

FORM  
2

Rev  
12/20

# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

402809135

**(SUBMITTED)**

Date Received:

12/21/2021

## APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

Amend

Refile

Sidetrack

TYPE OF WELL OIL  GAS  COALBED  OTHER: \_\_\_\_\_  
ZONE TYPE SINGLE ZONE  MULTIPLE ZONES  COMMINGLE ZONES

Well Name: Berry IC Well Number: 11-159HN  
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: Linsey Jones Phone: (720)595-2218 Fax: ( )  
Email: ljones@gwp.com

## RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160041

## WELL LOCATION INFORMATION

### Surface Location

QtrQtr: NWNW Sec: 8 Twp: 3N Rng: 67W Meridian: 6  
Footage at Surface: 1305 Feet FNL/FSL 765 Feet FEL/FWL  
Latitude: 40.244158 Longitude: -104.920527  
GPS Data: GPS Quality Value: 1.5 Type of GPS Quality Value: PDOP Date of Measurement: 05/06/2020  
Ground Elevation: 4843  
Field Name: WATTENBERG Field Number: 90750

Well Plan: is  Directional  Horizontal (highly deviated)  Vertical

If Well plan is Directional or Horizontal attach Deviated Drilling Plan and Directional Data.

### Subsurface Locations

Top of Productive Zone (TPZ)

Sec: 7 Twp: 3N Rng: 67W Footage at TPZ: 2395 FSL 1 FEL  
Measured Depth of TPZ: 7803 True Vertical Depth of TPZ: 6979 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 11 Twp: 3N Rng: 68W Footage at BPZ: 2396 FSL 370 FEL  
Measured Depth of BPZ: 18671 True Vertical Depth of BPZ: 6979 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 11 Twp: 3N Rng: 68W Footage at BHL: 2395 FSL 470 FEL  
FNL/FSL FEL/FWL

## LOCAL GOVERNMENT PERMITTING INFORMATION

County: WELD

Municipality: N/A

Is the Surface Location of this Well in an area designated as one of State interest and subject to the requirements of § 24-65.1-108 C.R.S.? Yes

Per § 34-60-106(1)(f)(I)(A) C.R.S., the following questions pertain to the Relevant Local Government approval of the siting of the proposed Oil and Gas Location.

SB 19-181 provides that when "applying for a permit to drill," operators must include proof that they sought a local government siting permit and the disposition of that permit application, or that the local government does not have siting regulations. § 34-60-106(1)(f)(I)(A) C.R.S.

Does the Relevant Local Government regulate the siting of Oil and Gas Locations, with respect to this Location?  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 disposition of the application filed with the Relevant Local Government is: Approved Date of Final Disposition: 01/24/2019

Comments:

## SURFACE AND MINERAL OWNERSHIP AT WELL'S OIL & GAS LOCATION

Surface Owner of the land at this Well's Oil and Gas Location:  Fee  State  Federal  Indian

Mineral Owner beneath this Well's Oil and Gas Location:  Fee  State  Federal  Indian

Surface Owner Protection Financial Assurance (if applicable): \_\_\_\_\_ Surety ID Number (if applicable): \_\_\_\_\_

### MINERALS DEVELOPED BY WELL

The ownership of all the minerals that will be developed by this Well is (check all that apply):

- Fee  
 State  
 Federal  
 Indian  
 N/A

### LEASE INFORMATION

Using standard QtrQtr, Section, Township, Range format describe one entire mineral lease as follows:

\* If this Well is within a unit, describe a lease that will be developed by the Well.

\* If this Well is not subject to a unit, describe the lease that will be produced by the Well.

(Attach a Lease Map or Lease Description or Lease if necessary.)

Section 7-T3N-R67W: All except N2NE

Total Acres in Described Lease: 560 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

### SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 1017 Feet  
Building Unit: 1163 Feet  
Public Road: 759 Feet  
Above Ground Utility: 798 Feet

#### INSTRUCTIONS:

- Specify all distances per Rule 308.b.(1).
- 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 – as defined in 100 Series Rules.

Railroad: 5280 Feet  
Property Line: 765 Feet

### 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	407-3196	1600	3N-67W: 7:All,8:W2W2,3N-68W: 11:E2E2,12:All

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

### SUBSURFACE MINERAL SETBACKS

Enter 5280 for distance greater than 1 mile.

Is this Well within a unit? Yes

If YES:

Enter the minimum distance from the Completed Zone of this Well to the Unit Boundary: 944 Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well within the same unit permitted or completed in the same formation: 146 Feet

If NO:

Enter the minimum distance from the Completed Zone of this Well to the Lease Line of the described lease: \_\_\_\_\_ Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well producing from the same lease and permitted or completed in the same formation: \_\_\_\_\_ Feet

### Exception Location

If this Well requires the approval of a Rule 401.c Exception Location, enter the Rule or spacing order number and attach the Exception Location Request and Waivers. \_\_\_\_\_

### SPACING & FORMATIONS COMMENTS

### DRILLING PROGRAM

Proposed Total Measured Depth: 18771 Feet TVD at Proposed Total Measured Depth 6979 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: 202 Feet  No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No If yes, attach an H<sub>2</sub>S Drilling Plan unless a plan was already submitted with the Form 2A per Rule 304.c.(10).

Will there be hydraulic fracture treatment at a depth less than 2,000 feet in this well? No

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

Beneficial reuse or land application plan submitted? \_\_\_\_\_

Reuse Facility ID: \_\_\_\_\_ or Document Number: \_\_\_\_\_

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Grade	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
SURF	13+1/2	9+5/8	J55	36	0	2020	852	2020	0
1ST	8+1/2	5+1/2	HCP110	20	0	18771	2699	18771	2500

Conductor Casing is NOT planned

## POTENTIAL FLOW AND CONFINING FORMATIONS

Zone Type	Formation /Hazard	Top M.D.	Top T.V.D.	Bottom M.D.	Bottom T.V.D.	TDS (mg/L)	Data Source	Comment
Groundwater	Base Fox Hills	0	0	3	3	501-1000	USGS	USGS WSP 2302
Confining Layer	Pierre	3	3	218	218			
Groundwater	Upper Pierre Aquifer	218	218	1163	1163	1001-10000	Other	COGCC Report, Paper 2141
Confining Layer	Pierre	1163	1163	3552	3552			
Hydrocarbon	Parkman	3552	3552	3630	3630			
Confining Layer	Pierre	3630	3630	4047	4044			
Hydrocarbon	Sussex	4047	4044	4182	4174			
Confining Layer	Pierre	4182	4174	4564	4527			
Hydrocarbon	Shannon	4564	4527	4608	4566			
Confining Layer	Pierre	4608	4566	7294	6829			
Confining Layer	Sharon Springs	7294	6829	7322	6844			
Hydrocarbon	Niobrara	7322	6844	7426	6895			

## OPERATOR COMMENTS AND SUBMITTAL

Comments

This is a refile Form 2; there are changes to the Surface Hole Location, safety setback distances, Total Depth, casing and cement program, and Drilling and Spacing Unit. Updated offset well evaluation, well location plat, deviated drilling plan, and directional data template are attached.

A sundry, document #402809088, has been submitted for the built Berry IC Pad to update the cultural features map, directional well plat, layout drawings, location drawing, and equipment. There will be no additional disturbance on this pad.

Based on 3D calculation of difference in footages, the nearest well permitted or completed in the same formation (and in this DSU) is the proposed Berry IC 11-159HN.

Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged and abandoned wells, was measured at 202 feet to the Berry Farms #32N-8HZ, API No 05-123-38894, PR Status, owned by Kerr McGee Oil & Gas Onshore LP, and is measured using in-house 3D anti-collision reports. These wellbores are more than 150 feet apart.

This application is in a Comprehensive Area Plan \_\_\_\_\_

CAP #: \_\_\_\_\_

Oil and Gas Development Plan Name \_\_\_\_\_

OGDP ID#: \_\_\_\_\_

Location ID: 461939

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

Signed: \_\_\_\_\_

Print Name: Linsey Jones

Title: Regulatory Analyst

Date: 12/21/2021

Email: ljones@gwp.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: \_\_\_\_\_

<b>API NUMBER</b>
05 123 49867 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>
<b><u>Best Management Practices</u></b>	
<u>No BMP/COA Type</u>	<u>Description</u>
1 Drilling/Completion Operations	Multi Well Open-Hole Logging – Rule 408.r Alternative Logging Program: An existing well on the pad was 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	Bradenhead Monitoring Great Western will comply with Rule 419 and Order 1-232 for all Bradenhead compliance, as applicable.
3 Drilling/Completion Operations	Drill stem tests Rule 603.g Conventional drill stem tests will not be conducted on DJ Basin horizontal wells currently being executed or planned by Great Western. If plans change in the future a well specific drill stem testing plan will be prepared for that particular well. Note that Great Western 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.
4 Drilling/Completion Operations	Wellbore Collision Prevention – Rule 408.t Prior to drilling operations, Great Western 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. Operator will perform anti-collision evaluation of the all active (Producing, Shut In, or Temporarily Abandoned) offset wellbores that have the potential of being within 150’ of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.

Total: 4 comment(s)

## Attachment List

<u>Att Doc Num</u>	<u>Name</u>
402811280	DEVIATED DRILLING PLAN
402811287	WELL LOCATION PLAT
402811293	DIRECTIONAL DATA
402815935	OffsetWellEvaluations Data
402849519	OffsetWellEvaluations Data

Total Attach: 5 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	<p>RETURNED TO DRAFT: This application has been reviewed by COGCC staff and cannot be approved based on the information submitted; therefore, the COGCC is returning this form to DRAFT for the applicant to resolve the issues. In compliance with § 24-65.1-108(1), C.R.S., the COGCC is returning this application to the applicant to remedy the deficiencies. The applicant may resubmit this application for COGCC review; upon resubmittal of any application, the COGCC will have 60 days in which to approve, deny, or request all additional information necessary to complete the regulatory review. In addition to all standard required information and attachments, the COGCC hereby confirms the following information is necessary for review:</p> <ol style="list-style-type: none"><li>1. Provide the 1000' Upper Pierre water well within the offset well evaluation.</li><li>2. Correct gaps in depth between adjacent formations on the Potential Flow and Confining Formation table.</li><li>3. Provide the correct minimum distance from the Completed Zone of the proposed well to the Completed Zone of an offset well within the same unit permitted or completed in the same formation and identify the correct offset well on the Submit tab.</li><li>4. Provide a response in the Amend, Refile, and Sidetrack dropdowns on the Well Name &amp; Contact Info tab.</li><li>5. Provide the correct Latitude on the Well Location tab.</li><li>6. Provide the correct Spacing Order Number and Unit Acreage on the Spacing &amp; Formations tab.</li></ol>	10/15/2021

Total: 1 comment(s)

**Public Comments**

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

