CAMPBELL & BLACK, P.A.

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SANTA FE, NEW MEXICO 87504-2208

TELEPHONE: (505) 988-4421
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September 8, 1986

HAND DELIVERED

Mr. R. L. Stamets, Director Oil Conservation Division State Land Office Building Santa Fe, New Mexico 87501

Re: Case 8950: Application of Benson-Montin-Greer Drilling Corporation for the Amendment of the Special Rules and Regulations for the West Puerto Chiquito-Mancos Pool to Establish Temporary Special Production Allowable Limitations and Gas-oil Ratio Limitations, Rio Arriba County, New Mexico.

Dear Mr. Stamets:

This letter confirms our telephone conversation of this date in which we advised you of certain changes that should be made in the Benson-Montin-Greer Drilling Corporation's Proposed Order of the Commission which we filed with your office on September 5, 1986.

First, the phrase "within one mile of such boundaries" should be deleted from Finding No. 1. As you are aware, the Special Rules and Regulations for the West Puerto Chiquito-Mancos Pool are limited to the pool boundaries. We conferred with your staff on this matter, and since these rules do not affect interest owners outside the pool, notice was not provided to the owners within one mile of the pool.

Second, Exhibit A to the Proposed Order provides for a gas-oil ratio limitation of 1,000 to one instead of the 600 to one gas-oil ratio contained in your August 27 ruling. This exhibit, therefore, should be changed to reflect the correct gas-oil ratio.

Mr. R. L. Stamets, Director Oil Conservation Division September 8, 1986 Page 2

Your attention to these amendments is appreciated.

Very truly yours,

WILLIAM F. CARR

WFC/ab

cc: Mr. Albert R. Greer

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September 5, 1986

RECEIVED

Mr. R. L. Stamets, Director Oil Conservation Commission New Mexico Department of Energy and Minerals State Land Office Building Santa Fe, New Mexico 87503 SEP 5 1986

OIL CONSERVATION DIVISION

Re: Case 8950: Application of Benson-Montin-Greer Drilling Corporation for the Amendment of the Special Rules and Regulations of the West Puerto Chiquito-Mancos Pool to establish temporary special production allowable limitations and gas-oil ratio limitations, Rio Arriba County, New Mexico.

Dear Mr. Stamets:

Pursuant to your request of August 27, 1986, please find enclosed the Proposed Order of the Commission of Benson-Montin-Greer Drilling Corporation in the above-referenced matter.

If you need anything further from Benson-Montin-Greer Drilling Corporation to proceed with the entry of an order in this matter, please advise.

willing &. Co

Very truly yours

WILLIAM F. CARR

WFC/ab Encl.

cc w/encl.: W. Thomas Kellahin, Esq.
W. Perry Pearce, Esq.
Ernest L. Padilla, Esq.
Owen M. Lopez, Esq.
Kent Lund, Esq.

Robert G. Stovall, Esq. Robert D. Buettner, Esq. Paul A. Cooter, Esq. Greg Owens, Esq.

STATE OF NEW MEXICO ENERGY LAND MINERALS DEPARTMENT OIL CONSERVATION COMMISSION

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

RECEIVED

SEP 5 1986

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

OIL CONSERVATION DIVISION

CASE: 8950 ORDER R-

BENSON-MONTIN-GREER DRILLING CORPORATION'S PROPOSED
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 _____ 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:

- (1) That 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 Pool and all operators of wells within one mile of such boundaries as required by Division Rule 1207.
- (2) That 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) That the Applicant, Benson-Montin-Greer Drilling Corporation seeks an order amending the Special Rules and Regulations of the West Puerto Chiquito-Mancos Pool promulgated by Division Order No. R-3401 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) That in companion Case 8946, Jerome P. McHugh and Associates, Inc. seeks an order amending the Special Rules and Regulations of the Gavilan Mancos Oil Pool as promulgated by Division Order 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) That the Gavilan Mancos Oil Pool and the West Puerto Chiquito-Mancos Pool share a common boundary and are one reservoir or pool.
- (6) That Case 8946 and Case 8950 were consolidated by the Commission for the purposes of hearing.
- (7) That Benson-Montin-Greer Drilling Corporation operates and has operated the Canada Ojitos Unit, West Puerto Chiquito-Mancos Pool, since 1963 to produce oil from the Mancos formation, and has developed the Mancos formation in the Canada Ojitos Unit with a low well density, controlled withdrawal rates, and the institution of a pressure maintenance project which has resulted in a low rate of pressure decline in this portion of the pool and significant additional oil recovery by gravity drainage.
- (8) That wells in the Gavilan Mancos Oil Pool are experiencing rapidly increasing gas-oil ratios and pressure declines due to the high rates of production in this portion of the reservoir.
- (9) That McHugh contends that the Gavilan Mancos Oil Pool is primarily a solution gas drive reservoir with potential for significant additional oil recovery by gravity drainage if producing rates are immediately reduced and therefore has requested that the daily producing oil rate should be 200 barrels and the gas-oil ratio should be 1,000 cubic feet of gas to one barrel of oil.
- (10) That Benson-Montin-Greer Drilling Corporation supports the application of McHugh and seeks a similar production limitation and reduced gas-oil ratio in the West Puerto Chiquito-Mancos Pool.
- (11) That Meridian Oil Company supports the application of Benson-Montin-Greer Drilling Corporation.

- (12) That Mobil Producing Texas and New Mexico, Inc. neither supports nor opposes the application of Benson-Montin-Greer Drilling Corporation.
- (13) That Mallon Oil Company, Mesa Grande Resources, Inc. and Koch Exploration contend that the Gavilan Mancos Pool is a gas cap drive reservoir and the gas-oil ratio should be reduced to the solution gas-oil ratio in order to most effectively produce this reservoir but contest the reduction in the daily oil rate because they discount the potential for significant benefit from gravity drainage.
- (14) The operators in the Gavilan Mancos Oil Pool have formed a working interest owners committee, including geologic and engineering technical subcommittees, in order to discuss and address the issue of the most effective and efficient methods to develop and produce the Gavilan Mancos Oil Pool.
- (15) That the Applicant contends that despite numerous meetings the working interest owners have not yet agreed on how to best produce the pool and that an emergency exists requiring the Commission to immediately act to reduce the production rate from the Mancos formation in this area, thereby preserving reservoir energy until the working interest owners can reach an agreement or until the Commission finally determines how best to develop and produce the pool.
- (16) That the West Puerto Chiquito-Mancos Pool produces from a fractured system with little or no matrix oil contributions.
- (17) That the West Puerto Chiquito-Mancos Pool has been produced primarily by gravity drainage aided by pressure maintenance.
- (18) That the pool production allowable of 1,342 barrels a day and the gas-oil ratio limitation of 2,000 cubic feet of gas to one barrel of oil will allow production rates which are excessive. The reason for the high allowables has been to protect the correlative rights of interest owners in the West Puerto Chiquito portion of the pool against drainage to the Gavilan portion of the pool.
- (19) That continuation of the current allowable of 1,342 barrels of oil a day for the West Puerto Chiquito-Mancos Pool will not be necessary to protect correlative rights when production in the Gavilan portion of the reservoir is reduced.
- (20) Certain wells in the pool produce at rates in excess of the reservoir's solution gas-oil ratio.
- (21) That the current rate of pressure depletion and the dramatic increase in gas-oil ratios in the Gavilan portion of this reservoir limit the amount of time available for operators to devise an optimum plan of operation and thus constitutes an emergency requiring immediate action by the Commission.

- (22) That a reduction in both the daily oil production rate and the GOR will reduce the rate of pressure depletion in the reservoir and afford the operators time to determine the most effective and efficient method to further develop and produce the Pool.
- (23) That immediate action is required by the Commission in order to avoid waste and protect correlative rights.
- (24) That the solution gas-oil ratio is between 480 and 646 cubic feet of gas per barrel of oil and that the Commission should adopt a rate of 600 cubic feet of gas per barrel of oil during this temporary period.
- (25) That in order to improve the opportunity for gravity drainage and increase the ultimate recovery of oil from the West Puerto Chiquito-Mancos Pool, the daily oil production rate should be reduced.
- (26) That no waste or violation of correlative rights will occur if the Commission adopts Applicant's proposal.
- (27) If Applicant's proposal is adopted, the reduced oil production will not result in a permanent loss of production but will simply defer some oil production until a later date.
- (28) The Applicant was opposed by Mallon, Mesa Grande, Koch Industries and Mobil, all of whom recommend that the Commission's action be limited to only reducing the gas-oil ratio to the solution gas-oil ratio.
- (29) No waste will result by the Commission also reducing the daily oil rate, a position opposed by Mallon, Mesa Grande and Koch, but supported by McHugh, Dugan, Greer and Meridian.
- (30) The GOR should be reduced to the solution gas-oil ratio for the West Puerto Chiquito-Mancos Pool as requested by Mallon, Koch Industries and Mesa Grande; which proposal is not opposed by Greer, McHugh, Dugan or Meridian.
- (31) In order to provide adequate time for the study group to conduct its study and reach an agreement as to the best methods for producing the reservoir, the Commission should adopt a procedure for reducing the producing rate and gas-oil ratio on a temporary basis.
- (32) That reduction of the GOR to 600 to 1 and the oil rate to 800 barrels of oil a day per 640-acre spacing and proration unit will prevent waste of reservoir energy and at the same time not violate correlative rights.
- (33) That in order to afford the owners in the West Puerto Chiquito-Mancos Pool the opportunity to economically produce their just and equitable share of the oil and gas in the reser-

voir while at the same time conserving reservoir energy and thus preventing waste and for this purpose to use only their just and equitable share of the reservoir energy, a limiting gas-oil ratio of 600 cubic feet of gas per barrel of liquid hydrocarbons and a producing rate of 800 barrels a day per 640-acre spacing and proration unit should be established for the pool.

IT IS THEREFORE ORDERED:

- (1) That the terms and conditions of this order shall apply to all wells in the West Puerto Chiquito-Mancos Pool effective as of September 1, 1986, and shall remain in effect for not less than ninety days and continually thereafter unless and until modified by further order of this Commission.
- (2) That effective September 1, 1986, the limiting gas-oil ratio in the West Puerto Chiquito-Mancos Pool Project, Rio Arriba County, New Mexico, shall be 600 cubic feet of gas for each barrel of liquid hydrocarbons produced and that each 640-acre proration and spacing unit shall produce no more than 800 barrels of oil a day and that the Special Rules and Regulations for the Benson-Montin-Greer West Puerto Chiquito-Mancos Pressure Maintenance Project as promulgated by Order R-3401 shall be amended to reflect these changes as set out in Exhibit A to this proposed order.
- (3) That both Applicants and opponents shall have representatives on the working interest owners' technical study committee and this study committee shall submit to the Commission a status report on its efforts to devise an optimum plan of operation for this reservoir on or before November 15, 1986, and at regular intervals thereafter while these temporary production restrictions remain in effect.
- (4) That unless previously amended by the Commission, this case shall be reopened at a Commission hearing in March, 1987, to be consolidated with the Special Rules hearing for the Gavilan Mancos Oil Pool.
- (5) That jurisdiction of this cause is retained for entry of such further orders as the Commission may deem necessary.

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

JIM BACA, Member

ED KELLEY, Member

RICHARD L. STAMETS
Member and Secretary

SEAL

SPECIAL RULES AND REGULATIONS

FOR THE

BENSON-MONTIN-GREER WEST PUERTO CHIQUITO-MANCOS PRESSURE MAINTENANCE PROJECT

RULE 1. The project area of the Benson-Montin-Greer West Puerto Chiquito-Mancos Pressure Maintenance Project, hereinafter referred to as the Project, shall comprise the Niobrara-Greenhorn participating area of the Canada Ojitos Unit as it may be expanded or contracted, lying within the West Puerto Chiquito-Mancos Oil Pool, in Rio Arriba County, New Mexico, described as follows:

Township 26 North, Range 1 East

Section 19: All

Section 20: W/2

Section 29-32: All

Township 26 North, Range 1 West Sections 1-36: All

Township 25 North, Range 1 East

Sections 5-8: All

Sections 17-20: All

Section 29: W/2

Sections 30-31: All

Township 25 North, Range 1 West

Sections 1-36: All

Township 24 North, Range 1 East

Sections 6-7: All

Section 8: W/2

Section 17: W/2

Section 18: All

Section 19: N/2

Section 20: NW/4

Township 24 North, Range 1 West

Sections 1-15: All

Section 23: N/2

Section 24: N/2

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.

- 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 or 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 640-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 (1000 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.
- 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 (1000 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 1000 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:

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

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

TUA = top unit allowable for the pool.

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

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 P_g

be less than 1000 cubic feet of gas per barrel of oil produced.

RULE 8. Each month the project operator shall, within two weeks 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 outside the Project producing from the same common source

of supply shall produce in excess of top allowable for that particular proration unit. Allowables from other wells may not be transferred to such well.

- 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 or contraction of the project area shall be in accordance with Rule 1, but exceptions 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.

That allowables to all wells in the Canada Ojito Unit Area but outside the limits of the Benson-Montin-Greer 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.

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



Amoco Production Company

Denver Region 1670 Broadway P.O. Box 800 Denver, Colorado 80201 303 - 830-4040

Kent J. Lund Attorney

August 26, 1986

Mr. Richard L. Stamets Director New Mexico Oil Conservation Division P.O. Box 2088 Santa Fe, New Mexico 87501

RE: File - NWA-403-986.511
Statement of Position
Case Nos. 8946 & 8950
Gavilan-Mancos Oil Pool
West Puerto Chiquito-Mancos Oil Pool
Rio Arriba County, New Mexico

Dear Mr. Stamets:

Representatives of Amoco Production Company, which is an operator and/or interest holder within the Gavilan-Mancos and West Puerto Chiquito-Mancos Oil Pools, previously attended the four days of hearings in the above cases. We are unable to attend the final day of those hearings on August 27, and respectfully request that this letter be made part of the record as Amoco's position in these consolidated cases.

It is our opinion that the applicants and protestants presented technically competent testimony concerning the Mancos reservoir and various production considerations. The fact that the testimony presented was, in part, so diametrically opposite demonstrates the need for additional collective reservoir studies.

Amoco, like other parties, desires to achieve the greatest economic ultimate recovery, without waste, from these pools. We therefore urge that any order issued by the Division err on the side of the prevention of waste. Amoco respectfully suggests that if any order is entered which curtails pool production, such order should be of limited duration, not exceeding ninety (90) days, and should be expressly conditioned on the completion of more exhaustive engineering studies.

Page Two August 26, 1986

Finally, Amoco takes no position on spacing and unitization issues because such issues are not presently before the Division in these two cases.

Thank you for your consideration.

Sincerely,

Kent J. Lund

Het Luk.

KJL:meb

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July 1, 1986

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Amoco Production Company Post Office Box 800 Denver, Colorado 80201

Re: Application of Benson-Montin-Greer Drilling Corp. for Amendment of Division Order No. R-3401, Rio Arriba County, New Mexico.

Dear Sirs:

This letter is to advise you of the application of Benson-Montin-Greer Drilling Corp. for amendment of New Mexico Oil Conservation Division Order No. R-3401. In this case, Benson-Montin-Greer is seeking the amendment of the Special Rules and Regulations promulgated for the West Puerto Chiquito-Mancos Oil Pool which include provisions for a gas-oil ratio of 2000 to 1. In this case, Benson-Montin-Greer seeks amendment of that Order to provide for a special gas-oil ratio of 1000 to 1 and the establishment of a production limitation factor of 400 barrels of oil per day for each 640-acre spacing unit in the pool.

This application has been set for hearing before the Oil Conservation Division on July 23, 1986. You are not required to attend this hearing, but as an interest owner in this area you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Very truly yours,

William F. Carr

WFC/cv