

**WELL ABANDONMENT REPORT**

This form is to be submitted as an Intent to Abandon whenever an abandonment is planned on a borehole. After the abandonment is complete, this form shall again be submitted as a Subsequent Report of the actual work completed. The approved intent shall be valid for six months after the approval date, after that period, a new intent will be required. Attachments required with the Intent to Abandon are wellbore diagrams of the current configuration and the proposed configuration with plugs set.  
 A Subsequent Report of Abandonment shall indicate the actual work completed. Attachments required with a Subsequent Report are a wellbore diagram showing plugs that were set and casing remaining in the hole, the job summaries from all plugging contractors used, including wireline and cementing (third party verification) and any logs that may have been run during abandonment.

Document Number:  
401941867

Date Received:  
02/15/2019

OGCC Operator Number: 10670 Contact Name: Erin Mathews

Name of Operator: MALLARD EXPLORATION LLC Phone: (720) 543-7959

Address: 1400 16TH STREET SUITE 300 Fax: \_\_\_\_\_

City: DENVER State: CO Zip: 80202 Email: emathews@mallardexploration.com

**For "Intent" 24 hour notice required,** Name: Evins, Bret Tel: (970) 420-6699

**COGCC contact:** Email: bret.evins@state.co.us

API Number 05-123-11557-00

Well Name: GOVERNMENT DOTY Well Number: 2

Location: QtrQtr: NWNE Section: 27 Township: 8N Range: 60W Meridian: 6

County: WELD Federal, Indian or State Lease Number: C-34507-ACQ

Field Name: CROW Field Number: 13600

Notice of Intent to Abandon       Subsequent Report of Abandonment

*Only Complete the Following Background Information for Intent to Abandon*

Latitude: 40.638725 Longitude: -104.075512

GPS Data:  
Date of Measurement: \_\_\_\_\_ PDOP Reading: \_\_\_\_\_ GPS Instrument Operator's Name: \_\_\_\_\_

Reason for Abandonment:  Dry     Production Sub-economic     Mechanical Problems

Other Option 3 Re-Plug ahead of Mallard's Green Teal frac

Casing to be pulled:  Yes     No    Estimated Depth: \_\_\_\_\_

Fish in Hole:  Yes     No    If yes, explain details below

Wellbore has Uncemented Casing leaks:  Yes     No    If yes, explain details below

Details: \_\_\_\_\_

**Current and Previously Abandoned Zones**

Formation	Perf. Top	Perf. Btm	Abandoned Date	Method of Isolation	Plug Depth
D SAND	6831	6837	02/15/2019	BRIDGE PLUG	6646

Total: 1 zone(s)

**Casing History**

Casing Type	Size of Hole	Size of Casing	Weight Per Foot	Setting Depth	Sacks Cement	Cement Bot	Cement Top	Status
SURF	12+1/4	8+5/8	24	168	115	168	0	VISU
1ST	7+7/8	4+1/2	11.6	6,923	100	6,923	6,418	CALC
S.C. 1.1				520	190	520	0	CALC

## Plugging Procedure for Intent and Subsequent Report

CIBP #1: Depth 6646 with 3 sacks cmt on top. CIBP #2: Depth 620 with 50 sacks cmt on top.  
CIBP #3: Depth \_\_\_\_\_ with \_\_\_\_\_ sacks cmt on top. CIBP #4: Depth \_\_\_\_\_ with \_\_\_\_\_ sacks cmt on top.  
CIBP #5: Depth \_\_\_\_\_ with \_\_\_\_\_ sacks cmt on top.

NOTE: Two(2) sacks cement required on all CIBPs.

Set 50 sks cmt from 620 ft. to 0 ft. Plug Type: CASING Plug Tagged:   
Set \_\_\_\_\_ sks cmt from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Type: \_\_\_\_\_ Plug Tagged:   
Set \_\_\_\_\_ sks cmt from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Type: \_\_\_\_\_ Plug Tagged:   
Set \_\_\_\_\_ sks cmt from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Type: \_\_\_\_\_ Plug Tagged:   
Set \_\_\_\_\_ sks cmt from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Type: \_\_\_\_\_ Plug Tagged:

Perforate and squeeze at 6150 ft. with 120 sacks. Leave at least 100 ft. in casing 5890 CICR Depth  
Perforate and squeeze at 5850 ft. with 0 sacks. Leave at least 100 ft. in casing \_\_\_\_\_ CICR Depth  
Perforate and squeeze at \_\_\_\_\_ ft. with \_\_\_\_\_ sacks. Leave at least 100 ft. in casing \_\_\_\_\_ CICR Depth  
(Cast Iron Cement Retainer Depth)

Set \_\_\_\_\_ sacks half in. half out surface casing from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Tagged:

Set 15 sacks at surface

Cut four feet below ground level, weld on plate Above Ground Dry-Hole Marker:  Yes  No

Set \_\_\_\_\_ sacks in rat hole Set \_\_\_\_\_ sacks in mouse hole

### Additional Plugging Information for Subsequent Report Only

Casing Recovered: \_\_\_\_\_ ft. \_\_\_\_\_ inch casing Plugging Date: \_\_\_\_\_  
of \_\_\_\_\_

\*Wireline Contractor: \_\_\_\_\_ \*Cementing Contractor: \_\_\_\_\_

Type of Cement and Additives Used: \_\_\_\_\_

Flowline/Pipeline has been abandoned per Rule 1105  Yes  No \*ATTACH JOB SUMMARY

Technical Detail/Comments:

This well falls under Option 3, ahead of Mallard's Green Teal frac slated for April 1st. As part of the requirements, we are currently working on obtaining surface owner consent from the BLM. This process has already begun, as an archeological study of the area has been conducted - the permit required by the BLM/USFS to perform our proposed operations is currently being processed. Because this process is expected to take ~30 days, we are submitting the Form 6 now without this permit/consent in hand, so that the engineering review of this P&A can take place.

Given the proximity of the frac date, we are requesting expedited review of the documents submitted so that, once the Surface Owner Consent is provided and submitted, we are able to move a rig onto this well shortly thereafter.

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

Signed: \_\_\_\_\_ Print Name: Erin Mathews  
Title: VP of Development Date: 2/15/2019 Email: emathews@mallardexploration.com

Based on the information provided herein, this Well Abandonment Report (Form 6) complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: SUTPHIN, DIRK Date: 3/8/2019

**CONDITIONS OF APPROVAL, IF ANY:** \_\_\_\_\_ Expiration Date: 9/7/2019

COA Type	Description
	<p>Plugging:  Note changes to the submitted Form.  1) Provide 48 hour notice of MIRU via electronic Form 42.  2) Plug at 6150': Shoot holes at 6150' and 5850'. Set CICR at 5890'. Sting 2-3/8" tubing into CICR. Establish injection rate. Mix 120 sks cement, pump down tubing which is stung into the CICR, displace 2.5 bbls short of the CICR. 2.5 bbls in 2-3/8" tubing is about 645', so displace to 5245', sting out and leave 2.5 bbls (12 sks cement) on top of CICR. 2.5 bbls in 4.5" casing is about 160'. So the top of the plug will be about 5730', which covers the upper perfs at 5850' by 120'.  3) Plug at 620' to surface. Set CIBP at 620' and cement from 620' to surface. If cement does not stay at surface, tag top of cement plug after waiting on cement and confirm top of plug is 50' above surface casing (168'-50'=118'.)  4) Surface plug: 15 sks at surface. Top off cement from 50' to surface in casing and annulus, if either space is found to not be full of cement already.</p> <p>Venting during plugging:  Operator shall implement measures to control venting, to protect health and safety, and to ensure that vapors and odors from well plugging operations do not constitute a nuisance or hazard to public welfare.</p>

**Attachment Check List**

<b><u>Att Doc Num</u></b>	<b><u>Name</u></b>
401941867	FORM 6 INTENT SUBMITTED
401942370	WELLBORE DIAGRAM
401942372	WELLBORE DIAGRAM
401942373	PROPOSED PLUGGING PROCEDURE
401942375	OTHER
401942378	LOCATION PHOTO

Total Attach: 6 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	<p>Plugging Procedure:</p> <ul style="list-style-type: none"> <li>• The CIBP + 3 sks at 6646' is existing from August 1993 plugging.</li> <li>• There is an existing 50 sk cement plug at 3400'-2773' according to the August 1993 plugging report. It must have fallen about 200' since the top of the plug was tagged at 2980' according to the September 1994 plugging report. This 50 sk plug should be about 600'-650' long (3400'-2773'=627'), (50 sks x 13.2 ft/sk = 660').</li> <li>• The other plugs mentioned in the Aug 1993 plugging (30 sks at 520', 30 sks at 210', 15 sks at surface) were not found during the Sept 1994 replugging. Maybe they are part of the plug tagged at 2980' which could make that plug even longer, or there were holes in casing in the 3400'-2980' interval.</li> <li>• Inconsistencies between the attached Written Procedure and Wellbore Diagram: The Written Procedure describes the plug at 6150' as mixing 120 sks cement and displacing to the top perfs at 5850', with the CICR at 5890', stinging out and leaving 10 sks cement on top of the CICR. The Wellbore diagram shows no cement between the CICR and bottom perfs and the note there says to leave 2 sks above bottom perfs. Neither is correct.</li> <li>• COGCC wants the following: Shoot holes at 6150' and 5850'. Set CICR at 5890'. Sting 2-3/8" tubing into CICR. Establish injection rate. Mix 120 sks cement, pump down tubing which is stung into the CICR, displace 2.5 bbls short of the CICR. 2.5 bbls in 2-3/8" tubing is about 645', so displace to 5245', sting out and leave 2.5 bbls (12 sks cement) on top of CICR. 2.5 bbls in 4.5" casing is about 160'. So the top of the plug will be about 5730', which covers the upper perfs at 5850' by 120'.</li> <li>• Added CIBP at 620' so that this plug cannot fall (assuming annulus is full of cement and no holes in casing above this point) and increased cement quantity to 50 sks.</li> </ul>	03/08/2019
Engineer	<p>Casing History:</p> <ul style="list-style-type: none"> <li>• Added the 190 sks perf &amp; squeeze at 520' as per the September 1994 plugging report. Put as S.C.1.1, 520', 190 sks, 520'-0', CALC. According to this record the casing and annulus would be full of cement from 520' to surface.</li> </ul>	03/08/2019
Well File Verification	Pass	02/19/2019
Permit	<ul style="list-style-type: none"> <li>• Verified SHL lat./long</li> <li>• Verified DSND perfed interval via Doc. 249374</li> </ul>	02/17/2019

Total: 4 comment(s)