

State of Colorado
Oil and Gas Conservation Commission

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Document Number:

402528785

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: 81490 3. BLM Lease No: _____

2. Name of Operator: ST CROIX OPERATING INC

4. API Number: 05-121-10618-00 5. Multiple completion? ☐ Yes ☒ No

6. Well Name: VOLBERDING FARMS Number: 7-1

7. Location (QtrQtr, Sec, Twp, Rng, Meridian): SWSW,7,2S,51W,6

8. County WASHINGTON 9. Field Name: HAMMER HEAD

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

11. Date of Test: 10/28/2020

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: 0	Tubing: _____	Prod Csg 0	Intermediate	Surf. Csg
	Fm: JSND	Fm: _____	Fm: JSND	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 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	JSND 0	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
BRADENHEAD SAMPLE TAKEN?	05:00	JSND 0	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid	10:00	JSND 0	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
Character of Bradenhead fluid:	15:00	JSND 0	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
<input type="checkbox"/> Clear <input type="checkbox"/> Fresh	20:00	JSND 0	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
<input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black	25:00	JSND 0	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
Other:(describe)	30:00	JSND 0	<input type="checkbox"/>	<input type="checkbox"/> 0		NO FLOW	NONE
Instantaneous Bradenhead PSIG at end of test: > 0							

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 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	05:00	<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	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) <hr style="width: 100%;"/>	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:

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

Test Performed By: <u>Tim Crumley</u>	Title: <u>Pumper</u>	Phone: <u>(970) 768-5659</u>
Signed: <u>Ryan Dornbos</u>	Title: <u>Petroleum Engineer</u>	Date: <u>11/9/2020</u>
Witnessed By: _____	Title: _____	Agency: _____