

**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; 05-123-25394-00 5. Multiple completion?  Yes  No  
 6. Well Name: MCWILLIAMS D Number: 30-21  
 7. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWSE,30,3N,64W,6  
 8. County WELD 9. Field Name: WATTENBERG  
 10. Minerals:  Fee  State  Federal  Indian

11. Date of Test: 10/13/2017  
 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>1305</u> Fm: _____	Tubing: _____ Fm: _____	Prod Csg <u>1314</u> Fm: _____	Intermediate Csg: _____	Surf. Csg <u>79</u>
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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

Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:
00:00	<input type="checkbox"/> 1305	<input type="checkbox"/>	<input type="checkbox"/> 1314		W
05:00	<input type="checkbox"/> 1305	<input type="checkbox"/>	<input type="checkbox"/> 1315		W
10:00	<input type="checkbox"/> 1303	<input type="checkbox"/>	<input type="checkbox"/> 1313		W
15:00	<input type="checkbox"/> 1303	<input type="checkbox"/>	<input type="checkbox"/> 1313		S
20:00	<input type="checkbox"/> 1304	<input type="checkbox"/>	<input type="checkbox"/> 1313		S
25:00	<input type="checkbox"/> 1304	<input type="checkbox"/>	<input type="checkbox"/> 1313		S
30:00	<input type="checkbox"/> 1304	<input type="checkbox"/>	<input type="checkbox"/> 1313		S

BRADENHEAD SAMPLE TAKEN?  
 Yes  No  Gas  Liquid  
 Character of Bradenhead fluid:  Clear  Fresh  
 Sulfur  Salty  Black  
 Other:(describe) \_\_\_\_\_  
 Sample cylinder number: \_\_\_\_\_

Instantaneous Bradenhead PSIG at end of test: > 32

**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

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"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

INTERMEDIATE SAMPLE TAKEN?  
 Yes  No  Gas  Liquid  
 Character of Intermediate fluid:  Clear  Fresh  
 Sulfur  Salty  Black  
 Other:(describe) \_\_\_\_\_  
 Sample cylinder number: \_\_\_\_\_

Instantaneous Intermediate Casing PSIG at end of test: >

Comments:

GAS WHISPER FOR THE FIRST TEN MINUTES THEN TURNED INTO AN OIL SURGE. SAMPLE TAKEN.

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

Test Performed By: RAUL SANCHEZ Title: MECHANICAL FOREMAN Phone: (303) 870-7730

Signed: MISTY LUCERO Title: ENGINEERING TECH Date: 10/16/2017

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