

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:
402717543
(SUBMITTED)
Date Received:
07/16/2021

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: Raindance FC Well Number: 26-232HNX
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: NENE Sec: 30 Twp: 6N Rng: 67W Meridian: 6
Footage at Surface: 872 Feet FNL 312 Feet FEL
Latitude: 40.462592 Longitude: -104.927582
GPS Data: GPS Quality Value: 1.4 Type of GPS Quality Value: PDOP Date of Measurement: 10/14/2016
Ground Elevation: 4785
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: 30 Twp: 6N Rng: 67W Footage at TPZ: 2178 FSL 600 FEL
Measured Depth of TPZ: 7623 True Vertical Depth of TPZ: 6816 FNL/FSL FEL/FWL
Base of Productive Zone (BPZ)
Sec: 26 Twp: 6N Rng: 68W Footage at BPZ: 2178 FSL 2049 FEL
Measured Depth of BPZ: 19321 True Vertical Depth of BPZ: 6816 FNL/FSL FEL/FWL
Bottom Hole Location (BHL)
Sec: 26 Twp: 6N Rng: 68W Footage at BHL: 2178 FSL 2149 FEL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: WELD

Municipality: Windsor

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: 06/12/2017

Comments: The Conditional Use Grant was approved by the Town of Windsor Board on June 12, 2017.

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.)

Irregular mineral lease, see attached map.

Total Acres in Described Lease: 455 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 303 Feet
Building Unit: 1027 Feet
Public Road: 2811 Feet
Above Ground Utility: 347 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: 312 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	407-3217	776	T6N-R67W (Weld County): Sec 30: N/2S/2,S/2N/2; T6N-R68W (Larimer County): Sec 25: N/2S/2,S/2N/2; Sec 26:S/2NE/4,N/2SE/4

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: 600 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: 371 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: 19421 Feet

TVD at Proposed Total Measured Depth 6816 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: 95 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

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	J-55	36	0	2019	852	2019	0
1ST	8+1/2	5+1/2	HCP-11	17	0	19421	2669	19421	2880

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	440	440	501-1000	USGS	USGS WSP 2302
Confining Layer	Pierre Formation	440	440	544	544			
Groundwater	Upper Pierre Aquifer	544	544	922	922	501-1000	Other	COGCC Report, Paper 2141
Confining Layer	Pierre Formation	922	922	3380	3353			
Hydrocarbon	Parkman	3380	3353	3751	3677			
Confining Layer	Pierre Formation	3751	3677	3994	3888			
Hydrocarbon	Sussex	3994	3888	4321	4171			
Confining Layer	Pierre Formation	4321	4171	4633	4441			
Hydrocarbon	Shannon	4633	4441	4727	4523			
Confining Layer	Pierre Formation	4727	4523	7255	6687			
Confining Layer	Sharon Springs	7255	6687	7413	6772			
Hydrocarbon	Niobrara	7413	6772	19421	6816			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

Based on 2D calculation of difference in footages, the nearest well permitted or completed in the same formation is Raindance FC 26-209HN, proposed by Great Western.

Nearest well belonging to another operator is Merlin 29E-10-3C, 123-47465, operated by Extraction Oil and Gas. The distance was measured in 3D. The completed portions are more than 150' apart. 317.r notice will be sent.

Also within 150' is Merlin 29E-10-1C, 123-47464, operated by Extraction Oil and Gas. The distance was measured in 3D. The completed portions are more than 150' apart. 317.r notice will be sent.

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.

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 2178' FSL and 2049' FEL of Section 26. 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 #: _____
 Oil and Gas Development Plan Name _____ OGDP ID#: _____
 Location ID: 427917 _____
 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: 7/16/2021 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: _____

API NUMBER 05 123 45299 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

Best Management Practices

No	BMP/COA Type	Description
1	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.
2	Drilling/Completion Operations	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.
3	Drilling/Completion Operations	Great Western shall obtain signed written consent for any portion of the proposed wellbore's treated interval within 150' of an existing (producing, Shut-in, or temporarily abandoned) or permitted oil and gas well's treated interval belonging to another operator prior to completion of the well.
4	Drilling/Completion Operations	Great Western will comply with Rule 419 and Order 1-232 for all Bradenhead compliance, as applicable.
5	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: 5 comment(s)

Attachment List

Att Doc Num	Name
402725567	MINERAL LEASE MAP
402745614	WELL LOCATION PLAT
402745615	DEVIATED DRILLING PLAN
402745621	DIRECTIONAL DATA
402748235	OffsetWellEvaluations Data

Total Attach: 5 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.

