

**FORM**  
**17**  
Rev  
11/20

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

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Document Number:  
402535552

**BRADENHEAD TEST REPORT**

Step 1. Before opening any valves, record all tubing and casing pressures as found.  
 Step 2. Collect liquid and gas samples as required; consult Bradenhead Testing and Reporting Instructions and Guidance for field specific Orders at <http://cogcc/reg.html#opguidance>  
 Step 3. Conduct Bradenhead test.  
 Step 4. Submit Form 17 within 10 days of test. Attach a wellbore diagram if not previously submitted or if wellbore configuration has changed since last wellbore diagram was submitted.  
 Step 5. Submit sample analytical results via Form 43.

1. OGCC Operator Number: 69175      3. BLM Lease No: \_\_\_\_\_  
 2. Name of Operator: PDC ENERGY INC  
 4. API Number; 05-123-45964-00      5. Multiple completion?     Yes     No  
 6. Well Name: Ferguson      Number: 23E-232  
 7. Location (QtrQtr, Sec, Twp, Rng, Meridian): SWNW,23,5N,64W,6  
 8. County WELD      9. Field Name: WATTENBERG  
 10. Minerals:     Fee     State     Federal     Indian

11. Date of Test: 11/15/2020  
 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>0</u> Fm: _____	Intermediate Csg: _____	Surf. Csg <u>500</u>
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**BRADENHEAD TEST**

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.  
 Describe character of flow in "Bradenhead Flow" column: O = No Flow; C = Continuous; D = Down to 0; S = Surge; W = Whisper  
 Describe fluid type in "Bradenhead Fluid" column: H = Water H2O; M = Mud; G = Gas; V = Vapor; L = Liquid Hydrocarbon; H & M = Water & Mud; H & G = Water & Gas; H & V = Water & Vapor; M & G = Mud & Gas; M & V = Mud & Vapor; G & V = Gas & Vapor; H & L = Water & Liquid Hydrocarbon; M & L = Mud & Liquid Hydrocarbon; G & L = Gas & Liquid Hydrocarbon; V & L = Vapor & Liquid Hydrocarbon; N = None

Buried valve? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Confirmed open? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No BRADENHEAD SAMPLE TAKEN? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid Character of Bradenhead fluid: <input type="checkbox"/> Clear <input type="checkbox"/> Fresh <input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black Other:(describe) _____	Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:	Bradenhead Fluid:
	00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 0		CONTINUOUS	GAS
	05:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 0		DOWN TO 0	GAS
	10:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
	15:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
	20:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
	25:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
	30:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
Instantaneous Bradenhead PSIG at end of test: > <u>0</u>							

## INTERMEDIATE CASING TEST

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.

Describe character of flow in "Intermediate Flow" column: O = No Flow; C = Continuous; D = Down to 0; S = Surge; W = Whisper

Describe fluid type in "Intermediate Fluid" column: H = Water H<sub>2</sub>O; M = Mud; G = Gas; V = Vapor; L = Liquid Hydrocarbon; H & M = Water & Mud; H & G = Water & Gas; H & V = Water & Vapor; M & G = Mud & Gas; M & V = Mud & Vapor; G & V = Gas & Vapor; H & L = Water & Liquid Hydrocarbon; M & L = Mud & Liquid Hydrocarbon; G & L = Gas & Liquid Hydrocarbon; V & L = Vapor & Liquid Hydrocarbon; N = None

Buried valve? <input type="checkbox"/> Yes <input type="checkbox"/> No	Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermediate Csg PSIG	Intermediate Flow:	Intermediate Fluid:
Confirmed open? <input type="checkbox"/> Yes <input type="checkbox"/> No	00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
INTERMEDIATE SAMPLE TAKEN? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid	05:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	10:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Character of Intermediate fluid: <input type="checkbox"/> Clear <input type="checkbox"/> Fresh <input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black Other:(describe) _____	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: Delayed Completions Test. 500 PSI gas flow blew down to 0 PSI within first 10 min of test. No pressure or flow observed for the remainder of the test. PDC has scheduled a sampling event and will submit results via form 43 as well as a remediation plan via sundry as soon as possible.

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

Test Performed By: \_\_\_\_\_ Title: \_\_\_\_\_ Phone: ( ) \_\_\_\_\_

Signed: Jenifer Hakkarinen Title: Reg Tech Date: 11/18/2020

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