

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:

402592125

Date Received:

02/17/2021

### APPLICATION FOR PERMIT TO:

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

Amend ☐

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER: \_\_\_\_\_

Refill ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: Bunker 8 Well Number: 5H  
Name of Operator: MAGPIE OPERATING INC COGCC Operator Number: 52530  
Address: 2707 SOUTH COUNTY RD 11  
City: LOVELAND State: CO Zip: 80537  
Contact Name: Ryan Warner Phone: (970)669-6396 Fax: ( )  
Email: magpieoil@yahoo.com

### RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20210006

### WELL LOCATION INFORMATION

#### Surface Location

QtrQtr: NESW Sec: 29 Twp: 5N Rng: 68W Meridian: 6  
Footage at Surface: 2080 Feet FSL 2275 Feet FWL  
Latitude: 40.369560 Longitude: -105.032010  
GPS Data: GPS Quality Value: 1.2 Type of GPS Quality Value: PDOP Date of Measurement: 09/10/2018  
Ground Elevation: 4985  
Field Name: LOVELAND Field Number: 52000

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: 5N Rng: 68W Footage at TPZ: 2112 FSL 647 FEL  
Measured Depth of TPZ: 6342 True Vertical Depth of TPZ: 4805 FNL/FSL FEL/FWL

##### Base of Productive Zone (BPZ)

Sec: 30 Twp: 5N Rng: 68W Footage at TPZ: 2209 FSL 1979 FWL  
Measured Depth of TPZ: 14250 True Vertical Depth of TPZ: 4705 FNL/FSL FEL/FWL

##### Bottom Hole Location (BHL)

Sec: 30 Twp: 5N Rng: 68W Footage at BHL: 2209 FSL 1979 FWL  
FNL/FSL FEL/FWL

### LOCAL GOVERNMENT PERMITTING INFORMATION

County: LARIMER 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.? 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: Waived Date of Final Disposition: 10/21/2019

Comments: Larimer County, at the time of initial submittal of the 2A, did not regulate siting. They enacted rules during the processing of the 2A. They have chosen to waive siting for this location. A letter attesting to their waiving of regulating the Bunker 8 location is attached.

## 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.)

Sec 29: SW4; Sec 31: N2NE; and Sec 32: NW4

Total Acres in Described Lease: 400 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # \_\_\_\_\_

## SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 1901 Feet  
Building Unit: 1901 Feet  
Public Road: 2244 Feet  
Above Ground Utility: 2228 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: 348 Feet

## 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           | 384-3                   | 3280                          | 4N-68W Sec 5: W/2NE/4, NW/4, N/2SW/4, NW/4SE/4; Sec 6: N/2, 4N-69W Sec 1: E/2NE/4, 5N-68W Sec 19: S/2; Sec 20: W/2SW/4, S/2S/2, NW/4SE/4, S/2S/2, N/2SE/4, SE/4SW/4, S/2SE/4; Sec 29-32: All, 5N-69W Sec 25: Small parcel in E/2E/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: 647 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: 333 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: 14250 Feet

TVD at Proposed Total Measured Depth 4705 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: 265 Feet ☐ No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No If yes, attach an H<sub>2</sub>S 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   | 36           | 30             | Line  | 40    | 0             | 40            | 120       | 40      | 0       |
| SURF        | 13+1/2       | 9+5/8          | J55   | 36    | 0             | 1500          | 560       | 1500    | 0       |
| 1ST         | 8+5/8        | 5+1/2          | P110  | 17    | 0             | 14250         | 2065      | 14250   |         |

☐ 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          | 1000        | 995           | 1001-10000 | Groundwater Sample | Aquifer review on DWR showed no data for this area; TDS and depths are from Groundwater sampling sites on COGCC. |
| Confining Layer | Parkman           | 1000     | 995        | 1750        | 1610          |            |                    |  |
| Hydrocarbon     | Sussex            | 1750     | 1610       | 2225        | 1990          |            |                    |  |
| Hydrocarbon     | Shannon           | 2225     | 1990       | 5625        | 4470          |            |                    |  |
| Confining Layer | Sharon Springs    | 5625     | 4470       | 5700        | 4500          |            |                    |  |
| Hydrocarbon     | Niobrara          | 5700     | 4500       | 6050        | 4750          |            |                    |  |
| Hydrocarbon     | Codell            | 6050     | 4750       | 14250       | 4705          |            |                    | Btm MD=TD, Btm TVD=TVD @ BHL, since well is drilled with inclination > 90 deg                                    |

## OPERATOR COMMENTS AND SUBMITTAL

Comments This is a replacement submittal for Document #401885067 to comply with the new rules effective January 15, 2021.

This application is in a Comprehensive Area Plan \_\_\_\_\_ CAP #: \_\_\_\_\_

Oil and Gas Development Plan Name \_\_\_\_\_ OGDID #: \_\_\_\_\_

Location ID: 307209

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

Signed: \_\_\_\_\_ Print Name: Jessica Donahue

Title: Compliance Specialist Date: 2/17/2021 Email: jdonahue@ardorenvironmental.

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: 4/5/2021

Expiration Date: 04/04/2024

**API NUMBER**

05 069 06538 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

| <u>COA Type</u>                | <u>Description</u>   |
|--------------------------------|--|
| Drilling/Completion Operations | <p>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.</p> <p>2) Comply with Rule 408.j. and provide cement coverage from TD to a minimum of 500' above Niobrara. Verify coverage with cement bond log.</p> <p>3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.</p>  |
| Drilling/Completion Operations | <p>Operator acknowledges the proximity of the listed non-operated well: Operator agrees to: provide mitigation option 3 (per the DJ Basin Horizontal Offset Policy) to mitigate the situation, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42 ("OFFSET MITIGATION COMPLETED") for the remediated wells, referencing the API number of the proposed horizontal well(s) stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of these wells.</p> <p>069-05057 WR Saulcy 3<br/>069-05069 Ivers Draper Community 1<br/>069-06268 Trindel 4<br/>069-06030 Schwarz 1-X</p>   |
| Drilling/Completion Operations | <p>Operator acknowledges the proximity of the listed operated wells. Operator assures that this offset list will be remediated per the DJ Basin Horizontal Offset Policy (option 4). Operator will submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating that appropriate mitigation will be completed, during the hydraulic stimulation of this well. This Form 42 shall be filed 48 hours prior to stimulation. Operator will equip wellbore with a 5,000 psi wellhead and monitor casing (surface and production) pressures during the entire stimulation treatment. A Bradenhead test will be performed prior to the beginning of stimulation and the Form 17 submitted within 10 days of the test. After stimulation is complete, a Form 4 Sundry shall be submitted for each offset well on this list describing how Option 4 work was completed and include a summary of the daily pressures and all monitoring details.</p> <p>069-05048 Saulcy 1<br/>069-05049 Bunker 5<br/>069-05050 Bunker 6<br/>069-05051 Trindle 3<br/>069-05052 Trindle 1<br/>069-05059 Trindle 2<br/>069-05063 Carl Warberg 1-C<br/>069-05065 Weber 1<br/>069-05066 Dorothy Ivers 1-B<br/>069-05283 Inter-American Bunker 2<br/>069-05295 Inter-American Bunker 1<br/>069-06320 Weber 2<br/>069-06327 Bunker 8</p> |
| Drilling/Completion Operations | <p>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:</p> <p>1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation.</p> <p>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.</p> <p>3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.</p>   |
| 4 COAs                         |  |

## Best Management Practices

| <b>No</b> | <b>BMP/COA Type</b>            | <b>Description</b>   |
|-----------|--------------------------------|--|
| 1         | Drilling/Completion Operations | Prior to drilling operations, Operator 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.   |
| 2         | 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.  |
| 3         | Drilling/Completion Operations | Open Hole Logging Exception: One of the first wells drilled on the pad will be logged with cased-hole neutron 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 in that well and have those logs attached. The Form 5 for each well shall state "Open Hole Logging Exception - 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: 3 comment(s)

## Applicable Policies and Notices to Operators

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

| <b>Att Doc Num</b> | <b>Name</b>                 |
|--------------------|-----------------------------|
| 402592125          | FORM 2 SUBMITTED            |
| 402596099          | OffsetWellEvaluations Data  |
| 402596102          | DIRECTIONAL DATA            |
| 402596103          | DEVIATED DRILLING PLAN      |
| 402596104          | WELL LOCATION PLAT          |
| 402596105          | LGD CONSULTATION            |
| 402596107          | SURFACE AGRMT/SURETY        |
| 402601994          | OPEN HOLE LOGGING EXCEPTION |
| 402648698          | OFFSET WELL EVALUATION      |

Total Attach: 9 Files

### General Comments

| <u>User Group</u> | <u>Comment</u>  | <u>Comment Date</u> |
|-------------------|---|---------------------|
| OGLA              | This Location and its associated materials was fully reviewed in the review of this APD in accordance with current Rules. See Sundry doc # 402632694 in Location #307209 file for additional information. This APD complies with all COGCC Rules and is adequately protective of public health, safety, welfare, the environment, and wildlife resources. OGLA task passed. | 04/01/2021          |
| Permit            | Final Review Completed.   | 03/22/2021          |
| Permit            | With operators concurrence corrected distance to nearest well & removed old Open Hole Logging request.<br>Permitting Review Complete.   | 03/12/2021          |
| Permit            | Pending - distance to nearest well in the same unit.  | 03/08/2021          |
| Permit            | returned to draft:<br>Distance to Building incorrect.<br>Spacing Unit details not in unit configuration box.<br>Open Hole Logging BMP is incorrect.   | 02/17/2021          |

Total: 5 comment(s)