

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: _____	Refilling <input type="checkbox"/>	Date Received: 12/19/2018
ZONE TYPE SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Sidetrack <input type="checkbox"/>	

Well Name: INTERCHANGE B Well Number: S22-30-20N

Name of Operator: EXTRACTION OIL & GAS INC COGCC Operator Number: 10459

Address: 370 17TH STREET SUITE 5300

City: DENVER State: CO Zip: 80202

Contact Name: Bonnie Lamond Phone: (720)481-2379 Fax: ()

Email: blamond@extractionog.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20130028

WELL LOCATION INFORMATION

QtrQtr: NESW Sec: 10 Twp: 1S Rng: 68W Meridian: 6

Latitude: 39.978220 Longitude: -104.990845

Footage at Surface:	<u>2222</u>	Feet	FNL/FSL	<u>1776</u>	Feet	FEL/FWL
	<u>FSL</u>			<u>FWL</u>		

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 5205 County: BROOMFIELD

GPS Data:
Date of Measurement: 09/28/2017 PDOP Reading: 1.4 Instrument Operator's Name: T. WINNICKI

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
<u>150</u>	<u>FNL</u>	<u>20</u>	<u>460</u>	<u>FSL</u>	<u>28</u>
	<u>FWL</u>			<u>FWL</u>	
Sec: <u>11</u>	Twp: <u>1S</u>	Rng: <u>68W</u>	Sec: <u>23</u>	Twp: <u>1S</u>	Rng: <u>68W</u>

LOCAL GOVERNMENT INFORMATION

County: BROOMFIELD Municipality: _____

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "local government with jurisdiction to approve the siting of the proposed oil and gas location."

The local government with jurisdiction is: City and County

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this COGCC application? If the local government has waived its right to precede the COGCC in siting determination, indicate by selecting "NO" here and selecting "Waived" below. Yes No

If yes, in checking this box, I hereby certify that an application has been filed with the local government with jurisdiction to approve the siting of the proposed oil and gas location.

The local government siting permit type is: Operator Agreement

The local government siting permit was filed on: 10/24/2017

The disposition of the application filed with the local government is: Approved

Additional explanation of local process:

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.)

Section 14-1S-68W: N/2SW/4

Total Acres in Described Lease: 80 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: 946 Feet

Building Unit: 1150 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 502 Feet

Above Ground Utility: 1750 Feet

Railroad: 5280 Feet

Property Line: 305 Feet

School Facility: 5280 Feet

School Property Line: 5280 Feet

Child Care Center: 4468 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, Designated Outside Activity Area, School Facility, and Child Care Center – 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 INFORMATIONDistance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 343 FeetDistance 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

PROPOSED SPACING UNIT:
 Section 2-1S-68W: SWSW
 Section 3-1S-68W: SESE
 Section 10-1S-68W: E/2E/2
 Section 11-1S-68W: W/2W/2
 Section 14-1S-68W: W/2W/2
 Section 15-1S-68W: E/2E/2
 Section 22-1S-68W: E/2E/2
 Section 23-1S-68W: W/2W/2

If this Form 2 is associated with a Drilling and Spacing Unit application, provide docket number: _____

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		1040	GWA

DRILLING PROGRAMProposed Total Measured Depth: 25133 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: 220 Feet No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs 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? NoWill salt based (>15,000 ppm Cl) drilling fluids be used? NoWill oil based drilling fluids be used? YesBOP 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 DisposalCuttings 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	8+1/2	5+1/2	20	0	25133	3444	25133	

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 from completed portion to nearest completed portion of wellbore permitted/completed in the same formation: 343' (Ref. well: INTERCHANGE A S22-30-19C, Extraction)
 Distance to nearest wellbore belonging to another operator: 220' (Ref. well: TYMKOVICH 1-10, Status: PA, OIL RESOURCES INC)

Extraction Oil & Gas Inc. is the surface owner and self-waives Rules 318A.a. & 318A.c.

All BMPs on the related Form 2A for the Interchange A&B pad are applicable to this well.

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

Location ID: 456747

Is this application being submitted with an Oil and Gas Location Assessment application? No

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: _____ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 12/19/2018 Email: blamond@extractionog.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, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved:  _____ Director of COGCC Date: 10/23/2019

Expiration Date: 10/22/2021

API NUMBER 05 014 20851 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>
Drilling/Completion Operations	This Permit to Drill is approved subject to all the BMPs and COAs on the most recently approved Form 2A and any subsequently approved Form 4 for the Oil and Gas Location (Location ID #456747). The most recently approved Form 2A and any subsequent Form 4s containing applicable COAs for this location shall be posted onsite during construction, drilling, and completions operations.
Drilling/Completion Operations	1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (Spud Notice), for the first well/activity on the pad and provide 48 hour spud notice for all subsequent wells drilled on the pad. 2) Comply with Rule 317.j and provide cement coverage from the end of production casing to a minimum of 200' above Niobrara and from 200' below Sussex to 200' above Sussex. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.
Drilling/Completion Operations	Per COGCC Order 1-232, Bradenhead tests shall be performed according to the following schedule and Form 17 submitted within 10 days of each test: 1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 2) If a delayed completion, 6 months after rig release and prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Alternative Logging Program: 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 state "Alternative Logging Program - No open-hole logs were run" and shall clearly identify the type of log and the well (by API#) in which open-hole logs were run.
2	Drilling/Completion Operations	Operator acknowledges and will comply with COGCC policy for Bradenhead Monitoring during Hydraulic Fracturing treatments in the Greater Wattenberg Area dated May 29, 2012.
3	Drilling/Completion Operations	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.

Total: 3 comment(s)

Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.
http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.
<http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf>

Attachment Check List

Att Doc Num	Name
2158200	OBJECTIVE CRITERIA REVIEW MEMO
401504488	FORM 2 SUBMITTED
401518856	OffsetWellEvaluations Data
401522486	WELL LOCATION PLAT
401524954	DIRECTIONAL DATA
401524960	DEVIATED DRILLING PLAN
401525277	EXCEPTION LOC REQUEST
401881398	PROPOSED SPACING UNIT
402219688	OFFSET WELL EVALUATION

Total Attach: 9 Files

General Comments

User Group	Comment	Comment Date
OGLA	Public Comments received for this Form 2 are summarized and addressed in COGCC Response to Public Comments (Doc# 2316417) saved in the file for Oil and Gas Location ID# 456747.	10/23/2019
Permit	Final Review Completed.	10/23/2019
Permit	The Objective Criteria Review Memo (Doc# 2158200) is attached to this Form 2 Application for Permit to Drill (APD). Following additional analysis arising out of the Objective Criteria, the Director determined that this application meets the standard for the protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.	10/23/2019
OGLA	COGCC staff reviewed and considered all public comments received for this Form 2.	10/23/2019

OGLA	Status - IN PROCESS: With operator concurrence, corrected distance to nearest building unit from 1651' to 1150'.	07/11/2019
OGLA	Status Pending - waiting for operator to confirm distance to nearest building unit; possible closer BU to the south at ~1150'.	07/10/2019
Permit	IN PROCESS - no 318A objections received.	07/05/2019
Permit	COGCC Staff has added the Local Government siting permit information and the School and Childcare Center distances provided by the operator.	06/19/2019
Permit	Initial permitting review complete and task passed. The following changes were made with Operator concurrence: - corrected 317.p. logging BMP and TPZ footage corrected to "150 FNL".	05/21/2019
Permit	Contacted Operator for the following corrections: - "Well Location" tab: TPZ footage listed as "150 FSL", but the PLAT says this should be "150 FNL".	05/02/2019
Permit	ON HOLD - pending review of possible 318A objection(s).	02/07/2019
Engineer	Offset Wells Evaluated.	01/25/2019
LGD	<p>As the Local Government Designee for the City and County of Broomfield (Broomfield), Broomfield would like to provide the COGCC with an update related to Extraction Oil and Gas, LLC (Extraction) Form 2A permits, by the Colorado Oil and Gas Conservation Commission (COGCC), including the following permit applications:</p> <p>Doc NumberWell Name</p> <p>401504488Interchange B S22-30-20N</p> <p>401504441Interchange A S16-20-20N</p> <p>401475500Livingston S20-25-2C</p> <p>401475489Livingston S19-25-15N</p> <p>By way of an update to the COGCC, on October 24, 2017, Extraction and Broomfield entered into an Amended and Restated Operator Agreement (Agreement). The COGCC spacing orders for these spacing units, dated as of October 31, 2017, indicate that any Permits for the wells within these spacing units must "comport with" the Agreement. We would request that all Best Management Practices required by the Operator Agreement be included as conditions on COGCC's Form 2s and Form 2As for these permit applications.</p> <p>We further request that COGCC include a note on all approved permits that Extraction must obtain all necessary permits from Broomfield prior to drilling the permitted wells.</p>	01/25/2019
Permit	The Public Comment Period has been extended an additional 10 days at the request of the Broomfield County LGD; the comment period will end on January 27, 2019.	01/04/2019
Permit	Passed completeness.	12/28/2018

Total: 15 comment(s)