State of New Mexico
Energy, Minerals and Natural Resources Department

To: All Operators, San Juan Basin

From: Monica Kuehling

Subject: 2022 Northwest Bradenhead Test Schedule

Date: February 17, 2022

Bradenhead tests are required to be conducted on all wells in the following areas between April 1, 2022, and October 30, 2022: Area "C".

All wells in McKinley, Rio Arriba and Sandoval counties, except those in Townships 29, 30, 31, 32 North, Range 6 & 7 West as indicated on attached map as Area C.

Wells located in Areas "A" or "B" not properly tested or reported in accordance with the previous year's Memorandum are also required to be tested during this test cycle. These tests will need to be conducted per the conditions listed below. Once these wells are properly tested, they will be moved back into their original area test schedule unless additional issues are identified.

- **ELECTRONIC FILING OF BRADENHEAD TEST REPORTS AND SUPLEMENTAL INFORMATION IS NOW REQUIRED PURSUANT TO THE FOLLOWING:**
  - Operators with greater than 5 wells are required to file electronically using standardized electronic database tables. To set up this capability please contact Monica Kuehling at 505-320-0243.
    - Note- Operators with under 5 wells can also file using this system.
  - Operators with under 5 wells can opt to submit the reports on a well-by-well basis using the OCD Permitting system under the form submission "Bradenhead Test".
  - Supplemental Data (must include proper API#s)
    - Wellbore schematics are to be filed using the OCD Permitting system under "wellbore schematics"
    - Water analysis and gas analysis are to be filed using the OCD Permitting system under "gas analysis".

Each operator of wells in the referenced areas will submit a schedule to this office before March 17, 2022, indicating when the individual wells will be tested. In the schedule provide the following: each well by API number, property name, well number and location using unit letter, section, township, and range, well status, and person and contact number assigned to the well testing. The well status for the schedule is the previous 90-day status, this is a different status than what is indicated on the test form**.** Include with the schedule who is coordinating the bradenhead testing for your company and a contact number where they can be reached. Indicate by asterisk (*) wells that are in the vulnerable area as defined by the attached working criteria for determining vulnerable area Bradenhead tests.

Please be advised, all wells in the testing area which are not plugged are required to be tested. This includes Active, Temporarily Abandoned, Shut-in, Expired Temporarily Abandoned and wells that are New but not completed. Test forms are not required to be turned in on plugged wells.

Tests will be conducted in the following manner:

1. Each casing string valve, surface, intermediate, and production must be dug out, plumbed to the surface, and verified to be in working order before testing begins. Each bradenhead and intermediate casing valve must be shut in a minimum of 24 hours before the test begins. Unless producing up the production casing, the production casing valve must also be shut in a **minimum** of 24 hours before the test begins (24 hours = 24 hours, not one day, meaning you cannot shut well in at 4 p.m. in the afternoon and test it at 8 a.m. the next day).

2. Bradenhead and Intermediate valves need to be blown down at least 15 minutes or to zero (whichever comes first) at least 24hrs but not more than one week prior to the Bradenhead test. During this initial blow down any wells with pressure on the Bradenhead and Intermediate valves are required to be checked for H2S. If H2S is detected a dragger tube test or equivalent is required to be performed by a qualified individual to determine the H2S level.

3. Indicate on the test form whether the well is shut in or producing. *This status on the bradenhead test form is not the same as status on list turned in by March 17th.* Status on test form means at time of test if the well is capable of producing down the line or shut-in and cannot produce down the line. **The preferred testing method is if possible, at the time of the testing or before, shut-in the well so it is unable to produce during the test**. If the well is not shut-in and cycles during the test the test may need to be repeated to ensure the source of any pressure changes is accurately identified. Record the initial pressures measured on the tubing and each casing string including the intermediate casing, using a dead weight tester or a calibrated pressure gauge. If the well is a duel completion – record both formation pressures in comment section. Report any H2S encountered in the comments field and the levels

detected. Report in the comments field if there is a packer set in the production casing.

NOTE: If the bradenhead does not exist or other conditions prevent measuring the pressure, **make a note in the comment section** and provide complete details including wellbore schematic. If there is *no bradenhead the Operator needs to investigate why there is not a bradenhead valve and install one if possible*.

4. Open the bradenhead valve to the atmosphere. If a gas or liquid flow is observed or indicated, use caution to not cause contamination. When needed, use a tank to prevent a release. **Flow the bradenhead for 30 minutes. If the valve has no pressure after 15 minutes the last 15 minutes of the test can be canceled (do not test less than 15 minutes**). Record pressures at five-minute intervals, on the bradenhead, production casing and each intermediate casing string. (If you are using a piece of equipment (tee or L with double outlets) which allows use of a gauge on one end and venting through the other end during bradenhead or intermediate testing- shutting the valve for each 5-minute pressure check is not necessary). At the end of the 15 to 30-minute test, shut the valve and record the pressure, wait five minutes and record the five-minute shut-in pressure.

5. Repeat the procedure on each intermediate casing string. Describe any discharge from the casing including measured or estimated rates of flow.

6. Any well with a bradenhead starting pressure over 20 psi or the bradenhead 5-minute shut-in pressure greater than 10 psi is required to submit a gas and/or water analysis **on all strings**. **Note: <u>If water is found on bradenhead or intermediate, a water analysis (General Chemistry) is required to be submitted.</u>**

7. If pressure on **bradenhead is 40lbs** or more or **if intermediate pressure is 150lbs** or more the test *may* need to be witnessed by an inspector from this office. Please call Monica Kuehling at 505-320-0243 to verify witness requirements and set up a test schedule.

8. Submit a recent wellbore schematic (identify formation and cement tops) with any gas and/or water analysis submittal. If a schematic has been submitted within the last three years and there have been no changes then a wellbore schematic does not have to be submitted

9. Prior to submission, review **All** forms double checking all API numbers, checking for any increase in pressure in last three (3) years, water flow that wasn't previously present and/or any noticeable communication. Tests which indicate a 20% or more change in casing pressure since the last test need to be documented as such in the comments section of the test.

10. Any saltwater disposal wells and water-flood wells performing bradenhead testing need to be witnessed by an inspector from this office.

NOTE: File reports through the Bradenhead Electronic System or OCD Permitting under (UF-BHT) Bradenhead Test **within 30 days of the completion of the test**. Any analysis must be submitted within 6 weeks of sampling.

Tests shall be completed, and forms submitted before November 1, 2022.

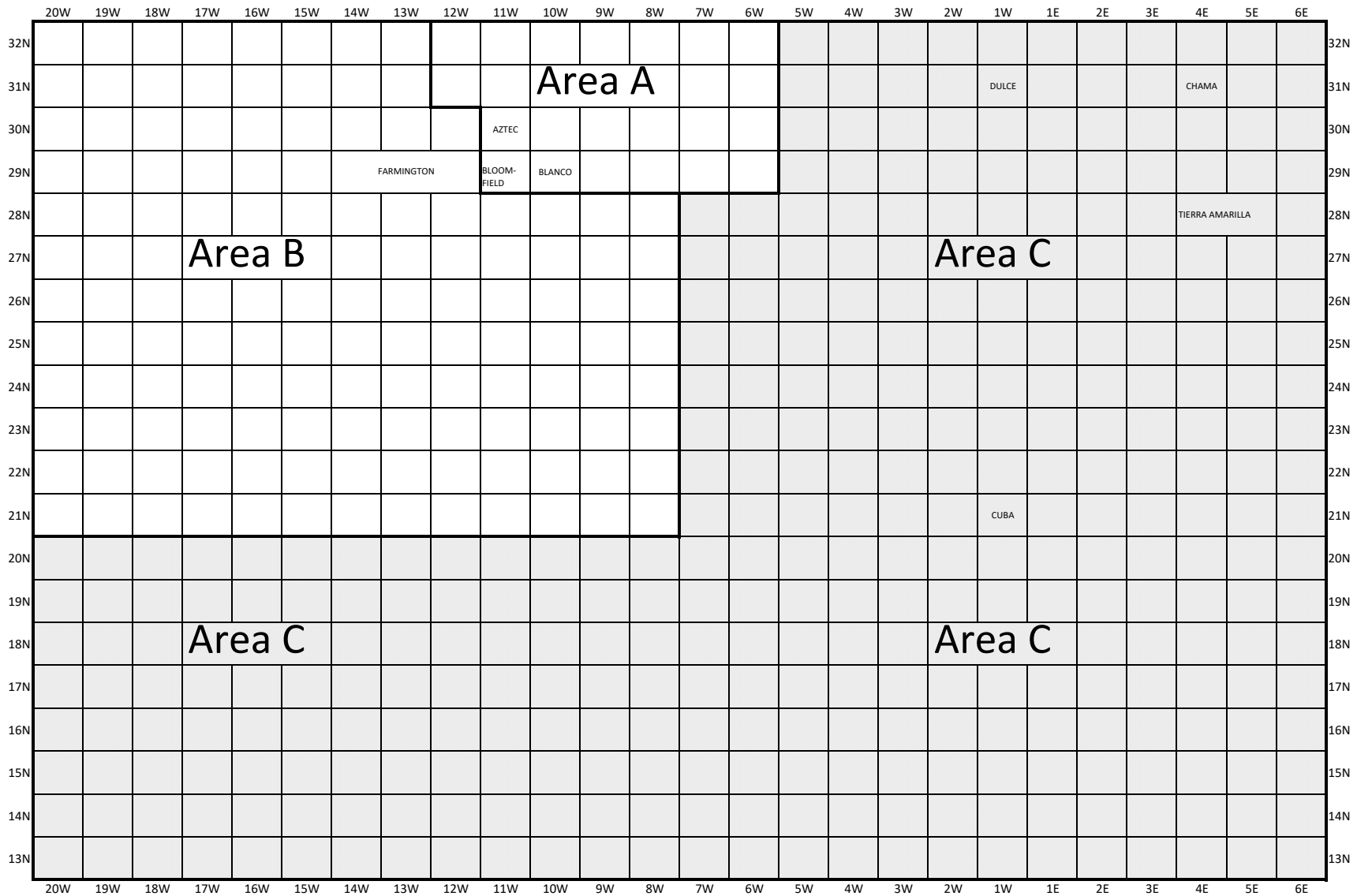
Division personnel will witness the tests as our schedules permit.

Review Rule 19.15.16.18 concerning well and lease equipment.

Any tests which indicate the possible appearance of casing failure are required to comply with 19.15.16.11 Defective Casing and its perspective timelines. An example would be wells which appear to have communication between different casing valves.

Attachments: Bradenhead report form
Working criteria for determining vulnerable area Bradenhead tests.
Map indicating area

Area C map



Map revised 2/2/2017

WORKING CRITERIA FOR DETERMINING VULNERABLE AREA BRADENHEAD TESTS

1) Any locations within 100 vertical feet and one mile of the San Juan, Animas or LaPlata Rivers

2) Any locations 50 vertical feet and one-half mile of tributaries to these rivers

3) Any locations within 50 vertical feet and 1,000 horizontal feet of a water course*

4) Any well within 200 horizontal feet of private domestic water sources.

5) Any well within 1,000, horizontal feet of any other water source (public water wells, ponds, springs, lakes, or running water natural or man-made).

*WATERCOURSE shall mean any lakebed, gully, draw, stream bed, wash, arroyo, or natural or man-made channel through which water flows or has flowed.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC NM 87410
(505) 334-6178 FAX: (505) 334-6170
http://emnrd.state.nm.us/ocd/District III/3distric.htm

BRADENHEAD TEST REPORT

(submit 1 copy to above address)

Date of Test_____ Operator_____API #30-0_____

Property Name_____Well No._____Location: Unit___Section____Township____Range____

Well Status(Shut-In or Producing) Initial PSI: Tubing____ Intermediate____ Casing____ Bradenhead_____

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Testing	PRESSURE Bradenhead BH	Bradenhead Int	Bradenhead Csg	INTERM Int	INTERM Csg
TIME 5 min					
10 min					
15 min					
20 min					
25 min					
30 min					

FLOW CHARACTERISTICS	BRADENHEAD	INTERMEDIATE
Steady Flow		
Surges		
Down to Nothing		
Nothing		
Gas		
Gas & Water		
Water		

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR_____ FRESH_____ SALTY_____ SULFUR_____ BLACK_____

5 MINUTE SHUT-IN PRESSURE BRADENHEAD_____ INTERMEDIATE_____

REMARKS:

_____

_____

_____

By_____ Witness_____

_____
(Position)

E-mail address _____