

# State of Colorado Oil and Gas Conservation Commission

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## 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: 10531 3. BLM Lease No: COC41048  
2. Name of Operator: VANGUARD OPERATING LLC  
4. API Number: 05-045-07199-00 5. Multiple completion? ☒ Yes ☐ No  
6. Well Name: GIBSON GULCH UNIT Number: 12-28  
7. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWSW,28,6S,91W,6  
8. County GARFIELD 9. Field Name: MAMM CREEK  
10. Minerals: ☐ Fee ☐ State ☒ Federal ☐ Indian

11. Date of Test: 02/03/2016

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: 146 Fm: WMFK	Tubing: Fm: 	Prod Csg 182 Fm: WMFK	Intermediate Csg: 	Surf. Csg 156
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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 H<sub>2</sub>O; M = Mud; W = Whisper; S = Surge; G = Gas

BRADENHEAD SAMPLE TAKEN?

☐ Yes ☒ No ☐ Gas ☐ Liquid
Character 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	WMFK 146	<input type="checkbox"/>	<input type="checkbox"/> 182		G
05:00	WMFK 146	<input type="checkbox"/>	<input type="checkbox"/> 182		G
10:00	WMFK 146	<input type="checkbox"/>	<input type="checkbox"/> 182		G
15:00	WMFK 146	<input type="checkbox"/>	<input type="checkbox"/> 182		W
20:00	WMFK 146	<input type="checkbox"/>	<input type="checkbox"/> 184		D
25:00	WMFK 146	<input type="checkbox"/>	<input type="checkbox"/> 184		D
30:00	WMFK 146	<input type="checkbox"/>	<input type="checkbox"/> 185		D

Instantaneous Bradenhead PSIG at end of test: &gt; 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 H<sub>2</sub>O; M = Mud; W = Whisper; S = Surge; G = Gas

INTERMEDIATE SAMPLE TAKEN?

☐ Yes ☒ No ☐ Gas ☐ Liquid
Character 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:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Instantaneous Intermediate Casing PSIG at end of test: &gt;

Comments:

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

Test Performed By: Ken Peterson Title: Lease Operator 3 Phone: (970) 230-1152

Signed: Aaron Axelson Title: Sr. Production Foreman Date: 2/4/2016

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