



## 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: 10679 3. BLM Lease No: \_\_\_\_\_  
 2. Name of Operator: LOGOS OPERATING LLC  
 4. API Number; 05-067-08187-00 5. Multiple completion? ☐ Yes ☐ No  
 6. Well Name: NW CEDAR HILL 32-10 Number: 13A  
 7. Location (QtrQtr, Sec, Twp, Rng, Meridian): SWNW,7,32N,10W,N  
 8. County LA PLATA 9. Field Name: IGNACIO BLANCO  
 10. Minerals: ☐ Fee ☐ State ☐ Federal ☒ Indian

11. Date of Test: 04/11/2018  
 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: <u>157</u> | Prod Csg <u>157</u> | Intermediate | Surf. Csg |
|                               | Fm: _____     | Fm: <u>MVRD</u>    | Fm: <u>MVRD</u>     | Csg: _____   | <u>28</u> |

### BRADENHEAD TEST

|   |                        |                          |                          |                              |                     |                  |
|---|------------------------|--------------------------|--------------------------|------------------------------|---------------------|------------------|
| Buried valve? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Confirmed open? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>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:<br>O = No Flow; C = Continuous; D = Down to 0; V = Vapor<br>H = Water H2O; M = Mud; W = Whisper; S = Surge; G = Gas | Elapsed Time (Min:Sec) | Fm: Tubing               | Fm: Tubing:              | Prod Csg PSIG                | Intermedia Csg PSIG | Bradenhead Flow: |
|   | 00:18                  | <input type="checkbox"/> | MVRD 157                 | <input type="checkbox"/> 157 |                     | G                |
|   | 05:00                  | <input type="checkbox"/> | MVRD 157                 | <input type="checkbox"/> 157 |                     | O                |
|   | 10:00                  | <input type="checkbox"/> | MVRD 157                 | <input type="checkbox"/> 157 |                     | O                |
|   | 15:00                  | <input type="checkbox"/> | MVRD 157                 | <input type="checkbox"/> 157 |                     | O                |
| BRADENHEAD SAMPLE TAKEN?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid  |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>     |                     |                  |
| Character of Bradenhead fluid: <input type="checkbox"/> Clear <input type="checkbox"/> Fresh<br><input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black<br>Other:(describe)<br>Sample cylinder number: <u>MM 4</u>  |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>     |                     |                  |
|   |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>     |                     |                  |
| Instantaneous Bradenhead PSIG at end of test: > <u>0</u>  |                        |                          |                          |                              |                     |                  |

### INTERMEDIATE CASING TEST

|   |                        |                          |                          |                          |                     |                  |
|---|------------------------|--------------------------|--------------------------|--------------------------|---------------------|------------------|
| Buried valve? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Confirmed open? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>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:<br>O = No Flow; C = Continuous; D = Down to 0; V = Vapor<br>H = Water H2O; M = Mud; W = Whisper; S = Surge; G = Gas | 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"/> |                     |                  |
| INTERMEDIATE SAMPLE TAKEN?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Gas <input type="checkbox"/> Liquid   |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                     |                  |
| Character of Intermediate fluid: <input type="checkbox"/> Clear <input type="checkbox"/> Fresh<br><input type="checkbox"/> Sulfur <input type="checkbox"/> Salty <input type="checkbox"/> Black<br>Other:(describe)   |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                     |                  |
|   |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                     |                  |
| Sample cylinder number: _____ 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: Rick Conaway Title: Operator Phone: (505) 386-8109

Signed: Larissa Farrell Title: Regulatory Technician Date: 4/29/2018

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