

KELLAHIN, KELLAHIN AND AUBREY

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN
KAREN AUBREY

CANDACE HAMANN CALLAHAN

JASON KELLAHIN
OF COUNSEL

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

May 21, 1991

Mr. William J. LeMay
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504

RECEIVED

MAY 2 1991

Re: Sunray "G" No. 2R
Application of Meridian Oil Inc.
for a Horizontal Directional Drilling
Pilot Project and Special Operating Rules
Including a Project Allowable,
San Juan County, New Mexico

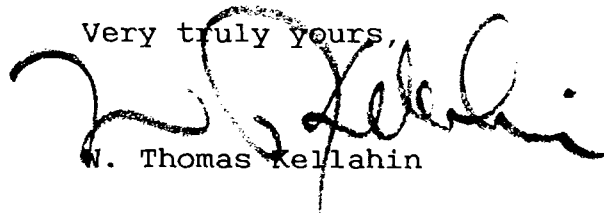
OIL CONSERVATION DIVISION

Dear Mr. LeMay:

On behalf of Meridian Oil Inc., please find enclosed our Application for a Horizontal Directional Drilling Pilot Project and Special Operating Rules which we request be set for hearing on the next available Examiner's docket now scheduled for June 13, 1991.

By copy of this letter to all parties, we are notifying them by certified mail, return receipt requested, that they have the right to appear at the hearing, to make a statement to the Division, to present evidence and cross-examine witnesses either in support of or in opposition to the application.

Very truly yours,



W. Thomas Kellahin

WTK/tic
Enclosure

cc: Mr. Alan Alexander
Meridian Oil Inc.
Post Office Box 4289
Farmington, New Mexico 87499-4289

1988/appt517.330

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

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

CASE: 10-001

APPLICATION OF MERIDIAN OIL INC.
FOR A HORIZONTAL DIRECTIONAL DRILLING
PILOT PROJECT AND SPECIAL OPERATING RULES
INCLUDING A PROJECT ALLOWABLE,
SAN JUAN COUNTY, NEW MEXICO

A P P L I C A T I O N

Comes now Meridian Oil Inc., by and through its attorneys, Kellahin, Kellahin & Aubrey, and applies to the New Mexico Oil Conservation Division for approval for a Horizontal Directional Drilling Pilot Project including special operating rules and a project allowable for its ~~Emery "C" No. 2R well to be drilled at a standard surface well location in the SE/4SE/4~~, and dedicated to a 320-acre standard spacing unit in the ~~N/2 of Section 21, T31N, R9NE~~ in the ~~Blanco Mesa Verde Pool~~ San Juan County, New Mexico and in support thereof states:

(1) Applicant is the operator of the E/2 of Section 21, T31N, R9W, N.M.P.M., San Juan County, New Mexico.

(2) Applicant proposes to drill a horizontal directional well commencing at a surface location in the SW/4SE/4 of Section 21 estimated to be 1755 feet FSL and 995 feet FSL of said Section 21 and drilled vertically to approximately 4766 feet (or - 100 feet) which is the estimated top of the Mesa Verde formation at which point the applicant will kickoff the well in a Northeasterly direction building an assumed 80-90 degree radius turn in approximately 571 feet of vertical distance and continuing to penetrate the Blanco Mesa Verde Pool at an estimated depth of 5300 feet and thence drilling horizontally at a an angle in a Northeasterly direction a distance not in excess of 3620 feet. See Exhibit "Aa"

(3) Except as otherwise requested herein, Applicant proposes that this project be subject to the Special Rules and Regulations that govern the Blanco Mesa Verde Pool and that the E/2 of Section 21 be dedicated as the spacing unit for the project.

(4) The potential productive zone of the Blanco Mesa Verde Pool is characterized by tight, low permeability blocks interconnected by a high capacity fracture system.

(5) Past experience in said pool has shown that conventionally drilled (vertical) wells may not adequately develop and produce all of the reserves in the spacing unit.

(6) By drilling a horizontal wellbore, the applicant is attempting to increase the probability of encountering and producing hydrocarbon reserves which may not ultimately be produced by the original vertical wells in the spacing unit, thereby preventing waste.

(7) In as much as the exact distance and direction of the lateral portion of the wellbore is not known at this time, the Applicant seeks approval to be allowed to drill said lateral portion anywhere within an area designated a target window as follows: commencing at a distance not closer than ~~790~~ **feet from the East line** no closer than ~~790~~ **feet from the South line** or no closer than 3430 feet from the West line of Section 21, thence towards the Northeast so that no portion of the wellbore in the pool shall be closer than 790 feet to the outer boundary of the E/2 of Section 21 as shown on Exhibit "B."

(8) All offset owners/operators are listed on Exhibit "C" and pursuant to Division Notice Rules have been provided with a copy of this application.

(9) Applicant seeks a ~~special project~~ allowable as follows:

The deliverability of the subject gas proration unit, for the purpose of calculating gas allowable, shall be determined as follows:

(a) If the highly-deviated wellbore is completed in and produces from both quarter sections in the proration unit, the sum of the deliverability of the deviated well plus the deliverability of either of the vertical wells shall be utilized; or

(b) If the highly deviated wellbore is not completed in and producing from both quarter sections in the proration unit, the sum of the deliverability of the deviated well must be added to the deliverability of a vertical well in the other quarter section of the proration unit; or


(c) Utilize the sum of the deliverabilities of the two existing vertical wellbores; whichever method results in the higher calculated deliverability for the proration unit.

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

WHEREFORE, Applicant requests that this matter be set for hearing on June 13, 1991 before a duly appointed Examiner of the Oil Conservation Division and, after notice and hearing as required by law, the Division enter its Order granting this application.

Respectfully submitted,

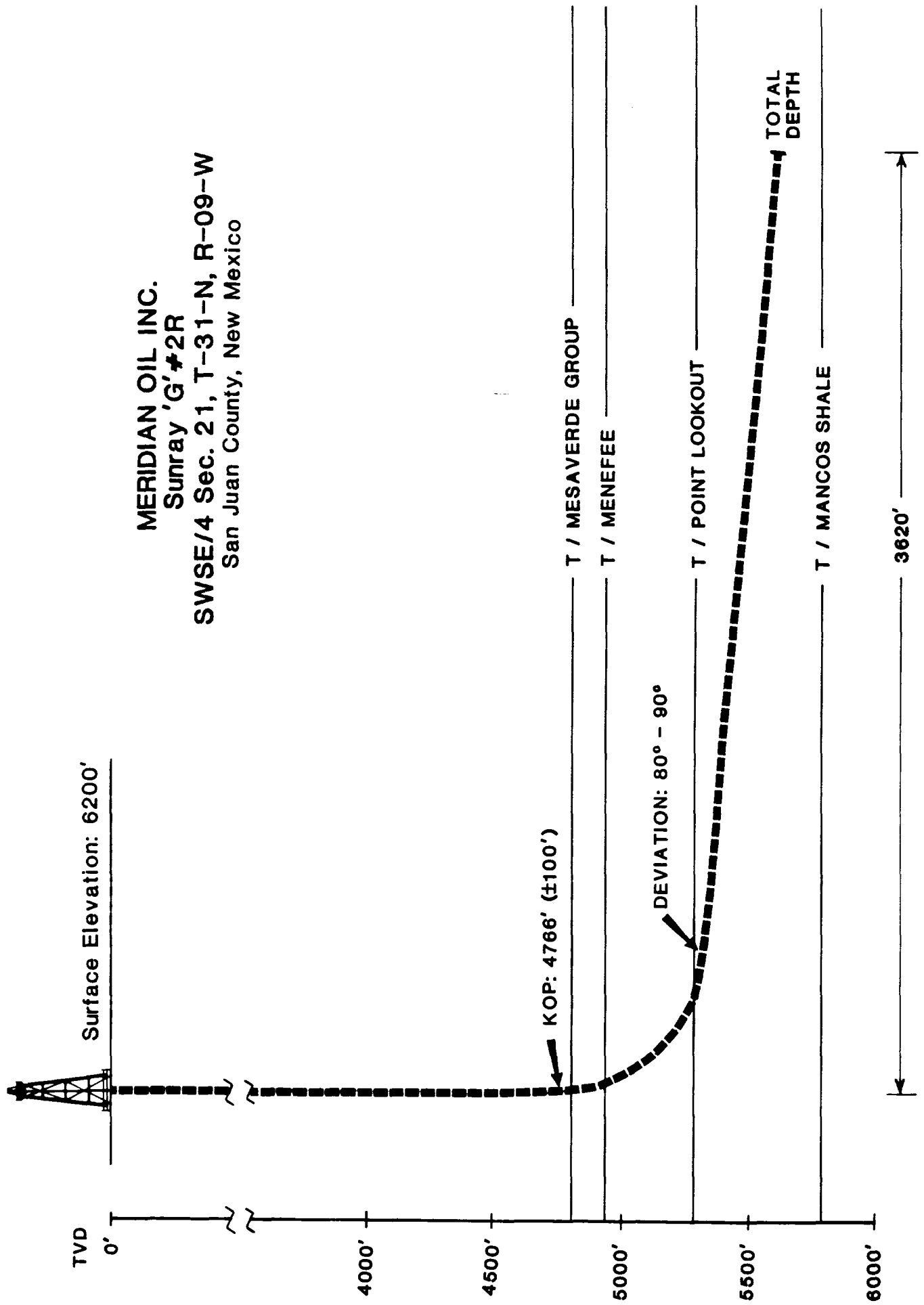
KELLAHIN, KELLAHIN & AUBREY

By: 

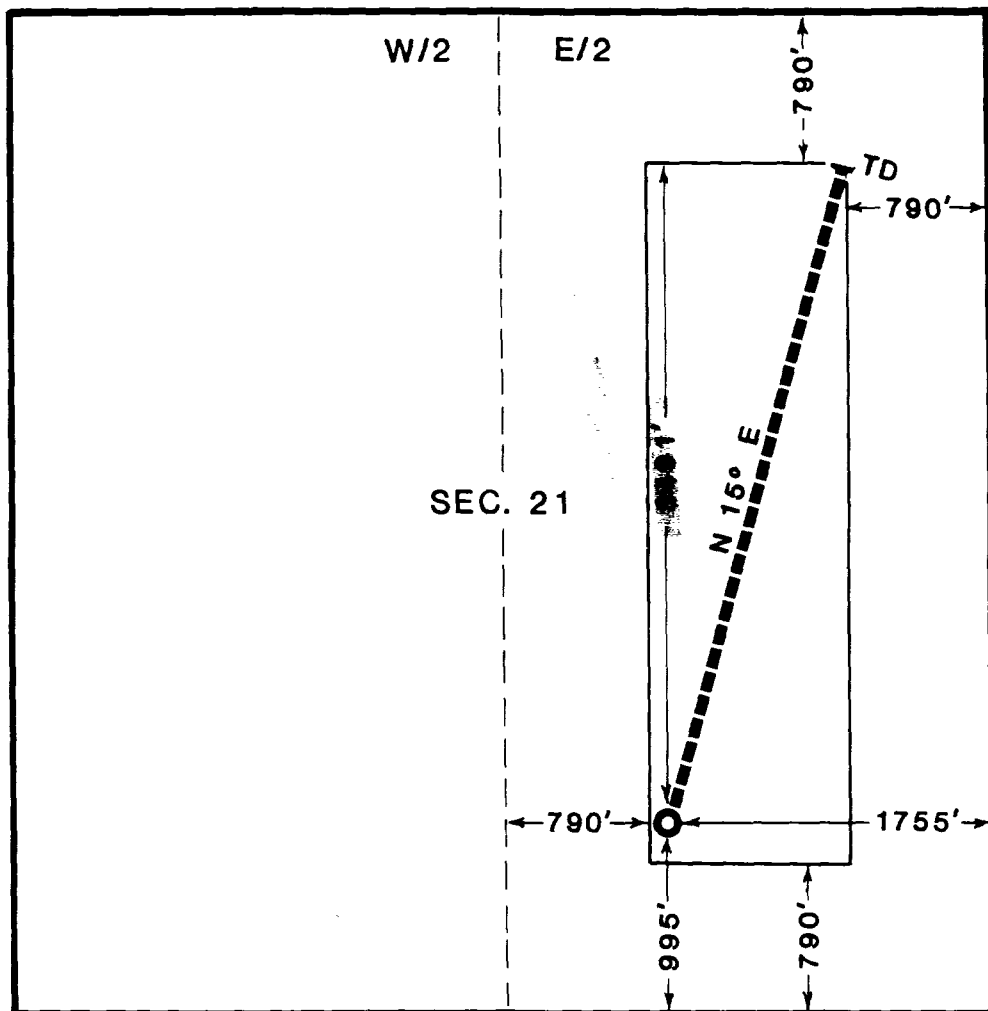
W. Thomas Kellahin
Post Office Box 2265
Santa Fe, New Mexico 87504
(505) 982-4285

Attorneys for Applicant

MERIDIAN OIL INC.
 Sunray 'G' #2R
 SWSE/4 Sec. 21, T-31-N, R-09-W
 San Juan County, New Mexico



MERIDIAN OIL INC.
Sunray 'G' #2R
SWSE/4 Sec. 21, T-31-N, R-09-W
San Juan County, New Mexico



Surface Location: 995' FSL, 1755' FEL

Proposed Azimuth - 0° - 25°

EXHIBIT B

EXHIBIT "C"

Amoco Production Inc.
P.O. Box 800
Denver, Colorado 80201

Texaco Inc.
P.O. Box 2100
Denver, Colorado 80237

KELLAHIN, KELLAHIN AND AUBREY

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

W. THOMAS KELLAHIN
KAREN AUBREY

CANDACE HAMANN CALLAHAN

JASON KELLAHIN
OF COUNSEL

May 21, 1991

Mr. William J. LeMay
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504

RECEIVED

OIL CONSERVATION DIVISION

Re: Sunray "G" No. 2R
Application of Meridian Oil Inc.
for a Horizontal Directional Drilling
Pilot Project and Special Operating Rules
Including a Project Allowable,
San Juan County, New Mexico

Dear Mr. LeMay:

On behalf of Meridian Oil Inc., please find enclosed our Application for a Horizontal Directional Drilling Pilot Project and Special Operating Rules which we request be set for hearing on the next available Examiner's docket now scheduled for June 13, 1991.

By copy of this letter to all parties, we are notifying them by certified mail, return receipt requested, that they have the right to appear at the hearing, to make a statement to the Division, to present evidence and cross-examine witnesses either in support of or in opposition to the application.

Very truly yours,


W. Thomas Kellahin

WTK/tic
Enclosure

cc: Mr. Alan Alexander
Meridian Oil Inc.
Post Office Box 4289
Farmington, New Mexico 87499-4289

1988/appt517.330

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

RECEIVED

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

OIL CONSERVATION DIVISION

CASE: 16324

APPLICATION OF MERIDIAN OIL INC.
FOR A HORIZONTAL DIRECTIONAL DRILLING
PILOT PROJECT AND SPECIAL OPERATING RULES
INCLUDING A PROJECT ALLOWABLE,
SAN JUAN COUNTY, NEW MEXICO

A P P L I C A T I O N

Comes now Meridian Oil Inc., by and through its attorneys, Kellahin, Kellahin & Aubrey, and applies to the New Mexico Oil Conservation Division for approval for a Horizontal Directional Drilling Pilot Project including special operating rules and a project allowable for its Sunray "G" No. 2R well to be drilled at a standard surface well location in the SW/4SE/4, and dedicated to a 320-acre standard spacing unit in the E/2 of Section 21, T31N, R9W, in the Blanco Mesa Verde Pool, San Juan County, New Mexico and in support thereof states:

(1) Applicant is the operator of the E/2 of Section 21, T31N, R9W, N.M.P.M., San Juan County, New Mexico.

(2) Applicant proposes to drill a horizontal directional well commencing at a surface location in the SW/4SE/4 of Section 21 estimated to be 1755 feet FEL and 995 feet FSL of said Section 21 and drilled vertically to approximately 4766 feet (+ or - 100 feet) which is the estimated top of the Mesa Verde formation at which point the applicant will kickoff the well in a Northeasterly direction building an assumed 80-90 degree radius turn in approximately 571 feet of vertical distance and continuing to penetrate the Blanco Mesa Verde Pool at an estimated depth of 5300 feet and thence drilling horizontally at a an angle in a Northeasterly direction a distance not in excess of 3620 feet. See Exhibit "A."

(3) Except as otherwise requested herein, Applicant proposes that this project be subject to the Special Rules and Regulations that govern the Blanco Mesa Verde Pool and that the E/2 of Section 21 be dedicated as the spacing unit for the project.

(4) The potential productive zone of the Blanco Mesa Verde Pool is characterized by tight, low permeability blocks interconnected by a high capacity fracture system.

(5) Past experience in said pool has shown that conventionally drilled (vertical) wells may not adequately develop and produce all of the reserves in the spacing unit.

(6) By drilling a horizontal wellbore, the applicant is attempting to increase the probability of encountering and producing hydrocarbon reserves which may not ultimately be produced by the original vertical wells in the spacing unit, thereby preventing waste.

(7) In as much as the exact distance and direction of the lateral portion of the wellbore is not known at this time, the Applicant seeks approval to be allowed to drill said lateral portion anywhere within an area designated a target window as follows: commencing at a distance not closer than 790 feet from the East line no closer than 790 feet from the South line or no closer than 3430 feet from the West line of Section 21, thence towards the Northeast so that no portion of the wellbore in the pool shall be closer than 790 feet to the outer boundary of the E/2 of Section 21 as shown on Exhibit "B."

(8) All offset owners/operators are listed on Exhibit "C" and pursuant to Division Notice Rules have been provided with a copy of this application.

(9) Applicant seeks a special project allowable as follows:

The deliverability of the subject gas proration unit, for the purpose of calculating gas allowable, shall be determined as follows:

(a) If the highly-deviated wellbore is completed in and produces from both quarter sections in the proration unit, the sum of the deliverability of the deviated well plus the deliverability of either of the vertical wells shall be utilized; or

(b) If the highly deviated wellbore is not completed in and producing from both quarter sections in the proration unit, the sum of the deliverability of the deviated well must be added to the deliverability of a vertical well in the other quarter section of the proration unit; or

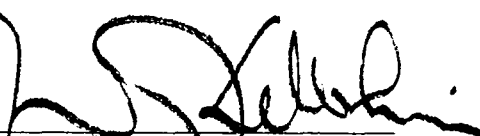
(c) Utilize the sum of the deliverabilities of the two existing vertical wellbores; whichever method results in the higher calculated deliverability for the proration unit.

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

WHEREFORE, Applicant requests that this matter be set for hearing on June 13, 1991 before a duly appointed Examiner of the Oil Conservation Division and, after notice and hearing as required by law, the Division enter its Order granting this application.

Respectfully submitted,

KELLAHIN, KELLAHIN & AUBREY

By: 

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

Attorneys for Applicant

TVD
0'

Surface Elevation: 6200'

MERIDIAN OIL INC.
Sunray 'G' #2R
SWSE/4 Sec. 21, T-31-N, R-09-W
San Juan County, New Mexico

4000'

4500'

5000'

5500'

6000'

KOP: 4766' (±100')

DEVIATION: 80° - 90°

T / MESAVERDE GROUP

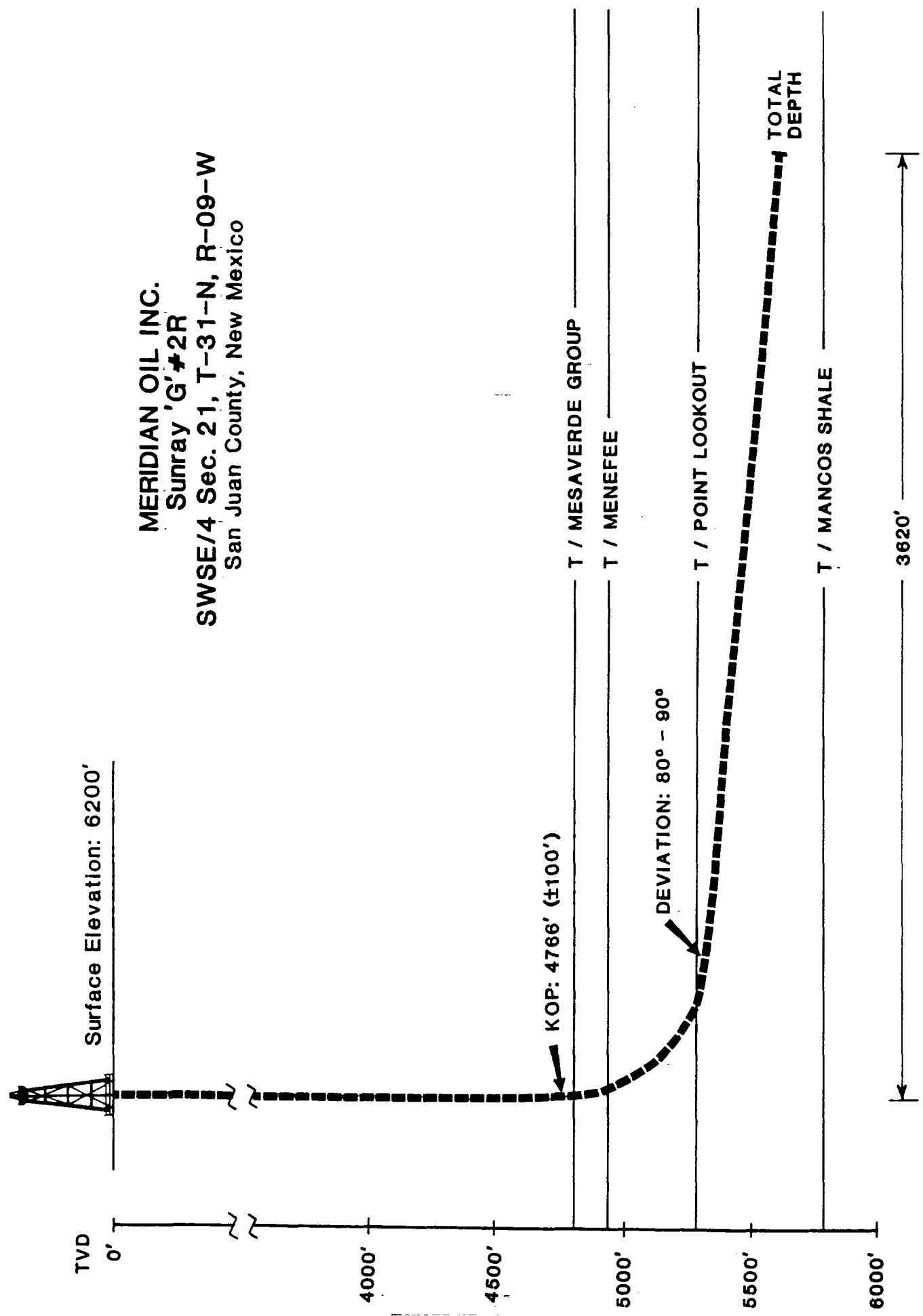
T / MENESEE

T / POINT LOOKOUT

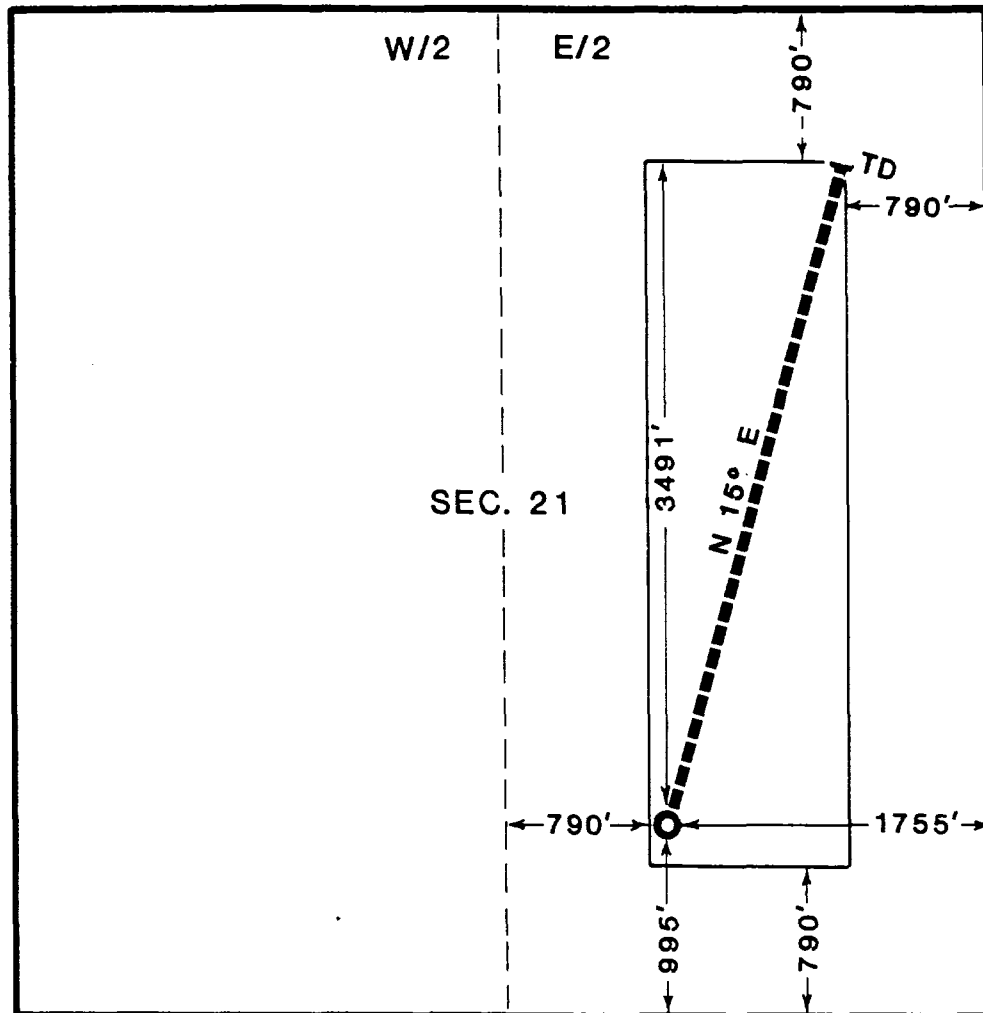
T / MANCOS SHALE

TOTAL
DEPTH

3620'



MERIDIAN OIL INC.
Sunray 'G' #2R
SWSE/4 Sec. 21, T-31-N, R-09-W
San Juan County, New Mexico



Surface Location: 995' FSL, 1755' FEL

Proposed Azimuth - 0° - 25°

EXHIBIT B

EXHIBIT "C"

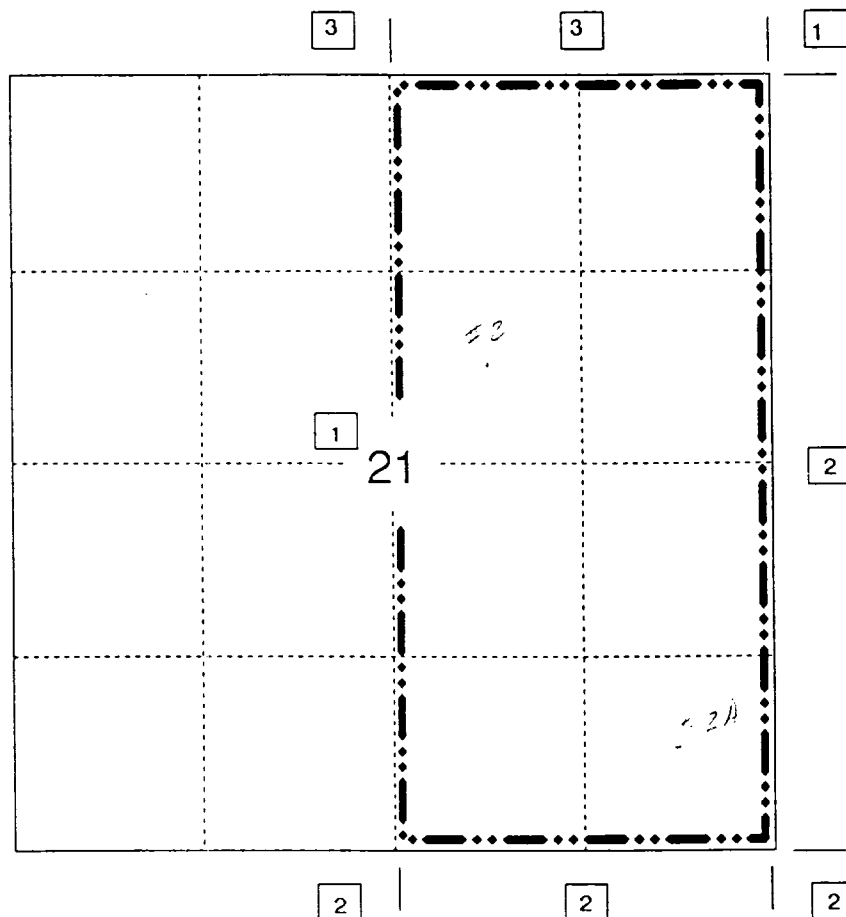
Amoco Production Inc.
P.O. Box 800
Denver, Colorado 80201

Texaco Inc.
P.O. Box 2100
Denver, Colorado 80237

OFFSET OPERATOR PLAT

Sunray G #2R

Township 31 North, Range 09 West



1) Meridian Oil Inc.

2) Amoco Production Company

P.O. Box 800, Denver, CO 80201

3) Texaco, Inc.

P.O. Box 52332, Houston, TX 77052

Sec. 21 Township No. 31 North of Range No. 9 West

790' drilling window

<p>④ 39.65</p> <p>Meridian Oil Inc. Sunray "G" Well No. 251 830' FSL - 1145' FSL Spud: 3/6/89 * Basin Fruitland Coal Gas Completion</p>	<p>③ 39.60</p>	<p>② 39.55</p>	<p>① 39.49</p>
<p>⑤ 39.56</p> <p>Meridian Oil Inc. Sunray "G" Well No. 1-A 1460' FSL - 1105' FSL Spud: 5/19/78 Blanco Mesaverde Completion W/2 dedication</p>	<p>⑥ 39.50</p>	<p>⑦ 39.45</p> <p>Meridian Oil Inc. Sunray "G" Well No. 2 1650' FSL - 900' FSL Spud: 5/28/55 Blanco Mesaverde Completion E/2 dedication</p>	<p>⑧ 39.39</p>
<p>Meridian Oil Inc. Sunray "G" Well No. 1-R 1455' FSL - 990' FSL Spud: 11/1/89 Blanco Mesaverde Completion W/2 dedication</p>	<p>⑪ 39.40</p>	<p>⑩ 39.35</p>	<p>⑨ 39.29</p>
<p>⑫ 39.30</p> <p>Meridian Oil Inc. Sunray "G" Well No. 1 990' FSL - 1650' FSL Spud: 2/17/54 Blanco Mesaverde Completion W/2 dedication</p>	<p>⑬ 39.25</p> <p>Standard window for a Blanco Mesaverde Well</p>	<p>39.19 ⑭ 39.19</p>	<p>Meridian Oil Inc. Sunray "G" Well No. 2A 1050' FSL - 900' FSL Spud: 1/31/79 Blanco Mesaverde Completion E/2 dedication</p>

Meridian Oil Inc.
Sunray "G" Well No. 250
800' FSL - 1175' FSL
Spud: 5/17/80
Basin Fruitland Coal Gas
Pool Completion

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

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

CASE NO. 9765
Order No. R-9037

APPLICATION OF MERIDIAN OIL, INC. FOR A
HIGHLY-DEVIATED DIRECTIONAL DRILLING PILOT
PROJECT, UNORTHODOX GAS WELL LOCATION AND
AN EXCEPTION TO RULE 2(b) OF THE SPECIAL
RULES GOVERNING THE BLANCO-MESAVERDE
POOL, SAN JUAN COUNTY, NEW MEXICO.

See Also
De Novo Commission
Order No. R-9037-R

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on September 20, 1989, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 8th day of November, 1989, 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) Division Case Nos. 9764 and 9765 were consolidated at the time of the hearing for the purpose of testimony.

(3) The applicant, Meridian Oil, Inc., seeks authority to initiate a highly-deviated directional drilling pilot project in Lots 3 and 4, S/2 NW/4, and the SW/4 (W/2 equivalent) of Section 4, Township 30 North, Range 9 West, NMPM, Blanco-Mesaverde Pool, San Juan County, New Mexico, forming a 322.70-acre gas spacing and proration unit for said pool, by drilling its Riddle Well No. 1R in the following manner:

Commencing drilling at an unorthodox surface location 250 feet from the North line and 830 feet from the West line (Unit D) of said Section 4, drilling to a true vertical depth of approximately 3830 feet, then commencing a medium radius curve in a southerly direction to encounter the top of the Blanco-Mesaverde Pool at approximately 4550 feet at which point the wellbore will be drilled to the base of the Blanco-Mesaverde Pool at a true vertical depth of approximately 5750 feet to a terminus at a standard bottomhole location in the SW/4 of said Section 4 being no closer than 790 feet from the outer boundary of the southern half of the subject proration unit.

(4) The applicant further seeks an exception to Rule 2(b) of the Special Rules and Regulations for the Blanco-Mesaverde Pool as promulgated by Division Order No. R-8170, as amended, allowing a third well to be drilled and produced on an existing proration unit in which are dedicated the Riddle Wells Nos. 1 and 1A located, respectively, in Units D and L of said Section 4.

(5) At the time of the hearing, the applicant further proposed that the deliverability for the proposed multi-well proration unit, which is utilized in calculating gas allowables in the Blanco-Mesaverde Pool, and which is normally determined by adding the deliverabilities of the two wells on the proration unit, be determined by whichever of the following two methods results in a higher deliverability:

- 1) Multiplying the deliverability of the proposed highly-deviated wellbore by two, or

- 2) Adding the deliverability of the proposed highly-deviated wellbore and one of the other two existing wells.

(6) The applicant presented geologic evidence which indicates that there may be gas-containing sand lenses within the Mesaverde formation underlying the subject proration unit which have not been encountered by the two existing wellbores, and therefore have not been produced.

(7) The evidence further indicates that the proposed highly-deviated wellbore will traverse the Mesaverde formation a lateral distance of approximately 3,662 feet.

(8) By exposing a greater amount of the Mesaverde formation to the highly-deviated wellbore and by encountering unproduced sand lenses and/or sand lenses with greater lateral permeability, the applicant hopes to significantly increase the ultimate gas recovery from the Mesaverde formation underlying the subject proration unit.

(9) Testimony indicates that the proposed highly-deviated wellbore, which is experimental in nature, requires an initial capital investment which is approximately three times higher than a conventional wellbore, and that the mechanical risk involved in the drilling of the subject well is also considerably higher than a conventional wellbore.

(10) At no point in its traverse of the Mesaverde formation does the proposed highly-deviated wellbore encroach upon the 790-foot setback required by the Special Rules and Regulations for the Blanco-Mesaverde Pool, as promulgated by said Order No. R-8170, as amended.

(11) No offset operator appeared and objected to the proposed pilot project and the proposal to produce all three of the wells on the proration unit; however, Amoco Production Company, an offset operator, appeared and expressed concern over the applicant's proposed method of determining the deliverability for the subject proration unit.

(12) Depending on the productivity of the proposed well, which is unknown at this time, both of the applicant's proposed methods of determining deliverability may in fact give the subject proration unit an unfair advantage over offset proration units in the Blanco-Mesaverde Pool.

(13) In order to assure that the correlative rights of offset operators and/or operators in the Blanco-Mesaverde Pool are being protected and until further data is available regarding the productivity and drainage characteristics of a well such as proposed, the deliverability of the subject gas proration unit, for purposes of calculating gas allowable, should be determined by whichever of the two following methods results in a higher deliverability:

- 1) Utilize the deliverability of the proposed highly deviated well, or
- 2) Utilize the sum of the deliverabilities of the two existing vertical wellbores.

(14) Approval of the proposed pilot project should result in the recovery of an additional amount of gas from the subject proration unit which would not otherwise be recovered by the two existing wells, thereby preventing waste, and will not violate correlative rights provided that the deliverability of the subject proration unit is calculated by one of the two methods described in Finding No. (13) above.

(15) Provided that the deliverability of the subject proration unit is determined as described in Finding No. (13) above, the applicant gains no advantage over offset operators in terms of gas allowable assigned to the subject proration unit, and therefore its request to be allowed to produce all three of the wells on the subject proration unit should be approved.

(16) The applicant should be allowed to produce the gas allowable assigned to the subject proration unit from the three subject wells in any proportion.

(17) The applicant should be required to conduct one or more directional surveys on the proposed highly-deviated wellbore in order that the direction, extent, and terminus of said wellbore may be determined and verified to be in compliance with the proposed bottomhole location.

(18) The applicant should further be required to submit copies of said directional survey(s) to the Santa Fe and Aztec offices of the Division.

(19) The applicant should notify the supervisor of the Aztec district office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.

IT IS THEREFORE ORDERED THAT:

(1) The application of Meridian Oil, Inc. for a highly deviated directional drilling pilot project in Lots 3 and 4, S/2 NW/4, and the SW/4 (W/2 equivalent) of Section 4, Township 30 North, Range 9 West, NMPM, Blanco-Mesaverde Pool, San Juan County, New Mexico, is hereby approved.

(2) The applicant is further authorized to drill its Riddle Well No. 1R at the following location and in the following manner:

Commencing drilling a vertical hole at an unorthodox surface location 250 feet from the North line and 830 feet from the West line (Unit D) of said Section 4 to a true vertical depth of approximately 3830 feet, then commencing a medium radius curve in a southerly direction to encounter the top of the Blanco-Mesaverde Pool at approximately 4550 feet at which point the wellbore will be drilled to the base of the Blanco-Mesaverde Gas Pool at a true vertical depth of approximately 5750 feet to a terminus at a standard bottomhole location in the SW/4 of said Section 4 being no closer than 790 feet from the outer boundary of the southern half of the subject proration unit.

(3) Lots 3 and 4, the S/2 NW/4, and the SW/4 (W/2 equivalent) of Section 4, Township 30 North, Range 9 West, NMPPM, forming a 322.70-acre gas spacing and proration unit shall be simultaneously dedicated to the above described well and to the existing Riddle Well Nos. 1 and 1A located, respectively, in Units D and L of said Section 4.

(4) The applicant shall be allowed to produce the gas allowable assigned to the subject proration unit from any of the three subject wells in any proportion.

(5) The applicant shall be required to conduct one or more directional surveys on the above-described highly deviated wellbore in order that the direction, extent, and terminus of said wellbore may be determined and verified to be in compliance with the approved bottomhole location.

(6) The applicant shall notify the supervisor of the Aztec district office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.

(7) The applicant shall submit copies of said directional survey(s) to the Santa Fe and Aztec offices of the Division upon completion.

(8) The deliverability of the subject gas proration unit, for purposes of calculating gas allowable, shall be determined by whichever of the two following methods results in a higher deliverability:

- 1) Utilize the deliverability of the proposed highly-deviated well, or
- 2) Utilize the sum of the deliverabilities of the two existing vertical wellbores.

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

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

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

CASE NO. 9764 De Novo
CASE NO. 9765 De Novo
Order No. R-9037-A

APPLICATION OF MERIDIAN OIL, INC. FOR A
HIGHLY-DEVIATED DIRECTIONAL DRILLING PILOT
PROJECT, UNORTHODOX GAS WELL LOCATION AND
AN EXCEPTION TO RULE 2(b) OF THE SPECIAL
RULES GOVERNING THE BLANCO-MESAVERDE POOL,
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 A.M. on February 15, 1990, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 22nd day of March, 1990, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS THAT:

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

(2) Commission case No. 9764 (de novo) and 9765 (de novo) were consolidated at the time of the hearing for the purpose of testimony, and upon motion of the applicant the records of cases 9764 and 9765 heard before Examiner David R. Catanach on September 20, 1989, were incorporated into the record in this case.

(3) The applicant has applied to the Commission for de novo hearing solely on the question of the allowable to be assigned to the proration unit in each case on which the applicant proposes to drill a highly deviated well.

(4) Based upon the record made before the examiner and the additional evidence presented before the Commission, Finding paragraphs (1) through (12) and (16) through (19) of Order R-9037 are incorporated herein by reference and adopted as findings of the Commission.

Page 2
Case No. 9765 De Novo
Order No. R-9037-A

(5) The applicant proposed in this hearing that the deliverability used to calculate the allowable for the proration unit be determined by multiplying the deliverability of the proposed highly-deviated wellbore by two, with the maximum allowable for the proration unit being no greater than the highest allowable for any proration unit in the Blanco-Mesa Verde Pool with the same acreage factor.

(6) Amoco Production Company appeared in opposition to the applicant, opposing only the proposed method of determining deliverability for the unit. Amoco proposed that the deliverability be determined in a similar manner to any other proration unit: by adding the deliverability of two of three wells in the proration unit.

(7) The procedure utilized by the Division to determine deliverability for three vertical well proration units in the Blanco-Mesa Verde Pool is to allow the operator to take the deliverability of the better of the two wells in one of the quarter sections and add it to the deliverability of the well in the other quarter section.

(8) The applicant presented evidence supporting the need for an incentive in the form of a higher allowable which would enable it to expend additional risk capital in the hopes of developing increased gas productivity from the proposed deviated well.

(9) Applicant's technical witnesses testified that the proposed highly-deviated wellbore was not likely to impair correlative rights of offset tracts because the theoretical drainage radius of the proposed well resembles a cylinder and would drain longitudinally through the entire proration unit instead of vertically.

(10) The applicant is the operator of unitized areas in the Blanco-Mesa Verde Pool in which it could have drilled the highly-deviated wells on proration units offset only by other unitized proration units, but it selected the subject proration unit because it is owned 100% by the applicant and does not require partnership approval for investment in the project and because the deviated well could replace an older less efficient well.

(11) Findings (13) through (15) of Division Order R-9037 were based upon a sound interpretation by the examiner of the existing rules regarding the determination of deliverabilities, but that reasoning did not provide an incentive for the applicant to undertake a pilot project which is considerably more expensive than conventional vertical drilling and which also offers the possibility of greater deliverability and ultimate recoveries of oil and gas.

(12) The applicant should be permitted to determine the deliverability factor for the proration unit by adding the deliverabilities of any two wells on the proration unit, in accordance with the options granted other operators in the field.

(13) Provided the proposed highly deviated wellbore produces from both quarter-sections within the proration unit, the operator should be permitted to add the deliverability of that well to the deliverability of either of the other wells

within the proration unit to determine the deliverability factor. If the proposed deviated well does not produce from both quarter-sections, then the deliverability factor should be determined in the conventional manner.

IT IS THEREFORE ORDERED THAT:

(1) Decretory paragraphs (1) through (7) of Oil Conservation Division Order R-9037 are incorporated herein by reference and adopted as a part of this order.

(2) The deliverability of the subject gas proration unit, for the purpose of calculating gas allowable, shall be determined as follows:

- (a) If the highly-deviated wellbore is completed in and produces from both quarter-sections in the proration unit, the sum of the deliverability of the deviated well plus the deliverability of either of the vertical wells shall be utilized; or
- (b) If the highly-deviated wellbore is not completed in and producing from both quarter-sections in the proration unit, the sum of the deliverability of the deviated well must be added to the deliverability of a vertical well in the other quarter section of the proration unit; or
- (c) Utilize the sum of the deliverabilities of the two existing vertical wellbores;

whichever method results in the higher calculated deliverability for the proration unit.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

WILLIAM R. HUMPHRIES, Member

William W. Weiss

WILLIAM W. WEISS, Member

William J. Lema

WILLIAM J. LEMAX, Chairman
& Secretary

dr/

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

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

CASE NO. 9764 De Novo
CASE NO. 9765 De Novo
Order No. R-9037-A

APPLICATION OF MERIDIAN OIL, INC. FOR A
HIGHLY-DEVIATED DIRECTIONAL DRILLING PILOT
PROJECT, UNORTHODOX GAS WELL LOCATION AND
AN EXCEPTION TO RULE 2(b) OF THE SPECIAL
RULES GOVERNING THE BLANCO-MESAVERDE POOL,
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 A.M. on February 15, 1990, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 22nd day of March, 1990, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS THAT:

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

(2) Commission case No. 9764 (de novo) and 9765 (de novo) were consolidated at the time of the hearing for the purpose of testimony, and upon motion of the applicant the records of cases 9764 and 9765 heard before Examiner David R. Catanach on September 20, 1989, were incorporated into the record in this case.

(3) The applicant has applied to the Commission for de novo hearing solely on the question of the allowable to be assigned to the proration unit in each case on which the applicant proposes to drill a highly deviated well.

(4) Based upon the record made before the examiner and the additional evidence presented before the Commission, Finding paragraphs (1) through (12) and (16) through (19) of Order R-9037 are incorporated herein by reference and adopted as findings of the Commission.

Page 2
Case No. 9765 De Novo
Order No. R-9037-A

(5) The applicant proposed in this hearing that the deliverability used to calculate the allowable for the proration unit be determined by multiplying the deliverability of the proposed highly-deviated wellbore by two, with the maximum allowable for the proration unit being no greater than the highest allowable for any proration unit in the Blanco-Mesa Verde Pool with the same acreage factor.

(6) Amoco Production Company appeared in opposition to the applicant, opposing only the proposed method of determining deliverability for the unit. Amoco proposed that the deliverability be determined in a similar manner to any other proration unit: by adding the deliverability of two of three wells in the proration unit.

(7) The procedure utilized by the Division to determine deliverability for three vertical well proration units in the Blanco-Mesa Verde Pool is to allow the operator to take the deliverability of the better of the two wells in one of the quarter sections and add it to the deliverability of the well in the other quarter section.

(8) The applicant presented evidence supporting the need for an incentive in the form of a higher allowable which would enable it to expend additional risk capital in the hopes of developing increased gas productivity from the proposed deviated well.

(9) Applicant's technical witnesses testified that the proposed highly-deviated wellbore was not likely to impair correlative rights of offset tracts because the theoretical drainage radius of the proposed well resembles a cylinder and would drain longitudinally through the entire proration unit instead of vertically.

(10) The applicant is the operator of unitized areas in the Blanco-Mesa Verde Pool in which it could have drilled the highly-deviated wells on proration units offset only by other unitized proration units, but it selected the subject proration unit because it is owned 100% by the applicant and does not require partnership approval for investment in the project and because the deviated well could replace an older less efficient well.

(11) Findings (13) through (15) of Division Order R-9037 were based upon a sound interpretation by the examiner of the existing rules regarding the determination of deliverabilities, but that reasoning did not provide an incentive for the applicant to undertake a pilot project which is considerably more expensive than conventional vertical drilling and which also offers the possibility of greater deliverability and ultimate recoveries of oil and gas.

(12) The applicant should be permitted to determine the deliverability factor for the proration unit by adding the deliverabilities of any two wells on the proration unit, in accordance with the options granted other operators in the field.

(13) Provided the proposed highly deviated wellbore produces from both quarter-sections within the proration unit, the operator should be permitted to add the deliverability of that well to the deliverability of either of the other wells

within the proration unit to determine the deliverability factor. If the proposed deviated well does not produce from both quarter-sections, then the deliverability factor should be determined in the conventional manner.

IT IS THEREFORE ORDERED THAT:

(1) Decretory paragraphs (1) through (7) of Oil Conservation Division Order R-9037 are incorporated herein by reference and adopted as a part of this order.

(2) The deliverability of the subject gas proration unit, for the purpose of calculating gas allowable, shall be determined as follows:

- (a) If the highly-deviated wellbore is completed in and produces from both quarter-sections in the proration unit, the sum of the deliverability of the deviated well plus the deliverability of either of the vertical wells shall be utilized; or
- (b) If the highly-deviated wellbore is not completed in and producing from both quarter-sections in the proration unit, the sum of the deliverability of the deviated well must be added to the deliverability of a vertical well in the other quarter section of the proration unit; or
- (c) Utilize the sum of the deliverabilities of the two existing vertical wellbores;

whichever method results in the higher calculated deliverability for the proration unit.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

WILLIAM R. HUMPHRIES, Member

William W. Weiss
WILLIAM W. WEISS, Member

William J. Lema
WILLIAM J. LEMAX, Chairman
& Secretary

dr/