

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
10/19/2017

TYPE OF WELL OIL GAS COALBED OTHER _____

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Refiling
Sidetrack

Well Name: BOIES RANCH B-19N Well Number: 23B-19-2-97

Name of Operator: URSA OPERATING COMPANY LLC COGCC Operator Number: 10447

Address: 1600 BROADWAY ST STE 2600

City: DENVER State: CO Zip: 80202

Contact Name: CARI MASCIOLI Phone: (970)284-3244 Fax: ()

Email: cmascioli@ursaresources.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20120125

WELL LOCATION INFORMATION

QtrQtr: SESW Sec: 19 Twp: 2S Rng: 97W Meridian: 6

Latitude: 39.857496 Longitude: -108.328182

Footage at Surface: 1074 Feet ^{FNL/FSL} FSL 1683 Feet ^{FEL/FWL} FWL

Field Name: SULPHUR CREEK Field Number: 80090

Ground Elevation: 6305 County: RIO BLANCO

GPS Data:
Date of Measurement: 01/05/2017 PDOP Reading: 1.1 Instrument Operator's Name: HOFFMANN

If well is Directional Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: ^{FNL/FSL} 2257 ^{FEL/FWL} FSL 1819 ^{FNL/FSL} 2257 ^{FEL/FWL} FSL 1819

Sec: 19 Twp: 2S Rng: 97W Sec: 19 Twp: 2S Rng: 97W

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: applicant is owner

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.)

FEDERAL LEASE COC078270 COVERING PORTIONS OF T2S-R97W, SECTIONS 19 AND 30
PLEASE SEE ATTACHED MINERAL LEASE MAP.

Total Acres in Described Lease: 722 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # COC078270

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 942 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 3426 Feet
 Building Unit: 3426 Feet
 High Occupancy Building Unit: 5280 Feet
 Designated Outside Activity Area: 5280 Feet
 Public Road: 215 Feet
 Above Ground Utility: 322 Feet
 Railroad: 5280 Feet
 Property Line: 246 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: 330 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

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
ILES	ILES	527-4		
WILLIAMS FORK	WMFK	527-1		

DRILLING PROGRAM

Proposed Total Measured Depth: 11122 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: 362 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: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

PLEASE SEE WASTE MANAGEMENT PLAN ATTACHED TO ASSOCIATED FORM 2A.

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
CONDUCTOR	24	16	55	0	60	111	60	0
SURF	13+1/2	9+5/8	36	0	3568	584	3568	1911
1ST	8+3/4	4+1/2	11.6	0	11122	1337	11122	
		9+5/8	Stage Tool		1911	572	1911	0

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 completed in the same formation / permitted or existing well penetrating objective formation was measured to Ursa's proposed BOIES RANCH B-19N 23A-19-2-97. Distance to the nearest well completed in the same formation / permitted or existing well belonging to another operator was measured at 362' to American Cometra Inc's Federal #5 (API 05-103-05140).

This well is being proposed from an existing pad on Ursa-owned surface. The proposed well will BHL on federal minerals. Pre-application notifications were not required as all Surface owners within 1000' are Ursa or Federal and there are no building units located within 1000' of the pad location. Ursa will be pursuing Federal APDs for the proposed BOIES RANCH B-19N wells concurrently with this application.

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

Location ID: 311855

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: CARI MASIOLI

Title: REGULATORY ANALYST Date: 10/19/2017 Email: cmascioli@ursaresources.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: Matthew Lee Director of COGCC Date: 1/27/2018

Expiration Date: 01/26/2020

API NUMBER
05 103 12296 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)Operator shall provide cement coverage from the production casing shoe (4+1/2" FIRST STRING) to above total vertical depth of 4100'. Isolation is required due to offset Wasatch sand injection. Verify production casing cement coverage with a cement bond log.</p>
	The moisture content of water/bentonite based mud (WBM) generated drill cuttings managed onsite shall be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts. The operator has indicated in the 'DRILLING WASTE MANAGEMENT PROGRAM SECTION' of the Form 2; that 'Cuttings Disposal' will be "OFFSITE" and that the 'Cuttings Disposal Method' will be "Beneficial reuse", 'Other Disposal Description' as "PLEASE SEE WASTE MANAGEMENT PLAN ATTACHED TO ASSOCIATED FORM 2A." Any proposed offsite disposal or beneficial reuse of cuttings to another oil and gas location shall not occur until approval of a Form 4 Sundry Notice specifying disposal or beneficial reuse location and cuttings material sampling and characterization methods. A Form 4 Sundry Notice must also be submitted for any of the WBM drill cuttings that will remain on the well pad location and must be sampled and meet the applicable standards of Table 910-1.
	Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017).
	If conductors are preset, operator shall comply with Notice to Operators: Procedures for Preset Conductors (dated September 1, 2016, revised October 6, 2016).

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	One of the first wells that Ursa Operating Company drills on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from TD 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 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.

Total: 1 comment(s)

Applicable Policies and Notices to Operators

Policy
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

<u>Att Doc Num</u>	<u>Name</u>
2108335	WELL LOCATION PLAT
401425340	FORM 2 SUBMITTED
401428679	MINERAL LEASE MAP

401465040	DEVIATED DRILLING PLAN
401465042	DIRECTIONAL DATA

Total Attach: 5 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Spacing Order 527-1 amended with 527-20 on 11/28/17 to include all of section 19; and Spacing Order 527-4 Amended with 527-21 to include All. Both continue with 10 Acre Density. Final review complete.	01/23/2018
OGLA	01/05/18 - with operator's verbal concurrence - attached revised 'Well Location Plat'; revised the Distance to the nearest cultural feature: from Well to Building from 1041' to 3426' (same as Building Unit since the original distance was measured to an 'oil and gas' operations building, not owned or accessible by any public or private entity) - based on review of COGCC's Online GIS Map Aerial Photo for 2015 layer and the operator's indication that the building is an oil and gas operations building.	01/08/2018
Engineer	Offset Well Evaluation: Evaluated offset well Sulphur Creek-Federal #5 API #103-05140. Drilled to 9018' and cemented with 900 sacks. Plugged adequately per COGCC document #358137. No remediation required for offset Mesaverde stimulation. Existing offset oil and gas wells within 1,500 feet of this wellbore meet standards. No mitigation required. Offset well B-19N #SWD #1 API#103-11000 reportedly injects into the Wasatch G and Fort Union formations. The shallowest perforation is at 4330' and the Wasatch G top is possibly incorrectly reported at 3795'. The sand being injected into shows a top at 4300'. Cement coverage is to be 200' above this sand at a total vertical depth of 4100'. See Condition of Approval #2 for cement isolation requirements. Offset water well check: COGCC evaluated offset water wells within one mile of this proposed well's surface hole location. This information was used in addition to locally-available geophysical logs and hydrogeologic information to evaluate the adequacy of the operator's proposed surface casing setting depth. The deepest permitted water well within one mile is shown at a depth of 35 feet. Per operator changed distance to well owned by another and revised operator submit comment.	01/08/2018
Permit	Corrected the distance to the lease line from 1819' to 942' with operator concurrence. Preliminary review complete.	12/26/2017
Permit	Passed Completeness.	12/04/2017
Permit	Returned to draft due to distance to nearest road.	10/27/2017

Total: 6 comment(s)