



**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.)

Please see attached mineral lease map

Total Acres in Described Lease: 38 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: 263 Feet  
 Building Unit: 263 Feet  
 High Occupancy Building Unit: 3811 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 341 Feet  
 Above Ground Utility: 336 Feet  
 Railroad: 282 Feet  
 Property Line: 56 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: 188 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**

W/2 of Sec 1-T5N-R66W & NW/4 of Sec 12-T5N-R66W. PSU Map is attached.

**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		480	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 15616 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 188 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? 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: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

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	12+1/4	9+5/8	36	0	500	265	500	0
1ST	8+3/4	7	26	0	8271	839	8271	3000
1ST LINER	6+1/8	4+1/2	11.6	6500	15616			

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



## 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 the end of the 7" casing to a minimum of 200' above the Niobrara. Verify coverage with a 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. 4) At least two weeks prior to spud notice, the centralizer and cementing plans shall be submitted to the COGCC for review on a Form 4, Sundry Notice. 5) At least one well on the pad must have a complete set of open hole logs (Compensated Neutron, Dual Induction, Resistivity, etc.) run and submitted to the COGCC. 6) Four hours prior to running any casing, notification shall be provided to Mike Hickey, COGCC Engineer at 303-894-2100 x5105. 7) Bradenhead pressures shall be taken 6, 12, 24 and 48 hours after cementing production casing and prior to stimulation of the well. Once stimulation is complete, the bradenhead pressure shall be recorded at 24 hours, at 48 hours and at one week post-stimulation. Bradenhead pressures greater than 100 psi must be immediately reported on a Form 17 to the COGCC, sent to the attention of Mike Hickey. 8) All bradenhead pressures shall be monitored with a gauge that has a maximum reading of one thousand pounds per square inch (psi). 9) Circulation prior to cementing shall be done to accepted industry standards.
	Operator shall comply with Buffer Zone Move-In, Rig-Up Notice Policy dated 12-16-2013.
	Open hole resistivity and gamma ray 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 Form 5 for every well 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	Planning	Development from existing well pads. These additional wells are located on an already approved location assessment and have been clustered in two lines to minimize surface disturbance area and cut and fill volumes.
3	Planning	Site-specific measures. This location has been designed to mitigate the visual impacts to the surrounding properties.
4	Traffic control	Traffic Plan. Traffic plans will be reviewed with the Town of Greeley.
5	General Housekeeping	Fencing requirements. A permanent fencing plan will be submitted to the surface owner.
6	General Housekeeping	Removal of surface 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.
7	Material Handling and Spill Prevention	Leak Detection 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.
8	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. No more than two tanks shall be located within a single berm. All berms will be visually checked periodically to ensure proper working condition.

9	Material Handling and Spill Prevention	Loadlines. All loadlines shall be bullplugged or capped.
10	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.
11	Construction	Access roads. The access road will be constructed pursuant to the attached long-term development plan and has been, along with the pad, designed to accommodate local emergency vehicles. This road will be maintained for access at all times.
12	Noise mitigation	Noise. A 8' high hay bale wall will be constructed around the drilling location for temporary noise screening.
13	Emissions mitigation	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 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 combustion where non-combustible gases are present.
14	Drilling/Completion Operations	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. This anti-collision scan will 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, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
15	Drilling/Completion Operations	Bradenhead Monitoring BMP: Operator will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.
16	Drilling/Completion Operations	Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling.
17	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.
18	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.
19	Drilling/Completion Operations	Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug.
20	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.
21	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.
22	Drilling/Completion Operations	Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.
23	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.
24	Final Reclamation	Identification of plugged and abandoned wells. P&A'd wells shall be identified pursuant to 319.a.(5).

Total: 24 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>
2114400	OFFSET WELL EVALUATION
2114436	SURFACE AGRMT/SURETY
2114437	EXCEPTION LOC REQUEST
400406825	FORM 2 SUBMITTED
400406874	EXCEPTION LOC WAIVERS
400406879	EXCEPTION LOC WAIVERS
400406880	SURFACE AGRMT/SURETY
400410093	WELL LOCATION PLAT
400422584	DEVIATED DRILLING PLAN
400471857	VARIANCE REQUEST
400471859	EXCEPTION LOC REQUEST
400471862	MINERAL LEASE MAP
400481111	DIRECTIONAL DATA
400481698	PROPOSED SPACING UNIT

Total Attach: 14 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Operator will have privacy fence around south and west sides of pad, landscaping (bushes & trees) along the south side, and a chain link fence around entire pad	1/13/2014 12:50:01 PM
Permit	SUA lands are in metes and bounds. Received and attached map from operator showing lands contained in Surface Use Agreement. Received and attached more detailed Exception Location Request for Rules 318A.a, 318A.c, and 603 a(2). Rules 604b(1)A and 604b(2) apply to this APD because the 2A was approved and Surface Use Agreement was executed before the rules change of August 1, 2013.	1/2/2014 2:19:15 PM
Engineer	offset wells evaluated	11/28/2013 2:56:14 PM
Permit	Closest well is Poudre Trail 5-2-2-2 at 188'. Removed Variance Request letter. Requested Offset Well Evaluation Spreadsheet.	11/19/2013 8:58:27 AM
Permit	Passed completeness.	11/8/2013 7:06:16 AM
Permit	Cultural Setbacks information is valid and acceptable because of previously approved Form 2A on 10/17/2012.	11/8/2013 7:05:31 AM
Permit	Urban mitigation zone not checked. Date notified LGD not filled in. Date of buffer zone notification to surface owners not filled in. Property line exception submitted but cultural distance to property line is more than 150'. (letter from Lamp, Rynearsoin says 150'; Cultural tabs says 56)	9/17/2013 9:31:34 AM
Permit	Buffer Zone, Exception Zone and Urban Mitigation Area boxes need to be checked (Cultural Setbacks Tab). Notification Dates are missing (Cultural Setbacks Tab) Cuttings Disposal Method is missing. Mitigation need to be added to Operator BMP/COA tab and attachment deleted. Requested 318A Exception Location Request Letter. 606a.1.A box needs to be checked (Exceptions Tab) 318A box needs to be checked (Exceptions) Requested operator combine 30 Day Cert letter and PSU map into one attachment. No directional data.	8/27/2013 1:22:26 PM

Total: 8 comment(s)