

FORM  
2

Rev  
08/16

## 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:

401495616

Date Received:

12/27/2017

#### APPLICATION FOR PERMIT TO:

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

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

Refilling ☒

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: Shull Fed

Well Number: 31-32-4HN

Name of Operator: MALLARD EXPLORATION LLC

COGCC Operator Number: 10670

Address: 1821 BLAKE STREET STE 2B

City: DENVER State: CO Zip: 80202

Contact Name: Erin Mathews

Phone: (720)543 7951

Fax: ( )

Email: emathews@mallardexploration.com

#### RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20170115

#### WELL LOCATION INFORMATION

QtrQtr: NENW Sec: 31 Twp: 9N Rng: 59W Meridian: 6

Latitude: 40.711378

Longitude: -104.022585

Footage at Surface: 942 Feet FNL/FSL FNL 2148 Feet FEL/FWL FWL

Field Name: WILDCAT

Field Number: 99999

Ground Elevation: 4905

County: WELD

GPS Data:

Date of Measurement: 02/24/2016 PDOP Reading: 1.8 Instrument Operator's Name: Alec Shull

If well is ☐ Directional ☒ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL FNL/FWL Bottom Hole: FNL/FSL FEL/FWL

1705 FNL 2140 FEL 1705 FNL 460 FEL  
Sec: 31 Twp: 9N Rng: 59W Sec: 32 Twp: 9N Rng: 59W

#### LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Surface Owner is: ☐ is the mineral owner beneath the location.  
(check all that apply) ☐ is committed to an Oil and Gas Lease.

☐ has signed the Oil and Gas Lease.

☐ is the applicant.

The Mineral Owner beneath this Oil and Gas Location is: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: Surface Surety ID:

## LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

NENW, W2NW, E2SW, W2SE, SESE, Sec 31, T9N, R59W

Total Acres in Described Lease: 320 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease #

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5280 Feet

Building Unit: 5280 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 912 Feet

Above Ground Utility: 5280 Feet

Railroad: 5280 Feet

Property Line: 942 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- 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, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: ☐ Buffer Zone  
☐ Exception Zone  
☐ Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government:

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners:

## SPACING and UNIT INFORMATION

Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 380 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): Unit Number:

## SPACING & FORMATIONS COMMENTS

## 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	535-734	960	S31 E2; S32 All

## DRILLING PROGRAM

Proposed Total Measured Depth: 13472 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: 1164 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 Operations Plan)

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

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?

Reuse Facility ID:  or Document Number:

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	26	16	43	0	80	50	80	0
SURF	12+1/4	9+5/8	36	0	1550	425	1550	0
1ST	8+1/2	5+1/2	20	0	13461	2100	13461	0

☐ Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- ☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- ☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- ☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- ☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 318A.a. Exception Location (GWA Windows).
- ☐ Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

## OTHER LOCATION EXCEPTIONS

Check all that apply:

☐ Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_

☐ Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments    Nearest wellbore in proposed unit is the Shull Fed 31-32-5HC.

The nearest nonop well is the Ptasnik Federal PC LC33-68HN (API: 05-123-33945).

First string setting depth is intentionally set approximately 10' less than Total Measured Depth.

Well is a refile for the formerly Crescent Point operated Shull Fed-9-59-31-2124CE (API: 05-123-43668) XX Status.

Changes from previously approved Form 2 Shull Fed-9-59-31-2124CE (Doc #401048150):  
TPZ changes from 1365 FNL, 2140 FEL to 1705 FNL, 2140 FEL.  
BHL changes from 1365 FNL, 500 FEL to 1705 FNL, 460 FEL Sec 32.  
Well changes from production string & liner with oil-based mud being NO to 1st string only monobore with oil-based mud being YES.

This application is in a Comprehensive Drilling Plan    No    CDP #: \_\_\_\_\_

Location ID:    447902

Is this application being submitted with an Oil and Gas Location Assessment application?    No

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:    Regulatory Analyst    Date:    12/27/2017    Email:    regulatory@ascentgeomatics.c

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 and applicable orders and is hereby approved.

COGCC Approved:  \_\_\_\_\_ Director of COGCC    Date:    2/8/2018

Expiration Date:    02/07/2020

### API NUMBER

05 123 43668 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

	If location is not built by 2A expiration 9/28/2019, Operator must Refile Form 2A for approval prior to location construction.
	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 to a minimum of 200' above Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after setting surface casing.  Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test.: 1) All: Within 60 days of rig release, prior to stimulation. 2) Delayed completion: 6 months after rig release, prior to stimulation. 3) All: Within 30 days of first production, as reported on Form 5A.

## Best Management Practices

### No BMP/COA Type

### Description

1	Planning	Plugged and abandoned wells will be identified pursuant to 319.a.(5).
2	Drilling/Completion Operations	A closed-loop system will be used for drilling operations. Blowout Prevention Equipment ("BOPE"): A double ram annular preventer will be used during drilling.
3	Drilling/Completion Operations	317.p One of the first wells drilled on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from 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 the logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which open-hole logs were run).

Total: 3 comment(s)

## Applicable Policies and Notices to Operators

Policy
Notice Concerning Operating Requirements for Wildlife Protection. <a href="http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf">http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf</a>

## Attachment Check List

### Att Doc Num

### Name

401495616	FORM 2 SUBMITTED
401496073	OffsetWellEvaluations Data
401496074	DIRECTIONAL DATA
401496075	DEVIATED DRILLING PLAN
401496077	WELL LOCATION PLAT
401541234	OFFSET WELL EVALUATION

Total Attach: 6 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Changed right to construct from lease to SUA with Operator concurrence. SUA is available in COGCC's electronic well file/scout card for this well.	02/07/2018
Permit	With Operator concurrence: - added distance to nearest nonop well and unchecked box "No well belonging to another operator within 1500". - revised comment on Submit tab to properly cite the nearest nonop well. - Operator verified cultural distances.  Permitting review complete.	02/06/2018
Engineer	Evaluated existing wells within 1500' of proposed directional.	02/01/2018
Permit	Status Pending - contacted Operator: - cultural distance to nearest public road and nearest property line do not correspond with COGIS map or other wells on this pad; please verify.	01/11/2018
Permit	With Operator concurrence: - Changed distance to nearest lease line from 600' to 0' as wellbore does not enter lease; lease is within unit. - Deleted incorrect spacing comment. - Corrected unit config error from "9N59W31E2,9N60W32All" to "S31 E2; S32 All".	01/10/2018
Permit	Passed Completeness.	01/05/2018

Total: 6 comment(s)