



## 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.)

Section 9, Township 6 North, Range 67 West of the 6th P.M  
159.559 acres of land, more or less, being Part of the East Half of Section 9. Lease map is attached.

Total Acres in Described Lease: 159 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: 855 Feet  
Building Unit: 1037 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 686 Feet  
Above Ground Utility: 656 Feet  
Railroad: 5280 Feet  
Property Line: 683 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: 585 Feet

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

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

## SPACING & FORMATIONS COMMENTS

Codell  
GWA unit configuration consists of S/2S/2 Sec 4, S/2S/2 Sec 5, N/2N/2 Sec 8, N/2N/2 Sec 9.  
Distance from completed portion of wellbore to nearest wellbore permitted or completed in the same formation Winder 9-41 API 05-123-36164.

## 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           |                         | 640                           | GWA                                  |

## DRILLING PROGRAM

Proposed Total Measured Depth: 17285 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 585 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: Other

Other Disposal Description:

Cuttings will be disposed of by land spreading.

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        | 12+1/4       | 9+5/8          | 36    | 0             | 750           | 360       | 750     | 0       |
| 1ST         | 8+3/4        | 7              | 26    | 0             | 7600          | 925       | 7600    | 0       |
| 1ST LINER   | 6+1/8        | 4+1/2          | 13.5  | 7500          | 17285         |           |         |         |

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 is one Form 2 out of 12 submitted for new Horizontal wells. Surface Owner Exception location not required as 7 of 12 Surface hole locations are in a legal GWA drilling window the rest are twinned. Topo map is attached as Hydrology Map. There are no wells less than 150' from proposed wellbore & satisfies Rule 318A.m.

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: Sonia Stephens

Title: Regulatory Technician Date: 5/9/2014 Email: regulatory@petro-fs.com

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: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

API NUMBER

05

## 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

| COA Type | Description |
|----------|-------------|
|          |             |

## Best Management Practices

| No | BMP/COA Type | Description  |
|----|--------------|--|
| 1  | Planning     | Multi-well Pads are located in a manner which allows for resource extraction while maintaining the highest distances possible from the offsetting residential areas and complies with the wishes of the surface owner. |
| 2  | Planning     | Site-Specific Measures - This location has been designed to mitigate the visual impacts to the surrounding properties.   |
| 3  | Planning     | Fencing - A meeting with the surface owner will determine the fencing plan   |
| 4  | Planning     | 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.  |

|    |  |  |
|----|--|--|
| 5  | Planning                               | Pit level indicators- Not applicable; a closed –loop system will be used and no pits shall be dug.   |
| 6  | Planning                               | Closed Loop Drilling Systems- Pit restrictions, not applicable; a closed-loop system will be used for drilling.  |
| 7  | Planning                               | 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.  |
| 8  | Planning                               | BOPE- 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.  |
| 9  | Planning                               | Drill stem test. Not applicable; no drill Stem tests are planned.  |
| 10 | Planning                               | Control of fire hazards- All material which is considered fire hazards shall be a minimum of 25’ from the wellhead tanks or separators. Electrical equipment shall comply with API IRP 500 and will comply with the current national electrical code.  |
| 11 | Planning                               | Bradenhead Monitoring BMP: Operator acknowledges and will comply with COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.   |
| 12 | Planning                               | Anti-Collision BMP: Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed wells. The anti-collision scan may include definitive MWD or gyro surveys 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, operators 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 anti-collision 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 the COGCC with the Form 5. |
| 13 | Planning                               | Light sources during all phases of operations will be directed downwards and away from occupied structures where possible. Once the drilling and completion rigs leave the site, there will be no permanently installed lighting on site.  |
| 14 | 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.  |
| 15 | Traffic control                        | Traffic will be routed to minimize local interruption.   |
| 16 | General Housekeeping                   | Removal of trash- All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as applicable.  |
| 17 | Material Handling and Spill Prevention | Material Handling and Spill Prevention<br>Leak Detention Plan- Pumper will visit the location daily and visually inspect all tanks and fittings for leaks. Additionally, monthly documented SPCCP inspections are conducted pursuant to 40 CFR 112.  |
| 18 | Dust control                           | Traffic dust control will be done utilizing water on all County Roads leading up to the pad site.  |
| 19 | Construction                           | Berm Construction- Tanks 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.  |
| 20 | Noise mitigation                       | The drilling site will be powered by electricity, mitigating the majority of noise from drilling operations. Sound walls and/or hay bales will be used to surround the well site during drilling operations.   |

|    |                      |   |
|----|----------------------|---|
| 21 | Emissions mitigation | Green Completions; Emission Control System. 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 flowback 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 flowback 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 combustions where non-combustible gases are present. |
| 22 | Final Reclamation    | Final Reclamation<br>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.<br><br>Identification of plugged and abandoned wells will be identified pursuant to 319.a (5)   |

Total: 22 comment(s)

### Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u>            |
|--------------------|------------------------|
| 400588137          | FORM 2 SUBMITTED       |
| 400589992          | DIRECTIONAL DATA       |
| 400600240          | DEVIATED DRILLING PLAN |
| 400605273          | PROPOSED SPACING UNIT  |
| 400605575          | LEASE MAP              |
| 400606222          | WELL LOCATION PLAT     |

Total Attach: 6 Files

### General Comments

| <u>User Group</u> | <u>Comment</u>   | <u>Comment Date</u> |
|-------------------|--|---------------------|
| Permit            | Return to draft. BHL footage FNL does not match footage in well plat | 5/9/2014 4:23:00 PM |

Total: 1 comment(s)