

State of Colorado Oil and Gas Conservation Commission

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Document Number:

402198172

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: 68710 3. BLM Lease No: _____
2. Name of Operator: PETERSON ENERGY OPERATING INC
4. API Number; 05-123-09238-00 5. Multiple completion? ☒ Yes ☐ No
6. Well Name: RASMUSSEN Number: 3
7. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENW,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: 230 Fm: SX-SN	Tubing: _____ Fm: _____	Prod Csg 240 Fm: SX-SN	Intermediate Csg: _____	Surf. Csg 25
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BRADENHEAD TEST

Buried valve? ☐ Yes ☒ NoConfirmed 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 ☒ LiquidCharacter 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	SX-SN 230	<input type="checkbox"/>	<input type="checkbox"/> 240		D
05:00	SX-SN 230	<input type="checkbox"/>	<input type="checkbox"/> 240		S
10:00	SX-SN 230	<input type="checkbox"/>	<input type="checkbox"/> 240		O
15:00	SX-SN 230	<input type="checkbox"/>	<input type="checkbox"/> 240		S
20:00	SX-SN 230	<input type="checkbox"/>	<input type="checkbox"/> 240		D
25:00	SX-SN 230	<input type="checkbox"/>	<input type="checkbox"/> 240		S
30:00	SX-SN 230	<input type="checkbox"/>	<input type="checkbox"/> 240		D

Instantaneous Bradenhead PSIG at end of test: > 0

INTERMEDIATE CASING TEST

Buried valve? ☐ Yes ☐ NoConfirmed 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 ☐ LiquidCharacter 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:
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"/>		

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 5mL a couple of times during the test. Surface casing is set at 582'. 200'+ 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: _____