

FORM  
2

Rev  
05/22

# State of Colorado Oil and Gas Conservation Commission

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Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

403161600

**(SUBMITTED)**

Date Received:

10/03/2022

## 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: Harlequin Well Number: 34-35-2HN  
 Name of Operator: MALLARD EXPLORATION LLC COGCC Operator Number: 10670  
 Address: 1400 16TH STREET SUITE 300  
 City: DENVER State: CO Zip: 80202  
 Contact Name: Erin Mathews Phone: (720)543 7951 Fax: ( )  
 Email: emathews@mallardexploration.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): 20170115

#### 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: NENE Sec: 33 Twp: 8N Rng: 61W Meridian: 6

Footage at Surface: 1292 Feet FNL 544 Feet FEL

Latitude: 40.621891 Longitude: -104.203762

GPS Data: GPS Quality Value: 1.1 Type of GPS Quality Value: PDOP Date of Measurement: 12/13/2017

Ground Elevation: 5029

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: 34 Twp: 8N Rng: 61W Footage at TPZ: 970 FNL 300 FWL  
Measured Depth of TPZ: 7047 True Vertical Depth of TPZ: 6703 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 35 Twp: 8N Rng: 61W Footage at BPZ: 970 FNL 300 FEL  
Measured Depth of BPZ: 17013 True Vertical Depth of BPZ: 6703 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 35 Twp: 8N Rng: 61W Footage at BHL: 970 FNL 300 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: 11/07/2018

Comments: WOGLA18-0095 submitted 7/26/2018, approved 11/7/2018

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.)

NE/4, Sec 33; NW/4, Sec 34, T8N, R61W

Total Acres in Described Lease: 320 Described Mineral Lease is: [X] Fee [ ] State [ ] Federal [ ] Indian

Federal or State Lease #

## SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 4827 Feet  
Building Unit: 5280 Feet  
Public Road: 4742 Feet  
Above Ground Utility: 5280 Feet  
Railroad: 5280 Feet  
Property Line: 544 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	535-1299	2560	2,3:7N; 34,35:8N

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: 300 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: 665 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: 17013 FeetTVD at Proposed Total Measured Depth 6703 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: 299 Feet  No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs 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? NoWill salt sections be encountered during drilling? NoWill salt based (>15,000 ppm Cl) drilling fluids be used? NoWill oil based drilling fluids be used? YesBOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

Beneficial reuse or land application plan submitted? \_\_\_\_\_

Reuse Facility ID: \_\_\_\_\_ or Document Number: \_\_\_\_\_

**CASING PROGRAM**

<u>Casing Type</u>	<u>Size of Hole</u>	<u>Size of Casing</u>	<u>Grade</u>	<u>Wt/Ft</u>	<u>Csg/Liner Top</u>	<u>Setting Depth</u>	<u>Sacks Cmt</u>	<u>Cmt Btm</u>	<u>Cmt Top</u>
CONDUCTOR	26	16	N/A	43	0	80	50	80	0
SURF	13+1/2	9+5/8	J55	36	0	2080	700	2080	0
1ST	8+1/2	5+1/2	HCP110	20	0	17013	2350	17013	2080

 Conductor Casing is NOT planned**POTENTIAL FLOW AND CONFINING FORMATIONS**

<u>Zone Type</u>	<u>Formation /Hazard</u>	<u>Top M.D.</u>	<u>Top T.V.D.</u>	<u>Bottom M.D.</u>	<u>Bottom T.V.D.</u>	<u>TDS (mg/L)</u>	<u>Data Source</u>	<u>Comment</u>
Groundwater	LARAMIE	0	0	334	334	0-500	DWR	
Groundwater	LARAMIE FOX HILLS	334	334	749	749	0-500	DWR	
Groundwater	PIERRE SHALE	749	749	1057	1057	0-500	DWR	
Groundwater	UPPER PIERRE	1057	1057	1924	1924	0-500	DWR	
Confining Layer	PIERRE SHALE	1924	1924	3534	3534			
Hydrocarbon	RICHARD SANDSTONE	3534	3534	3632	3632			
Hydrocarbon	PARKMAN SANDSTONE	3632	3632	3969	3969			
Confining Layer	PIERRE SHALE	3969	3969	6434	6434			
Confining Layer	SHARON SPRINGS SHALE	6434	6434	6477	6477			
Hydrocarbon	NIOBRARA SHALE	6477	6477	17013	6703			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



## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Blowout Prevention Equipment ("BOPE"): A double ram annular preventer will be used during drilling.
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	Alternative Logging Program: One of the first wells drilled on the pad will be 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: 3 comment(s)

## Attachment List

<u>Att Doc Num</u>	<u>Name</u>
403161604	OffsetWellEvaluations Data
403182445	DIRECTIONAL DATA
403182448	DEVIATED DRILLING PLAN
403182456	WELL LOCATION PLAT

Total Attach: 4 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

**Public Comments**

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

