

FORM
2
Rev
05/22

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:
402796307
Date Received:
10/17/2022

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: Castor 7-59 Well Number: 11-2-8
Name of Operator: MORNING GUN EXPLORATION LLC COGCC Operator Number: 10656
Address: 1601 ARAPAHOE ST
City: DENVER State: CO Zip: 80202
Contact Name: Justin Dunn Phone: (303)847-1110 Fax: ()
Email: jdunn@morninggun.com

FINANCIAL ASSURANCE FOR PLUGGING, ABANDONMENT, AND RECLAMATION

COGCC Financial Assurance
 The Operator has provided or will provide Financial Assurance to the COGCC for this Well.
Surety ID Number (if applicable): 20170040

Federal Financial Assurance
 In checking this box, the Operator certifies that it has provided or will provide at least this amount of Financial Assurance to the federal government for this Well. (Per Rule702.a.)
Amount of Federal Financial Assurance \$ _____

WELL LOCATION INFORMATION

Surface Location
QtrQtr: SWSW Sec: 11 Twp: 7N Rng: 59W Meridian: 6
Footage at Surface: 460 Feet FSL 592 Feet FWL
Latitude: 40.583411 Longitude: -103.952078
GPS Data: GPS Quality Value: 2.1 Type of GPS Quality Value: PDOP Date of Measurement: 12/11/2018
Ground Elevation: 4950
Field Name: WILDCAT Field Number: 99999

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: 11 Twp: 7N Rng: 59W Footage at TPZ: 600 FSL 2086 FEL
Measured Depth of TPZ: 7210 True Vertical Depth of TPZ: 6133 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 2 Twp: 7N Rng: 59W Footage at BPZ: 600 FNL 2219 FEL
Measured Depth of BPZ: 16567 True Vertical Depth of BPZ: 6133 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 2 Twp: 7N Rng: 59W Footage at BHL: 300 FNL 2223 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? [X] Yes [] No

[X] 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: 10/12/2022

Comments: Approved WOGLA 1041WOGLA22-0019

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

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

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

Surface Owner Protection Bond (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):

- [X] 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.)

Township 7 North, Range 59 West, 6th P.M.
 Section 2: S2
 Section 11: S2, NW
 Section 14: N2
 Section 15: N2, SW
 Section 23: NW, W2NE, S2
 Section 24: NE, E2NW

Total Acres in Described Lease: 2400 Described Mineral Lease is: Fee State Federal Indian
 Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 5280 Feet
 Building Unit: 5280 Feet
 Public Road: 4659 Feet
 Above Ground Utility: 5280 Feet
 Railroad: 5280 Feet
 Property Line: 460 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.)
NIOBRARA	NBRR	535-1177	1280	S.2, S.11: 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: 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: 376 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

The BHL footage FNL of the unit boundary shown on the well location plat is less than the required 600' from unit boundary per Spacing Order (Docket No. 181200898 DEC Hearing). Operator will not be completing the well past 600' FNL of the unit boundary.

DRILLING PROGRAM

Proposed Total Measured Depth: 16867 Feet

TVD at Proposed Total Measured Depth 6133 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: 1148 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
CONDUCTOR	26	16	A53-B	43	0	100	50	100	0
SURF	13+1/2	9+5/8	J-55	36	0	1850	650	1850	0
1ST	8+1/2	5+1/2	P-110	20	0	16867	1860	16867	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	Laramie-Fox Hills	0	0	484	484	0-500	USGS	
Confining Layer	Pierre Shale	484	484	797	797			
Groundwater	Upper Pierre Aquifer	797	797	1580	1580	1001-10000	Other	CO DNR Report Project Number 2141
Confining Layer	Pierre Shale	1580	1580	3730	3288			
Hydrocarbon	Parkman	3730	3288	4681	4068			
Hydrocarbon	Sussex	4681	4068	5727	4983			
Hydrocarbon	Shannon	5727	4983	6611	5848			
Confining Layer	Sharon Springs Shale	6611	5848	6709	5928			
Hydrocarbon	Niobrara	6709	5928	16867	6133			

OPERATOR COMMENTS AND SUBMITTAL

Comments

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>
Interim Reclamation	Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017).
Construction	If conductors are preset, operator shall comply with Notice to Operators: Procedures for Preset Conductors (dated September 1, 2016).
Drilling/Completion Operations	COGCC COA: Operator will insure 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	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) Provide cement coverage from TD to a minimum of 500' above Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.
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 is observed or if there is continuous flow, Operator must contact COGCC engineering for approval 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 engineering for approval 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	Operator acknowledges the proximity of the listed non-operated wells. Operator assures that this offset list will be remediated per the Offset Well Evaluation and Hydraulic Fracturing Operator Guidance Document using Option 3. Operator will submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well. O E DOTY *1 (API 123-05446) NICOLA *15-35 (API 123-12130) FISCUS *1 (API 123-14252)
6 COAs	

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.
2	Drilling/Completion Operations	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 to 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 measuredwhile-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 openhole logs shall clearly state "Alternative Logging Program - No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which openhole logs were run.
3	Drilling/Completion Operations	If a skid is performed for the subject well, then the only required BOPE tests are for the BOPE connection bonnet seal breaks, as long as a full BOPE test was performed at the beginning of the pad, and as long as all necessary BOPE tests are completed at least every 30 days during the pad operations.
4	Drilling/Completion Operations	1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (spud notice) for the first well activity with a rig on the pad and provide 48 hour spud notice via Form 42 for all subsequent wells drilled on the pad. 2) Provide cement coverage from TD to a minimum of 500' above Niobrara. Verify coverage with cement bond log. Confirm rule and cement coverage with COGCC Area Engineer prior to drilling this well. 3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered. 4) The Operator will abide by the COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area, May 29, 2012.
5	Drilling/Completion Operations	Bradenhead Testing 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.
6	Drilling/Completion Operations	Operator acknowledges the proximity of the listed non-operated wells. Operator assures that this offset list will be remediated per the DJ Basin Horizontal Offset Policy (option 3). Operator will submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well. TURNER *1 (API 123-05439) O E DOTY *1 (API 123-05446) FISCUS *1 (API 123-14252) NICOLA *15-35 (API 123-12130)

Total: 6 comment(s)

Attachment List

Att Doc Num	Name
402796307	FORM 2 SUBMITTED
402799306	DEVIATED DRILLING PLAN
402799308	WELL LOCATION PLAT
402946746	DIRECTIONAL DATA

402948520	OffsetWellEvaluations Data
403257123	OFFSET WELL EVALUATION

Total Attach: 6 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	12/08/2022
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.	12/08/2022
Permit	With operator concurrence added operator comment and moved COAs. Permitting Review Complete.	11/29/2022
Permit	Requesting operator comment on whether the pad is build and requesting removal of COGCC COAs from BMPs.	11/18/2022
Engineer	<ul style="list-style-type: none"> • Surface Casing Check complete • Offset well review complete 408.t - No wells 408.u - No wells • Engineering review complete 	10/24/2022
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.</p> <p>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"> 1. Form cannot be processed since the WOGLA is still in process 2. The submitter is not listed as agent for the operator 	11/15/2021
Permit	<p>Waiting on the operator's response about the following:</p> <ol style="list-style-type: none"> 1. Confirming that the submitter is an authorized agent 2. Adding the refile COA for an unbuilt location 3. Adding the Setback COA 	11/09/2021
Engineer	rt'd to DRAFT - no comments re: mitigation or remediation for OWE	10/28/2021

Total: 8 comment(s)