant to CDPHE rules. This ECD shall have an adequate capacity for 1.5 times the largest flow-back within a 10 mile radius, will be flanged to route gas to other or permanent oxidizing equipment and shall be provided with the equipment needed to maintain combustion where non-combustible gases are present. |
| 9 | Drilling/Completion Operations | Blowout preventer equipment (“BOPE”). A double ram and annular preventer will be used during drilling. At least the drilling company shall have a valid well blowout prevention certifications. |
| 10 | Drilling/Completion Operations | BOPE for well servicing operations. Adequate BOP equipment shall be used. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid. |
| 11 | Drilling/Completion Operations | Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug. |
| 12 | Drilling/Completion Operations | Drill stem tests. Not applicable; no Drill Stem tests are planned. |
| 13 | Drilling/Completion Operations | Well will be logged with an open hole logging tool with gamma ray. A CBL will be run on all production casing or, in the case of a production liner, the intermediate casing, when these casing strings are run. |
| 14 | Drilling/Completion Operations | Control of fire hazards. All materials which are considered fire hazards shall be a minimum of 25' from the wellhead tanks or separators. Electrical equipment shall comply with API RP 500 and will comply with the current national electrical code. An emergency response plan has been generated for this site. |
| 15 | Drilling/Completion Operations | Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q. |
| 16 | Drilling/Completion Operations | Operator acknowledges and will comply with the COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012. |

| | | |
|----|--------------------------------|---|
| 17 | Drilling/Completion Operations | <p>Prior to drilling operations, Operator may perform an anti-collision review of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision review may include MWD or gyro surveys and surface locations of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well may only be drilled if the anti-collision review results indicate that the risk of collision is sufficiently low as defined by the anticollision plan, with separation factors greater than 1.5, or if the risk of collision has been mitigated through other means including shutting in wells, plugging wells, increased drilling fluid in the event of lost returns or as is appropriate for the specific situation. In the event of an increased risk of collision, that risk will be mitigated to prevent harm to people, the environment or property. For the proposed well, upon conclusion of drilling operations, an as-constructed directional survey will be submitted to COGCC with the Form 5.</p> <p>Please see the attached 318A.m letter for a list of well(s) identified by the operator as being within 150 feet of the proposed well(s). If no letter is attached, the operator has not identified any wells as being within 150 feet of the proposed well(s) at the time of permitting.</p> |
| 18 | Final Reclamation | Well site cleared. Within 90-day subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site. |
| 19 | Final Reclamation | Identification of plugged and abandoned wells. P&A'd wells shall be identified pursuant to 319.a.(5). |

Total: 19 comment(s)

Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.

Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u> |
|---------------------------|----------------------------|
| 400697576 | FORM 2 SUBMITTED |
| 400697591 | OffsetWellEvaluations Data |
| 400697602 | DIRECTIONAL DATA |
| 400697603 | DEVIATED DRILLING PLAN |
| 400697604 | WELL LOCATION PLAT |
| 400699296 | SURFACE AGRMT/SURETY |
| 400699447 | PROPOSED SPACING UNIT |
| 400701258 | EXCEPTION LOC REQUEST |

Total Attach: 8 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|--------------------------|--|----------------------------|
| Permit | Final Review Completed. No LGD or public comment received. | 10/28/2014 10:34:01 AM |
| Engineer | Offset wells evaluated. | 10/27/2014 2:13:13 PM |
| Permit | Surface Use Agreement includes COGCC Waivers for Rules 305, 306, 318A.a, 318A.C & 603.a.(2) - See highlighted portion of SUA page 4, #9. | 10/9/2014 2:21:04 PM |
| Permit | Passed Completeness | 10/7/2014 1:48:51 PM |
| Permit | Changed distance to lease line to 460 ft as requested by operator. | 10/6/2014 2:52:47 PM |

Total: 5 comment(s)