

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:

402894861

Date Received:

03/02/2022

APPLICATION FOR PERMIT TO:

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

Amend ☐

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER: _____

Refile ☒

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: Gus LD Well Number: 34-363 HNX
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 Ekblad Phone: (720)595-2255 Fax: ()
Email: eekblad@gwp.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160041

WELL LOCATION INFORMATION

Surface Location

QtrQtr: SENE Sec: 21 Twp: 1S Rng: 67W Meridian: 6
Footage at Surface: 1619 Feet FNL 306 Feet FEL
Latitude: 39.953185 Longitude: -104.885411
GPS Data: GPS Quality Value: 1.2 Type of GPS Quality Value: PDOP Date of Measurement: 06/12/2018
Ground Elevation: 5124
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: 22 Twp: 1S Rng: 67W Footage at TPZ: 2536 FSL 760 FEL
Measured Depth of TPZ: 9460 True Vertical Depth of TPZ: 7493 FNL/FSL FEL/FWL
Base of Productive Zone (BPZ)
Sec: 34 Twp: 1S Rng: 67W Footage at BPZ: 470 FSL 760 FEL
Measured Depth of BPZ: 22079 True Vertical Depth of BPZ: 7493 FNL/FSL FEL/FWL
Bottom Hole Location (BHL)
Sec: 34 Twp: 1S Rng: 67W Footage at BHL: 370 FSL 761 FEL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: ADAMSMunicipality: 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.? No

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: 04/24/2019

Comments:

SURFACE AND MINERAL OWNERSHIP AT WELL'S OIL & GAS LOCATIONSurface Owner of the land at this Well's Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ IndianMineral 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.)

See attached mineral lease map.Total Acres in Described Lease: 172 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 1181 FeetBuilding Unit: 1193 FeetPublic Road: 1054 FeetAbove Ground Utility: 356 FeetRailroad: 5280 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.

Property Line: 381 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	407-2793	1600	S 22:S2; S 27 and 34: 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: 100 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: 180 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: 22179 Feet

TVD at Proposed Total Measured Depth 7493 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: 140 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 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

<u>Casing Type</u>	<u>Size of Hole</u>	<u>Size of Casing</u>	<u>Grade</u>	<u>Wt/Ft</u>	<u>Csg/Liner Top</u>	<u>Setting Depth</u>	<u>Sacks Cmt</u>	<u>Cmt Btm</u>	<u>Cmt Top</u>
SURF	13+1/2	9+5/8	J55	36	0	2243	947	2243	0
1ST	8+1/2	5+1/2	HCP10	20	0	22179	3200	22179	

☒ Conductor Casing is NOT planned

POTENTIAL FLOW AND CONFINING FORMATIONS

<u>Zone Type</u>	<u>Formation /Hazard</u>	<u>Top M.D.</u>	<u>Top T.V.D.</u>	<u>Bottom M.D.</u>	<u>Bottom T.V.D.</u>	<u>TDS (mg/L)</u>	<u>Data Source</u>	<u>Comment</u>
Groundwater	Fox Hills	923	912	1223	1187	0-500	USGS	WSP 2303
Confining Layer	Pierre Fm	1223	1187	1454	1385			
Groundwater	Upper Pierre Aquifer	1454	1385	2623	2325	501-1000	Other	COGCC Report, Paper 2141
Confining Layer	Pierre Fm	2623	2325	5441	4589			
Hydrocarbon	Parkman	5377	4538	5481	4621			
Confining Layer	Pierre Fm	5481	4621	5835	4906			
Hydrocarbon	Sussex	5835	4906	6037	5068			
Confining Layer	Pierre Fm	6037	5068	6546	5477			
Hydrocarbon	Shannon	6546	5477	6685	5589			
Confining Layer	Pierre Fm	6685	5589	8924	7335			
Confining Layer	Sharon Springs	8924	7335	9345	7480			
Hydrocarbon	Niobrara	9345	7480	22179	7493			The TVD of the deepest hydrocarbon zone is the bottom of the well and not the bottom of the formation. The formation is not planned to be exited.

OPERATOR COMMENTS AND SUBMITTAL

Comments This is a refile APD; TPZ, BPZ, and BHL as well as proposed total depth, casing and cement plan are changing. Updated Offset Well Evaluation, Well Location Plat, Deviated Drilling Plan, and Directional Data Template are attached.

Nearest non-operated well is the Berry Walter V DBA Berry Energy LLC Wolfe, Phyllis #4, API # 05-001-07119, status PA.

Nearest proposed well in the same formation in the DSU is the Gus LD 34-364 HNC, API#05-001-10512. Distance was measured in 2D.

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 760 FEL of Section 34. The wellbore beyond the unit boundary setback will be physically isolated and will not be completed.

This application is in a Comprehensive Area Plan _____ CAP #: _____

OGDP ID#: _____ OGDP Name: _____ Expiration Date: _____

Location ID: 476754 Location Name: Gus LD Pad

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

Signed: _____ Print Name: Erin Ekblad

Title: Manager Regulatory Affair Date: 3/2/2022 Email: regulatorypermitting@gwp.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. The information provided for industrial use is not a permit. An application for a change in place of use is required under Colorado law. If the information provided for industrial use is not a permit, an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

COGCC Approved: [Signature] Director of COGCC Date: 4/10/2022

Expiration Date: 04/09/2025

API NUMBER

05 001 10498 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.

Condition of Approval

COA Type

Description

Drilling/Completion Operations	1) Submit Form 42 electronically to COGCC 2 business days prior to MIRU (spud notice) for the first well activity with a rig on the pad and provide 2 business day spud notice via Form 42 for all subsequent wells drilled on the pad. 2) Comply with Rule 408.j. and provide cement coverage from TD to a minimum of 500' above Niobrara and from 500' below Sussex to 500' above Sussex. Verify coverage with a cement bond log.
Drilling/Completion Operations	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: 1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 2) If a delayed completion, a second test is required between 6-9 months after rig release and must be conducted prior to stimulation. If any pressure greater than 200 psi is observed or if there is continuous flow, Operator must contact COGCC engineer prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.
Interim Reclamation	Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017).
Drilling/Completion Operations	Operator will ensure the wellbore beyond the unit boundary setback is physically isolated and is not completed. In the Operator Comments on the Form 5A the operator will (1) report the footages from the section lines of the bottom of the completed interval (2) describe how the wellbore beyond the unit boundary setback is physically isolated and (3) certify that none of the wellbore beyond the setback was completed.

4 COAs

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Bradenhead Monitoring Great Western will comply with Rule 419 and Order 1-232 for all Bradenhead compliance, as applicable.
2	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.
3	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.
4	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.

Total: 4 comment(s)

Attachment List

Att Doc Num	Name
402894861	FORM 2 SUBMITTED
402895017	DEVIATED DRILLING PLAN
402895018	WELL LOCATION PLAT
402895019	LEASE MAP
402897905	DIRECTIONAL DATA
402899293	OffsetWellEvaluations Data
403009847	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	04/06/2022
OGLA	The Location and its associated Form 2A materials was fully reviewed during the review of this APD. This APD complies with all COGCC Rules and is adequately protective of public health, safety, welfare, the environment, and wildlife resources. OGLA task passed.	03/21/2022
OGLA	Operator confirmed that Ordinary High Water Marks are not present within the drainage system.	03/21/2022
OGLA	Operator verifying the presence of an OHWM.	03/03/2022
Permit	Returned to draft on 2/28/2022 for operator to make corrections.	02/28/2022
Permit	Returned to draft: Missing all information on the Safety Setback tab.	01/14/2022

Total: 6 comment(s)