

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
04/08/2019

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

Well Name: GP Cody Fed Well Number: 20E-15-1

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)557-8300 Fax: ()

Email: blamond@extractionog.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20130028

WELL LOCATION INFORMATION

QtrQtr: NENE Sec: 20 Twp: 5N Rng: 65W Meridian: 6

Latitude: 40.390020 Longitude: -104.682510

Footage at Surface:	<u>670</u>	Feet	FNL/FSL	<u>1305</u>	Feet	FEL/FWL
			FNL			FEL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 4673 County: WELD

GPS Data:
Date of Measurement: 08/23/2018 PDOP Reading: 2.0 Instrument Operator's Name: C HOLMES

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>50</u>	FNL	<u>1293</u>	<u>44</u>	FNL	<u>200</u>
Sec: <u>20</u>	Twp: <u>5N</u>	Rng: <u>65W</u>	Sec: <u>22</u>	Twp: <u>5N</u>	Rng: <u>65W</u>

LOCAL GOVERNMENT INFORMATION

County: WELD Municipality: GREELEY

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: Municipality

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: USR

The local government siting permit was filed on: 04/22/2014

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: No

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.)

See mineral lease map attached.

Total Acres in Described Lease: 76 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: 519 Feet

Building Unit: 519 Feet

High Occupancy Building Unit: 2354 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 316 Feet

Above Ground Utility: 599 Feet

Railroad: 410 Feet

Property Line: 246 Feet

School Facility: 2561 Feet

School Property Line: 2425 Feet

Child Care Center: 3058 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: 280 FeetDistance from Completed Portion of Wellbore to Nearest Unit Boundary 1120 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): _____ Unit Number: _____

SPACING & FORMATIONS COMMENTS

T5N-R65W: Sec 20: N/2NE/4, Sec 17: S/2SE/4, Sec 21: N/2N/2, Sec 16: S/2S/2; Sec 22: NW/4NW/4, Sec 15: SW/4SW/4

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		560	GWA

DRILLING PROGRAMProposed Total Measured Depth: 14075 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: 338 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	14075	1832	14075	

 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

Nearest well to the proposed wellbore completed in the same formation: GP Cody FED 20E-15-2, operated by Extraction Oil and Gas, Inc. Nearest well belonging to another operator: LORENZ F 22-69HN, API 05-123-35769, operated by SRC Energy.

Interwell distances were determined using our in-house 3D anti-collision reports.

Extraction Oil & Gas requests an exception to Rule 318A.a. since location is not within a GWA window. The surface owner waives this Rule in the SUA (highlighted on p.4). Pad has been built. No form 2A is required.

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

Location ID: 332837

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: 4/8/2019 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: 7/20/2019

Expiration Date: 07/19/2021

API NUMBER
05 123 50286 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>
	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 # 332837). 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.
	Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operation (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).
	<p>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.</p> <p>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.</p> <p>3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.</p>
	<p>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:</p> <p>1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation.</p> <p>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.</p> <p>3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.</p>

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	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.
2	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.
3	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.

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
2158176	OBJECTIVE CRITERIA REVIEW MEMO
401645517	FORM 2 SUBMITTED
401990910	DIRECTIONAL DATA
401990912	DEVIATED DRILLING PLAN
401990913	MINERAL LEASE MAP
401990919	SURFACE AGRMT/SURETY
401991169	EXCEPTION LOC REQUEST
401991170	PROPOSED SPACING UNIT
401991171	OffsetWellEvaluations Data
401998913	WELL LOCATION PLAT
402116143	OFFSET WELL EVALUATION

Total Attach: 11 Files

General Comments

User Group	Comment	Comment Date
Permit	Final permitting review Complete. Send to Final Approval.	07/18/2019
OGLA	The Objective Criteria Review Memo (Doc# 2158176) 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.	07/18/2019
OGLA	IN PROCESS. Operator submitted Sundry Notice Form 4 (Doc# 402106046).	07/17/2019
OGLA	ON HOLD. Requested operator submit Sundry Notice Form 4 for Oil and Gas Location ID# 332837 to address Objective Criteria.	07/16/2019
OGLA	COGCC staff conducted its technical review of this Form 2 Application for Permit to Drill (APD) within the context of SB 19-181 and the required Objective Criteria. This APD met Objective Criteria # 1, 2, & 3. Criteria #8 (as previously cited) was demonstrated not to apply, and Criteria #3 was found applicable after additional review.	07/15/2019
Permit	Entered the Local Government Information provided by the operator. Entered the School Setback Distances provided by the operator.	06/25/2019
Permit	The following changes were made with Operator concurrence: - corrected Operator comments to remove extraneous comments - checked box for "Exception Zone"	06/18/2019

OGLA	<p>This Oil & Gas Location meets the following Objective Criteria:</p> <p>1) Oil and Gas Location within 1,500 feet of a Building Unit or High Occupancy Building, which include Urban Mitigation Area (UMA) and Large UMA Facility (LUMAF) locations</p> <p>2) Oil and gas locations within a municipality (Greeley)</p> <p>8) Oil and Gas Locations with storage of hydrocarbon or produced liquid in more than 18 tanks or in excess of 5,200 barrels</p>	06/07/2019
Permit	<p>Initial permitting review complete and task passed.</p> <p>The following changes were made with Operator concurrence:</p> <ul style="list-style-type: none"> - corrected 317.p. logging BMP and "Well Location" tab: date of measurement to "8/23/2018". - "Spacing & Formations" tab: distance from wellbore to unit boundary corrected to 1120' 	05/20/2019
LGD	<p>On April 22, 2014, the City of Greeley's Planning Commission approved an Amended Use by Special Review (Planning File No. USR 1:14), for oil and gas operations know as Greeley Directional. The City of Greeley requests that, as part of the approval of the Form 2 Permit, all design and operational elements of the USR permit be honored, consistent, and incorporated. Please contact City staff for a copy of the approved and recorded Use by Special Review, and please support the City requirement that this be available on-site for reference.</p> <p>City of Greeley LGD Comments</p> <p>Brad Mueller</p> <p>Brad.Mueller@greeleygov.com</p> <p>(970) 350-9786</p>	05/01/2019
Permit	<p>Contacted Operator for the following corrections:</p> <ul style="list-style-type: none"> - "Well Location" tab: date of measurement listed as "8/3/2018", but the PLAT's state well location date of survey as "8/23/2018". - "Spacing & Formations" tab: distance from wellbore to unit boundary is listed as 460', what point was this measured from? 	05/01/2019
Permit	<p>Added wellbore integrity contact information.</p> <p>Passed completeness.</p>	04/11/2019

Total: 12 comment(s)