

FORM
2

Rev
08/16

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:

401175770

Date Received:

02/21/2017

APPLICATION FOR PERMIT TO:

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER _____

Refilling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: RBF Well Number: 5
Name of Operator: EXTRACTION OIL & GAS LLC COGCC Operator Number: 10459
Address: 370 17TH STREET SUITE 5300
City: DENVER State: CO Zip: 80202
Contact Name: Jeff Annable Phone: (303)928-7128 Fax: (303)218-5678
Email: regulatory@ascentgeomatics.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20130028

WELL LOCATION INFORMATION

QtrQtr: SENE Sec: 22 Twp: 6N Rng: 67W Meridian: 6

Latitude: 40.474193

Longitude: -104.871400

Footage at Surface: 2009 Feet FNL/FSL FNL 300 Feet FEL/FWL FEL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 4778 County: WELD

GPS Data:

Date of Measurement: 06/24/2015 PDOP Reading: 1.5 Instrument Operator's Name: Bryan Johnson

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

Footage at Top of Prod Zone: FNL/FSL FNL/FWL Bottom Hole: FNL/FSL FNL/FWL
991 FNL 460 FEL 990 FNL 460 FWL
Sec: 22 Twp: 6N Rng: 67W Sec: 21 Twp: 6N Rng: 67W

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.)

Township 6 North, Range 67 West of the 6th PM
Section 9: That part of the SE4 lying South of the Lake Canal Ditch.
Section 13: SW4
Section 14: S2
Section 22: NE4
Section 23: NW4, W2NE4

Total Acres in Described Lease: 1000 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: 1687 Feet
Building Unit: 1830 Feet
High Occupancy Building Unit: 2733 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 2016 Feet
Above Ground Utility: 623 Feet
Railroad: 655 Feet
Property Line: 300 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: 164 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

Nearest wellbore permitted or completed in the same formation is the proposed RBF 6 (Common source NBRR well).

CODL: Proposed Spacing Unit is described as
T6N,R67W:
Sec 21 & 22 - N2

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: 17080 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: 241 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? Yes

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 |
|-------------|--------------|----------------|-------|---------------|---------------|-----------|---------|---------|
| CONDUCTOR | 24 | 16 | 42 | 0 | 80 | 100 | 80 | 0 |
| SURF | 12+1/4 | 9+5/8 | 36 | 0 | 1500 | 400 | 1500 | 0 |
| 1ST | 7+7/8 | 5+1/2 | 20 | 0 | 17080 | 1600 | 17080 | 1500 |

☐ 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 | <p>Letter to the Director for COGCC Rule 318A.a. Exception Location for GWA Window, attached as the Exception Loc Request.</p> <p>Waiver for COGCC Rule 318A.a. is highlighted in the attached SUA.</p> <p>Nearest permitted or existing wellbore belonging to another operator is the 392 Ventures 41-22D API #05-123-34008. The nearest 3D measurement was used since from a 2D perspective the distance is 0'.</p> <p>The 392 Ventures 22JD, 392 Ventures 22MD, 392 Ventures 22RD, 392 Ventures 21-22D, 392 Ventures 31-22D, 392 Ventures 41-22D wells are greater than 241' from the lateral. (3D Measurement).</p> |
|----------|---|

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

Location ID: 444315

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: Jeff Annable

Title: Regulatory Analyst Date: 2/21/2017 Email: regulatory@ascentgeomatrics.c

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: 

Director of COGCC Date: 3/17/2017

Expiration Date: 03/16/2019

API NUMBER

05 123 44439 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

| | |
|--|---|
| | <ol style="list-style-type: none">1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU for the first well activity with a rig on the pad and provide 48 hour spud notice for each subsequent well drilled on the pad.2) Comply with Rule 317.j and provide cement coverage from TD to a minimum of 200' above the Niobrara. Verify coverage with cement bond log.3) Oil-based drilling fluid is to be used only after all aquifers are covered. |
| | <p>Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test:</p> <ol style="list-style-type: none">1) Within 60 days of rig release and prior to stimulation and2) If a delayed completion, 6-7 months after rig release and prior to stimulation.3) Within 30 days after first production, as reported on Form 5A. |

Best Management Practices

| No | BMP/COA Type | Description |
|-----------|--------------------------------|--|
| 1 | Planning | <p>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.</p> <p>Backup stabbing valves will 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.</p> |
| 2 | Construction | 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. |
| 3 | Emissions mitigation | <p>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.</p> <p>Operator will bring a new or expand existing gas sales lines, in a timely manner, to send salable quality gas immediately down the sales line.</p> |
| 4 | Odor mitigation | 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. Operator is in the process of implementing a new base fluid for Oil Base Mud systems. The aromatics and BTEX concentrations are much less than that of generic diesel. With these two things being the major contributors to the odor from diesel, this should lead to less odor at the drill site caused by OBM. |
| 5 | Drilling/Completion Operations | <p>Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.</p> <p>Operator acknowledges and will comply with COGCC policy for Bradenhead Monitoring during Hydraulic Fracturing treatments in the Greater Wattenberg Area dated May 29, 2012.</p> <p>Operator will be utilizing a closed loop system.</p> <p>All loadlines shall be bull plugged or capped.</p> |
| 6 | Drilling/Completion Operations | 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. |

Total: 6 comment(s)

Applicable Policies and Notices to Operators

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

Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u> |
|--------------------|----------------------------|
| 401175770 | FORM 2 SUBMITTED |
| 401182301 | OffsetWellEvaluations Data |
| 401182310 | DIRECTIONAL DATA |
| 401182321 | WELL LOCATION PLAT |
| 401182324 | DEVIATED DRILLING PLAN |
| 401203154 | EXCEPTION LOC REQUEST |
| 401203159 | SURFACE AGRMT/SURETY |
| 401215703 | PROPOSED SPACING UNIT |
| 401236447 | OFFSET WELL EVALUATION |

Total Attach: 9 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|--|---------------------|
| Permit | Final Review Completed. | 03/17/2017 |
| Engineer | Evaluated offset wells. | 03/17/2017 |
| LGD | <p>Please be advised that the subject property is located within the Town's Growth Management Area (GMA).</p> <p>Below please find the conditions of approval that are typically applied to conditional use grants for oil and gas operations located within Town. Therefore, the Town recommends the following conditions be placed on the subject oil and gas facilities:</p> <p>CONDITIONS:</p> <p>1. Prior to the commencement of drilling, the applicant shall submit comprehensive "Drilling and Site Improvement Plans" for review and approval by the Town. Such plans shall address initial drilling activities, initial installation of site improvements and details, and on-going perpetual maintenance of the subject site including, but not limited to, the following:</p> <p>a. Site access plan. The Drilling and Site Improvement Plans and supplemental information shall address site access points and haul routes for review and approval.</p> <p>b. Public street clean-up and tracking prevention. The Drilling and Site Improvement Plans and supplemental information shall include a tracking pad for review and approval.</p> <p>c. Site grading. The Drilling and Site Improvement Plans and supplemental information shall address site grading, including any earth berms for emergency containment.</p> <p>d. Site lighting. The Drilling and Site Improvement Plans and supplemental information shall include details regarding site lighting fixtures and locations. Security and other site lighting shall utilize full cutoff light fixtures to mitigate light pollution.</p> <p>e. Temporary screening. The applicant shall install a buffer to screen the initial drilling activities and installation of site improvements from surrounding neighborhoods and streets. The temporary buffer shall include hay bales to enclose the drilling operations to provide noise mitigation.</p> <p>f. Permanent screening. Given the close proximity to residential neighbors, the Drilling and Site Improvement Plans shall depict proposed long-term screening materials including landscaping, earth berms and any other screening methods to mitigate visual impacts.</p> <p>g. Fencing. The Drilling and Site Improvement Plans shall depict fencing of the</p> | 03/06/2017 |

| | | | |
|--|--|--|--|
| | <p>perimeter of the site. Fencing materials shall be reviewed for approval by the Town based upon the character of the surrounding neighborhood.</p> <p>h. Oil and gas equipment.</p> <p>(1) The applicant shall utilize electric motors in order to mitigate the noise impacts to the neighboring properties.</p> <p>(2) The applicant shall ensure that the wells and tanks are of the minimum size required to satisfy present and future functional requirements to mitigate visual impacts.</p> <p>(3) Low profile tanks shall be utilized and shall be installed in the least visible manner possible.</p> <p>(4) All tanks and equipment shall be painted to blend-in with the surrounding landscape.</p> <p>i. Air quality.</p> <p>(1) The applicant shall participate in any required Environmental Protection Agency (EPA) air quality monitoring and/or testing by allowing EPA to install equipment on site for said monitoring and testing.</p> <p>(2) The applicant shall install and operate an emissions control device (ECD) capable of reducing Volatile Organic Compound (VOC) emissions on the subject oil and gas equipment in accordance with Colorado Oil and Gas Conservation Commission (COGCC) and/or the Colorado Department of Public Health and Environment (CDPHE) rules and regulations.</p> <p>(3) The applicant shall submit to the Town copies of all air emissions reporting as required by the COGCC and/or the CDPHE's Air Pollution Control Division.</p> <p>j. Water quality.</p> <p>(1) The applicant shall ensure that any hydrocarbon discharges from the site comply with all state and federal water quality requirements.</p> <p>(2) The applicant shall provide test results from Groundwater Baseline Sampling and Monitoring required by COGCC Rule 318A.e(4) to the Town. (Condition updated 10/28/13 to reflect updated COGCC rule)</p> <p>k. Emergency containment. The secondary containment berm surrounding all storage vessels shall be designed and constructed to contain a minimum of 110% of the volume of the largest vessel located within the containment area or to State of Colorado standards, whichever requirements are more stringent.</p> <p>l. Waste disposal. The applicant shall submit to the Town copies of all waste management reports as required by the COGCC and/or the CDPHE rules and regulations.</p> <p>m. The following certification blocks shall be included on the Drilling and Site Improvement Plans:</p> <p>(1) A signed owner's acknowledgement certification block.</p> <p>(2) A signed drilling operator's acknowledgement certification block.</p> <p>n. The following notes shall be included on the Drilling and Site Improvement Plans:</p> <p>(1) The applicant shall comply with all rules and regulations of the Colorado Oil and Gas Conservation Commission (COGCC).</p> <p>(2) The applicant shall comply with all rules and regulations of the Colorado Department of Public Health and Environment (CDPHE).</p> | | |
|--|--|--|--|

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|--------|---|------------|--|
| | <p>(3)The applicant shall maintain on-going compliance with all conditions of the Town and Windsor-Severance Fire Rescue.</p> <p>(4)The facilities shall be kept clean and otherwise properly maintained at all times.</p> <p>(5)If access to the site is proposed from a Town of Windsor street, such access point(s) shall require approval from the Town of Windsor Engineering Department and any required access improvements, street clean-up, tracking pads, etc., shall be addressed accordingly.</p> <p>2.The applicant shall address and comply with the conditions of Windsor-Severance Fire Rescue.</p> | | |
| Permit | Open Hole Logging BMP submitted by operator. Added Location ID# 444315. Surface Use Agreement has waivers for Rule 318A.a & 318A.c. See page 4, Section 10.k. Permitting Review Complete. | 02/28/2017 | |
| Permit | Passed completeness. | 02/23/2017 | |

Total: 5 comment(s)