



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

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"/> 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

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

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

Instantaneous Intermediate Casing PSIG at end of test: >

Comments:

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

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: