

BENSON-MONTIN-GREER DRILLING CORP.  
EXHIBIT IN CASE NO. 9111  
BEFORE THE OIL CONSERVATION COMMISSION OF THE  
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

MARCH 17, 1988

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WELL SPACING AND PRESSURE MAINTENANCE RULES  
AND EXAMPLES OF APPLICATION OF PRESSURE MAINTENANCE CREDIT  
FOR THE  
CANADA OJITOS UNIT  
IN THE  
WEST PUERTO CHIQUITO MANCOS POOL  
RIO ARriba COUNTY, NEW MEXICO

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CHRONOLOGY  
OF  
WELL SPACING AND PRESSURE MAINTENANCE RULES  
FOR THE  
CANADA OJITOS UNIT  
IN THE  
WEST PUERTO CHIQUITO MANCOS POOL  
RIO ARriba COUNTY, NEW MEXICO

PART I  
WELL SPACING AND ALLOWABLES

- 1962 Statewide spacing: 40 acres per well.
- 1963 Order R-2565: Sets temporary 160 acre spacing for East and West Puerto Chiquito.
- (Section A herein - white sheets).
- 1964 Order R-2565-A: (Nunc pro tunc order). Designates non-standard spacing tracts in East Puerto Chiquito.
- (Not included herein).
- 1966 Order R-2565-B: Separate rules established for East and West Puerto Chiquito pools. West Puerto Chiquito set at temporary (3-year) 320 acres per well. Provides for interference tests and transfer of allowables.
- (Section A herein - yellow sheets).
- 1969 Order R-2565-C: Makes permanent spacing of 320 acres per well and assigns proportional factor of 8 for allowable purposes (40 acre spacing has factor of 1).
- (Section A herein - pink sheets).
- Order R-2656-D: Applies to East Puerto Chiquito only - 1986.
- (Not included herein).
- 1980 Order R-6469: a) Sets permanent 640 acre spacing for West Puerto Chiquito, wells no closer than 660' to section line.
- b) Identifies special non-standard proration units.
- (Section A herein - green sheets).

- 1981 Order R-6469-A: a) Amends well locations for standard proration units to be no closer than 1650' to outer boundary, with administrative approval for exceptions because of topography and no objection from offset operators, and
- b) Continues location for non-standard proration units at 660' from proration unit boundary.

(Section A herein - white sheets).

- 1986 Order R-6469-B: (Following application by Canada Ojitos Unit Operator to equalize allowables along West Puerto Chiquito and Gavilan boundary):
- a) Permits drilling of two wells on a 640 acre proration unit in west two rows of sections in West Puerto Chiquito adjoining Gavilan; but not more than one well in west half of section on Gavilan boundary.
- b) Permits full 640 acre proration unit allowable when only one well on a section adjoining Gavilan if not closer than 2310' from Gavilan boundary.

(Section A herein - gray sheets).

- 1986 Order R-2565-E: (Following Case 8950):  
Sets allowable at 800 BOPD for 640 acre standard proration unit with limiting GOR of 600 cubic feet per barrel.

(Section A herein - gold sheets).

- 1986 Order R-6469-C: (Nunc pro tunc order). Designates Order R-2565-E to R-6469-C.

(Section A herein - tan sheets).

CHRONOLOGY OF WELL SPACING  
AND PRESSURE MAINTINEANCE RULES

PART II  
PRESSURE MAINTENANCE REGULATIONS

1968 Order R-3401: (Basic order). Along with other standard rules for pressure maintenance provides pressure maintenance credit on net gas-oil ratio basis in determining allowables.

(Section B herein - white sheets).

1986 Order R-3401-A: (Following Case 8950). (Along with Order R-2565-E). Sets limiting gas-oil ratio at 600 to 1; but inadvertently, in Rule 7 shows the limiting gas-oil ratio in the formula as 1000 cubic feet per barrel.

(Section B herein - blue sheets).

1987 Order R-3401-A-1 (Nunc pro tunc order). Corrects Rule 7 to 600 cubic feet per barrel in formula.

(Section B herein - yellow sheets).

A



BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 2881  
Order No. R-2565  
NOMENCLATURE

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR 160-ACRE  
SPACING, RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on August 14, 1963, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 9th day of September, 1963, 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:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Benson-Montin-Greer Drilling Corporation, seeks the promulgation of special rules and regulations establishing 160-acre spacing units for oil wells completed in the vicinity of the Puerto Chiquito-Gallup Oil Pool for a temporary period of three years.
- (3) That the applicant also seeks authority to conduct interference tests in the subject area and to transfer allowables among producing wells on the same lease while such tests are being conducted.
- (4) That the horizontal limits of the Puerto Chiquito-Gallup Oil Pool should be extended in order to include therein all wells producing from the same common source of supply.

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(5) That 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 Puerto Chiquito-Gallup Oil Pool.

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

(7) That the temporary special rules and regulations should be established for a three-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(8) That an administrative procedure should be established whereby the operators in the Puerto Chiquito-Gallup Oil Pool would be permitted to conduct interference tests and to transfer allowables among producing wells on the same lease during the temporary three-year period in order to facilitate the gathering of information pertaining to reservoir characteristics.

(9) That this case should be reopened in September, 1966, at which time the operators in the subject pool should appear and show cause why the Puerto Chiquito-Gallup Oil Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That the horizontal limits of the Puerto Chiquito-Gallup Oil Pool are hereby redefined to include the following-described area:

TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM  
Sections 2 through 10 inclusive: All  
Sections 15 through 22 inclusive: All  
Sections 27 through 33 inclusive: All

TOWNSHIP 25 NORTH, RANGE 1 WEST, NMPM  
Sections 1 through 36 inclusive: All

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TOWNSHIP 26 NORTH, RANGE 1 EAST, NMPM

Sections 3 through 10 inclusive: All

Sections 14 through 23 inclusive: All

Sections 26 through 35 inclusive: All

TOWNSHIP 26 NORTH, RANGE 1 WEST, NMPM

Sections 1 through 36 inclusive: All

TOWNSHIP 27 NORTH, RANGE 1 EAST, NMPM

Sections 3 through 10 inclusive: All

Sections 15 through 22 inclusive: All

Sections 27 through 30 inclusive: All

TOWNSHIP 27 NORTH, RANGE 1 WEST, NMPM

Sections 1 through 30 inclusive: All

(2) That Special Rules and Regulations for the Puerto Chiquito-Gallup Oil Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE  
PUERTO CHIQUITO-GALLUP OIL POOL

RULE 1. Each well completed or recompleted in the Puerto Chiquito-Gallup Oil Pool shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Puerto Chiquito-Gallup Oil Pool shall be located on a standard 160-acre unit comprising a single governmental quarter section.

RULE 3. Each well completed or recompleted in the Puerto Chiquito-Gallup Oil Pool shall be located within 165 feet of the center of a governmental quarter-quarter section.

RULE 4. The Secretary-Director may grant an exception to the requirements of Rule 3 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection

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(Nomenclature)

to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 5. A standard unit in the Puerto Chiquito-Gallup Oil Pool (158 through 162 acres) shall be assigned a 160-acre proportional factor of 4.00 for allowable purposes. Any unit comprising less than 158 acres or more than 162 acres shall be assigned a proportional factor in the same ratio to 4.00 as the acreage in the unit bears to 160.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Gallup formation within the Puerto Chiquito-Gallup Oil Pool that will not comply with the well location requirements of Rule 3 is hereby granted an exception to the requirements of said rule. The operator shall notify the Aztec District Office of the Commission in writing of the name and location of the well on or before October 1, 1963.

(2) That any operator desiring to dedicate 160 acres to a well presently drilling to or completed in the Puerto Chiquito-Gallup Oil Pool shall file a new Form C-128 with the Commission on or before October 1, 1963.

(3) That the following-described non-standard units comprising less than 160 acres are hereby approved:

TOWNSHIP 26 NORTH, RANGE 1 EAST, NMPM

Section 5:	E/2 NE/4	80.00 acres
Section 5:	W/2 NE/4	80.00 acres
Section 5:	E/2 NW/4	80.00 acres
Section 5:	W/2 NW/4	80.00 acres
Section 9:	E/2 NW/4	80.00 acres
Section 9:	W/2 NW/4	80.00 acres
Section 15:	SE/4 SW/4	40.00 acres
Section 15:	N/2 SW/4 and SW/4 SW/4	120.00 acres
Section 16:	E/2 NE/4	80.00 acres
Section 16:	W/2 NE/4	80.00 acres
Section 21:	E/2 SE/4	80.00 acres
Section 21:	W/2 SE/4	80.00 acres
Section 22:	W/2 NW/4	80.00 acres
Section 22:	E/2 NW/4	80.00 acres

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TOWNSHIP 27 NORTH, RANGE 1 EAST, NMPM

Section 28:	N/2 NW/4	80.00 acres
Section 28:	SW/4 NW/4 and Lot 4	64.21 acres
Section 28:	SE/4 NW/4 and Lot 3	64.01 acres
Section 29:	N/2 NE/4	80.00 acres
Section 29:	N/2 NW/4	80.00 acres
Section 29:	SW/4 NW/4 and Lot 4	64.30 acres
Section 29:	SE/4 NW/4 and Lot 3	64.30 acres
Section 29:	SW/4 NE/4 and Lot 2	64.30 acres
Section 29:	SE/4 NE/4 and Lot 1	64.30 acres

PROVIDED HOWEVER, That none of the aforesaid non-standard units shall become effective until the operator thereof has filed with the Commission Form C-128 outlining thereon the acreage dedicated to the well.

(4) That the Secretary-Director of the Commission is hereby authorized to approve interference tests and the transfer of allowables to wells on the same lease or, if in a unitized area, to wells in the same participating area, provided however, that any such authorization shall be limited to a period of six months, but may be renewed. No transfer well shall be permitted to receive, in addition to its own allowable, more than 50 per cent of one top unit allowable for the Puerto Chiquito-Gallup Oil Pool.

To obtain administrative approval for interference tests and the transfer of allowable, the operator shall submit in triplicate a request for such authority describing in detail the proposed method of conducting such tests and transferring the allowable. The application shall be accompanied by a plat showing thereon all Gallup wells within a radius of two miles of the proposed shut-in well(s) and the transfer well(s). The plat shall also identify each lease or participating area as to ownership or operating rights. The application shall include evidence that all offset operators to the shut-in well(s) and the transfer well(s) have been furnished a complete copy of the application. It shall also be accompanied by Form C-116 for each shut-in well, showing the results of a pre-shut-in test to determine the amount of allowable to be transferred. The transferred allowable shall not exceed the volume of oil produced during the last 24 hours of a 72-hour period during which the well shall be produced at a constant rate. The Commission and offset operators to both the shut-in well(s) and the transfer well(s) may witness such tests if they so desire

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(Nomenclature)

and shall be notified of the tests at least 48 hours prior to the commencement thereof.

The Secretary-Director of the Commission may grant approval of the interference tests and transfer of allowable upon receipt of waivers from all offset operators or upon expiration of a 20-day waiting period, provided no offset operator has objected to the proposed test and transfer.

(5) That notwithstanding any of the provisions of Rule 104(a) of the Commission Rules and Regulations, the Special Rules and Regulations for the Puerto Chiquito-Gallup Oil Pool shall not be applicable outside the limits of said pool as hereinabove defined or as hereafter extended.

(6) That this case shall be reopened in September, 1966, at which time the operators in the subject pool may appear and show cause why the Puerto Chiquito-Gallup Oil Pool should not be developed on 40-acre proration units.

(7) That 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.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 3455  
Order No. R-2565-B  
NOMENCLATURE

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR DIVISION OF  
AN OIL POOL INTO TWO POOLS AND FOR  
SPECIAL RULES FOR EACH, RIO ARRIBA  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 16, 1966, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 28th day of November, 1966, 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:

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

(2) That by Order No. R-2565, dated September 9, 1963, as amended by Order No. R-2565-A, dated September 9, 1963, and Order No. R-2855, dated December 29, 1964, temporary Special Rules and Regulations were promulgated for the Puerto Chiquito-Gallup Oil Pool, Rio Arriba County, New Mexico.

(3) That by Order No. R-3118, dated September 21, 1966, said temporary Special Rules and Regulations were continued in full force and effect until further order of the Commission.

(4) That by Order No. R-2580, dated October 30, 1963, the

Puerto Chiquito-Gallup Oil Pool was redesignated the Puerto Chiquito-Mancos Oil Pool.

(5) That the applicant, Benson-Montin-Greer Drilling Corporation, seeks the abolishment of the Puerto Chiquito-Gallup Oil Pool (redesignated the Puerto Chiquito-Mancos Oil Pool), Rio Arriba County, New Mexico, the creation of the East Puerto Chiquito-Mancos Oil Pool, and the creation of the West Puerto Chiquito-Mancos Oil Pool, with vertical limits of each to be the Mancos formation and horizontal limits as follows:

EAST PUERTO CHIQUITO-MANCOS OIL POOL

RIO ARRIBA COUNTY, NEW MEXICO

TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM

Sections 2 through 5: All  
Sections 8 through 10: All  
Sections 15 through 17: All  
Sections 20 through 22: All  
Sections 27 through 29: All  
Sections 32 and 33: All

TOWNSHIP 26 NORTH, RANGE 1 EAST, NMPM

Sections 3 through 10: All  
Sections 14 through 18: All  
Sections 20 through 23: All  
Sections 26 through 29: All  
Sections 32 through 35: All

TOWNSHIP 27 NORTH, RANGE 1 EAST, NMPM

Sections 3 through 10: All  
Sections 15 through 22: All  
Sections 27 through 30: All

TOWNSHIP 27 NORTH, RANGE 1 WEST, NMPM

Section 1: E/2  
Section 12: E/2  
Section 13: E/2  
Section 24: E/2  
Section 25: E/2

WEST PUERTO CHIQUITO-MANCOS OIL POOL

RIO ARRIBA COUNTY, NEW MEXICO

TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM

Sections 6 and 7: All



TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM (CONTINUED)

Sections 18 and 19: All

Sections 30 and 31: All

TOWNSHIP 25 NORTH, RANGE 1 WEST, NMPM

Sections 1 through 36: All

TOWNSHIP 26 NORTH, RANGE 1 EAST, NMPM

Section 19: All

Sections 30 and 31: All

TOWNSHIP 26 NORTH, RANGE 1 WEST, NMPM

Sections 1 through 36: All

TOWNSHIP 27 NORTH, RANGE 1 WEST, NMPM

Section 1: W/2

Sections 2 through 11: All

Section 12: W/2

Section 13: W/2

Sections 14 through 23: All

Section 24: W/2

Section 25: W/2

Sections 26 through 30: All

(6) That the applicant proposes that the East Puerto Chiquito-Mancos Oil Pool be governed by all the previous rules, regulations, and orders of the Commission presently applicable to the Puerto Chiquito-Gallup Oil Pool (redesignated the Puerto Chiquito-Mancos Oil Pool).

(7) That the applicant also seeks the promulgation of temporary Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool, including a provision for 320-acre spacing units.

(8) That the applicant further seeks the establishment of an administrative procedure whereby the operators in the West Puerto Chiquito-Mancos Oil Pool would be permitted to conduct interference tests and to transfer allowables among producing wells on the same lease or, if in a unitized area, to wells in the same participating area in order to facilitate the gathering of information pertaining to reservoir characteristics.

(9) That the Puerto Chiquito-Gallup Oil Pool (redesignated the Puerto Chiquito-Mancos Oil Pool) encompasses more than one separate common source of supply and should therefore be abolished.

(10) That each of the proposed pools encompasses a separate common source of supply.

(11) That the East Puerto Chiquito-Mancos Oil Pool and the West Puerto Chiquito-Mancos Oil Pool should be created with horizontal limits as proposed by the applicant and vertical limits comprising the Niobrara member of the Mancos shale.

(12) That the East Puerto Chiquito-Mancos Oil Pool should be governed by all the previous rules, regulations, and orders presently applicable to the Puerto Chiquito-Gallup Oil Pool (redesignated the Puerto Chiquito-Mancos Oil Pool).

(13) That 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 320-acre spacing units should be promulgated for the West Puerto Chiquito-Mancos Oil Pool.

(14) That the temporary Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(15) That the said temporary Special Rules and Regulations should be established for a three-year period in order to allow the operators in the West Puerto-Chiquito Mancos Oil Pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(16) That an administrative procedure should be established whereby the operators in the West Puerto Chiquito-Mancos Oil Pool would be permitted to conduct interference tests and to transfer allowables among producing wells on the same lease or, if in a unitized area, to wells in the same participating area, during the temporary three-year period in order to facilitate the gathering of information pertaining to reservoir characteristics.

(17) That this case should be reopened in November, 1969, at which time the operators in the West Puerto Chiquito-Mancos Oil Pool should appear and show cause why the said pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That the Puerto Chiquito-Gallup Oil Pool (redesignated the Puerto Chiquito-Mancos Oil Pool) is hereby abolished.

(2) That a new pool in Rio Arriba County, New Mexico, classified as an oil pool for Mancos production, is hereby created and designated the East Puerto Chiquito-Mancos Oil Pool, with vertical limits comprising the Niobrara member of the Mancos shale, and with horizontal limits as follows:

EAST PUERTO CHIQUITO-MANCOS OIL POOL

RIO ARRIBA COUNTY, NEW MEXICO

TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM

Sections 2 through 5: All  
Sections 8 through 10: All  
Sections 15 through 17: All  
Sections 20 through 22: All  
Sections 27 through 29: All  
Sections 32 and 33: All

TOWNSHIP 26 NORTH, RANGE 1 EAST, NMPM

Sections 3 through 10: All  
Sections 14 through 18: All  
Sections 20 through 23: All  
Sections 26 through 29: All  
Sections 32 through 35: All

TOWNSHIP 27 NORTH, RANGE 1 EAST, NMPM

Sections 3 through 10: All  
Sections 15 through 22: All  
Sections 27 through 30: All

TOWNSHIP 27 NORTH, RANGE 1 WEST, NMPM

Section 1: E/2  
Section 12: E/2  
Section 13: E/2  
Section 24: E/2  
Section 25: E/2

(3) That a new pool in Rio Arriba County, New Mexico, classified as an oil pool for Mancos production, is hereby created and designated the West Puerto Chiquito-Mancos Oil Pool, with vertical

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limits comprising the Niobrara member of the Mancos shale, and with horizontal limits as follows:

WEST PUERTO CHIQUITO-MANCOS OIL POOL

RIO ARRIBA COUNTY, NEW MEXICO

TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM

Sections 6 and 7: All

Sections 18 and 19: All

Sections 30 and 31: All

TOWNSHIP 25 NORTH, RANGE 1 WEST, NMPM

Sections 1 through 36: All

TOWNSHIP 26 NORTH, RANGE 1 EAST, NMPM

Section 19: All

Sections 30 and 31: All

TOWNSHIP 26 NORTH, RANGE 1 WEST, NMPM

Sections 1 through 36: All

TOWNSHIP 27 NORTH, RANGE 1 WEST, NMPM

Section 1: W/2

Sections 2 through 11: All

Section 12: W/2

Section 13: W/2

Sections 14 through 23: All

Section 24: W/2

Section 25: W/2

Sections 26 through 30: All

(4) That the East Puerto Chiquito-Mancos Oil Pool shall be governed by all the previous rules, regulations, and orders presently applicable to the Puerto Chiquito-Gallup Oil Pool (re-designated the Puerto Chiquito-Mancos Oil Pool).

(5) That temporary Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS

FOR THE

WEST PUERTO CHIQUITO-MANCOS OIL POOL

RULE 1. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be spaced, drilled, operated, and

produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located on a standard unit consisting of approximately 320 acres which shall comprise any two contiguous quarter sections of a single governmental section, being a legal subdivision (half section) of the United States Public Lands Survey. For purposes of these rules, a unit consisting of between 316 and 324 contiguous surface acres shall be considered a standard unit.

RULE 3. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located within 165 feet of the center of a governmental quarter-quarter section.

RULE 4. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 3 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 5. A standard unit in the West Puerto Chiquito-Mancos Oil Pool (316 through 324 acres) shall be assigned a 320-acre proportional factor of 8.00 for allowable purposes. Any unit containing less than 316 acres or more than 324 acres shall be assigned a proportional factor in the same ratio to 8.00 as the acreage in the unit bears to 320.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Niobrara member of the Mancos shale within the West Puerto Chiquito-Mancos Oil Pool that will not comply with the well location requirements of Rule 3 is hereby granted an exception to the requirements of said rule. The operator shall notify the Aztec District Office

of the Commission in writing of the name and location of the well on or before December 15, 1966.

(2) That any operator desiring to dedicate 320 acres to a well presently drilling to or completed in the West Puerto Chiquito-Mancos Oil Pool shall file a new Form C-102 with the Commission on or before December 15, 1966.

(3) That the Secretary-Director of the Commission is hereby authorized to approve interference tests and the transfer of allowables to wells on the same lease or, if in a unitized area, to wells in the same participating area, provided however, that no transfer well shall be permitted to receive, in addition to its own allowable, more than one top unit allowable for the West Puerto Chiquito-Mancos Oil Pool; that the Secretary-Director of the Commission is hereby authorized to permit the accumulation of allowables for wells shut in for interference tests and to permit the transfer of back allowables from shut-in wells, provided however, that the period of time authorized to produce back allowable shall not exceed six months following completion of the interference tests.

To obtain administrative approval for interference tests and the transfer of allowable, the operator shall submit in triplicate a request for such authority describing in detail the proposed method of conducting such tests and transferring the allowable. The application shall be accompanied by a plat showing thereon all Mancos wells within a radius of two miles of the proposed shut-in well(s) and the transfer well(s). The plat shall also identify each lease or participating area as to ownership or operating rights. The application shall include evidence that all offset operators to the shut-in well(s) and the transfer well(s) have been furnished a complete copy of the application. It shall also be accompanied by Form C-116 for each shut-in well, showing the results of a pre-shut-in test to determine the amount of allowable to be transferred. The transferred allowable shall not exceed the volume of oil produced during the last 24 hours of a 72-hour period during which the well shall be produced at a constant rate. The Commission and offset operators to both the shut-in well(s) and the transfer well(s) may witness such tests if they so desire and shall be notified of the tests at least 48 hours prior to the commencement thereof.

The Secretary-Director of the Commission may grant approval of the interference tests and transfer of allowable upon receipt

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of waivers from all offset operators or upon expiration of a 20-day waiting period, provided no offset operator has objected to the proposed test and transfer.

(4) That notwithstanding any of the provisions of Rule 104(a) of the Commission Rules and Regulations, the temporary Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool shall not be applicable outside the limits of said pool as hereinabove defined or as hereafter extended.

(5) That this case shall be reopened in November, 1969, at which time the operators in the West Puerto Chiquito-Mancos Oil Pool may appear and show cause why the said pool should not be developed on 40-acre spacing units.

(6) That 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.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

GUYTON B. HAYS, Member

A. L. PORTER, Jr., Member & secretary

S E A L

esr./

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 3455  
Order No. R-2565-C

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR DIVISION OF  
AN OIL POOL INTO TWO POOLS AND FOR  
SPECIAL RULES FOR EACH, RIO ARRIBA  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:30 a.m. on December 17, 1969, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 6th day of January, 1970, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That by Order No. R-2565-B, dated November 28, 1966, temporary Special Rules and Regulations were promulgated for the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, establishing 320-acre spacing units for a period of three years.

(3) That pursuant to the provisions of Order No. R-2565-B, this case was reopened to allow the operators in the subject pool to appear and show cause why the West Puerto Chiquito-Mancos Oil Pool should not be developed on 40-acre spacing units.



(4) That the evidence establishes that one well in the West Puerto Chiquito-Mancos Oil Pool can efficiently and economically drain and develop 320 acres.

(5) That the evidence establishes that waste may occur if more than one well is drilled to the subject pool on a 320-acre spacing or proration unit.

(6) That Rules 2, 3, and 5 of the Special Rules and Regulations promulgated by Order No. R-2565-B should be amended to read in their entirety as follows:

RULE 2. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located on a standard spacing or proration unit consisting of approximately 320 acres which shall comprise any two contiguous quarter sections of a single governmental section, being a legal subdivision (half section) of the United States Public Land Surveys. For purposes of these rules, a spacing or proration unit consisting of between 316 and 324 contiguous surface acres shall be considered a standard spacing or proration unit. No non-standard spacing or proration unit shall be authorized except after notice and hearing.

RULE 3. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located within 165 feet of the center of one of the governmental quarter-quarter sections in the spacing or proration unit; provided, however, that nothing contained herein shall be construed as permitting the drilling of more than one well on a spacing or proration unit.

RULE 5. A standard spacing or proration unit in the West Puerto Chiquito-Mancos Oil Pool (316 through 324 acres) shall be assigned a 320-acre proportional factor of 8.00 for allowable purposes. Any non-standard spacing or proration unit containing less than 316 acres or more than 324 acres shall be assigned a proportional factor in the same ratio to 8.00 as the acreage in the unit bears to 320.

(7) That 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, the Special Rules and Regulations promulgated by Order No. R-2565-B as amended by this order should be continued in full force and effect until further order of the Commission.

IT IS THEREFORE ORDERED:

(1) That Rules 2, 3, and 5 of the Special Rules and Regulations governing the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, promulgated by Order No. R-2565-B, are hereby amended to read in their entirety as follows:

RULE 2. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located on a standard spacing or proration unit consisting of approximately 320 acres which shall comprise any two contiguous quarter sections of a single governmental section, being a legal subdivision (half section) of the United States Public Land Surveys. For purposes of these rules, a spacing or proration unit consisting of between 316 and 324 contiguous surface acres shall be considered a standard spacing or proration unit. No non-standard spacing or proration unit shall be authorized except after notice and hearing.

RULE 3. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located within 165 feet of the center of one of the governmental quarter-quarter sections in the spacing or proration unit; provided, however, that nothing contained herein shall be construed as permitting the drilling of more than one well on a spacing or proration unit.

RULE 5. A standard spacing or proration unit in the West Puerto Chiquito-Mancos Oil Pool (316 through 324 acres) shall be assigned a 320-acre proportional factor of 8.00 for allowable purposes. Any non-standard spacing or proration unit containing less than 316 acres or more than 324 acres shall be assigned a proportional factor in the same ratio to 8.00 as the acreage in the unit bears to 320.

(2) That the Special Rules and Regulations governing the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, promulgated by Order No. R-2565-B as amended by this order are hereby continued in full force and effect until further order of the Commission.

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CASE No. 3455

Order No. R-2565-C

(3) That 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.

STATE OF NEW MEXICO ..  
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

ALEX J. ARMIJO, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

esr/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 6997  
Order No. R-6469

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR AMENDMENT  
OF POOL RULES, RIO ARriba COUNTY,  
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 6, 1980, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 10th day of September, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That by Order No. R-2565-B, entered November 28, 1966, in Case 3455, the Division created and defined the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, and promulgated temporary Special Rules and Regulations therefor, including a provision for 320-acre spacing and proration units.

(3) That by Order No. R-2565-C, entered January 6, 1970, said temporary Special Rules and Regulations were made permanent until further order of the Division.

(4) That the original applicant in Case No. 3455, Benson-Montin-Greer Drilling Corporation, now seeks the amendment of said special rules and regulations to provide for 640-acre spacing and proration units and specified well locations and also seeks the establishment of certain non-standard proration units.

(5) That the geological and engineering data presented at the hearing indicate that the wells in the West Puerto Chiquito-Mancos Oil Pool are in fact draining 640 acres or more, and that the amendment of the special rules and regulations for said pool to provide for 640-acre spacing and proration units will not cause waste nor impair correlative rights.

(6) That the well location requirements for said 640-acre units should specify that no well be located closer than 660 feet to the outer boundary of the section, nor closer than 330 feet to a quarter section line, nor closer than 10 feet to a quarter-quarter section line.

(7) That the following non-standard units should be approved:

TOWNSHIP 24 NORTH, RANGE 1 WEST, NMPM

a 320-acre unit comprising	Section 1:	N/2;
a 640-acre unit comprising	Section 23:	N/2
	Section 24:	N/2;
a 640-acre unit comprising	Section 23:	S/2
	Section 24:	S/2;

TOWNSHIP 24 NORTH, RANGE 1 EAST, NMPM

a 640-acre unit comprising	Section 7:	E/2
	Section 8:	W/2;
a 640-acre unit comprising	Section 17:	W/2
	Section 18:	E/2;
a 480-acre unit comprising	Section 19:	N/2
	Section 20:	NW/4;
a 480-acre unit comprising	Section 19:	S/2
	Section 20:	SW/4;

TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM

a 640-acre unit comprising	Section 29:	W/2
	Section 30:	E/2;

TOWNSHIP 26 NORTH, RANGE 1 WEST, NMPM

a 640-acre unit comprising	Section 5:	W/2
	Section 8:	W/2;
a 640-acre unit comprising	Section 5:	E/2
	Section 8:	E/2;
a 640-acre unit comprising	Section 17:	W/2
	Section 20:	W/2;
a 640-acre unit comprising	Section 17:	E/2
	Section 20:	E/2;

a 640-acre unit comprising Section 19: E/2  
Section 20: W/2;

a 640-acre unit comprising	Section 1:	W/2
	Section 12:	W/2;
a 640-acre unit comprising	Section 13:	W/2
	Section 24:	W/2;
a 600-acre unit comprising	Section 25:	W/2
	Section 26:	All;
a 600-acre unit comprising	Section 27:	All
	Section 28:	E/2;
a 600-acre unit comprising	Section 28:	W/2
	Section 29:	All;
and a 400-acre unit comprising	Section 30:	All.

(8) That the amount of acreage contained in the above described non-standard units is approximate, and the exact acreage in each should be determined when it is actually dedicated to a well.

(9) That an order embodying the above findings is in the interest of conservation, will prevent waste and protect correlative rights, and should be approved.

(1) That Rules 2, 3, and 5 of the Special Rules and Regulations governing the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, promulgated by Order No. R-2565-B, and as amended by Order No. R-2565-C, are hereby amended to read in their entirety as follows:

RULE 2. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located on a standard spacing or proration unit consisting of approximately 640 acres which shall comprise a single governmental section, being a legal subdivision of the United States Public Land Surveys. For purposes of these rules, a spacing or proration unit consisting of between 632 and 648 contiguous surface acres shall be considered a standard spacing or proration unit. No non-standard spacing or proration unit shall be authorized except after notice and hearing.

RULE 3. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located no nearer than 660 feet to the outer boundary of the proration unit nor closer than 330 feet to a quarter section line nor closer than 10 feet to a quarter-quarter section line; provided however that nothing contained herein shall be construed as permitting the drilling of more than one well on a spacing or proration unit.

RULE 5. A standard spacing or proration unit in the West Puerto Chiquito-Mancos Oil Pool (632 through 648 acres) shall be assigned a 640-acre depth bracket allowable of 640 barrels of oil per day. Any non-standard spacing or proration unit containing less than 632 acres or more than 648 acres shall be assigned a depth bracket allowable in the same ratio to 640 as the acreage in the unit bears to 640.

(2) That the Special Rules and Regulations governing the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, promulgated by Order No. R-2565-B as amended by Order No. R-2565-C and as further amended by this order are hereby continued in full force and effect until further order of the Division.

(3) That the following non-standard proration units are hereby approved:

TOWNSHIP 24 NORTH, RANGE 1 WEST, NMPM

a 320-acre unit comprising	Section 1:	N/2;
a 640-acre unit comprising	Section 23:	N/2
	Section 24:	N/2;
a 640-acre unit comprising	Section 23:	S/2
	Section 24:	S/2;

TOWNSHIP 24 NORTH, RANGE 1 EAST, NMPM

a 640-acre unit comprising	Section 7:	E/2
	Section 8:	W/2;
<del>a 640-acre unit comprising</del>	<del>Section 17:</del>	<del>W/2</del>
	<del>Section 18:</del>	<del>E/2;</del>
a 480-acre unit comprising	Section 19:	N/2
	Section 20:	NW/4;
a 480-acre unit comprising	Section 19:	S/2
	Section 20:	SW/4;

TOWNSHIP 25 NORTH, RANGE 1 EAST, NMPM

- a 640-acre unit comprising Section 29: W/2  
Section 30: E/2;

TOWNSHIP 26 NORTH, RANGE 1 WEST, NMPM

- a 640-acre unit comprising Section 5: W/2  
Section 8: W/2;
- a 640-acre unit comprising Section 5: E/2  
Section 8: E/2;
- a 640-acre unit comprising Section 17: W/2  
Section 20: W/2;
- a 640-acre unit comprising Section 17: E/2  
Section 20: E/2;

TOWNSHIP 26 NORTH, RANGE 1 EAST, NMPM

- a 640-acre unit comprising Section 19: E/2  
Section 20: W/2;

TOWNSHIP 27 NORTH, RANGE 1 WEST, NMPM

- a 640-acre unit comprising Section 1: W/2  
Section 12: W/2;
- a 640-acre unit comprising Section 13: W/2  
Section 24: W/2;
- a 600-acre unit comprising Section 25: W/2  
Section 26: All;
- a 600-acre unit comprising Section 27: All  
Section 28: E/2;
- a 600-acre unit comprising Section 28: W/2  
Section 29: All;
- and a 400-acre unit comprising Section 30: All.

PROVIDED HOWEVER, that the amount of acreage in the above-described non-standard proration units is approximate, and the exact amount of acreage in each unit shall be determined when the unit is actually dedicated to a well.

(4) That, pursuant to Paragraph A. of Section 70-2-18, NMSA 1978, existing wells in the West Puerto Chiquito-Mancos Oil Pool shall have dedicated thereto 640 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.



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Case No. 6997

Order No. R-6469

Failure to file new Forms C-102 with the Division dedicating 640 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.

(5) That Orders Nos. (2), (3), and (5) of "IT IS FURTHER ORDERED" in Division Order No. R-2565-B are hereby rescinded.

(6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



JOE D. RAMEY  
Director

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STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 7075  
Order No. R-6469-A

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR THE AMENDMENT  
OF POOL RULES, RIO ARRIBA COUNTY, NEW  
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 24, 1980, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 29th day of January, 1981, 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:

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

(2) That by its Order No. R-6469, entered in Case No. 6997 on September 10, 1980, the New Mexico Oil Conservation Division amended Rules 2, 3, and 5 of the Special Rules and Regulations governing the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, as promulgated by Order No. R-2565-B and amended by Order No. R-2565-C, to provide, among other things, that each well completed or recompleted in said pool shall be located on a standard spacing or proration unit consisting of approximately 640 acres which shall comprise a single governmental section, and to further provide that each well completed or recompleted in said pool shall be located no nearer than 660 feet to the outer boundary of the proration unit nor closer than 330 feet to a quarter section line nor closer than 10 feet to a quarter-quarter section line.

(3) That the applicant in said Case No. 6469, Benson-Montin-Greer Drilling Corporation, is also the applicant in the instant case, and in this case seeks the further amendment of the Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool to require that wells completed or recompleted on standard units in said pool be located in the west half of the section at least 1650 feet from the outer boundary of the spacing and proration unit, and that the drilling of wells be controlled so as to allow no more than a 330-foot horizontal deviation from the surface location. Further, to provide that the location of wells on certain specified non-standard proration units approved by Order No. R-6469 would be no closer than 660 feet to the outer boundary of the non-standard unit nor closer than 330 feet to a quarter section line or 10 feet to a quarter-quarter section line. Applicant further seeks an administrative procedure whereby unorthodox locations could be approved upon receipt of written waivers from all offsetting operators being "crowded" by the unorthodox location.

(4) That at the outset of the hearing of this case, protestants moved that the case be dismissed and said motion was taken under advisement.

(5) That the motion for dismissal should be denied and the application considered on its merit, based on the evidence presented at the hearing.

(6) That the applicant is the operator of the Canada Ojitos Unit Area, and as such has conducted and is conducting a pressure maintenance program in the West Puerto Chiquito-Mancos Oil Pool by the injection of gas into the Niobrara member of the Mancos shale up-structure on the eastern flank of the pool.

(7) That said gas injection is causing the oil in place to move down-dip where it is being produced from wells mainly in the western side of the unit.

(8) That the applicant carefully monitors the production from each well in the Canada Ojitos Unit Area, tracking the gas migration downstructure, and has consistently resorted to the shutting in of any well experiencing a substantial increase in gas-oil ratio, in order to help maintain reservoir pressure.

(9) That such practices have enabled the applicant to achieve remarkably flat production decline curves, and have permitted the production of quantities of oil from several of the unit wells far beyond original expectation, while maintaining pressure in the reservoir through the gas injection program.

(10) That the producing formation into which applicant is injecting gas and from which it is producing oil may extend westward beyond the western boundary of the Canada Ojitos Unit.

(11) That the applicant, in seeking to require that wells completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool be located only in the west half of the dedicated section, alleges that such displacement of wells to the west is necessary to prevent uncompensated-for drainage of oil from the unitized lands of the Canada Ojitos Unit Area, thereby protecting correlative rights, and to prevent the dissipation of the reservoir pressure which has been built-up and maintained by gas injection, and the subsequent loss of oil production, thereby preventing waste.

(12) That the protestants in this case object to the proposed restrictions on well locations, claiming that there may be recoverable reserves in the Niobrara member of the Mancos shale which could not be produced, and that there may be other productive formations which could not be dually completed, if locations were restricted to the west half only of the section.

(13) That the protestants in this case should have the opportunity to develop the east half of the sections immediately west of the Canada Ojitos Unit, and to deny them such an opportunity would be unreasonable and could violate their correlative rights and cause waste.

(14) That the application to permit wells to be drilled in the subject pool in the W/2 only of the dedicated section should be denied.

(15) That the applicant should be protected from having the Canada Ojitos Unit Area drained by wells immediately offsetting the unit boundary as such wells could violate its correlative rights and cause waste.

(16) That wells in the West Puerto Chiquito-Mancos Oil Pool completed or recompleted on spacing and proration units of approximately standard size (640 acres) should be located a reasonable distance from the outer boundary of such unit, and a minimum of 1650 feet is a reasonable distance which should afford adequate protection to all parties and prevent waste. That such wells should be located no nearer than 330 feet to a quarter section line.

(17) That due to the nature of the structure and formations in the subject area, there may be a strong tendency for wells, when being drilled, to drift in an easterly direction unless carefully controlled.

(18) That such drift, unless controlled, could result in the bottom hole location of wells in the subject pool being far to the east of the surface location.

(19) That in order to protect correlative rights and prevent waste, the drift of drilling wells should be monitored and the drilling controlled in such a manner that the bottom of the producing interval in the well be not more than 330 feet from the surface location.

(20) That provision should be made for the reporting of the drift in wells drilled in the subject pool to the Division and to offset operators, if any there be, and for the bringing of any well in violation of the 330-foot drift limitation to hearing, subject to a possible production penalty, if it appears that such well may impair correlative rights or cause waste, unless such hearing is waived by all offset operators.

(21) That certain of the non-standard proration units approved for the subject pool by Order No. R-6469 are of such size and shape that the surface location requirement described in Finding No. (16) above cannot be practicably applicable, and exception should be granted for wells drilled on those units.

(22) That the locations of wells on said non-standard units should be no closer than 660 feet to the outer boundary of the proration unit nor closer than 330 feet to a quarter section line nor closer than 10 feet to an interior quarter-quarter section line, and such wells should be subject to the drift limitations described in Finding Nos. (19) and (20) above.

(23) That Rule 2 of the West Puerto Chiquito-Mancos Oil Pool Special Rules and Regulations prohibits the establishment of non-standard proration units (less than 632 acres or more than 648 acres) without notice and hearing.

(24) That an administrative procedure should be provided in said special rules whereby non-standard units necessitated by corrections in the lands surveys could be approved without such notice and hearing.

(25) That such an administrative procedure should be provided by the addition of Rule 2A to said pool rules, reading in its entirety as follows:

"RULE 2A. An exception to the provisions of Rule 2 may be obtained administratively for a non-standard unit comprising all of a single governmental section but comprising less than 632 acres or more than 648 acres resulting from a correction in the lands survey.

"To obtain such administrative approval, the applicant shall furnish the Division Director with appropriate plats and with the written consent of all operators owning lands offsetting the proration unit.

"In lieu of furnishing such consent, the applicant may furnish proof that all of the aforesaid operators were notified by registered or certified mail of his intent to form the non-standard unit. The Division Director may approve the application upon receipt of the aforementioned written consents, or if no offset operator has objected to the non-standard unit within 30 days after the Director received the application."

(26) That an administrative procedure should be adopted whereby any unorthodox location in exception to Findings Nos. (16) and (22) above could be approved without notice and hearing upon receipt of written waivers from all offsetting operators whose lands are being "crowded" by the proposed unorthodox location.

(27) That an order embodying the above findings is in the interest of conservation, will protect and not impair correlative rights, will prevent and not cause waste, and should be approved.

IT IS THEREFORE ORDERED:

(1) That the motion for dismissal of Case No. 7075 is denied.

(2) That the application to permit wells to be drilled in the West Puerto Chiquite-Mancos Oil Pool in the W/2 only of the dedicated section is hereby denied.

(3) That the Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool, as heretofore promulgated by Order No. R-2565-B and amended by Orders Nos. R-2565-C and

R-6469, are hereby further amended by the addition of Rule 2A, reading in its entirety as follows:

"RULE 2A. An exception to the provisions of Rule 2 may be obtained administratively for a non-standard unit comprising all of a single governmental section but comprising less than 632 acres or more than 648 acres resulting from a correction in the lands survey.

"To obtain such administrative approval, the applicant shall furnish the Division Director with appropriate plats and with the written consent of all operators owning lands offsetting the proration unit.

"In lieu of furnishing such consent, the applicant may furnish proof that all of the aforesaid operators were notified by registered or certified mail of his intent to form the non-standard unit. The Division Director may approve the application upon receipt of the aforementioned written consents, or if no offset operator has objected to the non-standard unit within 30 days after the Director received the application."

(4) That Rule 3 of the Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool, as promulgated by Order No. R-2565-B and as amended by Orders Nos. R-2565-C and R-6469 is hereby amended to read in its entirety as follows:

"RULE 3. (a) Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located no nearer than 1650 feet to the outer boundary of the proration unit nor closer than 330 feet to a quarter section line, provided however, that nothing contained herein shall be construed as permitting the drilling of more than one well on a spacing or proration unit.

"(b) The operator of each well projected to and completed in the West Puerto Chiquito-Mancos Oil Pool shall conduct deviation tests on such well to determine the deviation from the vertical at least once each 500 feet or at the first bit change succeeding 500 feet. A tabulation of all deviation tests run, sworn to and notarized, shall be filed with Form C-104, Request for Allowable and Authorization to Transport Oil and Gas.

"(c) If the total deviation, assumed in a constant direction, indicates a horizontal displacement of the lowermost perforation, or the bottom of the hole in the case of an open-hole completion, of more than 330 feet from the surface location, no allowable shall be approved for the well unless a directional survey approved by the Division Director establishes a horizontal displacement of 330 feet or less, or unless the well has been approved for production, subject to a possible production penalty, after notice and hearing.

"Offset operators to the east of any such well which has a total deviation of more than 330 feet may waive the aforesaid hearing requirement, in which case no penalty will be imposed on the well."

(5) That Rule 4 of the Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool, as promulgated by Order No. R-2565-B is hereby amended to read in its entirety as follows:

"RULE 4. The Division Director may grant an exception to the surface location requirements of Rule 3 (a) without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Division Director may approve the application upon receipt of written waivers of objection from all operators or if no objection is received from any offsetting operator within 20 days after receipt of the application and written waivers have been received from all offset operators whose lands are being "crowded" either directly or diagonally by the proposed unorthodox location."

(6) That the unit well for each of the non-standard proration units approved by Ordering Paragraph No. (3) of Division Order No. R-6469 shall be located no nearer than 660 feet to the outer boundary of its respective proration unit nor closer than 330 feet to a quarter section line nor closer than 10 feet to any quarter-quarter section line.

(7) That the deviation tests and well drift limits prescribed by Rules 3 (b) and 3 (c) of the West Puerto Chiquito-Mancos Oil Pool in Ordering Paragraph (4) above shall be



applicable to wells drilled on the aforesaid non-standard proration units.

(8) That the Special Rules and Regulations governing the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, promulgated by Order No. R-2565-B, as amended by Orders Nos. R-2565-C and R-6469, and as further amended by this order, are hereby continued in full force and effect until further order of the Commission.

(9) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

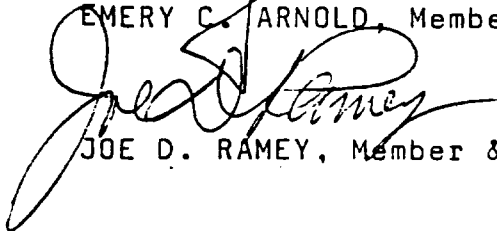
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

ALEX J. ARMIJO, Member



EMERY C. ARNOLD, Member



JOE D. RAMEY, Member & Secretary

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STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 8715  
Order No. R-6469-B

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR THE AMENDMENT  
OF THE SPECIAL RULES AND REGULATIONS  
FOR THE WEST PUERTO CHIQUITO-MANCOS OIL  
POOL, RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on September 25, 1985, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 7th day of March, 1986, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

(2) At the time of the hearing Division Cases Nos. 8695, 8714 and 8715 were consolidated for the purposes of testimony.

(3) By Division Orders Nos. R-2565-C, R-6469, and R-6469-A, the New Mexico Oil Conservation Division amended the Special Rules and Regulations governing the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, as promulgated by Division Order No. R-2565-B, which included, among other things, provisions for 640-acre spacing and proration units, well location requirements, assigning to each 640-acre unit a depth bracket allowable of 640 barrels of oil per day, and restricting the number of wells drilled on each unit to only one.

(4) The applicant, Benson-Montin-Greer Drilling Corporation, seeks, at this time, the amendment of the Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil

Pool, to allow a second well to be drilled on any 640-acre proration unit in a "Buffer Zone" to be formed on the western portion of the pool where it shares, in part, a common boundary with the Gavilan-Mancos Oil Pool, which is spaced on 320-acre proration units with a depth bracket allowable of 702 barrels of oil per day from each unit.

(5) Said Buffer Zone would consist of the following described acreage which includes, in part, the western-most two rows of sections in the subject pool, all in Rio Arriba County, New Mexico:

TOWNSHIP 24 SOUTH, RANGE 1 WEST, NMPM  
Sections 5 through 8: All

TOWNSHIP 25 NORTH, RANGE 1 WEST, NMPM  
Sections 5 through 8: All  
Sections 17 through 20: All  
Sections 29 through 32: All

TOWNSHIP 26 NORTH, RANGE 1 WEST, NMPM  
Sections 5 through 8: All  
Sections 17 through 20: All  
Sections 29 through 32: All

(6) Applicant further seeks an amendment increasing the depth bracket allowable for the pool with additional provisions in the above-described Buffer Zone.

(7) Based on the evidence presented at this hearing and the testimony and evidence from the previous cases concerning the Gavilan and West Puerto Chiquito-Mancos Oil Pools of which administrative notice was taken, the two aforementioned pools share a common reservoir within the Mancos formation.

(8) Within this general area the Mancos formation sharply updips to the east and actually outcrops within a mile to the east of the West Puerto Chiquito-Mancos Oil Pool's eastern boundary thereby placing it in depth range of 0 to 5,000 feet. The Mancos formation within the Gavilan-Mancos Oil Pool averages between 6,000 to 7,000 feet.

(9) The fact of producing wells on each side of the common boundary between the West Puerto Chiquito-Mancos and the Gavilan-Mancos Oil Pools would strongly indicate that uncompensated drainage would be reduced and correlative rights would be better served if the West Puerto Chiquito-Mancos Oil Pool was assigned an allowable more nearly equivalent to the 640-acre total allowable in the Gavilan-Mancos Pool.

(10) The applicant proposed the new allowable of the subject pool be based on the allowable assigned in the Gavilan-Mancos Oil Pool times two, or 1404 barrels of oil per day.

(11) A review of the testimony presented at the hearing indicates that the evidence is insufficient to support this reasoning. The allowable should therefore be based on the depth bracket allowable as set out in Division General Rule 505, which is calculated to be 1342 barrels of oil per day for a 640-acre unit at a depth range of 6,000 to 7,000 feet.

(12) Within the proposed "Buffer Zone" as described in Finding No. (5) above, the applicant proposes the following amendments to the subject Special Pool Rules:

(a) A second well be permitted on a 640-acre proration unit;

(b) Only one well should be allowed to be drilled in the west one-half of each section in the row of Sections in the pool which immediately borders the Gavilan-Mancos Oil Pool;

(c) Any well on a proration unit that is located closer than 2310 feet from the immediate eastern boundary of the Gavilan-Mancos Oil Pool would not be allowed to produce that share of its proration unit's top allowable that is in excess of the top allowable for a well on a 320-acre proration unit in the Gavilan-Mancos Oil Pool, or 702 barrels of oil per day; and,

(d) When there is only one well on a 640-acre proration unit and it is located 2310 feet or more from the immediate eastern boundary of the Gavilan-Mancos Oil Pool, it would be allowed to produce a full proration unit's top allowable.

(13) The evidence presented shows that an order embodying the above findings is in the best interest of conservation, would prevent waste and protect correlative rights, and should therefore be approved and made effective as of February 1, 1986.

(14) The Special Rules and Regulations for the West Puerto Chiquito-Mancos Oil Pool as promulgated and amended by Division Orders Nos. R-2565-B, R2565-C, R-6469, and R-6469-A, have become somewhat complex, complicated, and unclear; therefore, these Special Rules should at this time be renumbered for the purpose of clarification.

IT IS THEREFORE ORDERED THAT:

(1) The Special Rules for the West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, as previously established by Division Order No. R-2565-B as amended by Division Orders Nos. R-2565-C and R-6469-A are hereby superseded.

(2) That new Special Rules are hereby established for the West Puerto Chiquito-Mancos Oil Pool incorporating new or revised provisions in compliance with the findings of this order and pre-existing rules not in conflict therewith, all as follows:

SPECIAL RULES FOR THE  
WEST PUERTO CHIQUITO-MANCOS OIL POOL

RULE 1. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located on a standard spacing or proration unit consisting of approximately 640-acres which shall comprise a single governmental section, being a legal subdivision of the United States Public Land Surveys. For purposes of these rules, a spacing or proration unit consisting of between 632 and 648 contiguous surface acres shall be considered a standard spacing or proration unit. No non-standard spacing or proration unit shall be authorized except after notice and hearing.

RULE 3. An exception to the provisions of Rule 2 above may be obtained administratively for a non-standard unit comprising all of a single governmental section but comprising less than 632 acres or more than 648 acres resulting from a correction in the lands survey.

To obtain such administrative approval, the applicant shall furnish the Division Director with appropriate plats and with the written consent of all operators owning lands offsetting the proration unit.

In lieu of furnishing such consent, the applicant may furnish proof that all of the aforesaid operators were notified by registered or certified mail of his intent to form the non-standard unit. The Division Director may approve the application upon receipt of the aforementioned written consents, or if no offset operator has objected to the

non-standard unit within 30 days after the Director received the application.

**RULE 4.** (a) Each well completed or recompleted in the West Puerto Chiquito-Mancos Oil Pool shall be located no nearer than 1650 feet to the outer boundary of the proration unit nor closer than 330 feet to a quarter section line, provided however, that, with the exception of those areas as described in Rule 5 below, nothing contained herein shall be construed as permitting the drilling of more than one well on a spacing or proration unit.

(b) The operator of each well projected to and completed in the West Puerto Chiquito-Mancos Oil Pool shall conduct deviation tests on such well to determine the deviation from the vertical at least once each 500 feet or at the first bit change succeeding 500 feet. A tabulation of all deviation tests run, sworn to and notarized, shall be filed with Form C-104, Request for Allowable and Authorization to Transport Oil and Gas.

(c) If the total deviation, assumed in a constant direction, indicates a horizontal displacement of the lowermost perforation, or the bottom of the hole in the case of an open-hole completion, of more than 330 feet from the surface location, no allowable shall be approved for the well unless a directional survey approved by the Division Director establishes a horizontal displacement of 330 feet or less, or unless the well has been approved for production, subject to a possible production penalty; after notice and hearing.

**RULE 5.** The Division Director may grant an exception to the surface location requirements of Rule 4 (a) without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Division Director may approve the application upon receipt of written waivers of objection from all operators or if no objection is received from any offsetting operator within 20 days after receipt of the application and written waivers have been received from all offset operators whose lands are being "crowded" either directly or diagonally by the proposed unorthodox location.

**RULE 6.** (a) A second well may be drilled on any proration unit which lies within the following described

"Buffer Zone" which includes the western-most two rows of sections within the pool, all in Rio Arriba County, New Mexico:

TOWNSHIP 24 NORTH, RANGE 1 WEST, NMPM  
Sections 5 through 8: All

TOWNSHIP 25 NORTH, RANGE 1 WEST, NMPM  
Sections 5 through 8: All  
Sections 17 through 20: All  
Sections 29 through 32: All

TOWNSHIP 26 NORTH, RANGE 1 WEST, NMPM  
Sections 5 through 8: All  
Sections 17 through 20: All  
Sections 29 through 32: All"

However, only one well shall be allowed in the western one-half of each section of the western-most row of sections in the above-described "Buffer Zone".

(b) The Director of The Oil Conservation Division may administratively extend the "Buffer Zone" upon an extension of the common boundary between the West Puerto Chiquito Oil Pool and the Gavilan-Mancos Oil Pool.

RULE 7. (a) Except as otherwise provided for in subparts (b) and (c), below, a standard spacing or proration unit in the West Puerto Chiquito-Mancos Oil Pool (632 through 648 acres) shall be assigned a top allowable of 1342 barrels of oil per day. Any non-standard spacing or proration unit containing less than 632 acres or more than 648 acres shall be assigned an allowable in the same ratio to 1342 as the acreage in the proration unit bears to 640.

(b) Any well on a proration unit which is located closer than 2310 feet from the eastern boundary of the Gavilan-Mancos Oil Pool shall not be allowed to produce that share of its proration unit's top allowable that is in excess of the top allowable for a well on a 320-acre proration unit in the Gavilan-Mancos Oil Pool.

(c) Any well in the pool which is the only well on a 640-acre proration unit and which is located 2310 feet or more from the eastern boundary of the Gavilan-Mancos Oil Pool shall be allowed to produce a full proration unit's top allowable.

(3) The Special Rules for the West Puerto Chiquito-Mancos Oil Pool as described above shall be made effective as of February 1, 1986.

-/-

Case No. 8715

Order No. R-646,-B

(4) All other provisions as set forth by Division Order No. F-2565-B, as amended by Orders Nos. R-2565-C, R-6469, and R-6469-A, are hereby continued in full force and effect until further order of the Division.

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

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*R. L. Stamets* 6

R. L. STAMETS,  
Director

S E A L



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION COMMISSION

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

CASE NO. 8950  
Order No. R-2565-E  
and  
Order No. R-3401-A

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR THE AMENDMENT  
OF THE SPECIAL RULES AND REGULATIONS OF THE  
WEST PUERTO CHIQUITO-MANCOS OIL POOL TO ESTABLISH  
TEMPORARY SPECIAL PRODUCTION ALLOWABLE  
LIMITATIONS AND GAS-OIL RATIO LIMITATIONS,  
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing on August 7, 8, 21, 22, and 27, 1986, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 11th day of September, 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) Notice of this application was provided to all operators of wells and each unleased mineral owner within the existing pool boundaries of the West Puerto Chiquito-Mancos Oil Pool as required by Division Rule 1207.

(2) Due public notice has been given as required by law and the Commission has jurisdiction of this case, the parties, and the subject matter thereof.

(3) The applicant, Benson-Montin-Greer Drilling Corporation (Greer) seeks an order amending the Special Rules and Regulations of the West Puerto Chiquito-Mancos Oil Pool to establish for a period of not less than 90 days a temporary special production allowable limitation of 400 barrels of oil per day for a standard 640-acre spacing and proration unit and a special temporary gas-oil ratio limitation factor of 1,000 cubic feet of gas per barrel of oil produced.

(4) In companion Case 8946, Jerome P. McHugh and Associates, Inc. (McHugh) seeks an order amending the temporary Special Rules and Regulations of the Gavilan-Mancos Oil Pool as promulgated by Division Order No. R-7407 to establish for a period of not less than 90 days a temporary special production allowable limitation of 200 barrels of oil per day for a standard 320-acre spacing and proration unit and a special temporary gas-oil ratio limitation factor of 1,000 cubic feet of gas per barrel of oil produced.

(5) Case 8946 and Case 8950 were consolidated by the Commission for the purposes of hearing.

(6) The Gavilan-Mancos Oil Pool and the West Puerto Chiquito-Mancos Oil Pool share a common boundary and are in pressure communication at least in proximity to such boundary.

(7) Greer operates and has operated the Canada Ojitos Unit in the West Puerto Chiquito-Mancos Oil Pool since 1963 to produce oil from the Mancos formation, and has developed the Mancos formation in the Canada Ojitos Unit with low well density, controlled withdrawal rates and pressure maintenance resulting in a low rate of pressure decline and significant additional oil recovery by gravity drainage.

(8) McHugh, Greer and Meridian Oil Company presented testimony and evidence in these cases as set out in Finding No. (7) in Order No. R-7407-D herein incorporated by reference.

(9) The Commission found that the evidence presented in these cases established those matters and issues contained in Findings Nos. (12) through (16) in Order No. R-7407-D also herein incorporated by reference.

(10) In Case No. 8950, Greer effectively seeks to have a common gas oil ratio limitation and a maximum daily oil allowable established to permit withdrawal rates on each side of the Gavilan/West Puerto Chiquito Oil Pool boundary to be equivalent, thereby protecting correlative rights.

(11) No party to the consolidated hearing objected to the establishment of such common limiting gas-oil ratio or equivalent daily oil allowable.

(12) Order No. R-7407-D, entered in Case No. 8946 effective September 1, 1986, established a limiting gas-oil ratio of 600 cubic feet of gas per barrel and a depth bracket allowable of 400 barrels of oil per day for wells in the Gavilan-Mancos Oil Pool for a temporary period until further order of the Commission and provided for reopening of such case at a hearing in March, 1987, unless otherwise called earlier by the Commission.

(13) Such temporary rules should be adopted for the West Puerto Chiquito-Mancos Oil Pool except that the maximum assignable oil allowable should be 800 barrels per day to account for the variation in spacing unit size between the two pools.

(14) For consistency, both the Special Rules for the West Puerto Chiquito-Mancos Oil Pool contained in Order No. R-2565-B, as amended, and the Special Rules for the West Puerto Chiquito-Mancos Pressure Maintenance Project contained in Order No. R-3401 should be amended to reflect such limiting gas-oil ratio and maximum oil allowable.

IT IS THEREFORE ORDERED THAT:

(1) The limiting gas-oil ratio for the West Puerto Chiquito-Mancos Oil Pool, as heretofore defined and described, Rio Arriba County, New Mexico, shall be 600 cubic feet of gas per barrel of liquid hydrocarbons produced.

(2) Rule 7(a) of the Special Rules for The West Puerto Chiquito-Mancos Oil Pool as established by Order No. R-2565-B, as amended, is hereby amended to read in its entirety as follows:

"Rule 7. (a) Except as otherwise provided for in subparts (b) and (c), below, a standard spacing or proration unit in the West Puerto Chiquito-Mancos Oil Pool (632 through 648 acres) shall be assigned a top allowable of 800 barrels of oil per day. Any non-standard spacing or proration unit containing less than 632 acres or more than 648 acres shall be assigned an allowable in the same ratio to 800 as the acreage in the proration unit bears to 640."

(3) Rule 6 and Rule 7 of the Special Rules for the West Puerto Chiquito-Mancos Pressure Maintenance Project established

by Order No. R-3401 are hereby amended to read in their entirety as follows:

"Rule 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (600 to 1) for the West Puerto Chiquito-Mancos Oil Pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire."

"Rule 7. The allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the West Puerto Chiquito-Mancos Oil Pool, whichever is less, provided that any producing well in the project area which directly or diagonally offsets a well outside the Canada Ojitos Unit Area producing from the same common source of supply shall not produce in excess of top unit allowable for the pool. Production of such well at a higher rate shall be authorized only after notice and hearing. Each producing well shall be subject to the limiting gas-oil ratio (600 to 1) for the West Puerto Chiquito-Mancos Oil Pool except that any well or wells within the project area producing with a gas-oil ratio in excess of 600 cubic feet of gas per barrel of oil may be produced on a "net" gas-oil ratio basis, which net gas-oil ratio shall be determined by applying credit for daily average gas injected, if any, into the West Puerto Chiquito-Mancos Oil Pool within the project area to such high gas-oil ratio well. The daily adjusted oil allowable for any well receiving gas injection credit shall be determined in accordance with the following formula:

$$A_{adj} = \frac{TUA \times F_a \times 1,000}{P_g - I_g}$$
$$P_o$$

where:  $A_{adj}$  = the well's daily adjusted allowable.

TUA = top unit allowable for the pool.

$F_a$  = the well's acreage factor (1.0 if one well on a 640 acre proration unit or 1/2 each if two wells on a 640 acre unit, and 1/2 for a well in a section along the Gavilan boundary which lies closer than 2310' from the Gavilan boundary).

$P_g$  = average daily volume of gas produced by the well during the preceding month, cubic feet.

$I_g$  = the well's allocated share of the daily average gas injected during the preceding month, cubic feet.

$P_o$  = average daily volume of oil produced by the well during the preceding month, barrels.

In no event shall the amount of injected gas being credited to a well be such as to cause the net gas-oil ratio,  $P_g - I_g$  to be less than 600 cubic feet of gas per barrel of oil  $\frac{P_o}{P_g}$  produced.

(4) The effective date of this order shall be September 1, 1986.

(5) Unless otherwise reopened by the Commission, this case shall be reopened at a Commission hearing in March, 1987, to be consolidated with the reconsideration of the Temporary Special Rules established by Order No. R-7407 for the Gavilan-Mancos Oil Pool.

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

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Case No. 8950

Order No. R-2565-E and Order No. R-3401-A

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

JIM BACA, Member



ED KELLY, Member



R. L. STAMETS, Chairman and  
Secretary

S E A L

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

CASE NO. 8950  
Order No. R-6469-C  
and  
Order No. R-3401-A-1

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR THE  
AMENDMENT OF THE SPECIAL RULES AND  
REGULATIONS OF THE WEST PUERTO  
CHIKUITO-MANCOS OIL POOL TO ESTABLISH  
TEMPORARY SPECIAL PRODUCTION ALLOWABLE  
LIMITATIONS AND GAS-OIL RATIO LIMITA-  
TIONS, RIO ARriba COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Oil Conservation Commission of New Mexico (Commission) that the combined order (Order Nos. R-2565-E and R-3401-A) issued in Case No. 8950 and dated September 11, 1986 does not correctly state the intended order of the Commission,

IT IS THEREFORE ORDERED THAT:

(1) Division Order No. R-6469-B issued in Case No. 8915 and dated March 7, 1986, superseded the Special Rules promulgated for the West Puerto Chiquito-Mancos Oil Pool, as previously established by Division Orders Nos. R-2565-B, R-2565-C, and R-6469-A; and the designation of Division Order No. R-2565-E in the immediate case was in error; therefore, all references to said "Order No. R-2565-E" throughout this Order are hereby amended to read "Order No. R-6469-C."

(2) Division Order No. R-2565-E, herein redesignated Order No. R-6469-C, as described above, is hereby affirmed by this Order; similarly, all provisions pertaining to Division Order No. R-3401-A simultaneously issued in the immediate case shall remain in full force and effect except as provided in paragraph (3) herein below.

(3) The daily adjusted oil allowable formula contained in "Rule 7" of Decretory Paragraph No. (3) on page 4 of said order is hereby amended to read as follows:

$$A_{adj} = \frac{TUA \times F_a \times 600}{\frac{P_g - I_g}{P_o}}$$

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Case No. 895  
Order No. R-69-C and  
Order No. R-3401-A-1


(4) The corrections set forth in this order be entered  
nunc pro tunc as of September 11, 1986.

DONE at Santa Fe, New Mexico, on this 2nd day of  
March, 1987.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

WILLIAM R. HUMPHRIES, Member

  
ERLING A. BROSTUEN, Member

  
WILLIAM J. LEMAY, Chairman and  
Secretary

S E A L



B

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 3743  
Order No. R-3401

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR A PRESSURE  
MAINTENANCE PROJECT, RIO ARRIBA  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 3, 1968,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 11th day of April, 1968, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

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

(2) That the applicant, Benson-Montin-Greer Drilling Corp-  
oration, seeks authority to institute a pressure maintenance  
project in its Canada Ojitos Unit Area, West Puerto Chiquito-  
Mancos Oil Pool, Rio Arriba County, New Mexico, by the injection  
of gas into the Niobrara member of the Mancos shale through its  
Canada Ojitos Unit Well No. 2 (K-13), located in Unit K of Sec-  
tion 13, Township 25 North, Range 1 West, NMPM, Rio Arriba County,  
New Mexico.

(3) That initially the project area should comprise only  
the following-described area in Rio Arriba County, New Mexico:

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CASE No. 3743

Order No. R-3401

TOWNSHIP 25 NORTH, RANGE 1 WEST, NMPPM

Sections 10 and 11: All

Section 13: W/2

Sections 14 and 15: All

Section 16: E/2

Section 23: N/2

Section 24: NW/4

(4) That a pressure maintenance project comprising the above-described area is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

(5) That the applicant further seeks the promulgation of special rules and regulations governing said pressure maintenance project, and the establishment of an administrative procedure whereby said project area may be expanded for good cause shown and whereby additional wells in the project area may be converted to gas injection.

(6) That Special rules and regulations for the operation of the BMG West Puerto Chiquito-Mancos Pressure Maintenance Project should be promulgated and, for operational convenience, such rules should provide certain flexibility in authorizing the production of the project allowable from any well or wells in the project area in any proportion, provided that no well in the project area which directly or diagonally offsets a well outside the Canada Ojitos Unit Area producing from the same common source of supply should be allowed to produce in excess of top unit allowable for the West Puerto Chiquito-Mancos Oil Pool until such time as the well has experienced a substantial response to gas injection. When such a response has occurred, the well should be permitted to produce up to two times top unit allowable for the West Puerto Chiquito-Mancos Oil Pool. Production of such well at a higher rate should be authorized only after notice and hearing.

IT IS THEREFORE ORDERED:

(1) That the applicant, Benson-Montin-Greer Drilling Corporation, is hereby authorized to institute a pressure maintenance project in its Canada Ojitos Unit Area, West Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, to be designated

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CASE No. 3743

Order No. R-3401

as the BMG West Puerto Chiquito-Mancos Pressure Maintenance Project, by the injection of gas into the Niobrara member of the Mancos shale through the following-described well in Rio Arriba County, New Mexico:

Canada Ojitos Unit Well No. 2 (K-13),  
located in Unit K of Section 13, Township 25 North, Range 1 West, NMPM.

(2) That Special Rules and Regulations governing the operation of the BMG West Puerto Chiquito-Mancos Pressure Maintenance Project, Rio Arriba County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE

BMG WEST PUERTO CHIQUITO-MANCOS PRESSURE MAINTENANCE PROJECT

RULE 1. The project area of the BMG West Puerto Chiquito-Mancos Pressure Maintenance Project, hereinafter referred to as the Project, shall comprise the area in Rio Arriba County, New Mexico, described as follows:

TOWNSHIP 25 NORTH, RANGE 1 WEST, NMPM

Sections 10 and 11: All

Section 13: W/2

Sections 14 and 15: All

Section 16: E/2

Section 23: N/2

Section 24: NW/4

RULE 2. The allowable for the Project shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. Allowables for injection wells may be transferred to producing wells within the project area, as may the allowables for producing wells which, in the interest of more efficient operation of the Project, are shut-in or curtailed because of high gas-oil ratio or are shut-in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.

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CASE No. 3743  
Order No. R-3401

RULE 4. The allowable assigned to any well which is shut-in or which is curtailed in accordance with the provisions of Rule 3, which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test prescribed by Rule 6, below, or greater than the current top unit allowable for the pool during the month of transfer, whichever is less.

RULE 5. The allowable assigned to any injection well on a 320-acre proration unit shall be top unit allowable for the West Puerto Chiquito-Mancos Oil Pool.

RULE 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2,000 to 1) for the West Puerto Chiquito-Mancos Oil Pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire.

RULE 7. The allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the West Puerto Chiquito-Mancos Oil Pool, whichever is less, provided that any producing well in the project area which directly or diagonally offsets a well outside the Canada Ojitos Unit Area producing from the same common source of supply shall not produce in excess of top unit allowable for the pool until such time as the well receives a substantial response to gas injection. When such a response has occurred, the well shall be permitted to produce up to two times top unit allowable for the pool. Production of such well at a higher rate shall be authorized only after notice and hearing. Each producing well shall be subject to the limiting gas-oil ratio (2,000 to 1) for the West Puerto Chiquito-Mancos Oil Pool except that any well or wells within the project area producing with a gas-oil ratio in excess of 2,000 cubic feet of gas per barrel of oil may be produced on a "net" gas-oil ratio basis, which net gas-oil ratio shall be determined by applying credit for daily average gas injected if any, into the West Puerto Chiquito-Mancos Oil Pool

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CASE No. 3743

Order No. R-3401

within the project area to such high gas-oil ratio well. The daily adjusted oil allowable for any well receiving gas injection credit shall be determined in accordance with the following formula:

$$A_{adj} = \frac{TUA \times F_a \times 2,000}{\frac{P_g - I_g}{P_o}}$$

where:

- $A_{adj}$  = the well's daily adjusted allowable
- $TUA$  = top unit allowable for the pool
- $F_a$  = the well's acreage factor
- $P_g$  = average daily volume of gas produced by the well during the preceding month, cubic feet
- $I_g$  = the well's allocated share of the daily average gas injected during the preceding month, cubic feet
- $P_o$  = average daily volume of oil produced by the well during the preceding month, barrels

In no event shall the amount of injected gas being credited to a well be such as to cause the net gas-oil ratio,  $\frac{P_g - I_g}{P_o}$ , to

be less than 2,000 cubic feet of gas per barrel of oil produced.

*file in triplicate* → RULE 8. Each month the project operator shall, within three days after the normal unit allowable for Northwest New Mexico has been established, submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total Project allowable. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for each well in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and may be produced from the wells in the Project in any proportion except that no well in the Project which directly or diagonally offsets a well outside the Project producing from the same common source of supply shall produce in excess of two times top unit allowable for the pool.

RULE 10. The conversion of producing wells to injection, the drilling of additional wells for injection, and expansion of the project area shall be accomplished only after approval of the same by the Secretary-Director of the Commission. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional injection wells shall include the following:

(1) A plat showing the location of proposed injection well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed injection well which fully describes the casing, tubing, perforated interval, and depth showing that the injection of gas will be confined to the Niobrara member of the Mancos shale.

(3) A letter stating that all offset operators to the proposed injection well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed injection well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

RULE 11. That the subject pressure maintenance project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations insofar as said rules are not inconsistent with the rules prescribed by this order.

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CASE No. 3743

Order No. R-3401

(3) That allowables to all wells in the Canada Ojitos Unit Area but outside the limits of the BMG West Puerto Chiquito-Mancos Pressure Maintenance Project Area as defined herein shall be assigned and produced in accordance with the applicable Commission Rules and Regulations.

(4) That 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.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

A. L. PORTER, Jr., Member & Secretary

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ear/



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION COMMISSION

RECEIVED

SEP 12 1986

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

CASE NO. 8950  
Order No. R-2565-E  
and  
Order No. R-3401-A

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR THE AMENDMENT  
OF THE SPECIAL RULES AND REGULATIONS OF THE  
WEST PUERTO CHIQUITO-MANCOS OIL POOL TO ESTABLISH  
TEMPORARY SPECIAL PRODUCTION ALLOWABLE  
LIMITATIONS AND GAS-OIL RATIO LIMITATIONS,  
RIO ARRIBA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing on August 7, 8, 21, 22, and 27, 1986, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 11th day of September, 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) Notice of this application was provided to all operators of wells and each unleased mineral owner within the existing pool boundaries of the West Puerto Chiquito-Mancos Oil Pool as required by Division Rule 1207.

(2) Due public notice has been given as required by law and the Commission has jurisdiction of this case, the parties, and the subject matter thereof.

(3) The applicant, Benson-Montin-Greer Drilling Corporation (Greer) seeks an order amending the Special Rules and Regulations of the West Puerto Chiquito-Mancos Oil Pool to establish for a period of not less than 90 days a temporary special production allowable limitation of 400 barrels of oil per day for a standard 640-acre spacing and proration unit and a special temporary gas-oil ratio limitation factor of 1,000 cubic feet of gas per barrel of oil produced.

(4) In companion Case 8946, Jerome P. McHugh and Associates, Inc. (McHugh) seeks an order amending the temporary Special Rules and Regulations of the Gavilan-Mancos Oil Pool as promulgated by Division Order No. R-7407 to establish for a period of not less than 90 days a temporary special production allowable limitation of 200 barrels of oil per day for a standard 320-acre spacing and proration unit and a special temporary gas-oil ratio limitation factor of 1,000 cubic feet of gas per barrel of oil produced.

(5) Case 8946 and Case 8950 were consolidated by the Commission for the purposes of hearing.

(6) The Gavilan-Mancos Oil Pool and the West Puerto Chiquito-Mancos Oil Pool share a common boundary and are in pressure communication at least in proximity to such boundary.

(7) Greer operates and has operated the Canada Ojitos Unit in the West Puerto Chiquito-Mancos Oil Pool since 1963 to produce oil from the Mancos formation, and has developed the Mancos formation in the Canada Ojitos Unit with low well density, controlled withdrawal rates and pressure maintenance resulting in a low rate of pressure decline and significant additional oil recovery by gravity drainage.

(8) McHugh, Greer and Meridian Oil Company presented testimony and evidence in these cases as set out in Finding No. (7) in Order No. R-7407-D herein incorporated by reference.

(9) The Commission found that the evidence presented in these cases established those matters and issues contained in Findings Nos. (12) through (16) in Order No. R-7407-D also herein incorporated by reference.

(10) In Case No. 8950, Greer effectively seeks to have a common gas oil ratio limitation and a maximum daily oil allowable established to permit withdrawal rates on each side of the Gavilan/West Puerto Chiquito Oil Pool boundary to be equivalent, thereby protecting correlative rights.

(11) No party to the consolidated hearing objected to the establishment of such common limiting gas-oil ratio or equivalent daily oil allowable.

(12) Order No. R-7407-D, entered in Case No. 8946 effective September 1, 1986, established a limiting gas-oil ratio of 600 cubic feet of gas per barrel and a depth bracket allowable of 400 barrels of oil per day for wells in the Gavilan-Mancos Oil Pool for a temporary period until further order of the Commission and provided for reopening of such case at a hearing in March, 1987, unless otherwise called earlier by the Commission.

(13) Such temporary rules should be adopted for the West Puerto Chiquito-Mancos Oil Pool except that the maximum assignable oil allowable should be 800 barrels per day to account for the variation in spacing unit size between the two pools.

(14) For consistency, both the Special Rules for the West Puerto Chiquito-Mancos Oil Pool contained in Order No. R-2565-B, as amended, and the Special Rules for the West Puerto Chiquito-Mancos Pressure Maintenance Project contained in Order No. R-3401 should be amended to reflect such limiting gas-oil ratio and maximum oil allowable.

IT IS THEREFORE ORDERED THAT:

(1) The limiting gas-oil ratio for the West Puerto Chiquito-Mancos Oil Pool, as heretofore defined and described, Rio Arriba County, New Mexico, shall be 600 cubic feet of gas per barrel of liquid hydrocarbons produced.

(2) Rule 7(a) of the Special Rules for The West Puerto Chiquito-Mancos Oil Pool as established by Order No. R-2565-B, as amended, is hereby amended to read in its entirety as follows:

"Rule 7. (a) Except as otherwise provided for in subparts (b) and (c), below, a standard spacing or proration unit in the West Puerto Chiquito-Mancos Oil Pool (632 through 648 acres) shall be assigned a top allowable of 800 barrels of oil per day. Any non-standard spacing or proration unit containing less than 632 acres or more than 648 acres shall be assigned an allowable in the same ratio to 800 as the acreage in the proration unit bears to 640."

(3) Rule 6 and Rule 7 of the Special Rules for the West Puerto Chiquito-Mancos Pressure Maintenance Project established

by Order No. R-3401 are hereby amended to read in their entirety as follows:

"Rule 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (600 to 1) for the West Puerto Chiquito-Mancos Oil Pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire."

"Rule 7. The allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the West Puerto Chiquito-Mancos Oil Pool, whichever is less, provided that any producing well in the project area which directly or diagonally offsets a well outside the Canada Ojitos Unit Area producing from the same common source of supply shall not produce in excess of top unit allowable for the pool. Production of such well at a higher rate shall be authorized only after notice and hearing. Each producing well shall be subject to the limiting gas-oil ratio (600 to 1) for the West Puerto Chiquito-Mancos Oil Pool except that any well or wells within the project area producing with a gas-oil ratio in excess of 600 cubic feet of gas per barrel of oil may be produced on a "net" gas-oil ratio basis, which net gas-oil ratio shall be determined by applying credit for daily average gas injected, if any, into the West Puerto Chiquito-Mancos Oil Pool within the project area to such high gas-oil ratio well. The daily adjusted oil allowable for any well receiving gas injection credit shall be determined in accordance with the following formula:

$$A_{adj} = \frac{TUA \times F_a \times 1,000}{P_g - I_g}$$
$$P_o$$

where  $A_{adj}$  = the well's daily adjusted allowable.

TUA = top unit allowable for the pool.

$F_a$  = the well's acreage factor (1.0 if one well on a 640 acre proration unit or 1/2 each if two wells on a 640 acre unit, and 1/2 for a well in a section along the Gavilan boundary which lies closer than 2310' from the Gavilan boundary).

$P_g$  = average daily volume of gas produced by the well during the preceding month, cubic feet.

$I_g$  = the well's allocated share of the daily average gas injected during the preceding month, cubic feet.

$P_o$  = average daily volume of oil produced by the well during the preceding month, barrels.

In no event shall the amount of injected gas being credited to a well be such as to cause the net gas-oil ratio,  $P_g - I_g$  to be less than 600 cubic feet of gas per barrel of oil produced.

$P_c$  (4) The effective date of this order shall be September 1, 1986.

(5) Unless otherwise reopened by the Commission, this case shall be reopened at a Commission hearing in March, 1987, to be consolidated with the reconsideration of the Temporary Special Rules established by Order No. R-7407 for the Gavilan-Mancos Oil Pool.

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

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Case No. 8950

Order No. R-2565-E and Order No. R-3401-A

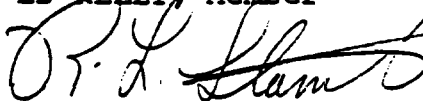
DONE at Santa Fe, New Mexico, on the day and year  
hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

JIM BACA, Member



ED KELLY, Member



R. L. STAMETS, Chairman and  
Secretary

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STATE OF NEW MEXICO  
OIL AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

CASE NO. 8950  
Order No. R-6469-C  
and  
Order No. R-3401-A-1

APPLICATION OF BENSON-MONTIN-GREER  
DRILLING CORPORATION FOR THE  
AMENDMENT OF THE SPECIAL RULES AND  
REGULATIONS OF THE WEST PUERTO  
CHIKUITO-MANCOS OIL POOL TO ESTABLISH  
TEMPORARY SPECIAL PRODUCTION ALLOWABLE  
LIMITATIONS AND GAS-OIL RATIO LIMITA-  
TIONS, RIO ARriba COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Oil Conservation Commission of  
New Mexico (Commission) that the combined order (Order Nos.  
R-2565-E and R-3401-A) issued in Case No. 8950 and dated  
September 11, 1986 does not correctly state the intended  
order of the Commission,

IT IS THEREFORE ORDERED THAT:

(1) Division Order No. R-6469-B issued in Case No.  
8915 and dated March 7, 1986, superseded the Special Rules  
promulgated for the West Puerto Chiquito-Mancos Oil Pool,  
as previously established by Division Orders Nos. R-2565-B,  
R-2565-C, and R-6469-A; and the designation of Division  
Order No. R-2565-E in the immediate case was in error;  
therefore, all references to said "Order No. R-2565-E"  
throughout this Order are hereby amended to read "Order  
No. R-6469-C."

(2) Division Order No. R-2565-E, herein redesignated  
Order No. R-6469-C, as described above, is hereby affirmed  
by this Order; similarly, all provisions pertaining to  
Division Order No. R-3401-A simultaneously issued in the  
immediate case shall remain in full force and effect  
except as provided in paragraph (3) herein below.

(3) The daily adjusted oil allowable formula contained  
in "Rule 7" of Decretory Paragraph No. (3) on page 4 of said  
order is hereby amended to read as follows:

$$A_{adj} = \frac{TUA \times F_a \times 600}{\frac{P_g - I_a}{P_o}}$$

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Case No. 895  
Order No. R-0,69-C and  
Order No. R-3401-A-1


(4) The corrections set forth in this order be entered  
nunc pro tunc as of September 11, 1986.

DONE at Santa Fe, New Mexico, on this 2nd day of  
March, 1987.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

WILLIAM R. HUMPHRIES, Member

  
ERLING A. BROSTUEN, Member

  
WILLIAM J. LEMAY, Chairman and  
Secretary

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### PART III

#### EXAMPLES OF APPLICATION OF PRESSURE MAINTENANCE CREDIT AND RESERVOIR VOIDAGE FOR UNIT VERSUS NON-UNIT WELLS

Most pressure maintenance projects cover only a part of a reservoir, or pool, and consequently the regulations are designed to provide equitable withdrawals from the reservoir of unit versus non-unit wells.

Reservoir space voided for any given volume of oil and gas production will vary from time to time with the reservoir pressure. For the following examples, an approximate reservoir pressure of 1000 psia is used along with approximate oil formation volume factor of 1.25 and solution gas-oil ratio of 350 cf/bbl. Also the approximate relation of free gas to reservoir space is 3 barrels of reservoir space per standard MCF.\*

\* At 1000 psia and 170 degrees,  $Z = .89$

$$(1000 \text{ SCF/MCF}) \times \frac{15.025 \text{ psia}}{1000 \text{ psia}} \times \frac{630^\circ \text{ R}}{520^\circ \text{ R}} \times \frac{.89}{5.615 \text{ cf/bbl}} = 2.88 \text{ Bbls/MCF}$$

(Use 3 Bbls/MCF for simpler check of computations).

Note: Gas which comes out of solution and then is reinjected will occupy a larger space as free gas than when dissolved in the oil. The reservoir voidage figures shown herein do not take this into account - accordingly the benefit of gas reinjected is understated.

# CASE I

## COMPARISON OF RESERVOIR SPACE VOIDED BY A UNIT WELL AND A NON-UNIT WELL FOR CASE WHERE

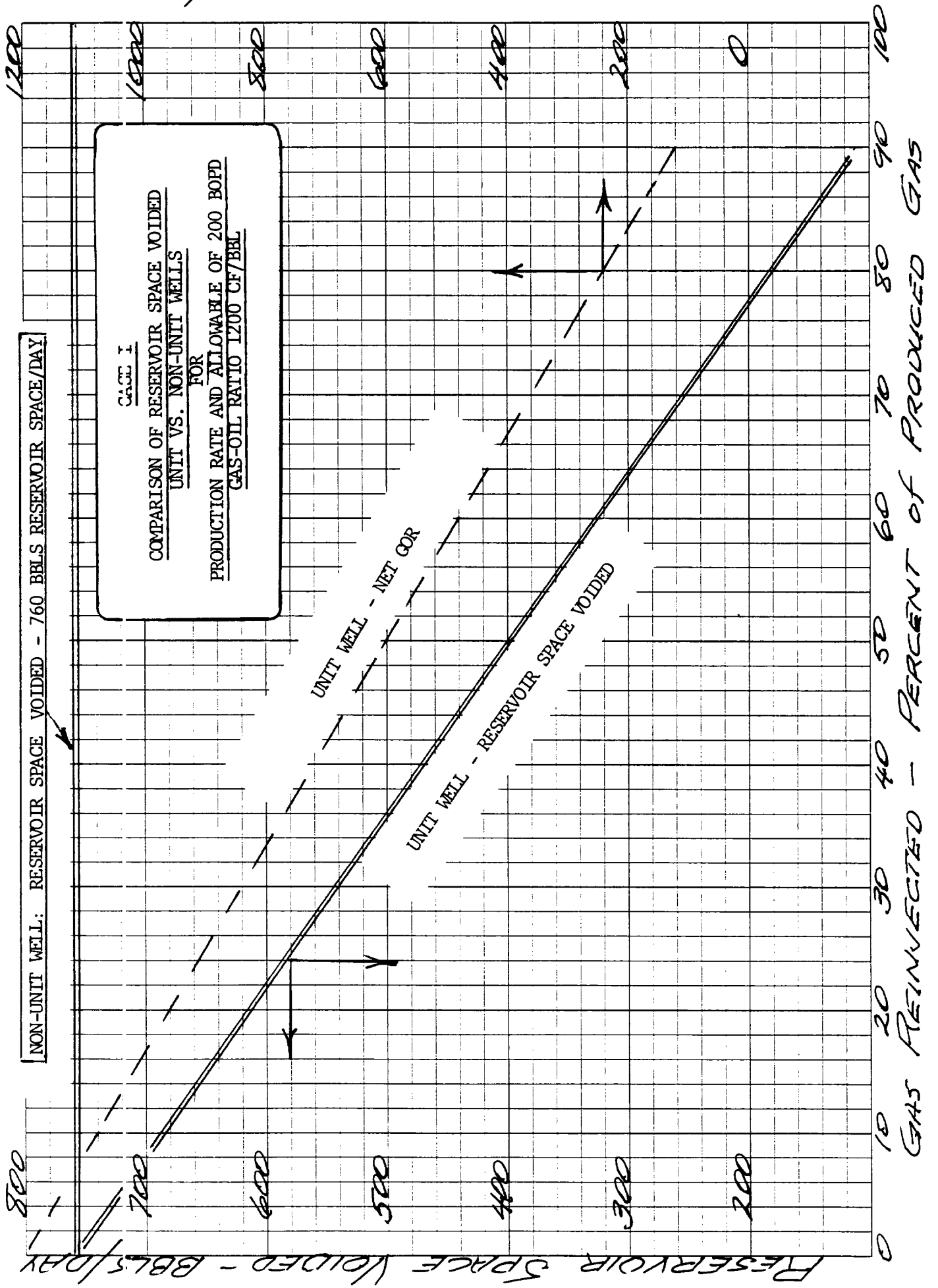
OIL ALLOWABLE AND PRODUCTION OF NON-UNIT WELL AND UNIT WELL ARE THE SAME  
(200 BOPD)

(FOR WELLS WHOSE BASIC ALLOWABLE IS 400 BOPD WITH LIMITING GAS-OIL RATIO OF 600 CUBIC FEET PER BARREL)

	PRODUCED FORMATION GAS GOR CF/Bbl	MCFD	(UNIT ONLY) REINJECTED GAS		OIL ALLOWABLE & PRODUCTION BOPD	RESERVOIR SPACE VOIDED (BBL/DAY)		
			Percent	Net GOR		BY OIL BOPD x 1.25	BY GAS*	TOTAL
1) Non-Unit	1200	240	-	-	200	250	510	760
2) Unit	1200	240	0	1200	200	250	510	760
3) "	"	"	10	1080	200	250	438	688
4) "	"	"	50	600	200	250	150	400
5) "	"	"	90	120	200	250	(-138)	112

*VOIDS*

\*  $\frac{(GOR - 350) \text{ CF/STBbl}}{1000 \text{ CF/MCF}} \times 3 \text{ reservoir bbls/MCF} \times \text{ST BOPD} = \text{reservoir barrels of free gas.}$



# CASE II

## COMPARISON OF RESERVOIR SPACE VOIDED BY A UNIT WELL AND A NON-UNIT WELL

FOR CASE WHERE

OIL ALLOWABLE AND PRODUCTION OF NON-UNIT WELL AND UNIT WELL ARE THE SAME

(100 BOPD)

(FOR WELLS WHOSE BASIC ALLOWABLE IS 400 BOPD WITH LIMITING GAS-OIL RATIO OF 600 CUBIC FEET PER BARREL)

	PRODUCED FORMATION GAS		(UNIT ONLY) REINJECTED GAS		OIL ALLOWABLE & PRODUCTION BOPD	RESERVOIR SPACE VOIDED (BBL/DAY)	
	GOR CF/Bbl	MCFD	Percent	Net GOR		BY GAS*	
						BY OIL BOPD x 1.25	TOTAL
1) Non-Unit	2400	240	-	-	100	125	615 740
2) Unit	2400	240	0	2400	100	125	615 740
3) "	"	"	10	2160	100	125	543 668
4) "	"	"	50	1200	100	125	255 380
5) "	"	"	90	240	100	125	(-33) 92
6) "	4800	480	50	2400	100	125	615 740
7) "	"	"	90	480	100	125	39 164
8) "	9600	960	75	2400	100	125	615 740
9) "	"	"	90	960	100	125	183 308

\*  $\frac{(GOR - 350) CF/STBbl}{1000 CF/MCF} \times 3 \text{ reservoir bbls/MCF} \times ST \text{ BOPD} = \text{reservoir barrels of free gas.}$

NON-UNIT WELL: RESERVOIR SPACE VOIDED - 740 BBLs RESERVOIR SPACE/DAY

