

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:

403265148

(SUBMITTED)

Date Received:

12/23/2022

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: Mottled South

Well Number: 6-1HN

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 7959

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: SESW Sec: 31 Twp: 8N Rng: 59W Meridian: 6

FNL/FSL

FEL/FWL

Footage at Surface: 550 Feet FSL 1339 Feet FWL

Latitude: 40.613086

Longitude: -104.025849

GPS Data:

GPS Quality Value: 1.7

Type of GPS Quality Value: PDOP

Date of Measurement: 09/15/2017

Ground Elevation: 4968

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: 6 Twp: 7N Rng: 59W

Footage at TPZ: 600 FNL 605 FWL

Measured Depth of TPZ: 6730

True Vertical Depth of TPZ: 6324

FNL/FSL

FEL/FWL

Base of Productive Zone (BPZ)Sec: 6 Twp: 7N Rng: 59WFootage at BPZ: 600 FSL 605 FWLMeasured Depth of BPZ: 10779True Vertical Depth of BPZ: 6324 FNL/FSL FEL/FWL**Bottom Hole Location (BHL)**Sec: 6 Twp: 7N Rng: 59WFootage at BHL: 600 FSL 605 FWL

FNL/FSL

FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATIONCounty: WELDMunicipality: 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: Approved Date of Final Disposition: 05/28/2021Comments: WOGLA18-0069 amended as 1041WOGLA-AMD21-0052, approved 5/28/2021**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 ☐ IndianMineral Owner beneath this Well's Oil and Gas Location: ☒ 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):

☒ 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.)

NW, Sec 6, 7N, 59WTotal Acres in Described Lease: 166Described 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: 531 Feet
Above Ground Utility: 1970 Feet
Railroad: 5280 Feet
Property Line: 550 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	535-980	640	7N-59W Sec 6: 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: 745 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 PROGRAMProposed Total Measured Depth: 10779 FeetTVD at Proposed Total Measured Depth 6324 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: 7 Feet ☐ No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs H₂S gas reasonably expected to be encountered during drilling operations at concentrations greater thanor 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? 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

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	N/A	43	0	80	50	80	0
SURF	13+1/2	9+5/8	J55	36	0	1650	560	1650	0
1ST	8+1/2	5+1/2	HCP110	20	0	10779	1450	10779	

☐ 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	0	0	190	190	0-500	DWR	
Groundwater	LARAMIE FOX HILLS	190	190	575	575	0-500	DWR	
Groundwater	PIERRE SHALE	575	575	882	880	0-500	DWR	
Groundwater	UPPER PIERRE	882	880	1593	1580	0-500	DWR	
Confining Layer	PIERRE SHALE	1593	1580	3308	3270			
Hydrocarbon	RICHARD SANDSTONE	3308	3270	3421	3382			
Hydrocarbon	PARKMAN SANDSTONE	3421	3382	3759	3715			
Confining Layer	PIERRE SHALE	3759	3715	6145	6052			
Confining Layer	SHARON SPRINGS SHALE	6145	6052	6194	6093			
Hydrocarbon	NIOBRARA SHALE	6194	6093	10779	6324			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

This Form 2 is being submitted as a refile of API # 05-123-48219.

The location is being reduced from a 16-well pad to a 7-well pad. The seven remaining wells are not being respaced. The refile Form 2 updates the same unchanged SHL/TPZ/BHL information with updated TMD/TVD, BPZ, casing grades, PFZ table data, and nearest well distances.

Remaining:

Mottled South 6-1HN (API: 05-123-48219)
Mottled South 6-4HN (API: 05-123-48216)
Mottled South 6-7HN (API: 05-123-48218)
Mottled South 6-16HN (API: 05-123-48212)
Mottled South 6-13HN (API: 05-123-48226)
Mottled South 6-10HN (API: 05-123-48224)
Mottled South 6-9HN (API: 05-123-48221)

Abandoning:

Mottled South 6-6HC (API: 05-123-48213)
Mottled South 6-2HC (API: 05-123-48214)
Mottled South 6-8HN (API: 05-123-48215)
Mottled South 6-15HC (API: 05-123-48217)
Mottled South 6-11HC (API: 05-123-48220)
Mottled South 6-5HN (API: 05-123-48222)
Mottled South 6-14HN (API: 05-123-48223)
Mottled South 6-12HN (API: 05-123-48225)
Mottled South 6-3HN (API: 05-123-48227)

There have been no new buildings constructed and no changes to the surrounding land use, Surface & Minerals, cultural distance setbacks, formations, or mineral lease descriptions. All previously submitted plats, notices, Surface Use Agreements, and letters are also still valid. Well Location Plat is in COGIS Docs as Doc #401617128.

The nearest well in unit per anti-collision is updated to the Mottled South 6-4HN.

The nearest outside operated well per anti-collision is unchanged as the Wickstrom 6-12 (API: 05-123-32065) SI Status @ 7'. Well is a D Sand producer with a top interval of 6816'. The proposed well is a Niobrara with a TVD of 6324'. Producing zones are >150' apart, no 408.u is required.

Wickstrom 6-4 (API: 05-123-38576) PR Status is also still within 150' @ 55'. It is also a D Sand well with a top interval of 6845'. Producing zones are >150' apart, no 408.u required.

This application is in a Comprehensive Area Plan No

CAP #: _____

Oil and Gas Development Plan Name _____

OGDP ID#: _____

Location ID: 453399

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

Signed: _____

Print Name: Justin Garrett

Title: Sr. Regulatory Analyst

Date: 12/23/2022

Email: regulatory@ascentgeomatics.c

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 48219 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

0 COA

Best Management Practices

No BMP/COA Type

Description

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

Att Doc Num

Name

403270537	OffsetWellEvaluations Data
403270539	DEVIATED DRILLING PLAN
403270540	DIRECTIONAL DATA

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)