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RECOGNIZED SPECIALIST IN THE AREA OF  
NATURAL RESOURCES-OIL AND GAS LAW

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JASON KELLAHIN (RETIRED 1991)

October 9, 1992

Mr. William J. LeMay  
Oil Conservation Division  
State Land Office Building  
310 Old Santa Fe Trail, 2nd Floor  
Santa Fe, New Mexico 87501

Re: Jicarilla 99 #17 Well  
N/2 Sec 23, T26N, R3W, NMPM.  
Application of MERIDIAN OIL INC.  
for a High Angle/Horizontal Directional  
Drilling Pilot Project including Special  
Operating Rules, An Unorthodox Oil Well Location,  
a Non-Standard Proration and Spacing Unit, and  
A Special Project Allowable,  
Rio Arriba County, New Mexico

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OIL CONSERVATION DIVISION  
OIL CONSERVATION DIVISION

10594

Dear Mr. LeMay:

On behalf of Meridian Oil., please find enclosed our Application for a High Angle/Horizontal Direction Drilling Pilot Project as referenced above, which we request be set for hearing on the next available Examiner's docket now scheduled for November 5, 1992.

By copy of this letter and application, sent certified mail, we are notifying all interested parties offsetting the subject well and is proposed spacing and proration unit of their right to appear at the hearing and participate in this case, including the right to present evidence either in support of or in opposition to the application.

Very truly yours,



W. Thomas Kellahin

Mr. William J. LeMay  
October 9, 1992  
Page 2

WTK/jcl  
Enclosure

cc: Meridian Oil Inc.  
Farmington, New Mexico

**By Certified Mail - Return Receipt**

All Parties Listed on Exhibit "C" of Application

appt1009.330

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

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE: 10594

APPLICATION OF MERIDIAN OIL INC.  
FOR A HIGH ANGLE/HORIZONTAL DIRECTIONAL  
DRILLING PILOT PROJECT INCLUDING  
SPECIAL OPERATING RULES, AN UNORTHODOX  
OIL WELL LOCATION, A NON-STANDARD OIL  
PRORATION AND SPACING UNIT, AND A  
SPECIAL OIL ALLOWABLE,  
RIO ARriba COUNTY, NEW MEXICO

A P P L I C A T I O N

Comes now MERIDIAN OIL INC., by and through its attorneys, Kellahin and Kellahin, and applies to the New Mexico Oil Conservation Division for approval for a High Angle/Horizontal Directional Drilling Pilot Project in the Niobrara ("Gallup") formation of the Northeast Ojito Gallup-Dakota Oil Pool including Special Operating Rules, an Unorthodox Oil Well Location, a Non-Standard Proration and Spacing Unit and a Special Project Oil Allowable for its Jicarilla 99 #17 Well to be dedicated to a non-standard 320 acre spacing and proration unit consisting

of the N/2 of Section 23, T26N, R3W, NMPM, Rio Arriba County, New Mexico, to be drilled commencing at an unorthodox surface location 330 feet FNL and 745 feet FWL of said Section 23. Applicant further seeks special rules and provision within the pilot project area including the designation of a prescribed area limiting the horizontal displacement of the wellbore such that its producing interval be no closer than 330 feet to the North and South outer boundaries of the spacing unit and not closer than 790 feet to the East and West outer boundaries of the spacing unit. Applicant further seeks a special oil allowable of two times the standard allowable for an oil well in this pool. In support the Applicant states:

(1) Applicant is the operator of all of Section 23, T26N, R3W, NMPM, Rio Arriba County, New Mexico.

(2) The same lease covers acreage including all of Section 23 and Section 14 with the interest owners and their respective percentages being identical in both sections.

(3) Applicant proposes to drill its Jicarilla 99 #17 Well as a high angle/horizontal directional well by

commencing at an unorthodox surface location 330 feet FNL and 745 feet FWL (Unit D) of said Section 23 and drilling vertically to a true vertical depth of approximately 6,700 feet at which point the applicant will select a target point within the drilling-producing window established for the well and then kicking off the well in a southeasterly direction and commencing to building angle at an appropriate rate which will reach the target point such that the producing interval of the well will be within the drilling-producing window from the top of the Niobrara "B" zone to the base of the Niobrara "C" zone. A copy of Applicant's preliminary projection of a horizontal and vertical plans for the subject well are attached as Exhibits "A" and "B" respectively.

(4) The drilling-producing window is identified as the area within the N/2 Section 23 which shall be no closer than 330 feet to either the North or the South outer spacing unit boundary and no closer than 790 feet to either the West or East outer spacing unit boundary. See Exhibit "A."

(5) The target point is defined at the actual bottom hole location at the end point of the lateral of the subject well.

(6) The Niobrara ("Gallup" equivalent) interval of Northeast Ojito Gallup-Dakota Oil Pool is characterized by tight, low permeability blocks interconnected by a high capacity fracture system. That interval is the potential productive zone in this section and is anticipated to contain multiple fractures with multiple orientations and good permeability associated with the fractures. The wellbore orientation is designed to maximize intersection with this fracture system

(7) The proposed well is located within one mile of the Northeast Ojito Gallup-Dakota Oil Pool where Rule 2 provides for 160-acre spacing and proration units and Rule 4 provides that wells shall not be located nearer than 790 feet from the outer boundary of the proration unit nor closer than 330 feet to a quarter-quarter section line.

(8) The producing interval of the well will comply with Pool Rule 4 as to the West and East spacing unit boundaries and will only encroach towards the North and

South spacing unit boundaries towards offsetting spacing units which have interest owners and percentages identical to the subject spacing unit.

(9) Past experience in the Niobrara formation has shown that unless a conventionally drilled (vertical) well intersects natural fractures, the chance of obtaining commercial production is severely curtailed.

(10) By drilling a high angle/horizontal wellbore, the applicant is attempting to increase the probability of encountering several of these fractures, which may ultimately result in the recovery of a greater amount of gas and oil, thereby preventing waste.

(11) In as much as the exact distance and direction of the lateral portion of the wellbore is not precisely known at this time, the Applicant seeks approval to be allowed to drill and produce said lateral portion anywhere within the drilling-producing window.

(12) Because this wellbore will intercept two proration units in this pool, applicant seeks approval of a 320 acre non-standard oil proration and spacing unit consisting of the N/2 of Section 23 and the establishment

of a special project allowable twice the allowable for an oil well in the subject pool.

(13) As required, notice is provided to those offsetting operators as listed on Exhibit "C."

(14) The granting of this Application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE, Applicant requests that this matter be set for hearing on November 5, 1992 before a duly appointed Examiner of the Oil Conservation Division and, after notice and hearing as required by law, the Division enter its Order granting this application.

Respectfully submitted,

KELLAHIN and KELLAHIN

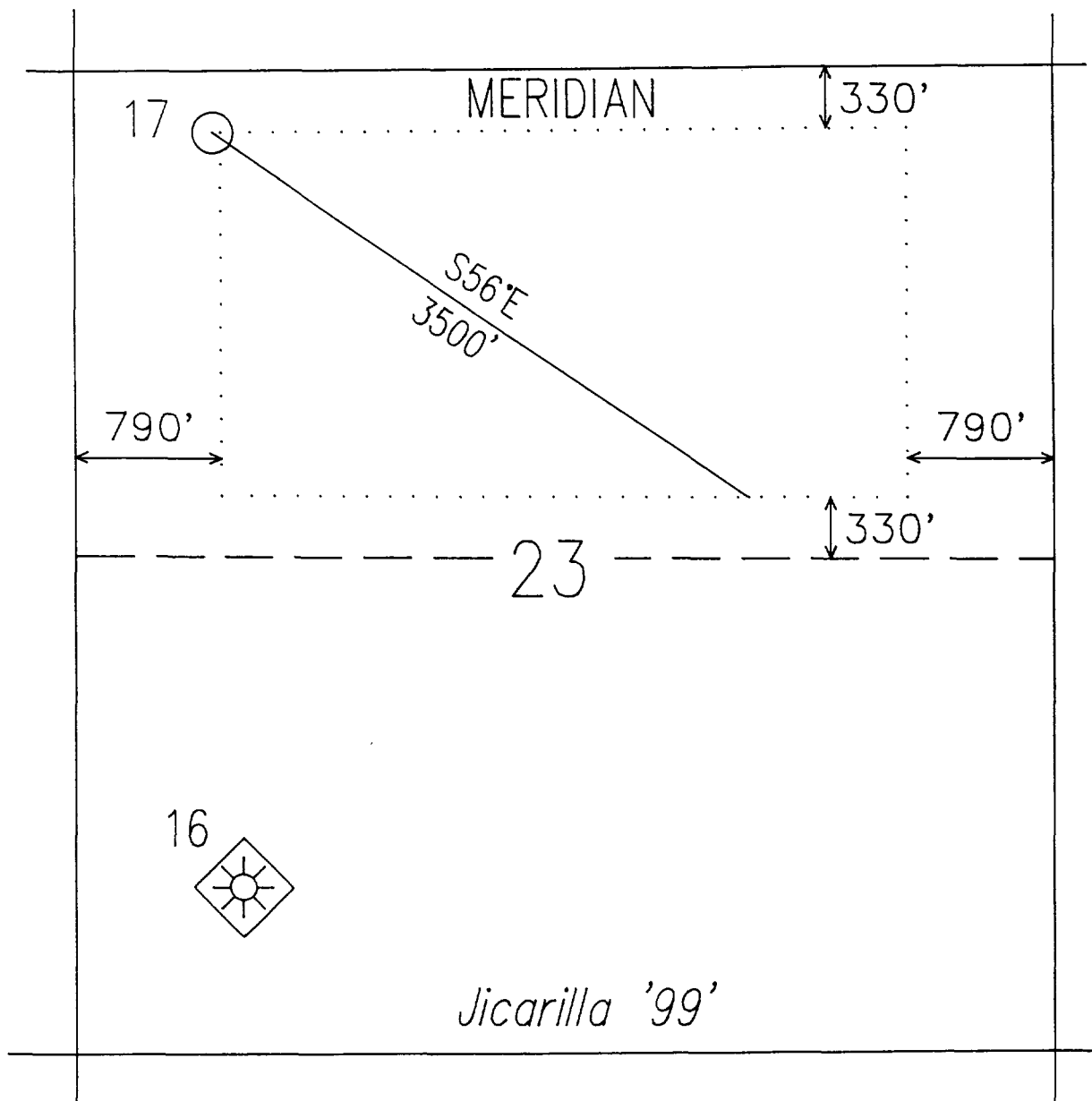
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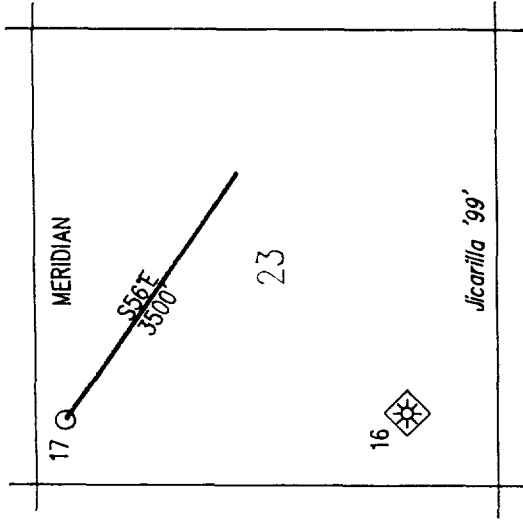
W. Thomas Kellahin  
Post Office Box 2265  
Santa Fe, New Mexico 87504  
(505) 982-4285  
Attorneys for Applicant



MERIDIAN OIL  
Jicarilla "99" No. 17

Sec. 23, T26N-R3W  
Rio Arriba Co., N.M.  
330' fnl, 745' fwl





# MERIDIAN OIL

JICARILLA "99" NO. 17  
HIGH ANGLE NIOBRARA NEW DRILL  
Rio Arriba County, New Mexico

SE

D. A. SCHODDERBEK  
P. D. ALLAN  
L. K. SMITH

DWG. C. GROTH  
10/6/92

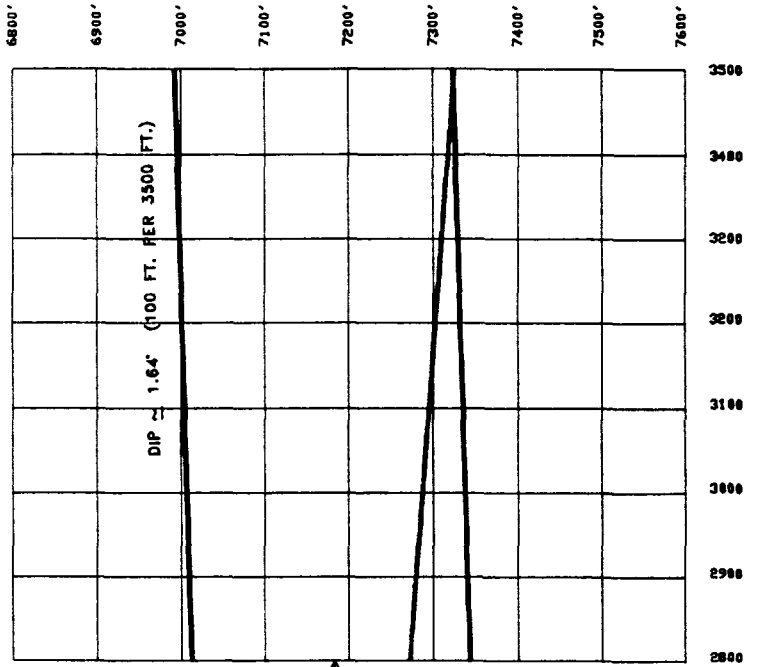
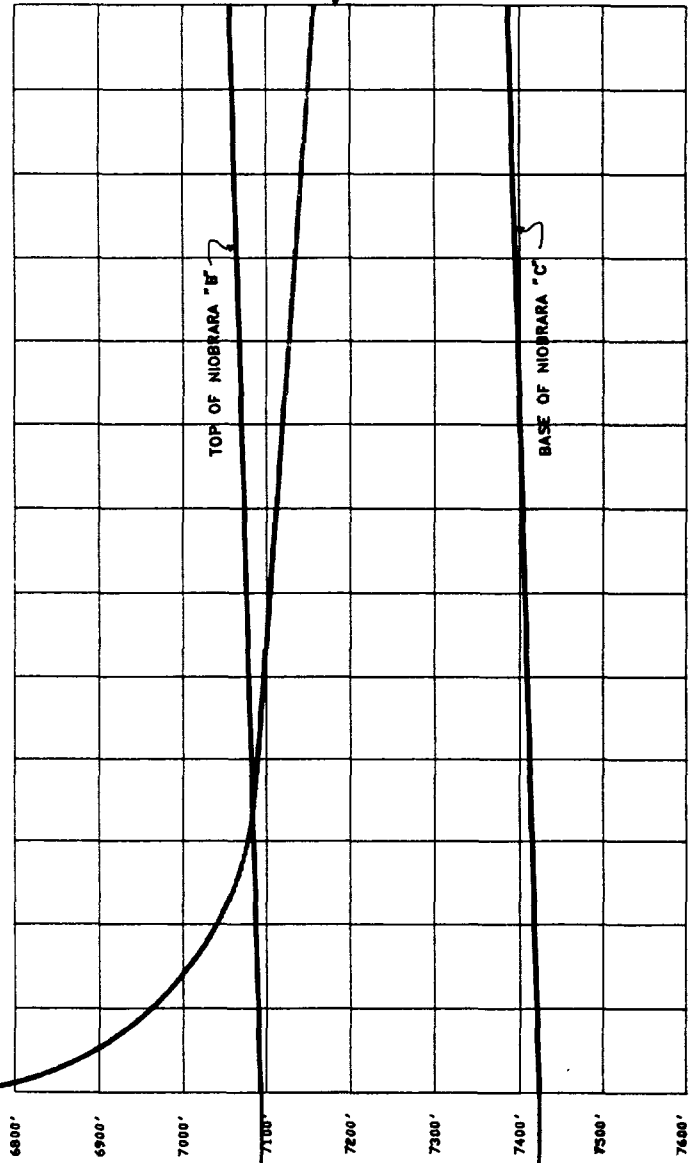
NW

JICARILLA "99"  
NO. 17



T.V.D. K.O.P. 8704'

TRUE VERTICAL DEPTH

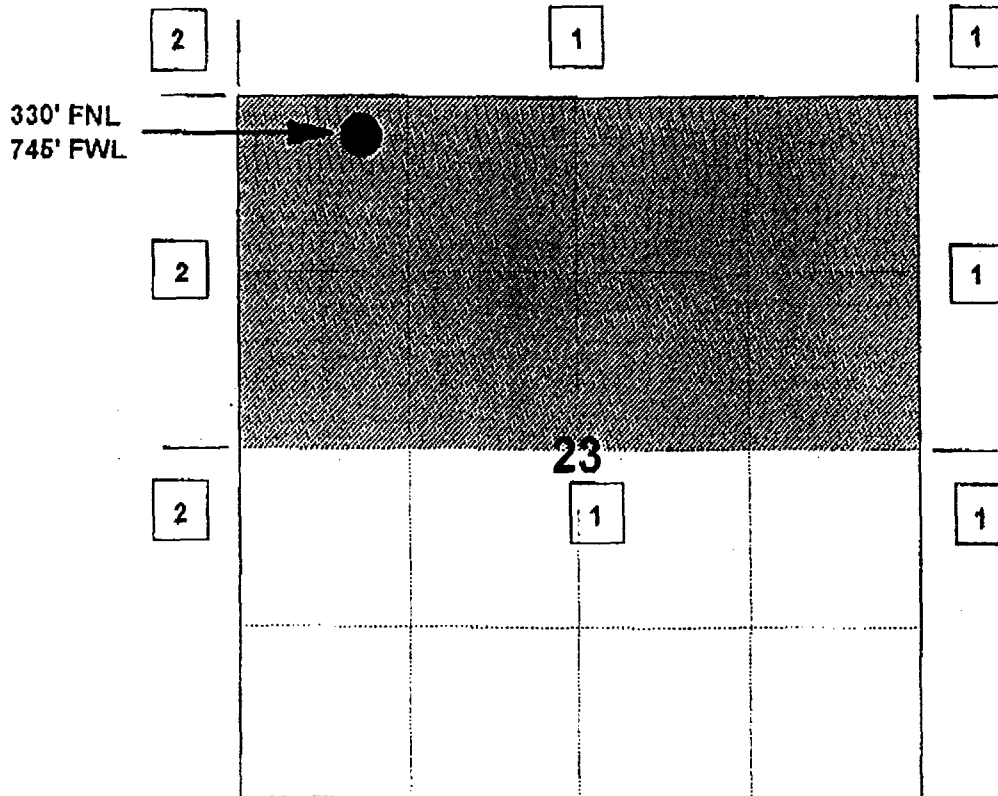


DIP  $\approx$  1.64° (100 FT. PER 3500 FT.)

1600'  
NOT SHOWN

MAIN  
PAY  
ZONE

HORIZONTAL SECTION

**MERIDIAN OIL INC****OFFSET OPERATOR PLAT****JICARILLA 99 #17****Gallup Horizontal Well****Township 26 North, Range 03 West**

1) Meridian Oil Inc

2) Jicarilla Apache Tribe

Bureau of Land Management  
 1235 La Plata Hwy.  
 Farmington, New Mexico 87401  
 Attn: John Keller

Jicarilla Apache Tribe  
 Post Office Box 507  
 Dulce, New Mexico 87528  
 Attn: Thurman Velarde  
 Oil and Gas Administrator

Apache Jicarilla Agency  
 BIA  
 Post Office Box 167  
 Dulce, New Mexico 87528

## (SOUTH CORBIN-WOLFCAMP POOL - Cont'd.)

(3) Unless called earlier upon the motion of the Division, the case shall be reopened at an examiner hearing in October, 1987, at which time the operators in the subject pool should be prepared to appear and show cause why the South Corbin-Wolfcamp Pool should not be developed on 40-acre spacing units.

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

**NORTHEAST OJITO GALLUP-DAKOTA POOL**  
Rio Arriba County, New Mexico

Order No. R-8188-A, Creating and Adopting Temporary Operating Rules for the Northeast Ojito Gallup-Dakota Pool, Rio Arriba County, New Mexico, June 1, 1986, as Amended by Order No. R-8188-B, December 1, 1987.

Application of Amoco Production Company  
for Pool Creation and Special Pool Rules, Rio  
Arriba County, New Mexico.

CASE NO. 8822 De Novo  
Order No. R-8188-A

**ORDER OF THE COMMISSION**

**BY THE COMMISSION:** This cause came on for hearing at 9 a.m. on May 20, 1986, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 27th day of June, 1986, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

**FINDS THAT:**

(1) Due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Amoco Production Company, seeks an order deleting a portion of the Ojito Gallup-Dakota Oil Pool and creating the Northeast Ojito Gallup-Dakota Oil Pool with special pool rules including a provision for 160-acre spacing, Rio Arriba County, New Mexico.

(3) Notice was given to all interested parties to appear and participate in the hearing.

(4) Of those parties notified, Minel Inc. and Union Texas Petroleum Corporation appeared in opposition to the applicant.

(5) The applicant presented geologic and engineering evidence to demonstrate that the Gallup formation in the proposed new pool area was in fact in the same common source of supply with the Ojito Gallup-Dakota Oil Pool, but has producing characteristics sufficiently different to require the creation of such new pool.

(6) Certain of the Amoco wells in the proposed new pool area have high initial potential rates and sustained high production over a six (6) month period that indicate that the production of those wells is enhanced by natural fracturing.

(7) At the conclusion of the applicant's presentation and prior to the opponent's presentation, the parties to the hearing entered into an agreement acceptable to the Commission concerning this case.

(8) By agreement of the parties to the hearing, and in order to obtain additional data and to preserve the status quo during the temporary period, the creation of a special pool with 160-acre spacing on a temporary basis of 24 months protects the correlative rights of the interest owners involved.

(9) Applicant's evidence and testimony at the hearing demonstrated that drilling wells in the proposed Northeast Ojito Gallup-Dakota Oil Pool on 40-acre spacing is uneconomical at the present time and may result in the drilling of unnecessary wells.

(10) Applicant's engineering evidence presented at the hearing tended to demonstrate that certain wells in the proposed Northeast Ojito Gallup-Dakota Oil Pool are capable of effectively and efficiently draining 160-acre spacing units. However, such evidence is not conclusive and the development of appropriate spacing for this pool will require further study and development of factual and technical data.

(11) Adoption of temporary special pool rules including provisions for 160-acre spacing would encourage continued drilling in said proposed pool, thereby producing oil which might not otherwise be produced, thereby preventing waste.

(12) In order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 160-acre spacing units should be promulgated for the proposed Northeast Ojito Gallup-Dakota Oil Pool.

(13) The temporary special rules should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(14) The temporary special rules should be established for a 24-month period in order to allow the operators in the subject pool to gather reservoir information to establish whether the temporary rules should be made permanent.

(15) This case should be reopened at an Oil Conservation Division examiner hearing in June, 1988, at which time the operators in the subject pool should be prepared to appear and show cause why the Northeast Ojito Gallup-Dakota Oil Pool should not be developed on 40-acre spacing units.

**(NORTHEAST OJITO GALLUP-DAKOTA POOL -  
Cont'd.)**

(16) The Gallup and Dakota formations should continue to be developed as a common reservoir within the newly defined pool and the horizontal limits of the Northeast Ojito Gallup-Dakota Oil Pool which should be as follows:

**TOWNSHIP 26 NORTH, RANGE 3 WEST, NMPM  
Sections 25, 26, 35, and 36: All**

(17) The discovery well for said Northeast Ojito Gallup-Dakota Oil Pool is applicant's Jicarilla Apache Well No. 8 located in Unit P of said Section 35 and completed February 27, 1984, through perforations from 7298 feet to 8398 feet.

(18) The effective date of the pool creation and the Special Rules promulgated for the Northeast Ojito Gallup-Dakota Oil Pool should be June 1, 1986.

(19) During the time that the Temporary Special Rules are in effect, no well located in the south half of Sections 35 and 36, Township 26 North, Range 3 West, of the Northeast Ojito Gallup-Dakota Oil Pool should be allowed to produce at a rate in excess of that which would be allowed for the well if statewide 40-acre oil well spacing were applicable for this new pool as established by Rule 505.

(20) During the time that the Temporary Special Rules are in effect, the operator who are parties to this proceeding shall, to the extent possible, cooperate in developing and sharing non-proprietary technical data in order to fully evaluate the producing characteristics of this pool.

(21) The Ojito Gallup-Dakota Oil Pool should be contracted by the deletion therefrom of said Sections 25, 26, 35 and 36.

**IT IS THEREFORE ORDERED THAT:**

(1) The Ojito Gallup-Dakota Oil Pool in Rio Arriba County, New Mexico, as heretofore defined and described, is hereby contracted by the deletion therefrom of Sections 25, 26, 35, and 36, all in Township 26 North, Range 3 West, NMPM.

(2) A new pool in Rio Arriba County, New Mexico, classified as an oil pool for Gallup-Dakota Production is hereby created and designated as the Northeast Ojito Gallup-Dakota Oil Pool, with vertical limits comprising the Gallup and Dakota formations with horizontal limits as follows:

**NORTHEAST OJITO GALLUP-DAKOTA OIL POOL  
RIO ARRIBA COUNTY, NEW MEXICO  
TOWNSHIP 26 NORTH, RANGE 3 WEST, NMPM  
SECTIONS 25, 26, 35, and 36: All**

(3) Temporary Special Rules for the Northeast Ojito Gallup-Dakota Pool are hereby promulgated as follows:

**SPECIAL RULES FOR THE  
NORTHEAST OJITO GALLUP-DAKOTA OIL POOL**

**RULE 1.** Each well completed or recompleted in the Northeast Ojito Gallup-Dakota Oil Pool or in the correlative interval within one mile of its northern, eastern, or western boundary, shall be spaced, drilled, operated and produced in accordance with the Special Rules and Regulations hereinafter set forth.

**RULE 2.** No more than one well shall be completed or recompleted on a standard unit containing 160 acres, more or less, of a governmental section.

**RULE 3.** Non-standard spacing or proration units shall be authorized only after proper notice and hearing.

**RULE 4.** Each well shall be located no nearer than 790 feet to the outer boundary of the spacing or proration unit, nor nearer than 330 feet to a governmental quarter-quarter section line.

**RULE 5.** Any well presently completed in or drilling to the Northeast Ojito Gallup-Dakota Oil Pool which would be at an unorthodox location under these rules is hereby granted an exception thereto. Any such well shall be allowed to continue full production subject only to the depth bracket allowables contained in Oil Conservation Commission Rule 505C and the provisions of Rule 7 hereof.

**RULE 6.** Any well located within the boundaries of the Northeast Ojito Gallup-Dakota Oil Pool or any well outside those boundaries subject to these rules shall have a limiting gas-oil ratio of 2,000 cubic feet of gas per barrel of oil produced.

**RULE 7.** (Rescinded by Order No. R-8188-B, December 1, 1987.) During the time that the Temporary Special Rules are in effect, no well located in the south half of Sections 35 and 36, Township 26 North, Range 3 West, in the Northeast Ojito Gallup-Dakota Oil Pool shall be allowed to produce at a rate in excess of that which would be allowed for the well if statewide 40-acre oil well spacing were applicable as established by Rule 505.

**IT IS FURTHER ORDERED THAT:**

(1) The pool contraction, pool creation and Special Pool Rules for the Northeast Ojito Gallup-Dakota Oil Pool shall become effective June 1, 1986.

(2) Pursuant to Paragraph A of Section 70-2-18, NMSA 1978, existing wells in the Northeast Ojito Gallup-Dakota Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C of said Section 70-2-18, existing wells may have non-standard spacing or proration units established by the Division and dedicated thereto. Failure to file new Forms C-102 with the Division dedicating 160 acres to a well or to obtain a non-standard unit approved by the Division within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the Northeast Ojito Gallup-Dakota Pool, or within one mile thereof, as provided in the Special Rules, shall receive no more than one-quarter of a standard allowable for the pool.

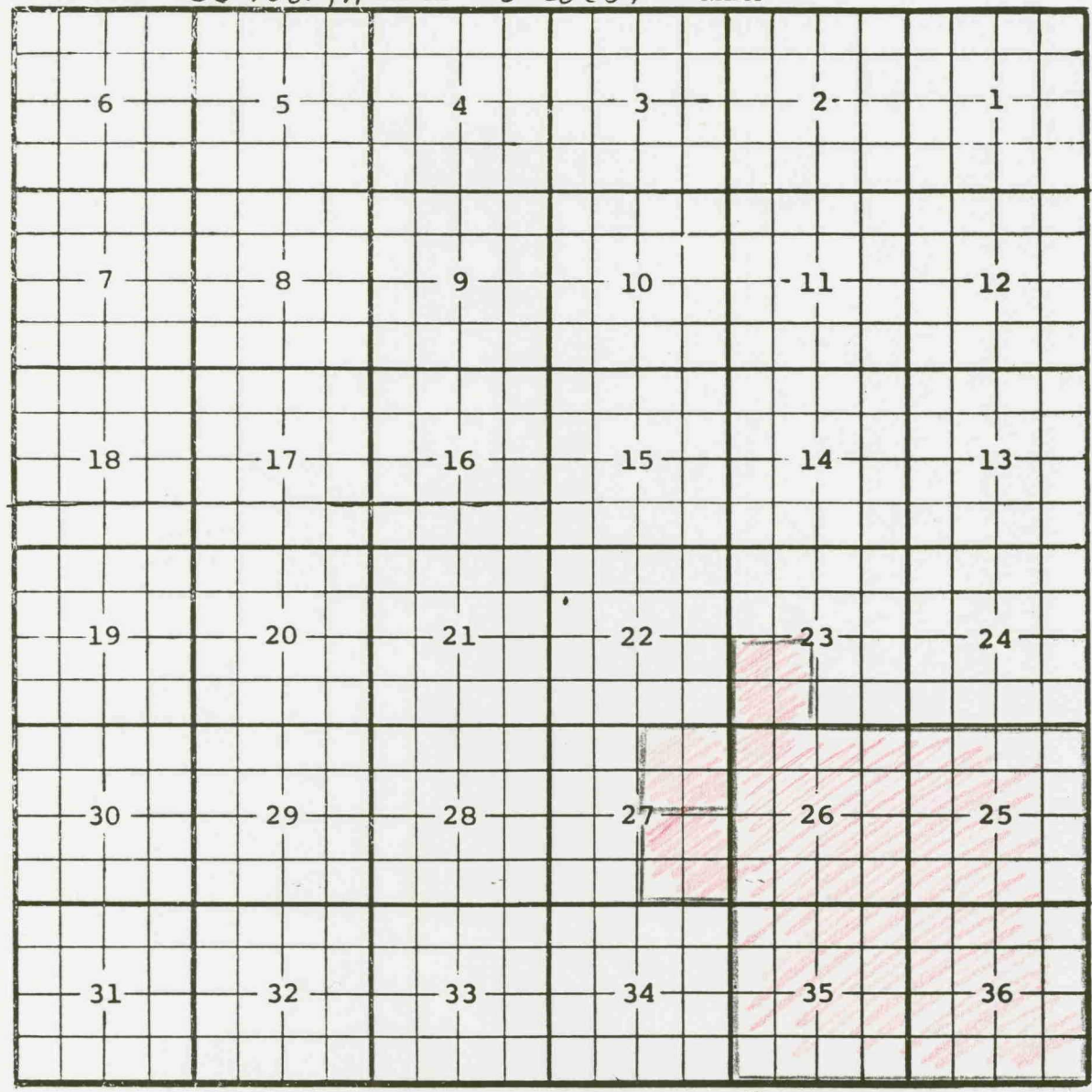
(3) This case shall be reopened in an examiner hearing in June of 1988, at which time the operators of the subject pool should be prepared to appear and show cause why the Northeast Ojito Gallup-Dakota Oil Pool should not be developed on 40-acre spacing units.

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

**DONE** at Santa Fe, New Mexico, on the day and year hereinabove designated.

COUNTY Rio Arriba POOL Northeast Oito Gallup-Dakota Oil

TOWNSHIP 26 North RANGE 3 West NMPM



Description: All Secs. 25, 26, 35, and 36 (R-8188-A, 6-22-86)  
EXT: SW/4 SEC 23, NE/4 SEC 27 (R-8640, 4/8/88) EXT: SE/4 SEC 27 (R-8828, 12-22-88)

Blank lines for additional notes or signatures.