

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:

402518587

Date Received:

04/09/2021

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: Kodak South FD Well Number: 28-339HC
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: Megan Conner Phone: (720)595-2124 Fax: ()
Email: mconner@gwp.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160041

WELL LOCATION INFORMATION

Surface Location

QtrQtr: SESW Sec: 26 Twp: 6N Rng: 67W Meridian: 6

Footage at Surface: 646 Feet FSL 1859 Feet FWL

Latitude: 40.452469 Longitude: -104.863664

GPS Data: GPS Quality Value: 1.2 Type of GPS Quality Value: PDOP Date of Measurement: 06/29/2016

Ground Elevation: 4743

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: 26 Twp: 6N Rng: 67W Footage at TPZ: 940 FSL 856 FWL
Measured Depth of TPZ: 7578 True Vertical Depth of TPZ: 7093 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 28 Twp: 6N Rng: 67W Footage at BPZ: 949 FSL 470 FWL
Measured Depth of BPZ: 18392 True Vertical Depth of BPZ: 7093 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 28 Twp: 6N Rng: 67W Footage at BHL: 949 FSL 370 FWL
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: Waived Date of Final Disposition: _____

Comments: The Form 2A for this facility was originally approved on 12/11/2014, an amended Form 2A was approved on 04/03/2015, an amended Form 2A was submitted on 01/04/2017 and approved on 05/02/2018. The effective date of the 1041 WOGLA Permit Process was 02/01/2017, therefore the local government does not precede the COGCC in siting determination at this location.

Additionally, the Weld County LGD left the following comment on the Kodak South FD Pad (Location ID: 306149) approved Form 2A (Document Number 401163313).

"This proposed oil and gas facility is located in unincorporated Weld County in the Industrial (I-1) Zoned District. As of today's date, January 27, 2017, the Weld County Oil and Gas Liaison/LGD has not been contacted by any nearby resident(s) or governmental jurisdiction(s) regarding this proposed location. The County will respond to legitimate concerns or issues regarding proposed locations and attempt to facilitate a solution with the operator. Prior to a recent code change Oil Gas Production Facilities in the Industrial Zoned District were an allowed use with no Site Plan Review required. The COGCC Form 2A for this location was submitted on or before February 1, 2017. The proposed use remains a Use by Right with no Weld Oil and Gas Location Assessment (WOGLA) required. A building permit is required for the production facilities (tank battery, separators, pump jacks, compressors, generators, etc.) and the operator has a Flood Hazard Development Permit (FHDP15-0067) from the Department of Planning Services. Troy Swain, Weld Oil/Gas Liaison and LGD (970) 400-3579."

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 lease, see attached map.

Total Acres in Described Lease: 316

Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 537 Feet
Building Unit: 713 Feet
Public Road: 488 Feet
Above Ground Utility: 741 Feet
Railroad: 837 Feet
Property Line: 556 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.

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL	407-3195	712	T6N-R67W; Sec 26: W1/2 SW1/4; Sec 27: S1/2; Sec 28: S1/2

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: 460 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: 209 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: 18492 Feet

TVD at Proposed Total Measured Depth 7093 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: 294 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	18492	2820	18492	2900

☒ 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	Fox Hills	0	0	464	464	501-1000	USGS	USGS WSP 2302
Confining Layer	Pierre Fm	464	464	793	793			
Groundwater	Upper Pierre Aquifer	793	793	1134	1134	501-1000	Other	COGCC Project #2141
Confining Layer	Pierre Fm	1134	1134	3441	3441			
Hydrocarbon	Parkman	3441	3441	3790	3790			
Confining Layer	Pierre Fm	3790	3790	3968	3968			
Hydrocarbon	Sussex	3968	3968	4230	4230			
Confining Layer	Pierre Fm	4230	4230	4526	4526			
Hydrocarbon	Shannon	4526	4526	4604	4604			
Confining Layer	Pierre Fm	4604	4604	6712	6641			
Confining Layer	Sharon Springs	6712	6641	6806	6724			
Hydrocarbon	Niobrara	6806	6724	7346	7055			
Confining Layer	Ft Hayes	7346	7055	7421	7075			
Hydrocarbon	Codell	7421	7075	18492	7099			Potential Flow Formation Table: 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	<p>Distance from completed portion of the wellbore to nearest wellbore permitted or completed in the same formation was measured in 3D to the proposed Kodak South FD 28-339HN.</p> <p>Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged and abandoned wells, was measured to the POUDRE 15-28, API No 05-123-26630, SI Status, owned by Kerr McGee Oil & Gas Onshore LP, and is measured using in-house 3D anti-collision reports.</p> <p>The API is being reused from a previously submitted Kodak South APD. Some aspect of the wellbore are changing including the TPZ and BHL, Spacing Order, TD, drilling and casing program, offset well evaluation, Operator BMPs, well name, and attachments.</p> <p>This well has a bottom-hole location beyond the unit boundary setback. The wellbore beyond the unit boundary setback will be physically isolated and will not be completed.</p>
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This application is in a Comprehensive Area Plan _____ CAP #: _____

Oil and Gas Development Plan Name _____ OGDID #: _____

Location ID: 306149


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

Signed: _____ Print Name: Megan Conner

Title: Regulatory Analyst Date: 4/9/2021 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 or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

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: 6/8/2021

Expiration Date: 06/07/2024

<p>API NUMBER</p> <p>05 123 40805 00</p>

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

<u>COA Type</u>	<u>Description</u>
Interim Reclamation	Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operation (dated January 5, 2017).
Drilling/Completion Operations	Drilling Beyond the Unit Boundary Setback: 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.
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, 6 months after rig release and prior to stimulation. If any pressure greater than 200 psi, 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.
Drilling/Completion Operations	1) Submit Form 42 electronically to COGCC 2 business days prior to MIRU (Spud Notice), for the first well/activity on the pad and provide 2 business days spud notice for all subsequent wells drilled on the pad. 2) Comply with Rule 408.j and provide cement coverage from the end of production casing to a minimum of 500' above the Parkman. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all aquifers are covered.
4 COAs	

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.
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	Bradenhead Monitoring 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 with 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)

Applicable Policies and Notices to Operators

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

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.
<http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf>

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
402518587	FORM 2 SUBMITTED
402524668	WELL LOCATION PLAT
402533432	MINERAL LEASE MAP
402535100	DIRECTIONAL DATA
402645155	DEVIATED DRILLING PLAN
402652043	OPEN HOLE LOGGING EXCEPTION
402652047	OffsetWellEvaluations Data
402711270	OFFSET WELL EVALUATION

Total Attach: 8 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	Revised the top of cement for the First String to 2900' and the Sacks of Cement to 2820 to accommodate the requirement of Rule 408.e, to provide 500' of cement above the Parkman Formation.	06/08/2021
Final Review	•Final review complete and task passed.	06/02/2021
OGLA	This Location (Kodak South FD Pad 28-222HN, Location ID #306149) and its associated Form 2A materials was fully reviewed during the OGLA review of this APD in accordance with current Rules. Operator has submitted a Form 4 Sundry Notice (#402698935) indicating MIRU notifications will be sent to all surface owners and building unit owners within 2000 feet prior to drilling operations. This APD complies with all COGCC Rules and is adequately protective of public health, safety, welfare, the environment, and wildlife resources. Passed OGLA Task.	06/02/2021
Permit	Made the following changes with operator concurrence: •Removed the 408.r Open Hole Logging Exception attachment. •Per the attached Deviated Drilling Plan, corrected the TVD at TD. •Added a response to the sidetrack question on the Well Name & Contact Info tab. •Corrected the open hole logging BMP. •Added the operator comment regarding the drilling beyond the unit boundary setback to the Submit tab and removed Open Hole Logging exception comment. •Permitting review complete and task passed.	06/01/2021
Engineer	Offset Wells Evaluated	05/07/2021

Total: 5 comment(s)