

FORM  
17  
Rev  
6/99

State of Colorado

Energy & Carbon Management 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 ECMC 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. ECMC Operator Number: 68710 3. BLM Lease No: \_\_\_\_\_  
 2. Name of Operator: PETERSON ENERGY OPERATING INC  
 4. API Number; 05-123-09239-00 5. Multiple completion?  Yes  No  
 6. Well Name: RASMUSSEN Number: 4A  
 7. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNW,28,2N,68W,6  
 8. County WELD 9. Field Name: SPINDLE  
 10. Minerals:  Fee  State  Federal  Indian

11. Date of Test: 10/08/2019  
 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: _____ Fm: _____	Tubing: _____ Fm: _____	Prod Csg <u>170</u> Fm: <u>SX-SN</u>	Intermediate Csg: _____	Surf. Csg <u>40</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"/>	<input type="checkbox"/>	<input type="checkbox"/> 170		DOWN TO 0
05:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 170		SURGE
10:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 170		NO FLOW
15:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 170		SURGE
20:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 170		NO FLOW
25:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 170		SURGE
30:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 170		NO FLOW

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: > 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

Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:
00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
05:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
15:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
20:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
25:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
30:00	<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: Bradenhead was sampled immediately upon opening, and consisted of clear water. The flow quickly dropped to zero and surged less than 10mL a couple of times during the test. Surface casing is set at 597', 250'+ below the Fox Hills aquifer.

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

Test Performed By: Ryan Dornbos Title: Petroleum Engineer Phone: (970) 669-7411

Signed: Ryan Dornbos Title: Petroleum Engineer Date: 10/17/2019

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