



## 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://ecmc/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. ECMC Operator Number: 90700 3. BLM Lease No: \_\_\_\_\_

2. Name of Operator: TWIN ARROW INC

4. API Number; 05-103-05695-00 5. Multiple completion? ☐ Yes ☒ No

6. Well Name: CHATHAM - PAN AM Number: 3 (OWP)

7. Location (QtrQtr, Sec, Twp, Rng, Meridian): ,22,2N,103W,6

8. County RIO BLANCO 9. Field Name: RANGELY

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

11. Date of Test: 12/17/2024

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: _____	Tubing: _____	Prod Csg _____ 0	Intermediate	Surf. Csg
	Fm: _____	Fm: _____	Fm: _____	Csg: _____	0

## 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	Elapsed Time (Min:Sec)	Fm: Tubing	Fm: Tubing:	Prod Csg PSIG	Intermedia Csg PSIG	Bradenhead Flow:	Bradenhead Fluid:
Confirmed open? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	00:00			0		NO FLOW	
BRADENHEAD SAMPLE TAKEN?	05:00						
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid	10:00						
Character of Bradenhead fluid:	15:00						
<input type="checkbox"/> Clear <input type="checkbox"/> Fresh	20:00						
<input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black	25:00						
Other:(describe)	30:00						
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 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						
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: The Chatham-Pan Am #3 (OWP) was previously plugged in 1974. The ECMC OWP re-plugged the well in December 2024. Methane was detected leaking at a rate of 174.8 (grams of methane per hour) from the P&A marker on 12/17/24. Following plugging operations no methane emissions were detected 12/26/24. No access to bradenhead. Unable to conduct bradenhead test.

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

Test Performed By: <u>Jacob Harter</u>	Title: <u>Consultant</u>	Phone: <u>(970) 946-3761</u>
Signed: <u>Jacob Harter</u>	Title: <u>Consultant</u>	Date: <u>1/14/2025</u>
Witnessed By: _____	Title: _____	Agency: _____