

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 checked="" type="checkbox"/> Sidetrack <input type="checkbox"/>
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Date Received:
09/07/2017

Well Name: MT-Heath Well Number: 1-8-7

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: Alyssa Andrews Phone: (720)481-2379 Fax: ()

Email: aandrews@extractionog.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20130028

WELL LOCATION INFORMATION

QtrQtr: NENW Sec: 9 Twp: 5N Rng: 65W Meridian: 6

Latitude: 40.418070 Longitude: -104.671660

Footage at Surface: <u>1004</u> Feet	FNL/FSL	FEL/FWL
<u>FNL</u> <u>1753</u> Feet	<u>FNL</u>	<u>FWL</u>

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 4635 County: WELD

GPS Data:
Date of Measurement: 07/09/2014 PDOP Reading: 1.3 Instrument Operator's Name: CRW

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

Footage at Top of Prod Zone: <u>FNL/FSL</u>	<u>FEL/FWL</u>	Bottom Hole: <u>FNL/FSL</u>	<u>FEL/FWL</u>
<u>2321</u> <u>FNL</u> <u>460</u> <u>FEL</u>	<u>2584</u> <u>FNL</u> <u>460</u> <u>FWL</u>		
Sec: <u>8</u> Twp: <u>5N</u> Rng: <u>65W</u>	Sec: <u>7</u> Twp: <u>5N</u> Rng: <u>65W</u>		

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.)

Mineral lease map is attached to the scout card.

Total Acres in Described Lease: 16 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: 513 Feet

Building Unit: 513 Feet

High Occupancy Building Unit: 3463 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 422 Feet

Above Ground Utility: 392 Feet

Railroad: 4058 Feet

Property Line: 232 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: 03/05/2015

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 03/09/2015

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: 160 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

Proposed Spacing Unit:
 Sec 8-5N-65W: S/2N/2 & N/2S/2
 Sec 7-5N-65W: S/2N/2 & N/2S/2

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		640	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 17346 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: 83 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	8+1/2	5+1/2	20	0	17346	2309	17346	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 Distance from completed portion to nearest completed portion of wellbore permitted/completed in the same formation: 160' (Ref. well: MT-MAPLEWOOD #C4-8-7)
Distance to nearest wellbore belonging to another operator: 83' (Ref. well: WSC #12-9 , Status: PA, Matrix Energy, LLC)
*2-D Distances used

-Exception location request and waiver to Rules 318A.a. & 318A.c. are attached to the scout card.

-SUA is attached to the scout card.

Changes made to the permit: updated distances to wells, updated Offset Well Evaluation, and updated casing/cement with 8 1/2" size hole for the first string. Setting depth corrected to 80' for conductor casing. This pad has a valid Form 2A.

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

Location ID: 443166

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: Alyssa Andrews

Title: Regulatory Analyst Date: 9/7/2017 Email: aandrews@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 and applicable orders and is hereby approved.

COGCC Approved:  Director of COGCC Date: 12/11/2017

Expiration Date: 12/10/2019

API NUMBER
05 123 42166 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>
	If location is not built by 2A expiration 9/10/18, Operator must Refile Form 2A for approval prior to location construction.
	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. 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.
	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. Verify coverage with cement bond log.
	Offset Wells Evaluated

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	317.p 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.
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

Policy
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

<u>Att Doc Num</u>	<u>Name</u>
401394108	FORM 2 SUBMITTED
401397405	OffsetWellEvaluations Data

401481562

OFFSET WELL EVALUATION

Total Attach: 3 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	12/05/2017
Permit	Open Hole Logging BMP submitted by operator. Permitting Review Complete.	11/30/2017
OGLA	The approved Form 2A for this location includes a Condition of Approval requiring the operator to submit a Form 4 Sundry when the City of Greeley's USR process is completed. The Form 4 Sundry is to include the BMPs from the approved USR.	11/30/2017
Engineer	Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test: 1) Within 60 days of rig release and prior to stimulation or 2) 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.	10/06/2017
LGD	<p>The City respectfully requests that the State withhold approval of any State permit until the operator successfully receives local land use approval, in this case a Use by Special Review permit. The applicant submitted a Use by Special Review application to the City of Greeley in the summer of 2015; however the applicant has not pursued said approval until this time (Planning File No. USR 13:15).</p> <p>A number of review comments have been provided to the operator, and discussions are on-going; however, to date the applicant has not resubmitted requested revisions. The proposed drill and operations site is located near the Cache la Poudre River and sensitive natural areas. As such, comments generally address erosion control and landscaping requirements as well as plans for future improvements to Ash Avenue and potential impacts to the roadway. Please contact City staff for a copy of the review comments and latest working design used as part of review.</p> <p>If the COGCC does not withhold approval, the City then requests that the State application be approved with the condition that the 2A Permit be subsequently formally amended to incorporate any site and/or operational standards that get finalized through the local Use by Special Review permit. The City believes this deference is consistent with, and in the spirit of, the standing Memorandum of Understanding between the City of Greeley and the COGCC, and at the same time the City acknowledges the State's right to determine areas of operational conflict that would otherwise prohibit the incorporation of such standards into an Amended Form 2A Permit.</p> <p>City of Greeley LGD Comments</p> <p>Brad Mueller</p> <p>Brad.mueller@greeleygov.com</p> <p>(970)350-9786</p>	10/03/2017
Permit	Passed Completeness.	09/15/2017

Total: 6 comment(s)