

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:

TYPE OF WELL OIL GAS COALBED OTHER: _____ Refilling

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES Sidetrack

Well Name: Ivey LC Well Number: 26-368HN

Name of Operator: GREAT WESTERN OPERATING COMPANY LLC COGCC Operator Number: 10110

Address: 1001 17TH STREET #2000

City: DENVER State: CO Zip: 80202

Contact Name: Erin Lind Phone: (720)595-2255 Fax: ()

Email: elind@gwogco.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20160041

WELL LOCATION INFORMATION

QtrQtr: SWSE Sec: 11 Twp: 1S Rng: 68W Meridian: 6

Latitude: 39.975212 Longitude: -104.965484

Footage at Surface: 1162 Feet FNL/FSL FSL 1700 Feet FEL/FWL FEL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 5107 County: ADAMS

GPS Data:
Date of Measurement: 06/08/2018 PDOP Reading: 1.2 Instrument Operator's Name: Ryan Williams, JC

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

460 FNL 2090 FEL 370 FSL 2070 FEL

Sec: 14 Twp: 1S Rng: 68W Sec: 26 Twp: 1S Rng: 68W

LOCAL GOVERNMENT INFORMATION

County: ADAMS Municipality: N/A

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: 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: USR

The local government siting permit was filed on: 02/13/2017

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: 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.)

N/2NE/4 Section 14 T1S R68W 6th P.M.

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: 1640 Feet
Building Unit: 1640 Feet
High Occupancy Building Unit: 3305 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 507 Feet
Above Ground Utility: 929 Feet
Railroad: 4803 Feet
Property Line: 162 Feet
School Facility: 3202 Feet
School Property Line: 2904 Feet
Child Care Center: 2904 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 INFORMATION

Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 284 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

Drilling & Spacing Unit:
 Township 1 South, Range 68 West, 6th P.M.
 Sec 14: E/2; Sec 23: E/2; Sec 26 E/2
 Unit Size = apprx 960 ac.

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	407-1904	960	Sec: 14,23,36: E/2

DRILLING PROGRAM

Proposed Total Measured Depth: 23348 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: 21 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? No

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
SURF	13+1/2	9+5/8	36	0	1700	717	1700	0
1ST	8+1/2	5+1/2	17	0	23348	3177	23348	4200

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 407-1904

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

The nearest well permitted or completed in the same formation was measured to Ivey LC 26-368HC, proposed by Great Western O/G. The distance was measured in 3D.

The nearest existing or proposed wellbore belonging to another operator is the Wright 2-14 (001-09498), PR Status, operated by KP Kaufman. The distance was measured in 3D. The closest point is above the completed portion of the wells.

There are three wells within 150' of this well. The KPK Wright 2-14 (0500109498), PR status, does not require a stimulation setback consent because the productive interval is over 150' apart. The North York Land Assoc 1-14 (0500108914), PR status, and the North Washington 2-23 (0500109667), PR status, will require stimulation setback consents. The signed consents are attached to the permit.

This well has a bottom hole location beyond the unit boundary setback. The bottom of the completed interval will be within the unit boundary setback at 470' FSL and 2070' FEL of Section 26. The wellbore beyond the unit boundary setback will be physically isolated and will not be completed.

The API is being reused from a previously submitted Ivey LC APD. Every aspect of the wellbore is changing including the well name, drilling and casing program, offset well evaluation, and attachments.

Great Western is requesting approval of a Rule 318.c. Exception Location Request from Spacing Order #407-1904. The request letter and signed waiver are attached.

This application is in a Comprehensive Drilling Plan No CDP #: _____

Location ID: 442411

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: Andrea Gross

Title: Permit Agent Date: _____ Email: agross@upstreampm.com

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: _____

Expiration Date: _____

API NUMBER

05 001 09887 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

<u>COA Type</u>	<u>Description</u>



Best Management Practices

No BMP/COA Type	Description
1 Drilling/Completion Operations	Drill stem tests (Rule 604.c.(2)L) Conventional drill stem tests will not be conducted on DJ Basin horizontal wells currently being executed or planned by GWOC. If plans change in the future a well specific drill stem testing plan will be prepared for that particular well. Note that GWOC may elect to use one of several available wireline deployed tools for the purpose of measuring down hole formation pressures and/or collecting down hole fluid samples from the target formation(s) of a particular well.
2 Drilling/Completion Operations	Wellbore Collision Prevention – Rule 317.r Prior to drilling operations, GWOG will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed well path with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottom hole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment.
3 Drilling/Completion Operations	BOPE for well servicing (Rule 604.c.(2)J) A BOPE with a minimum pressure rating of 3,000 psi will be utilized. At a minimum it will consist of 2 ram preventers and 1 annular preventer. The blind rams will be positioned below the pipe rams. A backup system of pressure control will be onsite consisting of at a minimum 1,000 psi accumulator (backup pressure). Accumulator is tested to 1,000 psi. Operator may use fixed sized pipe rams matching the tubular size. The annular preventer will be pressure tested to 250 psi low and 2,000 psi high for 10 minutes each. The ram preventers will be tested to 250 psi low and 2,500 psi high for 10 minutes each. All remaining well control equipment will be tested to 250 psi low and 2,500 psi high for 10 minutes each. The pressure tests will be conducted when the equipment is first installed and every 30 days thereafter. Pipe rams and blind rams will be function tested before every well service operation. Annual BOP inspections and pressure tests will be performed by the service company and will be charted & retained for 1 year. Backup stabbing valves shall be used on operations that require reverse circulation. Valves will be pressure tested before each well service operation in low pressure and high pressure range. The GWOC onsite representative will be certified in Well Control Operations by a Well-Cap certified training service.
4 Drilling/Completion Operations	Bradenhead Monitoring GWOC will comply with the “COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area”, dated May 29, 2012.
5 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.

Total: 5 comment(s)

Attachment Check List

Att Doc Num	Name
402129341	WELL LOCATION PLAT
402129343	DEVIATED DRILLING PLAN
402129490	DIRECTIONAL DATA
402130079	OffsetWellEvaluations Data
402130080	SURFACE AGRMT/SURETY
402130081	EXCEPTION LOC REQUEST
402130082	EXCEPTION LOC WAIVERS
402131794	EXCEPTION LOC REQUEST
402131795	EXCEPTION LOC WAIVERS
402131796	STIMULATION SETBACK CONSENT
402139389	STIMULATION SETBACK CONSENT

Total Attach: 11 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)



Public Comments

No public comments were received on this application during the comment period.

