

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

Date Received:
05/12/2016

Well Name: Vetting Well Number: 13

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: 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: SWNW Sec: 15 Twp: 5N Rng: 65W Meridian: 6

Latitude: 40.400990 Longitude: -104.657090

Footage at Surface: 2003 feet FNL/FSL FNL 496 feet FEL/FWL FWL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 4648 County: WELD

GPS Data:
Date of Measurement: 09/18/2015 PDOP Reading: 2.1 Instrument Operator's Name: C. Westholmes

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>2475</u>	FSL <u>460</u>	FEL <u>2475</u>	FSL <u>2338</u>	FWL	
Sec: <u>16</u>	Twp: <u>5N</u>	Rng: <u>65W</u>	Sec: <u>17</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: 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.)

Please see the attached lease map.

Total Acres in Described Lease: 40 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: 179 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 424 Feet
Building Unit: 521 Feet
High Occupancy Building Unit: 1521 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 489 Feet
Above Ground Utility: 518 Feet
Railroad: 5280 Feet
Property Line: 315 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: 10/06/2015

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: 119 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

Section 17-5N-65W: SE/4 NW/4, NE/4 SW/4, S/2 NE/4, N/2 SE/4;
Section 16-5N-65W: S/2 N/2, N/2 S/2

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
GREENHORN	GRNHN		560	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 15471 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

286 Feet (Including plugged wells)

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 LINER	7+7/8	5+1/2	20	0	15471	1500	15471	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: 119' (Ref. well: Volk C7 - Extraction)
Distance to nearest wellbore belonging to another operator: 286' (Ref. well: Carlson L-15-16HN - Bayswater)

The surface owner, 7N LLC (An Extraction company), leased the property to Richmark Real Estate Partners. Richmark then entered into a surface use agreement with Extraction. The SUA grants Extraction an irrevocable, exclusive easement to use the surface of the Property to conduct oil and gas operations. Please see the attached Ground Lease and Option to Purchase (attached as 'Other') and the SUA.

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

Location ID: _____

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: Alyssa Andrews

Title: Regulatory Analyst Date: 5/12/2016 Email: aandrews@extractionog.com

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: _____

Expiration Date: _____

API NUMBER

05

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**

COA Type	Description

Best Management Practices

No	BMP/COA Type	Description
1	Planning	604.c(2)M. Fencing: A meeting with the surface owner will determine a fencing plan. The location will be adequately fenced to restrict access by unauthorized persons. Fencing will be installed per the USR plans with Weld County.
2	Planning	604.c.(2)J.i 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.

3	Planning	604.c.(2)J.ii 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.
4	Planning	604.c.(2)N. Control of fire hazards: All material that is considered a fire hazard shall be a minimum of 25' from the wellhead tanks or separators. Electrical equipment shall comply with API IRP 500 and will comply with the current national electrical code.
5	Planning	This location is subject to Use by Special Review approval from Weld County. Operator is currently working through the USR application with Weld County staff. Operator will host a neighborhood meeting prior to public hearings.
6	Planning	Per the landscaping and screening plan submitted with the Weld County USR application, the surface owner of the property will install screening around the perimeter of the property. Screening shall include a solid wood fence along the west, north, and a portion of the south sides of the property. In conjunction with the wood fence, trees will be installed outside of the fence.
7	Traffic control	604.c.(2)S. Access Roads: The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times. Traffic will be routed to minimize local interruption. During construction and through the life of this location, Operator will utilize watering, via water trucks, to control fugitive dust. Additionally, the access road will be constructed with aggregate road base material and vehicle speeds will be limited to ten miles per hour to reduce dust.
8	Traffic control	604.c.(2)D: A traffic impact study (TIS) was not required as part of the Weld County USR application, but a traffic narrative was submitted. Per the narrative, the operator is committed to using a local water source or temporary pipeline to deliver water to location for completion operations in an effort to reduce truck traffic. Additionally the operator agreed to use the following haul route: From the access road, all traffic will travel south on Cherry Avenue (County Road 43) and turn east onto 24th Street. From 24th Street traffic will turn south onto U.S. Highway Business 34. From U.S. Highway Business 34 traffic will either head east or west on U.S. Highway 34 depending on their final destination. This same haul route will also be used to access the location. This haul route will be provided to all operator personnel and contractors working on location.
9	General Housekeeping	Maintain appearance with garbage clean-up; a trash bin will be located on site to accumulate waste by the personnel drilling the wells. Site will have unused equipment, trash and junk removed immediately.
10	General Housekeeping	604.c.(2)P. Trash Removal: All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as applicable.
11	Storm Water/Erosion Control	Implement and maintain BMPs to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Co-locate gas and water gathering lines whenever feasible, and mitigate any erosion problems that arise due to the construction of any pipeline(s). Location will be covered under Extraction Oil & Gas's field wide permit, permit number COR03M013.
12	Material Handling and Spill Prevention	604.c.(2)F. Leak Detention Plan: Operator will monitor production facilities on a regular schedule to identify fluid leaks, including, but not limited to, visually inspecting all wellheads, tanks and fittings. Additionally annual SPCC inspections will be conducted and documented. Annual flowline testing will also occur according to COGCC rules 1101 and 1102.
13	Dust control	805.c. Operator shall employ practices for control of fugitive dust caused by their operations. Such practices shall include but are not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during high-wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. Additional management practices such as road surfacing, wind breaks and barriers may be used.
14	Construction	803. Light sources during all phases of operations will be directed downwards and away from occupied structures where possible.
15	Construction	604.c.(2).Q. 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.
16	Construction	604.c.(2).E. This will be a multi-well pad, located in a manner which allows for the greatest distances possible from building units and high occupancy building units.

17	Noise mitigation	604.c.(2)A. Sound walls will be installed around the north, west, and south sides of the well pad. Hay bales will be utilized on the east side of the well pad if necessary.
18	Noise mitigation	The Operator shall continuously monitor noise and continuously collect and store noise readings with instruments placed between the Oil and Gas Location and residential Building Units/High Occupancy Building Units. The Operator shall conduct the monitoring and data collection during construction, drilling, and completions operations. This data shall be available to COGCC on tables or graphs within 48 hours of being requested by COGCC.
19	Emissions mitigation	604.c.(2)C.i. 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.
20	Emissions mitigation	604.c.(2)C.iii. Operator will tie into an existing 16-inch DCP gas sales line that will be extended to the location. Extraction will send salable quality gas immediately down the sales line.
21	Odor mitigation	805. 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.
22	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.
23	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.
24	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.
25	Drilling/Completion Operations	604.c.(2).I. BOPE testing for drilling operations. Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections shall be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results shall be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
26	Drilling/Completion Operations	604.c.(2)L. Closed chamber drill stem tests shall be allowed. All other drill stem tests shall require approval by the Director. None planned for this well.
27	Drilling/Completion Operations	604.c.(2).K. Pit level Indicators shall be used on location.
28	Drilling/Completion Operations	604.c.(2).O. All loadlines shall be bull plugged or capped.
29	Drilling/Completion Operations	604.c.(2)B.i. Operator will be utilizing a closed loop system.
30	Interim Reclamation	Operator shall be responsible for segregating the topsoil, backfilling, re-compacting, reseeding, and re-contouring the surface of any disturbed area so as not to interfere with Owner's operations and shall reclaim such area to be returned to pre-existing conditions as best as possible with control of all noxious weeds.

31	Final Reclamation	604.c.(2)T. Within 90 days subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site. Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5)
32	Final Reclamation	604.c.(2)U. The operator shall identify the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). The operator shall also inscribe or imbed the well number and date of plugging upon the permanent monument

Total: 32 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401010054	FORM 2 SUBMITTED
401010062	WELL LOCATION PLAT
401016041	MINERAL LEASE MAP
401033920	SURFACE AGRMT/SURETY
401053415	OffsetWellEvaluations Data
401056914	PROPOSED SPACING UNIT
401058583	OTHER
401063910	DIRECTIONAL DATA
401063911	DEVIATED DRILLING PLAN

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>

Total: 0 comment(s)