

State of Colorado  
Oil and Gas Conservation Commission

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Document Number:

402567390

## 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: 95620 3. BLM Lease No: \_\_\_\_\_

2. Name of Operator: WESTERN OPERATING COMPANY

4. API Number: 05-001-06471-00 5. Multiple completion? ☐ Yes ☐ No

6. Well Name: HOUGH Number: 1-12

7. Location (QtrQtr, Sec, Twp, Rng, Meridian): NENW,12,1S,57W,6

8. County ADAMS 9. Field Name: WOODROW WEST

10. Minerals: ☒ Fee ☐ State ☐ Federal ☐ Indian

11. Date of Test: 12/10/2020

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: 23 Fm: DSND	Tubing: _____ Fm: _____	Prod Csg 24 Fm: DSND	Intermediate Csg: _____	Surf. Csg 0
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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 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 checked="" type="checkbox"/> No Confirmed open? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:	Bradenhead Fluid:
	00:00	DSND 23	<input type="checkbox"/>	<input type="checkbox"/> 24		NO FLOW	
BRADENHEAD SAMPLE TAKEN?	05:00	DSND 23	<input type="checkbox"/>	<input type="checkbox"/> 24		NO FLOW	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid	10:00	DSND 23	<input type="checkbox"/>	<input type="checkbox"/> 24		NO FLOW	
Character of Bradenhead fluid:	15:00	DSND 23	<input type="checkbox"/>	<input type="checkbox"/> 24		NO FLOW	
<input type="checkbox"/> Clear <input type="checkbox"/> Fresh	20:00	DSND 23	<input type="checkbox"/>	<input type="checkbox"/> 24		NO FLOW	
<input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black	25:00	DSND 23	<input type="checkbox"/>	<input type="checkbox"/> 24		NO FLOW	
Other:(describe)	30:00	DSND 23	<input type="checkbox"/>	<input type="checkbox"/> 24		NO FLOW	
Instantaneous Bradenhead PSIG at end of test: > 0							

## INTERMEDIATE CASING TEST

With gauges monitoring production, intermediate casing and tubing pressures, open the intermediate casing valve. 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 Confirmed open? <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:
	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"/>			
	15:00	<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) _____	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:

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

Test Performed By: <u>Keith Neal</u>	Title: <u>Operator Agent</u>	Phone: <u>(970) 380-5112</u>
Signed: <u>Steven D James</u>	Title: <u>President</u>	Date: <u>1/6/2021</u>
Witnessed By: _____	Title: _____	Agency: _____