

State of Colorado
Oil and Gas Conservation Commission

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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: 10133 3. BLM Lease No: COD033571A

2. Name of Operator: HILCORP ENERGY COMPANY

4. API Number: 05-081-07141-00 5. Multiple completion? ☒ Yes ☐ No

6. Well Name: DUNCAN Number: 2-5

7. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNW,20,12N,100W,6

8. County MOFFAT 9. Field Name: HIAWATHA WEST

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

11. Date of Test: 03/22/2022

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: 73 Fm: WSTC	Tubing: Fm: 	Prod Csg 88 Fm: WSTC	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 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	Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:	Bradenhead Fluid:
Confirmed open? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	00:00	WSTC 73		88		NO FLOW	NONE
BRADENHEAD SAMPLE TAKEN?	05:00	WSTC 74		88		NO FLOW	NONE
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid	10:00	WSTC 73		88		NO FLOW	NONE
Character of Bradenhead fluid:	15:00	WSTC 73		88		NO FLOW	NONE
<input type="checkbox"/> Clear <input type="checkbox"/> Fresh	20:00	WSTC 74		88		NO FLOW	NONE
<input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black	25:00	WSTC 75		88		NO FLOW	NONE
Other:(describe)	30:00	WSTC 75		88		NO FLOW	NONE
REQUIRED - Instantaneous Bradenhead Pressure at End of Test: 0 PSIG							

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 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 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						
INTERMEDIATE SAMPLE TAKEN? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid	05:00						
	10:00						
	15:00						
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						
	25:00						
	30:00						
	REQUIRED - Instantaneous Intermediate Casing Pressure at End of Test: _____ PSIG						

Comments: Bradenhead test was not witnessed.

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

Test Performed By: <u>Chris Phillips</u>	Title: <u>Lead Operator</u>	Phone: <u>(713) 907-4397</u>
Signed: <u>Cheryl Weston</u>	Title: <u>Ops/Regulatory Tech Sr</u>	Date: <u>3/24/2022</u>
Witnessed By: _____	Title: _____	Agency: _____