

**APPLICATION FOR PERMIT TO:**

**Drill**       Deepen       Re-enter       Recomplete and Operate

TYPE OF WELL    OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> COALBED <input type="checkbox"/> OTHER _____ ZONE TYPE        SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Refiling <input type="checkbox"/> Sidetrack <input type="checkbox"/>
--	---

Date Received:  
02/21/2017

Well Name: RBF      Well Number: 4

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: 40.474237      Longitude: -104.871400

Footage at Surface: <u>1993</u> Feet	FNL/FSL	FEL/FWL
<u>FNL</u> <u>300</u> Feet	<u>FNL</u> <u>300</u> Feet	<u>FEL</u> <u>300</u> Feet

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: <u>825</u> Feet	FNL/FSL	FEL/FWL	Bottom Hole: <u>825</u> Feet	FNL/FSL	FEL/FWL
<u>FNL</u> <u>460</u> Feet	<u>FNL</u> <u>460</u> Feet	<u>FEL</u> <u>460</u> Feet	<u>FNL</u> <u>460</u> Feet	<u>FNL</u> <u>460</u> Feet	<u>FEL</u> <u>460</u> Feet

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: 1671 Feet  
Building Unit: 1833 Feet  
High Occupancy Building Unit: 2738 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 2021 Feet  
Above Ground Utility: 638 Feet  
Railroad: 670 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: 74 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 392 Ventures 41-22D API #05-123-34008 (Common source NB-CD well).

NBRR: Proposed Spacing Unit is described as  
T6N,R67W:  
Sec 21 & 22 - N2N2

## 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		320	GWA

## DRILLING PROGRAM

Proposed Total Measured Depth: 16904 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: 74 Feet  No well belonging to another operator within 1,500 feet

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? 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	16904	1600	16904	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 Letter to the Director for COGCC Rule 318A.a. Exception Location for GWA Window, attached as the Exception Loc Request.

Waiver for COGCC Rule 318A.a. is highlighted in the attached SUA.

Nearest permitted or existing wellbore belonging to another operator is the 392 Ventures 41-22D API #05-123-34008.

The 392 Ventures 22MD, 392 Ventures 22RD, 392 Ventures 22JD wells are greater than 150 feet from the proposed wellbore. (3D Measurement).

The RBF 11-22D, 392 Ventures 31-22D, and the 392 Ventures 41-22D producing intervals are less than 150' from the producing interval of this proposed well. A 317.s. consent from Highpointe Energy, LLC is attached as Stimulation Setback Consent.

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@ascentgeomatics.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

<b>API NUMBER</b>
05 123 44447 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"><li>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.</li><li>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.</li><li>3) Oil-based drilling fluid is to be used only after all aquifers are covered.</li></ol>
	<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"><li>1) Within 60 days of rig release and prior to stimulation and</li><li>2) If a delayed completion, 6-7 months after rig release and prior to stimulation.</li><li>3) Within 30 days after first production, as reported on Form 5A.</li></ol>

## 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

Policy
<p>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></p>
<p>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></p>

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
401175769	FORM 2 SUBMITTED
401182193	OffsetWellEvaluations Data
401182312	DIRECTIONAL DATA
401182318	WELL LOCATION PLAT
401203110	EXCEPTION LOC REQUEST
401203116	SURFACE AGRMT/SURETY
401203144	STIMULATION SETBACK CONSENT
401215693	PROPOSED SPACING UNIT
401217475	DEVIATED DRILLING PLAN
401236456	OFFSET WELL EVALUATION

Total Attach: 10 Files

### General Comments

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
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><b>CONDITIONS:</b></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>	03/06/2017

g. Fencing. The Drilling and Site Improvement Plans shall depict fencing of the perimeter of the site. Fencing materials shall be reviewed for approval by the Town based upon the character of the surrounding neighborhood.

h. Oil and gas equipment.

(1) The applicant shall utilize electric motors in order to mitigate the noise impacts to the neighboring properties.

(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.

(3) Low profile tanks shall be utilized and shall be installed in the least visible manner possible.

(4) All tanks and equipment shall be painted to blend-in with the surrounding landscape.

i. Air quality.

(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.

(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.

(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.

j. Water quality.

(1) The applicant shall ensure that any hydrocarbon discharges from the site comply with all state and federal water quality requirements.

(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)

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.

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.

m. The following certification blocks shall be included on the Drilling and Site Improvement Plans:

(1) A signed owner's acknowledgement certification block.

(2) A signed drilling operator's acknowledgement certification block.

n. The following notes shall be included on the Drilling and Site Improvement Plans:

(1) The applicant shall comply with all rules and regulations of the Colorado Oil and Gas Conservation Commission (COGCC).

(2) The applicant shall comply with all rules and regulations of the Colorado

	<p>Department of Public Health and Environment (CDPHE).</p> <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	<p>Surface Use Agreement has waivers for Rule 318A.a &amp; 318A.c. See page 4, Section 10.k.</p> <p>Open Hole Logging BMP submitted by operator. Added Location ID# 444315.</p> <p>Permitting Review Complete.</p>	02/28/2017
Permit	<p>Passed completeness.</p>	02/23/2017
Permit	<p>Return to Draft:</p> <p>* Re-attach Deviated Drilling Plan.</p>	02/23/2017

Total: 6 comment(s)