

**State of Colorado**  
**Oil and Gas Conservation Commission**

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**BRADENHEAD TEST REPORT**

Step 1. Record all tubing and casing pressures as found. Step 2. Sample now. If intermediate or surface casing pressure > 25 psi. In sensitive areas, 1 psi.  
Step 3. Conduct Bradenhead test. Step 4. Conduct intermediate casing test. Step 5. Send report to BLM within 3 days and to OGCC within 10 days. Include wellbore diagram if not previously submitted or if wellbore configuration has changed since prior program. Attach gas and liquid analyses if sampled.

1. OGCC Operator Number: 100322      3. BLM Lease No: \_\_\_\_\_  
 2. Name of Operator: NOBLE ENERGY INC  
 4. API Number; 05-123-43293-00      5. Multiple completion?     Yes     No  
 6. Well Name: Harper      Number: LD21-655  
 7. Location (QtrQtr, Sec, Twp, Rng, Meridian): SWNW,22,9N,58W,6  
 8. County WELD      9. Field Name: WILDCAT  
 10. Minerals:     Fee     State     Federal     Indian

11. Date of Test: 01/30/2017  
 12. Well Status:     Flowing  
                           Shut In     Gas Lift  
                           Pumping     Injection  
                           Clock/Intermitter  
                           Plunger Lift  
 13. Number of Casing Strings:  
                           Two     Three     Liner?

**14. EXISTING PRESSURES**

Record all pressures as found	Tubing: <u>277</u> Fm: _____	Tubing: _____ Fm: _____	Prod Csg <u>972</u> Fm: _____	Intermediate Csg: _____	Surf. Csg _____ 0
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**BRADENHEAD TEST**

Buried valve?     Yes     No  
 Confirmed open?     Yes     No  
 With gauges monitoring production, intermediate casing and tubing pressures, open surface casing (bradenhead) valve (if no intermediate casing, monitor only the production casing and tubing pressures.) Record pressures at five minute intervals Define characteristics of flow in "Bradenhead Flow" column using letter designations below:  
 O = No Flow; C = Continuous; D = Down to 0; V = Vapor  
 H = Water H2O; M = Mud; W = Whisper; S = Surge; G = Gas  
 BRADENHEAD SAMPLE TAKEN?  
                           Yes     No     Gas     Liquid  
 Character of Bradenhead fluid:     Clear     Fresh  
                           Sulfur     Salty     Black  
 Other:(describe) \_\_\_\_\_  
 Sample cylinder number: \_\_\_\_\_

Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:
00:00	<input type="checkbox"/> 277	<input type="checkbox"/>	<input type="checkbox"/> 972		O
05:00	<input type="checkbox"/> 280	<input type="checkbox"/>	<input type="checkbox"/> 972		O
10:00	<input type="checkbox"/> 283	<input type="checkbox"/>	<input type="checkbox"/> 972		O
15:00	<input type="checkbox"/> 283	<input type="checkbox"/>	<input type="checkbox"/> 972		O
20:00	<input type="checkbox"/> 281	<input type="checkbox"/>	<input type="checkbox"/> 972		O
25:00	<input type="checkbox"/> 285	<input type="checkbox"/>	<input type="checkbox"/> 972		O
30:00	<input type="checkbox"/> 286	<input type="checkbox"/>	<input type="checkbox"/> 972		O

Instantaneous Bradenhead PSIG at end of test: > 0

**INTERMEDIATE CASING TEST**

Buried valve?     Yes     No  
 Confirmed open?     Yes     No  
 With gauges monitoring production, intermediate casing and tubing pressures, open the intermediate casing valve. Record pressures at five minute intervals Characterize flow in "Intermediate Flow" column using letter designations below:  
 O = No Flow; C = Continuous; D = Down to 0; V = Vapor  
 H = Water H2O; M = Mud; W = Whisper; S = Surge; G = Gas  
 INTERMEDIATE SAMPLE TAKEN?  
                           Yes     No     Gas     Liquid  
 Character of Intermediate fluid:     Clear     Fresh  
                           Sulfur     Salty     Black  
 Other:(describe) \_\_\_\_\_  
 Sample cylinder number: \_\_\_\_\_

Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Instantaneous Intermediate Casing PSIG at end of test: >

Comments:

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

Test Performed By: Eric Erker Title: Assist. Prod. Foreman Phone: (970) 409-0244

Signed: Jan Kajiwara Title: Regulatory Analyst III Date: 2/9/2017

Witnessed By: \_\_\_\_\_ Title: \_\_\_\_\_ Agency: \_\_\_\_\_