

FORM  
2  
Rev  
08/13

State of Colorado  
Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
400855739

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

TYPE OF WELL    OIL     GAS     COALBED     OTHER \_\_\_\_\_  
ZONE TYPE      SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES

Refiling   
Sidetrack

Date Received:  
10/09/2015

Well Name: Litzenberger      Well Number: 21  
Name of Operator: CUB CREEK ENERGY      COGCC Operator Number: 10542  
Address: 200 PLAZA DRIVE SUITE 100  
City: HIGHLANDS RANCH      State: CO      Zip: 80129  
Contact Name: Alyssa Andrews      Phone: (720)420-5749      Fax: ( )  
Email: alyssa.andrews@iptenergyservices.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20140112

WELL LOCATION INFORMATION

QtrQtr: SENE      Sec: 8      Twp: 3N      Rng: 68W      Meridian: 6  
Latitude: 40.242260      Longitude: -105.021830

Footage at Surface: 1953 feet      FNL/FSL      FNL 1184 feet      FEL/FWL      FEL

Field Name: WATTENBERG      Field Number: 90750

Ground Elevation: 5082      County: WELD

GPS Data:  
Date of Measurement: 05/14/2015    PDOP Reading: 1.5    Instrument Operator's Name: BRIAN ROTTINGHAUS

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  
746    FSL      460    FEL      746    FSL      460    FWL  
Sec: 8    Twp: 3N    Rng: 68W      Sec: 8    Twp: 3N    Rng: 68W

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.)

Please see the attached lease map

Total Acres in Described Lease: 117 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: 1939 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 476 Feet  
 Building Unit: 561 Feet  
 High Occupancy Building Unit: 4011 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 625 Feet  
 Above Ground Utility: 518 Feet  
 Railroad: 5280 Feet  
 Property Line: 625 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: 08/05/2015

**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: 348 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**

\_\_\_\_\_

**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	407-1547	640	Sec. 8-3N-68W: ALL

**DRILLING PROGRAM**

Proposed Total Measured Depth: 12402 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

250 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?                     

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	800	176	800	0
1ST	8+3/4	7	26	0	8043	790	8043	3000
1ST LINER	6+1/8	4+1/2	11.6	7279	12402			

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 wellbore completed/permitted in the same formation: 348' (Ref. Well: Litzenberger #19)  
Distance to nearest wellbore penetrating the same formation: 250' (Ref. Well: Litzenberger #20)  
Exception to rules 318A.a. & 318A.c. are waived in the SUA (highlighted on p.6)

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: Alyssa Andrews

Title: Operations Engineer Date: 10/9/2015 Email: alyssa.andrews@iptenergyservi

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: 2/12/2016

Expiration Date: 02/11/2018

### API NUMBER

05 123 42769 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.

### COA Type

### Description

- 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.
- 2) Comply with Rule 317.j and provide cement coverage from the intermediate casing (7" first string) shoe to a minimum of 200' above Niobrara. Verify coverage with cement bond log.
- 3) Surface casing setting depth has been increased from 500' to 800' to meet minimum isolation requirements. Cement volume shall be increased accordingly to provide full coverage from total depth to surface.

## Best Management Practices

No	BMP/COA Type	Description
1	Planning	804. Visual Impacts: All long term facility structures will be painted a color that enables the facilities to blend in with the natural background color of the landscape, as seen from a viewing distance and location typically used by the public. Maintain appearance with garbage clean-up; a trash bin will be located on site to accumulate waste by the personnel drilling the wells. Site will have unused equipment, trash and junk removed immediately.
2	Planning	604.c.(2)J.i Blowout Prevention Equipment ("BOPE"): A double ram and annular preventer will be used during drilling. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid.
3	Planning	604.c.(2)J.ii Backup stabbing valves be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
4	Planning	604.c.(2)N. Control of fire hazards: All material that is considered a fire hazard 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.
5	Traffic control	604.c.(2)S. Access Roads: The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times. Traffic will be routed to minimize local interruption. Dust control measures will also be utilized.
6	Traffic control	RULE 604.c.(2)D: If required by the local government, a traffic plan shall be coordinated with the local jurisdiction prior to commencement of move in and rig up. Any subsequent modification to the traffic plan must be coordinated with the local jurisdiction.
7	General Housekeeping	604.c.(2)P. Trash Removal: 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.
8	Material Handling and Spill Prevention	604.c.(2)F. 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.
9	Material Handling and Spill Prevention	604.c.(2)R 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.
10	Construction	604.c.(3)B. 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. Secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Tertiary containment, such as an earthen berm, will be installed around production facilities.
11	Construction	604.c.(2).Q. All guy line anchors left buried for future use shall be identified by a marker of bright color not less than four (4) feet in height and not greater than one (1) foot east of the guy line anchor.
12	Construction	604.c.(2).E. This will be a multi-well pad.
13	Emissions mitigation	604.c.(2)C.i. 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. Will tie into a gas sales line.
14	Odor mitigation	Rule 805: Oil & gas facilities and equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare.
15	Drilling/Completion Operations	RULE 604.c.I: Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections shall be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results shall be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
16	Drilling/Completion Operations	604.c.(2)L. Closed chamber drill stem tests shall be allowed. All other drill stem tests shall require approval by the Director. None planned for this well.

17	Drilling/Completion Operations	604.c.(2).K. Drilling and Completion- Pit level Indicators shall be used on location.
18	Drilling/Completion Operations	604.c.(2).O. Drilling and Completion-All loadlines shall be bullplugged or capped.
19	Drilling/Completion Operations	604.c.(2)B.i Operator will be utilizing a closed loop system
20	Drilling/Completion Operations	317.p One of the first wells drilled on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from the kick-off point into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. The horizontal portion of every well will be logged with a measured-while-drilling gamma-ray log. The Form 5, Completion Report, for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which open-hole logs were run.
21	Drilling/Completion Operations	Operator will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.
22	Final Reclamation	604.c.(2)T. Within 90 days subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site. Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5)
23	Final Reclamation	604.c.(2).U. Final Reclamation-The operator shall identify the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). The operator shall also inscribe or imbed the well number and date of plugging upon the permanent monument.

Total: 23 comment(s)

### **Applicable Policies and Notices to Operators**

Policy
Notice Concerning Operating Requirements for Wildlife Protection. <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>
Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area. <a href="http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf">http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf</a>

### **Attachment Check List**

<b>Att Doc Num</b>	<b>Name</b>
400855740	WELL LOCATION PLAT
400858968	DEVIATED DRILLING PLAN
400858969	DIRECTIONAL DATA
400909386	SURFACE AGRMT/SURETY
400912453	MINERAL LEASE MAP
400912454	EXCEPTION LOC REQUEST
400914885	OffsetWellEvaluations Data
400938529	OFFSET WELL EVALUATION
400938530	SURFACE CASING CHECK

Total Attach: 9 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	2/8/2016 10:15:12 AM
Permit	Spacing order 407-1547 was approved in the December hearings. Added to spacing and removed comment. Permitting Review Complete.	12/11/2015 9:11:48 AM
Permit	Cub Creek = ON HOLD: Spacing application has been filed for the December hearing. Docket # 151200690.	12/3/2015 9:27:15 AM
Permit	Open Hole Logging BMP submitted by operator.	12/3/2015 9:27:14 AM
Permit	Surface Use Agreement has waivers for Rule 318A.a & 318A.c.	12/3/2015 9:27:13 AM
Engineer	Evaluated offset wells for adequate isolation. Radio Tower 1 (API#123-10852) does not meet standard for Niobrara coverage. TOC is 194' above the Niobrara top. The well is located about 1450' from the toe of the closest planned horizontal on this pad so mitigation is not required for stimulation of the wells on this pad. Emailed operator regarding surface casing setting depth. See attached surface casing check. Operator concurred with increasing the setting depth to 800'.	11/17/2015 1:33:35 PM
Permit	Passed completeness.	10/14/2015 1:37:24 PM

Total: 7 comment(s)