

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:

401842836

(RE-SUBMITTED)

Date Received:

04/21/2021

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: Raindance FC Well Number: 26-112HNX
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: 892 Feet FNL 302 Feet FEL
Latitude: 40.462536 Longitude: -104.927544
GPS Data: GPS Quality Value: 1.2 Type of GPS Quality Value: PDOP Date of Measurement: 10/14/2016
Ground Elevation: 4782
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: 29 Twp: 6N Rng: 67W Footage at TPZ: 1536 FNL 310 FWL
Measured Depth of TPZ: 7473 True Vertical Depth of TPZ: 6817 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 26 Twp: 6N Rng: 68W Footage at TPZ: 1536 FNL 2178 FEL
Measured Depth of TPZ: 20200 True Vertical Depth of TPZ: 6817 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 26 Twp: 6N Rng: 68W Footage at BHL: 1536 FNL 2178 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:

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: 322 Feet
Building Unit: 1049 Feet
Public Road: 2841 Feet
Above Ground Utility: 370 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: 302 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	407-1898	1716	T6N R67W: Sec 19: S2; Sec 20: W2SW4; Sec 29: W2NW4; Sec 30: N2; T6N R68W: Sec 23: SE4; Sec 24: S2; Sec 25: N2, Sec 26: NE4

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: 470 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: 391 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: 20200 Feet TVD at Proposed Total Measured Depth 6817 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: 115 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	2000	844	2000	0
1ST	8+1/2	5+1/2	HCP-110	20	0	20200	2804	20200	3300

☒ 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	3353	3353			
Hydrocarbon	Parkman	3353	3353	3678	3677			
Confining Layer	Pierre Formation	3678	3677	3893	3888			
Hydrocarbon	Sussex	3893	3888	4194	4171			
Confining Layer	Pierre Formation	4194	4171	4499	4441			
Hydrocarbon	Shannon	4499	4441	4594	4523			
Confining Layer	Pierre Formation	4594	4523	7076	6687			
Confining Layer	Sharon Springs	7076	6687	7247	6772			
Hydrocarbon	Niobrara	7247	6772	20200	6817			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 3D calculation of difference in footages and depths, the nearest well permitted or completed in the same formation is Raindance FC 26-089HN (document #401841083) proposed by Great Western.

Nearest well belonging to another operator' is Merlin 29E-10-2C, 123-47466, operated by Extraction. The distance was measured in 3D. The completed portions are more than 150' apart. 408.t notice will be sent.

Also, within 150' and belonging to another operator, including plugged well is Kodak #09, 123-37252, operated by EXTRACTION OIL & GAS INC. The distance was measured in 3D. The completed portions are more than 150' apart. 408.t notice will be sent.

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

This application is in a Comprehensive Area Plan No CAP #: _____

Oil and Gas Development Plan Name _____ OGDID #: _____

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: 4/21/2021 Email: regulatorypermitting@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 45301 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

Drilling/Completion Operations	Operator will submit signed Rule 317.s Stimulation Setback Consents via Sundry Notice, Form 4 prior to stimulation of this well. In the Form 5A comments, operator will (1) certify that this well has no treated interval within 150' of the treated interval of another operator's well for which a signed Stimulation Setback Consent was not obtained, (2) provide the following information for all other operator's offset wells without consent that have a treated interval within 150' of this as-drilled wellbore: well name and API number, depth of the perforation in this well nearest to the treated interval of the offset well, and the distance between the wells at that depth, and (3) address the wells listed below as either (a) obtained consent or (b) treated interval more than 150' away from this as-drilled wellbore. Kodak #09 (123-37252), PR Status
Drilling/Completion Operations	Bradenhead tests shall be performed and reported 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. 2) 6 months after rig release, prior to stimulation. 3) Within 60 days of first production, as reported on Form 5A.
Drilling/Completion Operations	1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (Spud Notice), for the first well/activity on the pad and provide 48-hour spud notice for all subsequent wells drilled on the pad. 2) Comply with Rule 317.j and provide cement coverage from the end of production casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all aquifers are covered.

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	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 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	Stimulation Setback – Rule 408.u 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	Multi Well Open-Hole Logging – Rule 408.r 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.
5	Drilling/Completion Operations	Bradenhead Monitoring – Rule 419 Great Western will comply with Rule 419 and Order 1-232 for all Bradenhead compliance, as applicable.

Total: 5 comment(s)

Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.
http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
402497951	FORM 2 REJECTED
402504726	WELL LOCATION PLAT
402505635	MINERAL LEASE MAP
402508013	DIRECTIONAL DATA
402598336	OffsetWellEvaluations Data
402608057	DEVIATED DRILLING PLAN

Total Attach: 6 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Returned to Draft: •Distance from the Completed Zone of this Well to the Completed Zone of an offset Well is incorrect.	04/02/2021
Permit	It is unlikely these APDs will be approved before 1/15/2021 when the new rules go into effect. COGCC is recommending that these forms be returned to draft.	12/14/2020
Permit	Returned to Draft: •Remove "See Above" and list sections in unit configuration field on the Spacing & Formations tab.	10/30/2020
Permit (Rejected)	REJECTION: This APD has been rejected per the COGCC Rejection Process (updated May 21, 2019). The lease acreage and attached lease map are inconsistent across all APDs and the Buffer Zone acknowledgment and date of notification to building unit owners are missing on this APD and on 9 other APDs on the pad. This entire form was not reviewed by permitting staff.	09/25/2020
Engineer	Offset Wells Evaluated with original APD	05/16/2019
LGD	<p>On May 17, 2017, the Windsor Planning Commission and on June 12, 2017, the Windsor Town Board granted to:</p> <p>Great Western Oil Gas Company</p> <p>Applicant</p> <p>and</p> <p>Martin Lind</p> <p>Raindance Aquatic Investments, LLC</p> <p>owner(s) of property interests described as follows:</p> <p>Water Valley West Subdivision, Lot 5</p> <p>Windsor, Colorado 80550</p> <p>A Conditional Use Grant for oil and gas facilities for fifty-nine (59) oil and gas wells located on Lot 5, Water Valley West Subdivision, approximately one mile west of 7th Street and approximately ¾ mile north of New Liberty Road in the Residential Mixed Use (RMU) zoning district.</p> <p>Approval of the Conditional Use Grant is subject to the following conditions:</p> <ol style="list-style-type: none"> 1. All Planning Commission and staff comments are addressed. 2. The truck hauling route shall remain in accordance with Exhibit A attached hereto, unless otherwise approved by the Town. 3. Truck hauling periods shall avoid before and after school traffic (7:30 a.m. – 8:15 a.m. and 2:45 p.m. - 3:30 p.m.), and avoid peak times of commuter traffic (7:00 a.m. – 8:30 	12/11/2018

a.m. and 4:30 – 6:00 p.m.).

4. All landscape screening shown on plan shall be completed no later than 60 days after the initial drilling phase and shall not be postponed until development of the golf course. Irrigation shall be included to ensure establishment of all plant materials.

5. Sound walls shall be setback a minimum of 30 feet from the Poudre Trail temporary and permanent trails.

6. The Town's standard conditions of approval for oil and gas facilities, with amendments, as noted:

1. Prior to the commencement of drilling, the applicant shall submit comprehensive "Drilling and Site Improvement Plans" for review and approval by the Town. Such plans shall address initial drilling activities, initial installation of site improvements and details, and on-going perpetual maintenance of the subject site including, but not limited to, the following:

a. Site access plan. The Drilling and Site Improvement Plans and supplemental information shall address site access points and haul routes for review and approval.

b. Public street clean-up and tracking prevention. The Drilling and Site Improvement Plans and supplemental information shall include a tracking pad for review and approval.

c. Site grading. The Drilling and Site Improvement Plans and supplemental information shall address site grading, including any earth berms for emergency containment.

d. Site lighting. The Drilling and Site Improvement Plans and supplemental information shall include details regarding site lighting fixtures and locations. Security and other site lighting shall utilize full cutoff light fixtures to mitigate light pollution.

e. Temporary screening. The applicant shall install a buffer to screen the initial drilling activities and installation of site improvements from surrounding neighborhoods and streets. The temporary buffer/sound walls shall enclose the drilling operations to provide screening and noise mitigation barriers in the direction of nearby homes, as appropriate.

f. Permanent screening. Given the close proximity to residential neighbors, the Drilling and Site Improvement Plans shall depict proposed long-term screening materials including landscaping, earth berms and any other screening methods to mitigate visual impacts.

g. Fencing. The Drilling and Site Improvement Plans shall depict fencing of the perimeter of the site. Fencing materials shall be reviewed for approval by the Town based upon the character of the surrounding neighborhood.

h. Oil and gas equipment.

(1) The applicant shall utilize electric motors in order to mitigate the noise impacts to the neighboring properties. The applicant shall utilize noise dampening methods consistent with the best management practices (BMPs) utilized in the basin. Such methods include, but are not limited to, sound walls, blankets, and other noise mitigation installed at the source of any equipment creating such noise. Noise mitigation methods known as "Quite Fleet Technology," utilized by Liberty Oilfield Services, shall be used as examples of BMPs to be replicated.

(2) The applicant shall ensure that the wells and tanks are of the minimum size required to satisfy present and future functional requirements to mitigate visual impacts.

(3) Low profile tanks shall be utilized and shall be installed in the least visible manner possible.

(4) All tanks and equipment shall be painted to blend-in with the surrounding landscape.

i. Air quality.

(1)The applicant shall participate in any required Environmental Protection Agency (EPA) air quality monitoring and/or testing by allowing EPA to install equipment on site for said monitoring and testing.

(2)The applicant shall install and operate an emissions control device (ECD) capable of reducing Volatile Organic Compound (VOC) emissions on the subject oil and gas equipment in accordance with Colorado Oil and Gas Conservation Commission (COGCC) and/or the Colorado Department of Public Health and Environment (CDPHE) rules and regulations.

(3)The applicant shall submit to the Town copies of all air emissions reporting as required by the COGCC and/or the CDPHE's Air Pollution Control Division.

j. Water quality.

(1)The applicant shall ensure that any hydrocarbon discharges from the site comply with all state and federal water quality requirements. Any hydrocarbon discharges shall be properly reported to COGCC, and remediated according to COGCC requirements in all cases. Reportable hydrocarbon discharges shall also be reported to the Windsor Local Government Designee (LGD).

(2)The applicant shall provide test results from Groundwater Baseline Sampling and Monitoring required by COGCC Rule 318A.e(4) to the Town. (condition updated 10/28/13 to reflect updated COGCC rule)

k. Emergency containment. The secondary containment berm surrounding all storage vessels shall be designed and constructed to contain a minimum of 110% of the volume of the largest vessel located within the containment area or to State of Colorado standards, whichever requirements are more stringent.

l. Waste disposal. The applicant shall submit to the Town copies of all waste management reports as required by the COGCC and/or the CDPHE rules and regulations.

m. The following certification blocks shall be included on the Drilling and Site Improvement Plans:

(1)A signed owner's acknowledgement certification block.

(2)A signed drilling operator's acknowledgement certification block.

n. The following notes shall be included on the Drilling and Site Improvement Plans:

(1)The applicant shall comply with all rules and regulations of the Colorado Oil and Gas Conservation Commission (COGCC).

(2)The applicant shall comply with all rules and regulations of the Colorado Department of Public Health and Environment (CDPHE).

(3)The applicant shall maintain on-going compliance with all conditions of the Town and Windsor-Severance Fire Rescue.

(4)The facilities shall be kept clean and otherwise properly maintained at all times.

(5)If access to the site is proposed from a Town of Windsor street, such access point(s) shall require approval from the Town of Windsor Engineering Department and any required access improvements, street clean-up, tracking pads, etc., shall be addressed accordingly.

2. The applicant shall address and comply with the conditions of Windsor-Severance Fire Rescue.

3. All trucks and equipment that are used by primary contractors of Great Western Oil and Gas Company (e.g. drilling, completions, roustabout services) exclusively on the location during drilling and completion activities will be equipped with white noise backup alarms. As per OSHA regulations, in cases where rear view cameras and/or spotters are used

	100% of the time, the truck or equipment will not have a backup alarm. Some vehicles, other than those noted above, may have backup alarms.	
Permit	Passed completeness.	12/11/2018
Permit	Returned to draft - Unit config on spacing tab is blank, missing document #'s on Exception Loc Request attachment. Unit config corrected.	12/10/2018

Total: 8 comment(s)



Public Comments

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

RE-SUBMITTED