

STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION  
OF LG&E NATURAL PIPELINE LLC FOR  
SPECIAL PROJECT RULES FOR THE  
GRAMA RIDGE GAS STORAGE UNIT  
LEA COUNTY, NEW MEXICO

CASE NO. 12,441

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**AMENDED APPLICATION OF LG&E NATURAL PIPELINE LLC  
FOR SPECIAL PROJECT RULES FOR THE  
GRAMA RIDGE MORROW GAS STORAGE UNIT  
LEA COUNTY, NEW MEXICO**

LG&E NATURAL PIPELINE LLC (f/k/a LG&E Pipeline Company, and Llano, Inc.), through its attorneys, Miller, Stratvert & Torgerson, P.A. (J. Scott Hall), applies to the New Mexico Oil Conservation Division for an order establishing special project rules applicable to the Grama Ridge Morrow Gas Storage Unit, and all adjoining acreage, in Lea County, New Mexico. In support, Applicant states:

1. Applicant is the Operator of the Grama Ridge Morrow Gas Storage Unit ("Unit") utilized for the purposes of injection and storage of gas in the Unitized Formation consisting of those Morrow sands encountered between log depths of 12,722' and 13,208' in the Shell Oil Company State GRA Well No. 1, located 1980' from the North line and 660' from the West Line, Section 3, T-22-S, R-34-E. NMPM, in Lea County, New Mexico.

2. The Unit, as originally approved by the Division on January 29, 1973 pursuant to Order No. R-4473, unitized of the Morrow formation underlying the following lands:

Township 21-South, Range 34 East

Section 33: All  
Section 34: All

Township 22-South, Range 34 East

Section 3: All  
Section 4: All  
Section 10: All

The areal extent of the Unit conforms, generally, to the horizontal boundaries of the Grama Ridge Morrow Gas Pool. Consistent with orders of the Division redefining the limits of the Grama Ridge Morrow Gas Pool including *inter alia* Orders R-5995 and R-6050, the area of the Unit presently includes the following acreage:

Township 21 South, Range 34 East

Section 33: W/2  
Section 34: E/2

Township 22 South, Range 34 East

Section 3: W/2  
Section 4: All  
Section 10: W/2

3. The Morrow producing intervals in the area is composed of numerous separate and isolated sand bodies rather than a single, broad and continuous sand body. In addition, the outer limits of the reservoir being utilized for gas injection and storage in the Unit have not been precisely determined in all cases.

4. The Morrow formation underlying a significant amount of acreage in the vicinity of the Unit has proven productive and additional drilling and development in the area can be reasonably anticipated.

5. There is a reasonable possibility that additional drilling in the area may result in wells being completed in Morrow formation reservoirs that are in communication with that portion of the formation dedicated to Applicant's Grama Ridge Morrow Gas Storage Unit. As a consequence, there is a reasonable potential that the

drilling, completion and operation of new wells or recompletions of existing wells in the area would result in interference with Unit operations and the impairment of Applicant's correlative rights.

6. Applicant seeks the establishment of special project rules applicable to all newly drilled wells and recompletions that penetrate the Morrow formation in the vicinity of the Unit. Applicant proposes that the operators of such wells be required to provide LG&E, as Unit Operator, or its successors, with such information and data obtained during drilling, completion and production sufficient to establish whether or not such wells are in communication with the unitized formation or would otherwise interfere with Unit operations. The special project rules should also include provisions requiring the operators of wells determined to be in communication with the Unitized Interval to demonstrate how any such well may be produced without interfering with Unit operations or to take such other action determined to be appropriate.

7. Applicant further seeks the establishment of an area of interest where such special project rules would be applicable consisting, generally, of the Unit area and each 320 acre spacing unit immediately adjacent to and bounding the Unit. Such area of interest outside the present Unit would include the following lands:

Township 21-South, Range 34 East

Section 27: S/2  
Section 28: S/2  
Section 32: SE/4  
Section 33: W/2  
Section 34: E/2

Township 22-South, Range 34 East

Section 3: E/2  
Section 5: E/2

Township 22-South, Range 34 East (cont.)

Section 8: NE/4

Section 9: N/2, SE/4

Section 10: E/2

Section 15: N/2

Section 16: NE/4

8. The establishment of such special project rules is necessary to protect the correlative rights of the Applicant and will not impair the correlative rights of other interest owners in the area. The establishment of such rules will also serve to prevent waste and is otherwise in the interests of conservation. The proposed form for the Special Project Rules is attached hereto as Exhibit "A".

WHEREFORE, LG&E Natural Pipeline LLC requests that after hearing, an Order be entered establishing special project rules for the areas described above and in the attached Exhibit "A".

Respectfully submitted,

MILLER, STRATVERT & TORGERSON, P.A.

By



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ATTORNEYS FOR LG&E NATURAL PIPELINE, LLC

**SPECIAL PROJECT RULES AND OPERATING PROCEDURES  
FOR THE  
GRAMA RIDGE MORROW GAS STORAGE UNIT AREA**

RULE 1. Each newly drilled or recompleted well penetrating the Morrow formation in the area of the Grama Ridge Morrow Gas Storage Unit Project Area shall be drilled, operated and produced in accordance with the Special Project Rules and Operating Procedures hereinafter set forth.

RULE 2. Provisions of these Special Project Rules and Operating Procedures shall apply to (a) the Grama Ridge Morrow Gas Storage Unit Project Area and to (b) the Grama Ridge Morrow Gas Storage Unit Project Area Buffer Zone, each consisting of the following described acreage in Lea County, New Mexico:

Rule 2(a)  
GRAMA RIDGE MORROW  
GAS STORAGE UNIT  
PROJECT AREA

Township 21 South, Range 34 East

Section 33: W/2

Section 34: E/2

Township 22 South, Range 34 East

Section 3: W/2

Section 4: All

Section 10: W/2

Rule 2(b)  
GRAMA RIDGE MORROW  
GAS STORAGE UNIT  
PROJECT AREA BUFFER ZONE

Township 21 South, Range 34 East

Section 27: S/2

Section 28: S/2

Section 32: SE/4

Section 33: W/2

Section 34: E/2

Township 22 South, Range 34 East

Section 3: E/2

Section 5: E/2

**EXHIBIT "A"**

Township 22 South, Range 34 East (cont.)

Section 8: NE/4

Section 9: N/2, SE/4

Section 10: E/2

Section 15: N/2

Section 16: NE/4

RULE 3. For purposes of these Special Project Rules and Operating Procedures, the "Unitized Formation", as defined by that Unit Agreement For The Operation Of The Grama Ridge Morrow Unit Area, Lea County, New Mexico, as amended, consists of "[t]hat subsurface portion of the unit area commonly known as the Morrow sands which is the same zone as the top and bottom of which were encountered at log depths of 12,722 feet and 13,208 feet in the Shell Oil Company State GRA Well No. 1 as shown on the Schlumberger Sonic Log – Gamma Ray Log of said well dated July 5, 1965, which said well is located 1980 feet from the North line and 660 feet from the west line of Section 3, Township 22 South, Range 34 East".

RULE 4. For purposes of these Special Project Rules and Operating Procedures, the "Morrow Formation" is defined as the full extent of the vertical limits of the Morrow formation as defined by Order No. R-3006.

RULE 5. Operators proposing to drill a new well or recomplete an existing well penetrating the Morrow Formation within the areas of the Grama Ridge Morrow Gas Storage Unit and the Grama Ridge Morrow Gas Storage Unit Buffer Zone as defined in Rules 2(a) and 2(b), above, shall:

- a.) Provide the Unit Operator with advance written notification of intent to drill at the sooner of the date of filing of APD, C-101 and C-102 forms or thirty (30) days prior to commencing drilling operations.
- b.) On commencement of drilling operations, the operator shall provide the Unit Operator with the following information within twenty-four (24) hours of its availability:
  - (i) Daily drilling reports, including time, weight, bit changes, etc.;
  - (ii) Details of drilling mud weights and any pressures encountered; and
  - (iii) The anticipated date and time when the top of the Morrow formation will be encountered by the drill bit.
- c.) Provide Unit Operator with copies of all logs run on the well.

RULE 6. For wells penetrating the Morrow formation within the boundaries of the Grama Ridge Morrow Gas Storage Unit Project Area defined in Rule 2(a), above:

- a.) For each well penetrating the Morrow formation completed above the top of Unitized Formation, the operator shall:
  - (i) Comply with the requirements of Rule 5 (a) through (c), above;

- (ii) Install a full cement plug from the bottom of the cased hole to 150 feet above the top of the Unitized Formation and then perforate and squeeze cement;
  - (iii) In the case of an open hole through the Unitized Formation with casing set above, fill the hole with cement up to the base of the casing; and
  - (iv) Provide the Unit Operator with a cement bond log.
- b.) For each well penetrating the Morrow formation and completed below the base of Unitized Formation and/or below the base of the Morrow formation, the operator shall:
  - (i) Comply with the requirements of Rule 5 (a) through (c), above);
  - (ii) Squeeze cement at a point not less than 100 feet below the base of the Unitized Formation and at a point 150 feet above the top of the Unitized Formation; and
  - (iii) Provide the Unit Operator with a cement bond log.
- c.) The operator shall take such other reasonable measures to assure that the Unitized Formation is isolated.
- d.) No completions within the Unitized Formation shall be permitted.

RULE 7. For wells penetrating the Morrow formation within the Grama Ridge Morrow Gas Storage Unit Project Area Buffer Zone defined in Rule 2(b), above, the operator shall do the following:

- a.) Operators proposing to drill a new well or recomplete an existing well penetrating the stratigraphic equivalent of the Unitized Formation shall provide the Unit Operator with advance written notification of intent to drill at the sooner of the date of filing of APD, C-101 and C-102 forms or thirty (30) days prior to commencing drilling operations.
- b.) On commencement of drilling operations, the operator shall provide the Unit Operator with the following information within twenty-four (24) hours of its availability:
  - (i) Daily drilling reports, including time, weight, bit changes, etc.;
  - (ii) Details of drilling mud weights and any pressures encountered; and
  - (iii) The anticipated date and time when the top of the Morrow formation will be encountered by the drill bit.
- c.) Prior to completion, the operator shall perform a drill stem test on those zones that Unit Operator determines are the stratigraphic equivalent of the Unitized Formation at the operator's cost.

RULE 8. For wells defined under Rule 7, above, the operator shall not run and set casing in the well until the following occur:

- a.) If after a review of the data provided pursuant to Rules 5 and 7, above, the Unit Operator determines at its sole discretion that the Morrow formation in the well is the stratigraphic equivalent of the Unitized

Formation, then the operator shall run, or permit Unit Operator to run, an RFT log from the top of the Morrow clastics to the well's total depth. The RFT log will run at the Unit Operator's request and cost.

- b.) If the Unit Operator determines at its sole discretion from the RFT log data or other relevant information that the stratigraphically equivalent zones have pressures similar to the reservoir pressures in the Unitized Formation, then the operator shall not produce those zones.

RULE 9. In the event the Unit Operator determines that the Morrow formation in the well has pressures similar to reservoir pressures in the Unitized Formation and that the well should not be produced, then the operator shall either:

- (i) Implement the casing and cementing requirements applicable to wells penetrating the Morrow formation within the unit boundaries as set forth in Rule 6(b), above; or
- (ii) Demonstrate to the satisfaction of the Unit Operator and the Division how the well may be produced without interfering with unit operations or otherwise affecting the correlative rights of the unit participants.

RULE 10. These Special Project Rules and Operating Procedures shall not apply to any well that does not penetrate the Morrow formation.