

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife  
EMMA B. EDWARDS,  
Plaintiffs,

vs.

JEROME P. MCHUGH, et al.,  
Defendants.

ENDORSED  
FILED IN MY OFFICE THIS

11 25 1983

ANGELA ROMERO  
Acting, District Court Clerk

No. RA 85-373 (C)

ANSWER OF PLAINTIFFS  
TO COUNTERCLAIM OF  
KENAI OIL AND GAS, INC.

Plaintiffs, for their Answer to the Counterclaim of defendant Kenai Oil and Gas, Inc., ("Kenai") state:

1. Plaintiffs admit paragraph 1 of the Counterclaim.
2. Plaintiffs admit the first sentence of paragraph 2 of the Counterclaim. Plaintiffs deny the second sentence of paragraph 2 of the Counterclaim. Plaintiffs affirmatively state that they committed no procedural errors; instead, the federal court misapprehended the applicable law. Rather than pursue a lengthy appeals process in federal court, plaintiffs pursued their option of filing suit in this Court.

3. Plaintiffs deny paragraphs 3 and 4 of the Counterclaim.

FIRST DEFENSE

3. Kenai has not prevailed upon the merits of its claim and thus is not entitled to attorneys fees for the federal court action or for this action.

SECOND DEFENSE

4. Any entitlement of Kenai to attorneys fees regarding the federal court action should have been raised in federal court. Since it was not, Kenai's rights were waived.

THIRD DEFENSE

5. Kenai has failed to state a claim upon which relief may be granted.

WHEREFORE, Plaintiffs pray for an order dismissing the Counterclaim of Kenai, awarding them their costs, and for such further relief as the Court deems proper.

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

By James Bruce  
Owen M. Lopez  
James Bruce  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Certificate of Service

We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 5th day of March, 1986.

James Bruce  
Hinkle, Cox, Eaton, Coffield & Hensley  
P.O. Box 2068  
Santa Fe, NM 87504-2068

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373 (C)

JEROME P. MCHUGH, et al.,

Defendants.

ANSWER OF PLAINTIFFS  
TO COUNTERCLAIM OF  
JEROME P. MCHUGH

Plaintiffs, for their Answer to the Counterclaim of defendant Jerome P. McHugh ("McHugh"), state:

1. Plaintiffs admit the first sentence of paragraph 38 of the Counterclaim. Plaintiffs deny the second sentence of paragraph 38 of the Counterclaim. Plaintiffs affirmatively state that they committed no procedural errors; instead, the federal court misapprehended the applicable law. Rather than pursue a lengthy appeals process in federal court, plaintiffs pursued their option of filing suit in this Court.

2. Plaintiffs deny paragraphs 39 and 40.

FIRST DEFENSE

3. McHugh has not prevailed upon the merits of his claim and thus is not entitled to attorneys fees for the federal court action or for this action.

SECOND DEFENSE

ENDORSED  
FILED IN MY OFFICE THIS  
MAR 05 1996  
ANGELA ROMERO  
Acting, District Court Clerk

4. Any entitlement of McHugh to attorneys fees regarding the federal court action should have been raised in federal court. Since it was not, McHugh's rights were waived.

THIRD DEFENSE

5. McHugh has failed to state a claim upon which relief may be granted.

WHEREFORE, Plaintiffs pray for an order dismissing the Counterclaim of McHugh, awarding them their costs, and for such further relief as the Court deems proper.

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

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Post Office Box 2068  
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Certificate of Service

We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 5<sup>th</sup> day of March, 1986.

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P.O. Box 2068  
Santa Fe, NM 87504-2068

LAW OFFICES  
MODRALL, SPERLING, ROEHL, HARRIS & SISK

A PROFESSIONAL ASSOCIATION

500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000

POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103

TELECOPIERS (505) 247-2299 (505) 242-5352  
(505) 848-1800

JAMES E. SPERLING  
JOSEPH E. ROEHL  
DANIEL A. SISK  
ALLEN C. DEWEY, JR.  
FRANK H. ALLEN, JR.  
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JOHN E. HEER III  
J. DOUGLAS FOSTER  
DOUGLAS R. VADNAIS  
GEOFFREY D. RIEDER

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BENJAMIN SILVA, JR.  
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JOHN F. SIMMS  
(1885-1954)

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(1902-1977)

AUGUSTUS T. SEYMOUR  
(1907-1965)

GEORGE T. HARRIS, JR.  
(1922-1985)

LELAND S. SEDBERRY, JR.  
(1930-1985)

November 16, 1987

SANTA FE OFFICE  
119 EAST MARCY  
SUITE 200  
SANTA FE, NEW MEXICO 87501  
(505) 983-2020

LAS CRUCES OFFICE  
210 A WEST LAS CRUCES AVENUE  
LAS CRUCES, NEW MEXICO 88004  
(505) 523-2087

LAS CRUCES AFFILIATE  
DARDEN, VALENTINE & DRIGGERS, P.C.  
200 WEST LAS CRUCES AVENUE  
LAS CRUCES, NEW MEXICO 88004  
(505) 526-6655

Robert G. Stovall, Esq.  
P.O. Box 10021  
Farmington, New Mexico 87499

RE: Edwards v. McHugh,  
Rio Arriba County No. RA 85-373(c)

Dear Bob:

Enclosed is the original order of dismissal in the captioned case. I would appreciate your approving it and forwarding it to Tom Hnasko. By copy of this letter I am requesting Tom to obtain the signatures of Jeff Taylor and Paul Cooter.

Very truly yours,



J. DOUGLAS FOSTER

JDF/pap  
Enclosure

cc: Thomas M. Hnasko, Esq.  
Jeff Taylor, Esq.  
Mary Ann Green, Esq.  
Paul A. Cooter, Esq.

FIRST JUDICIAL DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

No. RA 85-373(C)

FLOYD E. EDWARDS, et al.,  
Plaintiffs,

v.

JEROME P. McHUGH, et al.,  
Defendants.

ORDER OF DISMISSAL

This matter came before the Court on the motion by defendant Jerome P. McHugh for a dismissal of this action with prejudice. The Court has considered the motion and notes that all parties have indicated their consent to the motion by approving the proposed Order of Dismissal. The Court therefore concludes that the motion should be granted, and it is, therefore,

ORDERED that this action be and hereby is dismissed with prejudice.

---

DISTRICT JUDGE


APPROVED:

Marla Williams  
HOLME, ROBERTS & OWEN  
1700 Broadway  
Denver, CO 80290

and


MODRALL, SPERLING, ROEHL,  
HARRIS & SISK, P.A.

BY

  
J. DOUGLAS FOSTER  
Attorneys for Defendant McHugh  
P.O. Box 2168  
Albuquerque, NM 87103  
(505) 848-1800


HINKLE, COX, EATON, COFFIELD & HENSLEY

BY

  
THOMAS M. HNASKO  
Attorneys for Plaintiff  
P.O. Box 2068  
Santa Fe, NM 87504  
(505) 982-4554

OIL CONSERVATION DIVISION

BY

  
JEFF TAYLOR  
P.O. Box 2088  
Santa Fe, NM 87501  
(505) 827-5805

POPEJOY & LEACH

BY Mary Ann Green  
MARY ANN GREEN  
Attorneys for Defendant Evans  
P.O. Box 2107  
Albuquerque, NM 87103

RODEY, DICKASON, SLOAN, AKIN  
& ROBB, P.A.

BY \_\_\_\_\_  
PAUL A. COOTER  
Attorneys for Defendants  
Kenai and Mazzola  
P.O. Box 1357  
Santa Fe, NM 87504  
(505) 984-0100

BY \_\_\_\_\_  
ROBERT G. STOVALL  
Attorney for Dugan  
P.O. Box 10021  
Farmington, NM 87499  
(505) 326-3359



LAW OFFICES

MODRALL, SPERLING, ROEHL, HARRIS & SISK

JAMES E. SPERLING  
 JOSEPH E. ROEHL  
 DANIEL A. SISK  
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 KATHRYN D. LUCERO  
 SUZANNE R. SPIERS  
 TIMOTHY R. VAN VALEN  
 TIMOTHY L. GARCIA

RECEIVED  
 JUL 31 1987  
 OIL CONSERVATION DIVISION  
 SANTA FE

ATTORNEYS PROFESSIONAL ASSOCIATION  
 500 FOURTH STREET NW  
 SUNWEST BUILDING, SUITE 1000  
 POST OFFICE Box 2168  
 BOQUERON, NEW MEXICO 87103  
 TELECOPIERS (505) 247-2299 (505) 242-5352  
 (505) 848-1800

JOHN F. SIMMS (1885-1954)  
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SANTA FE OFFICE  
 119 EAST MARCY  
 SUITE 200  
 SANTA FE, NEW MEXICO 87501  
 (505) 983-2020

LAS CRUCES OFFICE  
 210 A WEST LAS CRUCES AVENUE  
 LAS CRUCES, NEW MEXICO 88004  
 (505) 523-2087

LAS CRUCES AFFILIATE  
 DARDEN, VALENTINE & DRIGGERS, P.C.  
 200 WEST LAS CRUCES AVENUE  
 LAS CRUCES, NEW MEXICO 88004  
 (505) 526-6655

July 29, 1987

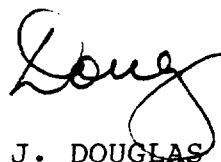
Tom Hnasko, Esq.  
 HINKLE, COX, EATON, COFFIELD & HENSLEY  
 P.O. Box 2068  
 Santa Fe, New Mexico 87504-2068

RE: Floyd E. Edwards v. Jerome P. McHugh, et al.;  
 Rio Arriba County Cause No. RA 85-373(C)

Dear Tom:

Today I received your letter of July 28 and enclosed form of partial summary judgment. I am unable to agree to your proposed judgment, because it contains several inaccurate or incomplete findings, at least according to my interpretation of Judge Serna's ruling. Perhaps if you had forwarded this a little sooner we would have had the opportunity to exchange drafts and work out the differences. Unfortunately, I am leaving the office in the morning, and do not expect to return to the office until August 17. Since you already sent your proposed judgment to Judge Serna, I have written him indicating my objection to the entry of this judgment and requesting that any hearing on presentment of the judgment be delayed until after August 17.

Very truly yours,



J. DOUGLAS FOSTER

JDF/pap

cc: Kester Oman, Esq.  
 Jeff Taylor, Esq. ✓  
 Mary Ann Green, Esq.  
 Paul Cooter, Esq.  
 Bob Stovall, Esq.

# HINKLE, COX, EATON, COFFIELD & HENSLEY

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA

POST OFFICE BOX 3580

MIDLAND, TEXAS 79702

(915) 683-4691

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AMARILLO, TEXAS 79105

(806) 372-5569

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POST OFFICE BOX 10

ROSWELL, NEW MEXICO 88201

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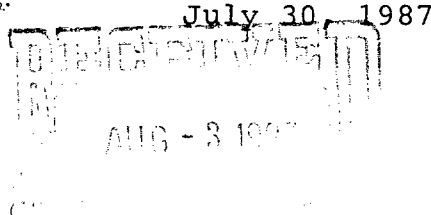
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PAUL W. EATON  
CONRAD E. COFFIELD  
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C. D. MARTIN  
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JEFFREY L. FORNACIARI  
JEFFREY D. HEWETT\*  
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MICHAEL F. MILLERICK  
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WILLIAM R. JOHNSON  
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TIANE L. SOMMER  
JOSEPH J. MASTROGIOVANNI, JR.\*  
ELLEN S. CASEY  
JAMES C. BROCKMANN  
SUSAN L. NIESER\*

OF COUNSEL  
ROY C. SNOODGRASS, JR.  
O. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT

CLARENCE E. HINKLE (1901-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)

\*NOT LICENSED IN NEW MEXICO



J. Douglas Foster, Esq.  
Modrall, Sperling, Roehl,  
Harris & Sisk  
Post Office Box 2168  
Albuquerque, New Mexico 87103

Re: Floyd Edwards et ux v. Jerome P. McHugh, et al.,  
Rio Arriba District Court No. RA-85-373(C)

Dear Doug:

I've received your letter dated July 29, 1987, and it would be an understatement to say that I'm not pleased. We are the prevailing party and have the right to submit a judgment. I fail to see why you did not call me with any suggested revisions you had and ask me to simply hold off on presenting the proposed judgment until we had resolved our differences. Instead, I am left with the impression that you and your client are attempting to procrastinate and place as much undue hardship on my clients as possible.

When you return on August 17, I would appreciate it if you would give me a call and tell me specifically what aspects of the proposed judgment do not, in your view, conform to the judge's oral announcement. The only issue I can see is whether a remand is necessary in this case. However, I thought we all had agreed that the Edwards would be bound by Order R-7407-E because they had actual knowledge of that hearing.

Although you have violated the local rule by not setting forth your specific objections to the proposed judgment in a timely manner, I am willing to wait until you return so we may discuss this matter.

J. Douglas Foster, Esq.  
July 30, 1987  
Page 2

Very truly yours,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

A handwritten signature in cursive script, appearing to read "Hnasko", written over the printed name of the signatory.

Thomas M. Hnasko

TMH:jr

cc: Mr. and Mrs. Floyd Edwards  
Kester Oman, Esq.  
Jeffrey Taylor, Esq.  
Mary Ann Green, Esq.  
Paul Cooter, Esq.  
Robert Stovall, Esq.

LAW OFFICES

MODRALL, SPERLING, ROEHL, HARRIS & SISK

A PROFESSIONAL ASSOCIATION

500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000  
POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103  
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SUITE 200  
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LARRY P. AUSERMAN  
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J. DOUGLAS FOSTER  
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JOHN S. THAL  
BENJAMIN SILVA, JR.  
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(1922-1985)

LELAND S. SEDBERRY, JR.  
(1930-1985)

July 29, 1987

The Honorable Patricio M. Serna  
SANTA FE COUNTY JUDICIAL COMPLEX  
P.O. Box 2268  
Santa Fe, New Mexico 87504-2268

RE: Floyd Edwards, et al., v. Jerome P. McHugh, et al.;  
Rio Arriba County Cause No. RA 85-373(C)

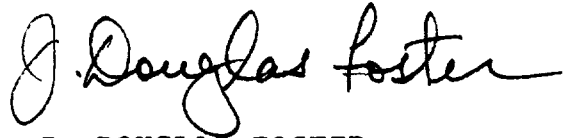
Dear Judge Serna:

Today I received Mr. Hnasko's proposed form of partial summary judgment which he forwarded to you with his letter of July 28. As I have informed Mr. Hnasko, I am unable to agree to the form of judgment due to what I perceive to be several inaccurate and/or incomplete factual findings.

As I understand Local Rule 24, the procedure we now follow is that Mr. Hnasko presents his proposed form of judgment to the Court at a time and date set by the Court. Objecting parties have until one day before the date of presentment to submit written objections. The purpose of my letter is to request that the Court set the date of presentment for not sooner than August 24. I make this request because I will be out of the office from tomorrow through August 16. I anticipate submitting written objections to Mr. Hnasko's proposed form of judgment during the week of August 17.

Thank you for your consideration of this request.

Very truly yours,

A handwritten signature in cursive script that reads "J. Douglas Foster". The signature is written in black ink and is positioned above the printed name.

J. DOUGLAS FOSTER

JDF/pap

cc: Thomas Hnasko, Esq.  
Mary Ann Green, Esq.  
Paul Cooter, Esq.  
Jeff Taylor, Esq. ✓  
Robert G. Stovall, Esq.  
Kester Oman, Esq.

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

OCT - 1 1987

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. McHUGH, et al.,

Defendants.

NOTICE OF SETTING

1. Specific matters requested to be heard: Matters not disposed of by partial summary judgment, including: the amount of royalties due to the Edwards under the Court's partial summary judgment; cancellation of Lease No. 1 for failure of defendant McHugh to pay undisputed royalties; pre-judgment interest owed on undisputed royalties wrongfully withheld by defendant McHugh, and the amount of attorneys' fees to be awarded the Edwards.
2. Date: November 12, 1987, at 1:30 p.m.
3. Judge to whom assigned Hon. Patricio M. Serna.
4. Non-Jury XXX Jury \_\_\_\_\_
5. Estimated total time required for hearing all parties and witnesses one-half day.
6. Pre-Trial conference needed? Yes \_\_\_\_\_ No XXX
7. Name and address of all counsel or parties pro se entitled to notice:

J. Douglas Foster, Esq.  
MODRALL, SPERLING, ROEHL,  
HARRIS & SISK, P.A.  
Post Office Box 2168  
Albuquerque, New Mexico 87103

Mary Ann Green, Esq.  
POPEJOY & LEACH  
215 Gold Avenue S. W.  
P. O. Box 2107  
Albuquerque, NM 87103

Paul Cooter, Esq.  
RODEY, DICKSON, SLOAN,  
AKIN & ROBB

Marla Williams, Esq.  
HOLME, ROBERTS & OWEN  
1700 Broadway


Post Office Box 1357  
Santa Fe, New Mexico 87501

Denver, Colorado 80290

Jeff Taylor, Esq.  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Robert G. Stovall, Esq.  
Post Office Box 10021  
Farmington, NM 87499

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

By   
Thomas M. Hnasko  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

CERTIFICATE OF SERVICE

I certify that I mailed a copy of the foregoing Notice of Setting to all counsel of record on this 30 day of September, 1987.

  
Thomas M. Hnasko

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, et al.,

Defendants.

CERTIFICATE OF SERVICE

I hereby certify that an original and one (1) copy of Plaintiffs' Second Set of Interrogatories and Second Request for Production of Documents Directed to Defendant Jerome P. McHugh were mailed to:

J. Douglas Foster, Esq.  
Modrall, Sperling, Roehl,  
Harris & Sisk  
Post Office Box 2168  
Albuquerque, NM 87103

and that a copy of the foregoing pleadings was mailed to the following counsel of record on this 30 day of September, 1987:

Paul Cooter, Esq.  
Rodey, Dickason, Sloan,  
Akin & Robb  
Post Office Box 1357  
Santa Fe, New Mexico 87501

Marla Williams, Esq.  
Holme, Roberts & Owen  
1700 Broadway  
Denver, Colorado 80290

Jeff Taylor, Esq.  
Oil Conservation Division  
Post Office Box 2088  
Santa Fe, New Mexico 87501

Robert G. Stovall, Esq.  
Post Office Box 10021  
Farmington, NM 87499

Mary Ann Green, Esq.  
Popejoy & Leach  
Post Office Box 2107  
Albuquerque, New Mexico 87103



HINKLE, COX, EATON,  
COFFIELD & HENSLEY



---

Thomas M. Hnasko  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs  
Floyd and Emma Edwards

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. McHUGH, et al.,

Defendants.

PLAINTIFFS' SECOND SET OF INTERROGATORIES  
DIRECTED TO DEFENDANT JEROME P. McHUGH

TO: Jerome P. McHugh  
c/o J. Douglas Foster, Esq.  
Modrall, Sperling, Roehl  
Harris & Sisk  
Post Office Box 2168  
Albuquerque, New Mexico 87103

You are directed to answer the following interrogatories within thirty (30) days of service and mail them to Thomas M. Hnasko, Hinkle, Cox, Eaton, Coffield & Hensley, Post Office Box 2068, Santa Fe, New Mexico 87504-2068, attorneys for plaintiffs.

INTERROGATORY NO. 1: State the name, address, business telephone number, and title or position of each person who answered these interrogatories, assisted in answering these interrogatories, or provided any information concerning any answer to the interrogatories. Identify the interrogatory each particular person

answered, assisted in answering, or for which that person provided information.

ANSWER:

INTERROGATORY NO. 2: Please provide, on a well by well basis, the amount of royalties from oil production to which the Edwards are entitled, calculated on the basis of 40 acre spacing, for each individual month from March 1, 1984 to the date of your answer to this interrogatory. Please identify the name and location of each well that produced oil from which the Edwards' royalty entitlement was calculated.

ANSWER:

INTERROGATORY NO. 3: Please explain in detail, including any relevant calculations, how you determined your answer to Interrogatory No. 2, and identify all documents you referred to or relied on in answering Interrogatory No. 2.

ANSWER:

INTERROGATORY NO. 4: Please provide, on a well by well basis, the amount of royalties from gas production to which the Edwards are entitled, calculated on the basis of 40 acre spacing, for each individual month from March 1, 1984 to the date of your answer to this interrogatory. Please identify the name and location of each well that produced gas from which the Edwards' royalty entitlement was calculated.

ANSWER:

INTERROGATORY NO. 5: Please explain in detail, including any relevant calculations, how you determined your answer to Interrogatory No. 4, and identify all documents you referred to or relied on in answering Interrogatory No. 4.

ANSWER:

INTERROGATORY NO. 6: Please provide, on a well by well basis, the amount of royalties from oil production to which the Edwards are entitled, calculated on the basis of 320 acre spacing, for each individual month from March 1, 1984 to the date of your answer to this interrogatory. Please identify the name and location of each well that produced oil from which the Edwards' royalty entitlement was calculated.

ANSWER:



INTERROGATORY NO. 7: Please explain in detail, including any relevant calculations, how you determined your answer to Interrogatory No. 6, and identify all documents you referred to or relied on in answering Interrogatory No. 6.

ANSWER:

INTERROGATORY NO. 8: Please provide, on a well by well basis, the amount of royalties from gas production to which the Edwards are entitled, calculated on the basis of 320 acre spacing, for each individual month from March 1, 1984 to the date of your answer to this interrogatory. Please identify the name and location of each well that produced gas from which the Edwards' royalty entitlement was calculated.

ANSWER:

INTERROGATORY NO. 9: Please explain in detail, including any relevant calculations, how you determined your answer to Interrogatory No. 8, and identify all documents you referred to or relied on in answering Interrogatory No. 8.

ANSWER:

INTERROGATORY NO. 10: Please provide, on a well by well basis, the amount of royalties from oil production to which the Edwards are entitled, calculated on the basis of 640 acre spacing, for each individual month from June 8, 1987 to the date of your answer to this interrogatory. Please identify the name and location of each well that produced oil from which the Edwards' royalty entitlement was calculated.

ANSWER:

INTERROGATORY NO. 11: Please explain in detail, including any relevant calculations, how you determined your answer to Interrogatory No. 10, and identify all documents you referred to or relied on in answering Interrogatory No. 10.

ANSWER:

INTERROGATORY NO. 12: Please provide, on a well by well basis, the amount of royalties from gas production to which the Edwards are entitled, calculated on the basis of 640 acre spacing, for each individual month from June 8, 1987 to the date of your answer to this interrogatory. Please identify the name and location of each well that produced gas from which the Edwards' royalty entitlement was calculated.

ANSWER:

INTERROGATORY NO. 13: Please explain in detail, including any relevant calculations, how you determined your answer to Interrogatory No. 12, and identify all documents you referred to or relied on in answering Interrogatory No. 12.

ANSWER:

INTERROGATORY NO. 14: From March 1, 1984 to the date of your answer to this interrogatory, identify all purchasers of gas or oil from which the Edwards' royalty entitlement has been calculated and the periods during which each such person or entity purchased gas or oil.

ANSWER:



INTERROGATORY NO. 15: Please state whether any person identified in your answer to Interrogatory 1 and responsible for the calculation of the royalties will be available for trial. If that person will not be available for trial, please state the reasons for his or her anticipated absence.

ANSWER:

INTERROGATORY NO. 16: Please identify each and every witness you intend to call at trial, a brief description of their anticipated testimony, and a brief description of each witnesses's work-related responsibilities.

ANSWER:

INTERROGATORY NO. 17: Please identify and describe all exhibits you intend to introduce at trial and through whom the exhibit will be introduced.

ANSWER:

Please be advised that these interrogatories shall be deemed to be continuing in nature. Accordingly, if you or your attorneys receive additional information responsive to any of these interrogatories, you are directed immediately to supplement your answers and provide the supplementation to counsel for plaintiffs.

Respectfully submitted,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY



---

Thomas M. Hnasko  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs  
Floyd and Emma Edwards

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, et al.,

Defendants.

PLAINTIFFS' SECOND REQUEST FOR PRODUCTION OF  
DOCUMENTS DIRECTED TO DEFENDANT JEROME P. MCHUGH

TO: Jerome P. McHugh  
c/o J. Douglas Foster, Esq.  
Modrall, Sperling, Roehl  
Harris & Sisk  
Post Office Box 2168  
Albuquerque, New Mexico 87103

You are directed to produce copies of all documents responsive to the following document request within thirty (30) days of service and mail them or otherwise make them available to Thomas M. Hnasko, Hinkle, Cox, Eaton, Coffield & Hensley, Post Office Box 2068, Santa Fe, New Mexico 87504-2068, attorneys for plaintiffs.

REQUEST FOR PRODUCTION NO. 1: Produce all documents identified in your answers to Interrogatory Nos. 3, 5, 7, 9, 11, 13, and 17.

Please be advised that this document request shall be deemed to be continuing in nature. Accordingly, if you or your attorneys receive or discover additional documents responsive to the request, you are directed immediately to supplement your

response and provide a copy of such documents to counsel for plaintiffs.

Respectfully submitted,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY



---

Thomas M. Hnasko  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs  
Floyd and Emma Edwards

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS, et ux.,

Plaintiffs,

vs.

JEROME P. McHUGH; JOSEPH R. MAZZOLA; DON EVANS; KENAI OIL AND GAS, INC.; the NEW MEXICO OIL CONSERVATION COMMISSION, DUGAN PRODUCTION CORP., and McHUGH LINDRETH 1983 LTD. and its general partner, KINDERMACH PARTNERS,

Defendants.

PARTIAL SUMMARY JUDGMENT

This matter came before the Court on the motions for summary judgment by defendant Jerome P. McHugh and defendant Dugan Production Corporation and on the cross-motion for partial summary judgment by plaintiffs. The Court has considered the pleadings, affidavits, and legal memoranda submitted by the parties and the oral arguments of counsel. The Court finds that:

1. The failure of the New Mexico Oil Conservation Commission to give plaintiffs actual notice of Case No. 7980 violated plaintiffs' due process rights as guaranteed by the United States and New Mexico Constitutions and, therefore, order R-7407 is void as to plaintiffs.

2. As a result, plaintiffs are entitled to royalties from the E.T. No. 1 and Janet No. 3 wells calculated on the basis of

RECEIVED  
AUG 24 1987

**ENDORSED**

AUG 20 1987

FIRST JUDICIAL DISTRICT COURT  
SANTA FE, RIO ARRIBA &  
LOS ALAMOS COUNTIES  
P.O. Box 2268  
Santa Fe, NM 87504-2268  
No. RA 85-373(C)

40 acre spacing for the period March 1, 1984, the effective date of order R-7407, to the effective date of Order R-7407-E as that date is ultimately determined.

3. Defendant Jerome P. McHugh pooled the plaintiffs' leases into 320 acre tracts in reasonable reliance on the apparent validity of Commission Order R-7407, because notice by publication was authorized by Section 70-2-7 N.M.S.A. (1978).

4. In light of defendant McHugh's reasonable reliance, it would be inequitable to cancel the leases on account of the due process violation, and the leases which are subject to plaintiffs' motion for partial summary judgment are therefore determined to be in full force and effect.

Having made the foregoing findings, it is, therefore, ordered that the motions for summary judgment by defendants Jerome P. McHugh and Dugan Production Corporation be and hereby are denied, that the motion for partial summary judgment by the plaintiffs be and hereby is granted in accordance with the above findings, and that all other matters remaining in the case are reserved for further proceedings.

**PATRICIO M. SERNA**

---

District Judge

Approved:

HOLME, ROBERTS & OWEN  
Marla Williams  
1700 Broadway  
Denver, Colorado 80290  
(303) 861-7000

and



MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By approved telephonically on 8/19 at 3:26 p.m.  
J. Douglas Foster by TMA  
Attorneys for Defendant,  
Jerome P. McHugh  
Post Office Box 21689  
Suite 1000, Sunwest Building  
500 Fourth Street, N. W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

HINKLE, COX, EATON, COFFIELD & HENSLEY

By Thomas M. Hnasko  
Thomas M. Hnasko  
Attorneys for Plaintiff  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

OIL CONSERVATION DIVISION  
ENERGY AND MINERALS DEPT.

By approved telephonically on 8/20 at 11:32 am, by TMA  
Jeff Taylor  
Attorney for Defendant  
N.M. Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico 87501  
(505) 827-5805

POPEJOY & LEACH

By approved telephonically on 8/20 at 11:29 am, by TMA  
Mary Ann Green  
Attorneys for Defendant  
Don Evans  
Post Office Box 2107  
Albuquerque, New Mexico 87103  
(505) 243-3322

RODEY, DICKASON, SLOAN, AKIN  
ROBB, P.A.

By approved telephonically on 8/20 at 11:33 am,  
by TMD  
Paul A. Cooter  
Attorneys for Defendants  
Kenai Oil and Gas and  
Joseph R. Mazzola  
Post Office Box 1357  
Santa Fe, New Mexico 87504  
(505) 984-0100

By approved telephonically on 8/20 at 3:37 pm,  
by TMD  
Robert Stovall  
Attorney for Defendant  
Dugan Corporation  
Post Office Box 10021  
Farmington, New Mexico 87499  
(505) 326-3359

HINKLE, COX, EATON, COFFIELD & HENSLEY

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

1700 TEXAS AMERICAN BANK BUILDING  
POST OFFICE BOX 9238  
AMARILLO, TEXAS 79105  
(806) 372-5569

700 UNITED BANK PLAZA  
POST OFFICE BOX 10  
ROSWELL, NEW MEXICO 88201  
(505) 622-6510

LEWIS C. COX  
PAUL W. EATON  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.  
OWEN M. LOPEZ  
DOUGLAS L. LUNSFORD  
T. CALDER EZZELL, JR.  
WILLIAM B. BURFORD\*  
RICHARD E. OLSON  
RICHARD A. SIMMS  
RICHARD R. WILFONG\*  
STEVEN D. ARNOLD  
JAMES J. WECHSLER  
NANCY S. CUSACK  
JEFFREY L. FORNACIARI  
JEFFREY D. HEWETT\*  
JAMES BRUCE  
JERRY F. SHACKELFORD\*  
JEFFREY W. HELLBERG\*

ALBERT L. PITTS  
THOMAS M. HNASKO  
FRED W. SCHWENDIMANN  
THOMAS D. HAINES, JR.  
MICHAEL F. MILLERICK  
FRANKLIN H. MCCALLUM\*  
ALLEN G. HARVEY  
GREGORY J. NIBERT  
DAVID T. MARKETTE\*  
JAMES R. MCADAMS\*  
JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM P. JOHNSON  
KAREN M. RICHARDSON\*  
TIANE L. SOMMER  
JOSEPH J. MASTROGIOVANNI, JR.\*  
ELLEN S. CASBY  
JAMES C. BROCKMANN  
SUSAN L. NIESER\*

August 21, 1987

OF COUNSEL  
ROY C. SNODGRASS, JR.  
O. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT

CLARENCE E. HINKLE (1901-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)

\*NOT LICENSED IN NEW MEXICO

J. Douglas Foster, Esq.  
Modrall, Sperling, Roehl,  
Harris & Sisk  
Post Office Box 2168  
Albuquerque, New Mexico 87103

Re: Floyd Edwards et ux v. Jerome P. McHugh, et al.,  
Rio Arriba District Court No. RA-85-373(C)

Dear Doug:

Judge Serna has informed me that he is able to hold a hearing on damages fairly soon. As you and I have discussed, I believe the hearing would be limited to ascertaining the amount of royalties due to the Edwards, based on 40 acre spacing, from March 1, 1984, to approximately June 8, 1987. I told Judge Serna that you and I thought we could agree on the amount of royalties due. Accordingly, I would appreciate if you would write or call me and inform me of some reasonable timetable by which we could enter into a stipulated final judgment. It is very important that a final judgment be entered as soon as possible, so post-judgment interest may begin to accrue.

In light of the foregoing, I would appreciate it if you could provide, in addition to royalty calculations based on 40 acre spacing, the royalty calculations based on 320 acre spacing for the same time period. This would be beneficial for comparison purposes.

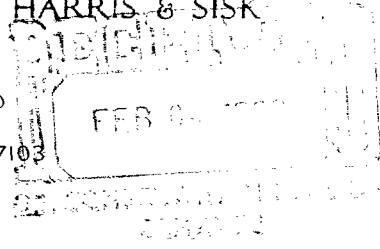
You and I have also discussed our positions concerning the propriety of pre-judgment interest in this case. As you know, it is my feeling that Mr. McHugh would have no duty to pay pre-judgment interest for the accrual of royalties based on 40 acre spacing. This is because I believe you had a good faith claim that your client owed royalties on 320 acre spacing from March 1, 1984, to approximately June 8, 1987, and not on 40 acre spacing.

JAMES E. SPERLING  
JOSEPH E. KOEHL  
DANIEL A. SISK  
ALLEN C. DEWEY, JR.  
JAMES A. PARKER  
JOHN R. COONEY  
KENNETH L. HARRIGAN  
PETER J. ADANG  
DALE W. EK  
JAMES M. PARKER  
CHARLES I. WELLBORN  
DENNIS J. FALK  
JOE R. G. FULCHER  
ARTHUR D. MELENDRES  
JAMES P. HOUGHTON  
JUDY A. FRY  
PAUL M. FISH  
MARK B. THOMPSON III  
GEORGE J. HOPKINS  
JEFFREY W. LOUBET  
R. E. THOMPSON  
RUTH M. SCHIEANI  
THOMAS L. JOHNSON  
LYNN H. SLADE  
ZACHARY L. MCCORMICK  
CLIFFORD K. ATKINSON  
DOUGLAS A. BAKER  
SUSAN R. STOCKSTILL  
LARRY P. AUSERMAN

LAW OFFICES

MODRALL, SPERLING, ROEHL, HARRIS & SISK

A PROFESSIONAL ASSOCIATION  
500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000  
POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103  
(505) 848-1800  
TELECOPIER (505) 247-2299



DOUGLAS F. MADNAIS  
GEOFFREY D. KIEDER  
JOHN S. THAL  
BENJAMIN SILVA, JR.  
WALTER E. STERN III  
PATRICK J. ROGERS  
JOHN E. HEER III  
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PAUL MAESTAS  
JEFFREY TWERSKY  
J. DOUGLAS FOSTER  
NEAL E. BINCZEWSKI  
TODD R. BRAGGINS  
SUSAN M. HADLOCK  
KEVIN T. RIEDEL  
JANET R. BRAZIEL  
J. ROBERT PAMPELL, JR.  
SEALY H. CAVIN, JR.  
GEORGE F. KOINIS

JOHN F. SIMMS  
(1885-1954)

J. R. MODRALL  
(1902-1977)

AUGUSTUS T. SEYMOUR  
(1907-1965)

GEORGE T. HARRIS, JR.  
(1922-1985)

LELAND S. SEDBERRY, JR.  
(1930-1985)

January 31, 1986

The Honorable Petra Jimenez Maes  
Santa Fe County Judicial Complex  
P.O. Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd E. Edwards, et al., v. Jerome P.  
McHugh, et al.; Rio Arriba County  
Cause No. RA 85-373(C)

Dear Judge Maes:

We have today forwarded to the Clerk of the Court for filing an Answer and Counterclaim on behalf of Defendant Jerome P. McHugh. Pursuant to the local rules, we have advised the Clerk of the Court that we have raised certain defenses under Pule 12 of the New Mexico Rules of Civil Procedure. We do not interpret the local rule as requiring the submission of a brief on those defenses at this time. We would appreciate your advising us if our interpretation is incorrect.

Very truly yours,

*J. Douglas Foster*  
J. DOUGLAS FOSTER

JDF:no  
Enclosure

cc: James Bruce, Esc. (w/encl.)  
Rex D. Throckmorton, Esc. (w/encl.)  
Jeff Taylor, Esq. (w/encl.)

JAMES E. SPERLING  
JOSEPH E. ROEHL  
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SUSAN R. STOCKSTILL  
LARRY P. ALSHERMAN

LAW OFFICES  
MODRALL, SPERLING, ROEHL, HARRIS & SISK

A PROFESSIONAL ASSOCIATION  
500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000  
POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103  
(505) 848-1800  
TELECOPIER (505) 247-2299

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SUSAN M. HADLOCK  
KEVIN T. RIEDEL  
JANET R. BRAZIEL  
J. ROBERT PAMPPELL, JR.  
SEALY H. CAVIN, JR.  
GEORGE F. KOINIS

January 31, 1986

Ms. Linda Lerma, Clerk  
Santa Fe County Judicial Complex  
P.O. Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd E. Edwards, et al., v. Jerome P.  
McHugh, et al.; Rio Arriba County  
Cause No. RA 85-373(C)

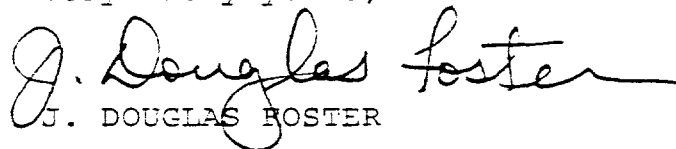
Dear Ms. Lerma:

Enclosed for filing is Defendant Jerome P. McHugh's Answer and Counterclaim in the above-referenced matter. Please return a conformed copy in the enclosed self-addressed, stamped envelope.

In addition, we wish to call to your attention that we have raised certain defenses under Rule 12 of the New Mexico Rules of Civil Procedures.

Thank you in advance for your cooperation.

Very truly yours,

  
J. DOUGLAS FOSTER

JDF:no  
Enclosures

cc: James Bruce, Esq. (w/encl.)  
Rex D. Throckmorton, Esq. (w/encl.)  
Jeff Taylor, Esq. (w/encl.) ✓

# Certificate of Completion

## The University of Southwestern Louisiana

POSITION CERTIFIED FOR:

Driller  
 Toolpusher  
 Operator's Representative

STACK CERTIFICATION:

Surface Only  
 Subsea & Surface

*This is to certify that*

JEFF TAYLOR


has participated in **The MMS Approved Well Control** sponsored by USL Petroleum Training Service for 31 hours and has earned 3.1 Continuing Education Units of Credit in this program offered by the University of Southwestern Louisiana.

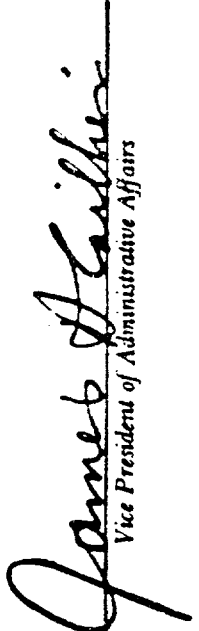
This Certificate of Completion, awarded this 29 day of AUGUST 1985

is given in recognition of the participant's successful completion of the prescribed program.

  
Instructor

  
CEU Administrator

  
Director of Program

  
Vice President of Administrative Affairs

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

ENDORSED  
FILED IN MY OFFICE THIS  
DEC 02 1986

IN THE MATTER OF THE APPEAL  
TO THE DISTRICT COURT FOR  
THE COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

THE APPEAL OF OIL CONSERVATION  
COMMISSION ORDER R-7407-D  
AMENDING THE SPECIAL RULES  
AND REGULATIONS OF THE  
GAVILAN MANCOS OIL POOL.

RA 86-2371 (C)

MEMORANDUM IN SUPPORT OF  
MCHUGH'S MOTION TO STRIKE  
PETITION FOR REVIEW OR, IN THE  
ALTERNATIVE, TO DISMISS

Jerome P. McHugh & Associates ("McHugh") has moved this Court to strike the Petition for Review filed by Mallon Oil and Mesa Grande Resources or, in the alternative, to dismiss it. For the reasons set forth herein, McHugh's motion should be granted.

The Petitioners are Mallon Oil Company and Mesa Grande Resources, (collectively "Petitioners") and are apparently attempting to appeal to this Court for a judicial review of a temporary order entered by the New Mexico Oil Conservation Commission ("Commission").

FAILURE TO COMPLY WITH RULES OF CIVIL PROCEDURE

Rules 8(a) and (e) N. M. R. Civ. P., 1978, require pleadings to be direct and concise, to contain an allegation of venue and a short and plain statement of the claim, showing relief to which pleader is entitled. Petitioners have grossly violated Rule 8.

While alleging that the Commission's Order No. R-7407-D should be vacated, Petitioners provide no basis for a review by the Court of the Commission's actions or reasons therefor. They do not even state what the effect of the order is or what they find objectionable, nor do they submit a copy of the order. The Petition is neither fish nor fowl. What Petitioners have done is refile with this Court the Application for Rehearing that they filed with the Commission.

It is impossible for McHugh to formulate an adequate response to this Petition, which is, in fact, a trial memorandum containing citations and argument. The form of this Petition is highly prejudicial to McHugh as it fails to state with any particularity what Petitioners are complaining of and, therefore, deprives McHugh of an opportunity to effectively respond.

In order for McHugh to effectively respond to the Petition, McHugh would, in fact, have to file a trial memorandum as its answer. Such is not the intent or purpose of the pleading rules of this Court.

In accordance with Rule 12(f), N.M.R. Civ. P., 1978, the Petition for Review should be stricken in its entirety.



## FAILURE TO EXHAUST ADMINISTRATIVE REMEDIES

The Petitioners attempt to bring before this Court a complex situation which is pending before the Commission, which needs the Commission's expertise and which should and will properly be decided by the Commission. The Commission has scheduled hearings on the temporary rules established by Order R-7407-D for no later than March, 1987. At that time or before, the Commission feels additional engineering data from a study now underway will be available for its consideration. Until the Commission has had a chance to apply its expertise and exercise its discretion in light of this forthcoming data, it would be an exercise in futility for the Court to attempt to adjudicate this matter. The Petitioners have failed to exhaust their administrative remedies before the Commission. They have imprudently submitted this matter to the Court before adequate data has been presented upon which the Commission can base a final decision.

The Secretary of Energy and Minerals for the State of New Mexico rendered a decision denying Petitioner's request for a de novo hearing to review the Commission's order.

(Exhibit A). He was of the opinion that:

...the Commission's judgment should at least be given the deference of several trial months before being subjected to review on the accuracy of its readings of the available data. (at 9).

The Tenth Circuit Court of Appeals has determined that the purposes of the doctrine of exhaustion of administrative remedies include:

avoidance of premature interruption of the administrative process, allowing the agency to develop the necessary factual background on which to decide the case, giving the agency a chance to apply its expertise or discretion and the possibility of avoiding the need for the court to intervene.

Jette v. Bergland, 579 F.2d 59 (10th Cir. 1978) at 62.

Again in 1982 the Tenth Circuit made it clear that the administrative process should not be interrupted:

Intervention by the Courts preceding exhaustion of available administrative remedies should be exercised only under circumstances where the facts clearly establish that fundamental rights and interests of the private party are being harmed and cannot be adequately redressed by permitting the administrative process to pursue its course. [Citations omitted]

The doctrine of 'finality' and 'exhaustion' are closely intertwined. [citation omitted] The exceptions to these doctrines embrace the principle that judicial intervention is appropriate only when the facts established that hardship to private parties will constitute irreparable injury. [emphasis added]. Franks v. Nimmo, 683 F.2d 1290 (10th Cir. 1982) at 1295.

Petitioners are not working under a "final" decision of the Commission or under permanent pool rules and they have not allowed the administrative process to pursue its course. There is nothing to be gained by asking this Court to review temporary rules, which are subject to change within the next 120 days.

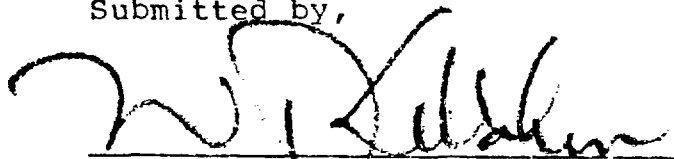
CONCLUSION

McHugh will be highly prejudiced if forced to respond to a Petition such as has been filed with the Court. The Petition should be stricken in its entirety. Additionally, Petitioners have failed to exhaust their administrative remedies and in placing the Commission's order before the Court attempt to prematurely interrupt the administrative process.

For the foregoing reasons, the Court is requested to either dismiss the Petition for failure to exhaust its administrative remedies and therefore is premature or in the alternative, to strike the Petition for failure to comply with Rules 8 (a) and (e).

THEREFORE, McHugh's Motion should be granted.

Submitted by,



W. Thomas Kellahin  
Kellahin, Kellahin & Aubrey  
Post Office Box 2265  
Santa Fe, New Mexico 87501  
Telephone: (505) 982-4285

CERTIFICATE OF MAILING

I hereby certify that I caused to be mailed a true and correct copy of the foregoing pleading to Robert G. Stovall, Esq., Dugan Production Company, Post Office Box 208, Farmington, New Mexico 87499; Ernest L. Padilla, Esq., Padilla & Snyder, Post Office Box 2523, Santa Fe, New Mexico 87501; Jeff Taylor, Esq., Oil Conservation Division, Post Office Box 2088, Santa Fe, New Mexico 87504; William F. Carr, Esq., Campbell & Black, P.A., Post Office Box 2208, Santa Fe, New Mexico 87504; Kent Lund, Esq., Amoco Production Company, Post Office Box 800, Denver, Colorado 80201; Robert D. Buettner, Esq., Koch Exploration Company, Post Office Box 2256, Wichita, Kansas 67201; Paul Cooter, Esq., Rodey, Dickason, Sloan, Akin & Robb, P.A., Post Office Box 1357, Santa Fe, New Mexico 87504 and Owen M. Lopez, Esq., Hinkle, Cox, Eaton, Coffield & Hensley, Post Office Box 2068, Santa Fe, New Mexico 87504, on this 2 day of December, 1986.

  
\_\_\_\_\_  
W. Thomas Kellahin

EXHIBIT "A"

ENERGY AND MINERALS DEPARTMENT  
STATE OF NEW MEXICO

IN THE MATTER OF THE APPEAL  
TO THE SECRETARY OF THE ENERGY  
AND MINERALS DEPARTMENT FOR  
THE PURPOSE OF CONSIDERING:

THE APPEAL OF OIL CONSERVATION  
COMMISSION ORDER R-7407-D AMENDING  
THE SPECIAL RULES AND REGULATIONS  
OF THE GAVILAN-MANCOS OIL POOL

Oil Conservation  
Commission Case No.8946

MEMORANDUM DECISION  
BY THE SECRETARY OF ENERGY AND MINERALS

This matter has come before me on the appeal of Mallon Oil Company (Mallon) and Mesa Grande Resources, Inc. (Mesa Grande) from Order R-7407-D issued by the Oil Conservation Commission (the Commission) on September 11, 1986. The appeal is submitted to the Secretary of Energy and Minerals (the Secretary) by Section 70-2-26 NMSA 1978, which explicitly grants the Secretary discretion to convene a public de novo hearing to review orders of the Commission on specified grounds. I have considered the Commission's order, the Notice of Appeal, the correspondence of counsel, the applicable statutes and the state's energy plan. For the reasons stated below, I decline to exercise my discretion to convene the hearing requested by Mallon and Mesa Grande.

This case was initiated on the application of Jerome P. McHugh

EXHIBIT "A"

and Associates (McHugh) for an amendment to the Temporary Special Rules and Regulations of the Gavilan-Mancos Oil Pool. A similar application was filed by Benson-Montin-Greer Drilling Corporation (Benson) and the two matters were consolidated for the Commission. The amendments were sought to temporarily reduce the limitations on allowables for oil production and the gas-oil ratio limitation factor for that pool. After due public notice, a number of interested parties appeared to present various positions through counsel and testimony in hearings conducted over more than four days.

In its order R-7407-D issued September 11, 1986, the Commission ruled that it will adopt a temporary modification of the limiting-gas oil ratio and of the allowable production limitation in the Gavilan-Mancos Pool. This decision was premised on certain findings which, in essence, hold that these modifications will serve to prevent waste and better protect correlative rights in the subject pool. The Commission also found that reconsideration of the issues raised in the case should occur during or before March of 1987 through either of several designated proceedings.

Mallon and Mesa Grande filed a Motion for Rehearing with the Commission on October 1, 1986, which motion was deemed denied upon the Commission's failure to act within ten days. Mallon and Mesa Grande thereupon filed their timely appeal on a variety of

grounds with the Secretary on October 20, 1986. Because of the lack of precedent or established procedures for conducting an appeal to the Secretary under Section 70-2-26, supra, I sent a letter to counsel requesting comments on certain procedural and jurisdictional issues. Timely responses addressing these questions were filed by counsel for Mallon, Mesa Grande, McHugh, Benson and Dugan Production Corp. In addition, correspondence from representatives or attorneys for Amoco Production Company and Koch Exploration Company has been reviewed. In view of the shortness of time within which the statute permits the Secretary to act, and the potential inconvenience to the parties of having attorneys and witnesses available in anticipation of a possible hearing on short notice, a letter was distributed on October 30 announcing my decision not to conduct a hearing. This memorandum decision describes the reasoning behind that decision.

#### ANALYSIS

The appeal to the Secretary under Section 70-2-26, supra, is actually an inference from the Secretary's discretion to review Commission orders sua sponte. "The secretary ... may hold a public hearing to determine whether an order or decision issued by the commission contravenes the department's statewide plan or the public interest," *id.* [emphasis added]. It is reasonable to infer therefrom that the Secretary's attention may be called to

such an inconsistency through an appeal by one of the parties to the Commission case, which is the process that has occurred here. Nevertheless the Secretary's authority to conduct such a hearing or to issue a decision requiring revision of the Commission's order may only be premised on the grounds stated in the statute. Unless the secretary believes that the department's statewide plan or the public interest may be violated by the Commission's order, he cannot hold a hearing.

Any attempt to invoke the Secretary's discretion must therefore suggest how the statewide energy plan or the public interest have been contravened by the Commission. I know of no administrative or judicial precedent that addresses how broadly or narrowly this unique standard was meant to be interpreted. In particular, "public interest" is a vague term that may be interpreted in any number of ways. From my reading of the statute, however, I conclude that the standard to be applied by the secretary in this procedure is a narrow one.

A narrow interpretation of this standard would mean that the Secretary is empowered to act only insofar as the interests that he is charged with protecting are different from those within the purview either of the Commission or of the courts. I am quite confident that the statute did not intend to create an intermediate quasi-judicial tribunal with authority to review the



Commission's orders for legal adequacy or compliance with the constitutional dictates of due process of law. Nor could the intent of the statute be to provide for secretarial review of Commission orders on the same standards as those entrusted to enforcement by the Commission itself in the Oil and Gas Act, Section 70-2-1 through 36 NMSA 1978, as amended, since the standards available to the secretary are stated explicitly and are different from those that guide the commission. The only logical reading of Section 70-2-26, supra, is that the secretary is authorized to measure the Commission's decisions, based upon its statutory duties, for their consistency with the policies identified and implemented by the Secretary. The logic of this interpretation is supported by the statutory scheme which places the Oil Conservation Commission within the Energy and Minerals Department, Section 9-5-3 NMSA 1978, but assigns exclusively to the Commission the power to enforce the interests of the Oil and Gas Act, supra. The Secretary's review power is solely intended to ensure consistency between the Secretary's energy policy strategies and the Commission's decisions, so that one component of the state's energy agency could not undermine the efforts of the chief energy officer of the state, Section 9-5-3 and 9-5-5 NMSA 1978.

Proper application of the Secretary's prerogative requires review of the state's energy plan, as promulgated pursuant to Section 9-5-3 (K) and 9-5-6(A)(3), NMSA 1978; and other lawful pronouncements of the state's energy interests as found in the

laws. Were it to appear likely that the Commission's order interfered with the goals or implementation strategies of either of these sources of state energy policy, I would invoke my discretion to conduct a de novo hearing to determine the extent of any such inconsistency. I find no cause to do so, however, and none has been presented to me by the appellants.

The Mallon/Mesa Grande notice of appeal cites numerous grounds for reversal. In summary, these include: the arbitrary, capricious and illegal failure by the Commission to issue findings required by law to change proration rules (Point I); or to issue findings supported by substantial evidence in the record (Points III and V); or to impact correlative rights evenly and fairly (Point II). Point IV of the appeal challenges the Commission's alleged attempt to coerce unitization indirectly without lawful authority, while Point VII claims a violation of due process requirements by the Commission's action eliciting a draft order from only one party. Without commenting on the merits of any of these claims, they all lie clearly within the jurisdiction of the reviewing courts, pursuant to Section 70-2-25B NMSA 1978 and with the Commission in the first instance. While the state laws may well contemplate that any such violation should not go unremedied, nowhere in Section 70-2-26 do I find the legislature to have entrusted that responsibility or authority to me.

Nothing in the Mallon/Mesa Grande appeal alleges any violation of

the state's energy plan, but in view of the Secretary's statutory discretion to act sua sponte I have nonetheless reviewed the appropriate portions of that document, "A Policy Level Plan for the Development and Management of New Mexico's Energy and Minerals Resources," Energy and Minerals Department (9/84). I find no conflict therein to suggest that I invoke my discretion on the basis of that document.

Only Point VI of notice of appeal even attempts to assert a contradiction between Order R-7407-D and the public interest, as that term should be construed in Section 70-2-26. In that point appellants allege, first, discrimination by the Commission's order against out-of-state operators; and, second, that the order would cause the state of New Mexico to lose income from oil production taxes and royalties. On their face such allegations might well prompt concern that the state's energy policy interests could be adversely affected.

I do not, however find sufficient substance to these assertions to invoke my discretion to conduct a de novo hearing. Counsel for McHugh points out rather persuasively that appellants' own data are only partially consistent with the notion that the order discriminates against out-of-state producers. But even if the data were to reveal consistently more favorable results for in-state over out-of-state producers, a greater, initial showing of prejudice would be necessary to induce me to invoke the Secretary's discretionary review power. Results alone may

suggest the possibility of discrimination, but in this case the Commission has clearly premised its action on principles that were differently motivated. So long as the chips were permitted to fall where they might, it is not discriminatory that they landed disproportionately outside the state. If the Commission had acted solely out of malice toward foreign companies, and had lacked substantial legitimate evidence or rationale for its decision, as appellants imply, then that issue may be addressed by the judiciary. It is clearly not the Secretary's function to conduct such a review under Section 70-2-26.

The other asserted violation of the public interest in the order is the economic detriment to the state from the allegedly unnecessary and arbitrary reduction in allowable oil production resulting from the order. There can be no question that the state benefits from petroleum production, and an order limiting production without justification would be a proper subject for the Secretary's review. But the Commission's order considered the reduced production and balanced that consequence against valid competing policy interests. In particular, the loss of some immediate production revenues, while undesirable in itself, may be quite tolerable if the result is to increase the total production that will ultimately derive from the pool. The Commission's order reveals that it weighed considerable technical evidence and argument presented by several parties before concluding that this long-term benefit would be precisely the

result of its short-term sacrifice. Whether its judgment was right or wrong, its reasoning is certainly consistent with the state's interest "to protect and preserve the extractive resources of the state of New Mexico for present and future generations," Section 9-5-3(A), supra [emphasis added]. The statutory language authorizing the Secretary to review the commission's action explicitly requires his consideration of conservation, Section 70-2-26. To the extent that the highly experienced Commission and its staff may have lacked the expertise or judgment to weigh accurately the technical evidence that led it to its conclusion, there is little reason to believe that the Secretary could do any better.

Finally, I note that the Commission limited the duration of its decision so that by March, 1987, if not sooner, it will be reconsidered through one of several designated procedures. Even if appellants have correctly identified defects in the order, time and further measurements of reserves and flows may reveal results that relieve some of the controversy. As far as I am concerned the Commission's judgment should at least be given the deference of several trial months before being subjected to review on the accuracy of its readings of the available data.

#### DECISION

The Commission's order does not appear to give rise to issues requiring the Secretary to invoke a hearing to determine

consistency with the state's energy plan or the public interest, as that term is contemplated in Section 70-2-26, supra, because the order already gives due consideration to some of the same energy policies that the Secretary is charged with developing and implementing. Any errors asserted by appellants are properly addressed to the process of judicial review. I see no basis for exercising the Secretary's limited authority to convene a public hearing to determine whether Oil Conservation Commission Order R-7407-D contravenes the department's statewide plan or the public interest, and accordingly dismiss the appeal.

NEW MEXICO ENERGY AND MINERALS DEPARTMENT

DATE

11/5/86

  
PAUL L. BIDERMAN  
SECRETARY

ENDORSED  
FILED IN MY OFFICE THIS

DEC 12 1986

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS, et al.,  
Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. McHUGH, et al.,  
Defendants.

PLAINTIFFS' MOTION FOR PARTIAL SUMMARY JUDGMENT

Plaintiffs Floyd E. Edwards and Emma B. Edwards ("the Edwards") move for summary judgment on the issues of liability and cancellation of two leases, pursuant to Rule 56 of the New Mexico Rules of Civil Procedure, on the grounds that there is no genuine issue of material fact and they are entitled to judgment as a matter of law. As grounds for this motion the Edwards state:

1. The Edwards are lessors and defendant McHugh, by assignment, is the lessee under three oil and gas leases attached to the Edwards' complaint.
2. Under Lease 1, the Edwards are entitled to 100% of the royalty obtained from a well known as the E.T. #1 Well.
3. Leases 2 and 3 expire by operation of law unless

defendant McHugh has drilled a well by April 16, 1984.

4. Upon application by McHugh, the Oil Conservation Commission ("the Commission") conducted a hearing and entered Order No. R-7407, which purported to increase the size of the spacing units governing the subject leases from 40 acres to 320 acres.

5. As a direct result of the Commission's Order, the Edwards' royalty interest from production from the E.T. #1 well has been reduced by three-fourths.

6. As a further result of the Commission's Order, defendant McHugh has failed to relinquish and release leases 2 and 3, although he has failed to drill a producing well on either lease by April 16, 1984.

7. McHugh and the Commission failed to notify the Edwards of the hearing which resulted in the entry of Order No. R-7407 and, as a result, the Edwards have been deprived of their property without due process of law.

8. This motion is supported by the pleadings on file, the attached affidavit of Floyd and Emma Edwards, and the Edwards' memorandum brief filed currently with this motion.

9. Due to the nature of this motion, the Edwards have not sought concurrence from counsel for defendant McHugh.

WHEREFORE, the Edwards request partial summary judgment that:

1. Commission Order No. R-7407 is void ab initio as to the Edwards;

2. The Edwards are entitled to 100% of the royalties from production from the E.T. #1 Well;



3. Leases 2 and 3 expired as a matter of law on April 16, 1984, as a result of McHugh's failure to drill a producing well on each lease by that date; and

4. The amount of damages resulting from McHugh's failure to pay to the Edwards 100% of the royalty from production from the E.T. #1 Well, from the date of Commission Order No. R-7407 until the date of partial summary judgment, is reserved for a trial on the merits.

Respectfully submitted,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

By

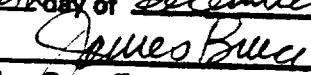


Owen M. Lopez  
James Bruce  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

**Certificate of Service**

We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 17th day of December, 1986.

  
Hinkle, Cox, Eaton, Coffield & Hensley  
P.O. Box 2068  
Santa Fe, NM 87504-2068

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, et al.,

Defendants.

AFFIDAVIT

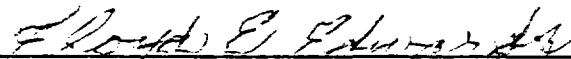
STATE OF ARIZONA        )  
                                  ) ss.  
COUNTY OF Maricopa )

Floyd E. Edwards and Emma B. Edwards, being duly sworn upon their oaths, depose and state:

1. We are plaintiffs in this action and have personal knowledge of the matters stated herein.
2. We never received notice personally or by mail of the proceedings in New Mexico Oil Conservation Commission Case No. 7980, nor did we ever receive any actual notice of that case.
3. We became aware of Oil Conservation Commission Case No. 7980 and Order No. R-7407 after our royalty payments were drastically reduced in amount in the spring of 1984.
4. Although we are not oil and gas experts, we do not think 320 acre spacing is proper for the Gavilan-Mancos Oil Pool. This is based upon the controversy which continues to exist before the Oil Conservation Commission regarding spacing in this


pool, which is to be reheard before the Commission in March 1987. Furthermore, to the best of our knowledge, the vast majority of oil pools in New Mexico are based on 40 or 80 acre spacing.

5. When the oil and gas leases which are involved in this lawsuit were executed, spacing for oil wells on our land was 40 acres, and it was our intent in executing the leases that oil wells be developed on 40 acre spacing.

  
Floyd E. Edwards

  
Emma B. Edwards

Subscribed and sworn to before me this 6<sup>th</sup> day of December, 1986, by Floyd E. Edwards and Emma B. Edwards.

  
Notary Public

My Commission Expires:

My Commission Expires Jan. 30, 1990

DEC 12 1986

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS, et al.

Plaintiffs,

vs.

No. RA 85-373 (C)

JEROME P. McHUGH, et al.,

Defendants.

PLAINTIFFS' MEMORANDUM IN SUPPORT OF MOTION  
FOR PARTIAL SUMMARY JUDGMENT, AND IN OPPOSITION TO  
DEFENDANT McHUGH'S MOTION TO DISMISS AND MOTION  
FOR SUMMARY JUDGMENT

I. INTRODUCTION

Plaintiffs Floyd and Emma Edwards ("the Edwards") move for summary judgment requiring two legal conclusions based on the uncontroverted material facts. First, the Edwards request that the Court hold the purported ruling of the Oil Conservation Commission ("the Commission") in Case No. 7980, which deprived the Edwards of their property interests, is unconstitutional and void ab initio as to them. The basis for that legal conclusion is that the Commission's action deprived the Edwards of a protected property right without proper notice and an opportunity to be heard, in contravention of the due process requirements of Article II, Section 18 of the New Mexico Constitution and the Fourteenth Amendment to the United States Constitution. Second, the Edwards request summary judgment that two of the leases in

question have expired as a matter of law. The basis for this conclusion is that the two leases expired because defendant McHugh failed to drill a well on each lease by April 16, 1984, which is the date the two leases expired by their own terms. To understand why the two legal conclusions are mandated, a brief history of the parties' conduct and the Commission's action is necessary.

The Edwards are owners of several hundred acres of mineral property in Rio Arriba County, New Mexico. The Edwards, in 1980, executed three separate oil and gas leases to Kenai Oil and Gas, Inc. (Complaint, Exhibits A, G, and J). By several assignments, McHugh ultimately became the lessee of all three leases and, in order to maintain the leases in effect, had the duty to explore and develop the minerals in accordance with the terms of the leases. Defendants Joseph R. Mazzola, Don Evans, and Kenai Oil and Gas, Inc. own overriding royalty interests in the leases. <sup>1/</sup> Pursuant to the lease terms, each lease expired as a matter of law on April 16, 1984, unless a producing well had been drilled or commenced by that date on the property covered by each particular lease.

During 1983, which was before the expiration date of Lease 1 (Complaint, Exhibit A), McHugh drilled and completed the E.T. #1 Well on the property covered by that particular lease. As the owner of the entire mineral interest, the Edwards were entitled

---

<sup>1</sup> An overriding royalty interest is a royalty interest, separate from the lessor's royalty, which is created out of the lessee's interest. 8 H. Williams & C. Meyers, Oil and Gas Law, pp. 605-608.

to all of the royalty from production of oil and gas from the E.T. #1 Well. The E.T. #1 Well is the only well that has ever been drilled on any of the property covered by the three leases. Thus, as of April 16, 1984, Leases 2 and 3 would have expired automatically by their own terms as a result of McHugh's failure to drill and complete a producing well on each of those two leases (Complaint, Exhibits G and J).

There is an exception to the automatic expiration rule, which lies in the Commission's authority to increase the size of a well "spacing unit" and the lessee's contractual right to "pool" or combine certain lease acreage. A well "spacing unit" is the surface area assigned to each well. In effect, it limits the number of wells which can be drilled in a pool. In New Mexico, the Commission Rules and Regulations provide that oil wells are to be drilled on spacing units of 40 acres. However, well operators may apply to the Commission to increase the spacing unit size for a pool. Increasing the spacing unit size requires approval from the Commission. "Pooling" means the joining together of small tracts or interests within a spacing unit, so that a well may be drilled to hold all leases within the spacing unit beyond their primary term. A lessee can only pool so much acreage as is authorized by the Commission's spacing order. 8 H. Williams & C. Meyers, Oil and Gas Law, p. 652.

The Commission is empowered by law to regulate well "spacing", N.M. Stat. Ann. § 70-2-12(B)(10) (1985 Supp.), and the effect of the Commission's spacing orders accomplishes two things. If a spacing unit authorized by the Commission covers

acreage included in more than one lease, the lessee may "pool" or combine all leases in that unit and drill one well to satisfy the terms of all leases. The practical effect is that one well can be drilled which will prevent two or more leases from expiring by their own terms. Secondly, since one well in a spacing unit holds all leases within that unit, royalty interest owners on all leases must share, on a prorata basis, the royalties received from that one well. The effect of the prorata distribution is that a royalty interest owner's right to the proceeds of production on his or her specific mineral property is thereby diluted.

In late 1983, McHugh applied to the Commission to establish the Gavilan-Mancos Oil Pool and to increase well spacing in the Mancos formation from 40 acres to 320 acres. The Commission denoted McHugh's application as Case No. 7980. Although McHugh has always known the Edwards' address, he failed to notify them of his pending application by mail or otherwise. In fact, McHugh concedes that "plaintiffs did not have prior actual knowledge of the hearing." (McHugh's Memorandum, p. 9).

At the hearing, conducted without notice to the Edwards, the Commission granted McHugh's application and increased the spacing unit size to 320 acres. As a direct result, McHugh was able to avail himself of a contractual provision in Lease 1 which allowed him to pool the Edwards' acreage with adjoining mineral acreage to form a 320 acre spacing unit for the E.T. #1 Well. Consequently, the royalties received by the Edwards from the E.T. #1 Well have been diluted by three-fourths. (Affidavit of Jerome P. McHugh).

In April of 1984, McHugh began drilling the Full Sail #1 Well, which is not on the Edwards' land. By virtue of the Commission's invalid spacing order, however, McHugh has attempted to use the pooling clause in Lease 2 (Complaint, Exhibit G), to pool certain acreage in Lease 2 with other acreage to form a 320 acre spacing unit for the Full Sail #1 Well. Although McHugh did not drill the well on Lease 2 before the expiration of its primary term, McHugh maintains that the drilling of the Full Sail #1 Well is sufficient to hold Lease 2 because the acreage has been "pooled" into a 320 acre spacing unit purportedly authorized by the Commission. Similarly, in March 1983, McHugh began drilling the Janet #2 Well, which also is not on the Edwards' land. McHugh then attempted to combine, through the pooling clause, certain acreage in Lease 3 (Complaint, Exhibit J) with other acreage to form a 320 acre spacing unit.

Despite the fact that the Commission entered a spacing order in Case No. 7980 which deprived the Edwards of substantial property rights without due process of law, McHugh incorrectly argues that no process was due. According to McHugh, the Edwards' royalty interest in the E.T. #1 Well was diluted because the lease contract allowed McHugh to "pool" or combine the Edwards' Lease 1 with other adjacent mineral acreage. While it is true that McHugh had such a contractual right, it is equally true that McHugh has failed to tell the Court an important part of the story. Before McHugh could avail himself of his contractual "pooling" right, it was first necessary to determine how much acreage could be "pooled." The acreage that McHugh



attempted to pool must first have been established by the Commission's "spacing" order. Without such an order, the purported pooling of 320 acre tracts could not have occurred. Accordingly, it is not McHugh's attempted "pooling" of acreage which is subject to attack; rather, it is the Commission's spacing order, which had the effect of authorizing the pooling of 320 acres for a spacing unit, which is repugnant to due process.

## II. STATEMENT OF MATERIAL FACTS.

The following material facts are undisputed:

1. The original spacing unit covering the E.T. #1 Well was 40 acres. (Affidavit of Jerome P. McHugh, ¶ 8).

2. The Edwards own all of the 40 mineral acres underlying the E.T. #1 Well. (Id.).

3. In 1983, McHugh filed an application (Case No. 7980) with the Commission for an order establishing the Gavilan-Mancos Oil Pool, fixing the pool's boundaries, and increasing the size of the proration and spacing units for the Mancos formation from 40 acres to 320 acres. (See Complaint, Exhibit D).

4. The Commission published notice of the hearing in Case No. 7980. (Affidavit of R. L. Stamets, ¶ 5).

5. The Edwards were furnished no notice of the hearing in Case No. 7980. (Affidavit of Floyd and Emma Edwards, ¶ 2).

6. McHugh concedes that the Edwards "did not have prior actual knowledge of the hearing which resulted in order R-7407." (McHugh's Memorandum, p. 9).

7. McHugh has always known the Edwards' address and whereabouts. (See, e.g., the leases attached to the Complaint).

8. After conducting the hearing, without notice to the Edwards, the Commission promulgated Order No. R-7407 (Complaint, Exhibit D), granting the relief requested by McHugh. Order No. R-7407 was made effective as of March 1, 1984.

9. After March 1, 1984, McHugh used Order No. R-7407 as the basis for the attempted pooling of certain acreage from Leases 1, 2, and 3 with other acreage to form 320 acre spacing units for the E.T. #1, Full Sail #1, and Janet #2 Wells. (McHugh's Memorandum, pp. 13, 16-17).

10. As a result of the Commission's order, the Edwards entitlement to royalties from the E.T. #1 Well has been reduced by three-fourths. (See Affidavit of Jerome P. McHugh).

11. Leases 2 and 3 expired by their own terms on April 16, 1984, unless McHugh had begun to drill a producing well by that date on the property covered by each lease, or on property validly pooled with Leases 2 and 3.

12. As of April 16, 1984, McHugh has failed to drill a producing well on any land covered by Lease Nos. 2 and 3. (See Affidavit of Jerome P. McHugh).

13. The Edwards first became aware of Case No. 7980 and Order No. R-7407 in the spring of 1984, when their royalty payments were drastically reduced in amount. (Affidavit of Floyd and Emma Edwards, ¶ 3).

### III. SUMMARY OF ARGUMENT.

The Edwards' mineral rights are property rights which are protected by the state and federal constitutions. The proceedings in Case No. 7980 materially and adversely affected those

property rights, and thus the Edwards were entitled to reasonable notice of that case. Because notice by publication was unreasonable, the Commission lacked jurisdiction to deprive the Edwards of their property rights. Accordingly, the Edwards were denied due process of law in contravention of the New Mexico and United States Constitutions, and Order No. R-7407 is void as to them.

Contrary to McHugh's speculative assertion, the Edwards do dispute Order No. R-7407 on its merits. (Affidavit of Floyd and Emma Edwards, ¶ 4). The relevant constitutional fact, however, is that the Edwards were never notified of the hearing and had no opportunity to present a case in opposition. Moreover, it is not the Edwards' burden to come forth and disprove the merits of 320 acre spacing; rather, it is McHugh's task to prove that 320 acre spacing is appropriate under the circumstances. That burden was not properly met behind the Commission's doors -- it could only be met through an open, adversarial hearing at which the Edwards could present evidence contesting the propriety of the requested 320 acre spacing order.

Because Order No. R-7407 is void as to the Edwards, and it improperly formed the predicate for McHugh's attempted poolings, McHugh's attempted poolings of Leases 1, 2, and 3 are invalid. Due to the Commission's invalid spacing order, the spacing units in effect for Leases 1, 2, and 3 are limited to 40 acres. The Edwards are therefore entitled to 100% of the royalties on oil and gas produced from the E.T. #1 Well. Furthermore, since no wells were drilled on any 40 acre spacing unit within Leases 2

and 3, those leases expired by their terms on April 16, 1984. The Edwards are entitled to an order cancelling leases 2 and 3.

McHugh's argument that no property interest of the Edwards was affected by Order No. R-7407 is absurd: the significant reduction in royalties paid to the Edwards from the E.T. #1 is one example; the fact that Order No. R-7407, if applied to the Edwards, prevents cancellation of Leases 2 and 3 is another. Likewise, McHugh's claim of no state action must fail: Order No. R-7407 was promulgated by an agency of the state, and the attempted poolings could not have occurred without the issuance of an order allowing the 320 acre spacing.

Additionally, McHugh's suggestion that the Court's order must only apply prospectively is contrary to New Mexico law. The Court's order must apply to and vindicate the Edwards' property and constitutional rights in the present case. Any other relief would merely recognize that McHugh and the Commission have deprived the Edwards of their property rights, but withhold any meaningful remedy for that due process violation.

#### IV. ARGUMENT.

- A. Plaintiffs Were Deprived of Property Rights by State Action and Thus Due Process Requirements Apply.
  1. McHugh's Argument Ignores the State Action Which Occurred in This Case.

The heart of this action, which is the increase in the Mancos formation well spacing units from 40 acres to 320 acres, without notice to the Edwards, required state action. McHugh simply ignores the state action which increased the spacing unit size. Instead, he illogically argues that because the Commission

invalidly increased the size of the well spacing units, McHugh could then pool the Edwards' leases under the terms of the lease contracts, and pooling involves no state action. <sup>2/</sup> Such an argument ignores the fact that the pooling of 320 acres could not have occurred but for the state-imposed increase in spacing unit size which McHugh requested.

2. The Increase In Spacing Unit Size Involved State Action.

The Commission is empowered by the state conservation laws to fix the spacing of wells. N.M. Stat. Ann. § 70-2-12(B) (10) (1978). This is an exercise of the state's police power. See Armstrong v. High Crest Oil, Inc., 520 P.2d 1081 (Mont. 1974). As such, the Commission's action increasing the spacing unit size for the Mancos formation involved state action. See Louthan v. Amoco Production Company, 652 P.2d 308 (Okla. App. 1982).

While the Commissions' action in increasing the spacing unit size to 320 acres clearly involved state action, it should be noted that McHugh has previously agreed with this position. In the federal court action first initiated by plaintiffs, McHugh moved for dismissal due to failure to join an indispensable party, the Commission. McHugh's position, with which the federal court agreed, was that the crux of the due process claim concerned the Commission's order increasing the spacing unit to 320 acres. For some unexplained reason, however, McHugh has now

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2. The Manufacturers National Bank case cited by McHugh at p. 15 of his brief is not on point because well spacing was not at issue in that case.

reversed course and claims that the Edwards' property has been taken by contractual provision rather than by Commission order. This inconsistent position speaks for itself.

3. The Increase In Spacing Unit Size Deprived the Edwards of Their Property.

McHugh baldly asserts that no property interests of the Edwards were affected by the Commission's spacing order, without any citation to authority. The reason McHugh cites no authority for his proposition is because there is none.

The Edwards own the mineral rights underlying several hundred acres of land in Rio Arriba County. These mineral rights were subject to Leases 1, 2, and 3, under which the Edwards retained a royalty of 14.5%. Mineral interests and royalty interests are real property in New Mexico. Terry v. Humphreys, 27 N.M. 564, 203 P. 539 (1922); Duvall v. Stone, 54 N.M. 27, 213 P.2d 212 (1949). Thus it is clear that the Edwards own a property interest which is protected by the state and federal constitutions.

The conclusion is inescapable that the Edwards were deprived of their property by state action. The Commission's Order No. R-7407 increased well spacing unit size from 40 acres to 320 acres. The increased spacing provided the indispensable prerequisite for McHugh's attempt to pool Leases 1, 2, and 3 with other acreage to form 320 acre spacing units. Without that order, the pooling of 320 acres could not have conceivably occurred, by contract or otherwise. As a result of the void attempted poolings, the following occurred:

1. The Edwards' royalties from the E.T. #1 Well were reduced by three-fourths;
2. If not for the invalid pooling, Leases 2 and 3 would have terminated by their own terms on April 16, 1984, because McHugh failed to drill a producing well on each of the leases by that date; and
3. Without the invalid increase in spacing unit size, the Edwards would be entitled to have one well drilled on each 40 acre tract of land on their leases.

From the foregoing, it is clear that plaintiffs were deprived of their property by state action. <sup>3/</sup> In fact, it has been held that spacing orders promulgated by oil and gas conservation bodies deprive mineral interest owners of property rights. Cravens v. Corporation Commission, 613 P.2d 442 (Okla. 1980) (increase in spacing unit size); Union Texas Petroleum v. Corporation Commission, 651 P.2d 652 (Okla. 1982), cert. denied 103 S.Ct. 82 (1982) (decrease in spacing unit size).

4. Due Process Required Reasonable Notice of Case No. 7980 to be Given to the Edwards. Since Proper Notice Was Not Given, Order No. R-7407 Is Void as to The Edwards.

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3 The laws in existence at the time of making a contract became part of such contract. Montoya v. Postal Credit Union, 630 F.2d 745 (10th Cir. 1980). The existing oil and gas conservation laws and regulations are incorporated into a lease. Layton v. Pan American Petroleum Corp., 383 P.2d 624 (Okla. 1963); Everett v. Phillips Petroleum Co., 51 So.2d 87 (La. 1950). As a result, when Leases 1, 2, and 3 were executed in 1980, the leases were subject to the Commission's 40 acre spacing for wells completed in the Mancos formation. Order No. R-7407, if valid as against plaintiffs, modifies the terms of the lease contracts by increasing the spacing for Mancos wells to 320 acres. Such adverse state action, modifying existing legal rights, is void without constitutionally sufficient notice. Olansen v. Texaco Inc., 587 P.2d 976 (Okla. 1978). The 320 spacing has the effects noted above. Thus plaintiffs had a deep interest in the subject matter of Order No. R-7407.

The Commission, in deciding spacing cases or other matters within its jurisdiction, acts in a judicial or quasi-judicial fashion. Moore Oil v. Snakard, 150 F.Supp. 250, 260 (W.D. Okla. 1957); 1951-52 Op. Att'y Gen. 75. The basic requirements of due process in such proceedings are notice and an opportunity to be heard. Robertson v. The Mine and Smelter Supply Company, 15 N.M. 606 (1910). Where due process requirements are not met, the judgment or order is void as against the persons not receiving notice of the proceedings. Id.; Ford v. Willits, 688 P.2d 1230 (Kan. 1984)

Commission Case No. 7980 was preceded only by notice in the form of publication. Notice by publication is insufficient as a matter of law to deprive a person of property rights. The landmark case on this issue is Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306 (1950). In that case, a New York statute permitted trust companies to pool small trusts into a common fund for administrative purposes. The statute provided for notice by publication to interested beneficiaries of trust accounts. In rejecting the sufficiency of notice by publication, the Supreme Court stated:

An elementary and fundamental requirement of due process in any proceeding which is to be accorded finality is notice reasonably calculated, under all the circumstances, to apprise interested parties of the pendency of the action and afford them an opportunity to present their objections....

\* \* \*

It would be idle to pretend that publication alone...is a reliable means of acquainting interested parties of the fact that their rights are before the courts....



339 U.S. at 314-15. The Court then held that notice by publication is not sufficient to deprive a person of property rights when that person's whereabouts are known or easily ascertained. Id. at 315. See Mennonite Board of Missions v. Adams, 462 U.S. 791 (1983) (reaffirming and expanding upon the Mullane requirements of due process).

The Mullane principles have been adopted in New Mexico. Eastham v. Public Employees Retirement Ass'n Bd., 89 N.M. 403, 553 P.2d 679 (1976). Furthermore, even before Eastham, the New Mexico courts recognized that administrative proceedings must conform to the requirements of due process. Matter of Protest of Miller, 88 N.M. 492, 542 P.2d 1182 (Ct. App. 1975). The requirements of due process in the administrative setting require, at the minimum, a diligent effort to personally inform the person whose property may be taken. Id.

The cases involving proceedings before state oil and gas conservation commissions have uniformly held that publication notice is insufficient to deprive a person of a property right. In Cravens v. Corporation Commission, 613 P.2d 442 (Okla. 1981), the applicants obtained an order from the Commission which increased spacing from 80 acres to 160 acres in a certain pool. Notice of the application was by publication only. Cravens was unaware of the application until after the order was issued. The Oklahoma Supreme Court reversed the Commission's decision and vacated the order as to Cravens. The Court held that publication notice was insufficient, and stated:

Regardless of statutory provisions for publication alone, applicants were

required to use due diligence in notifying [Cravens] of their application under the principles of ... Mullane.

613 P.2d at 444 (emphasis added).

Similarly, in Louthan v. Amoco Production Company, 652 P.2d 308 (Okla. App. 1982), certain mineral owners applied to the Oklahoma Corporation Commission to increase well spacing from 160 acres to 640 acres. Again, the only type of notice required by statute, and the only type given, was by publication. After entry of the increased spacing order, Amoco filed suit to vacate the order. The trial court upheld the validity of the spacing order. The appellate court reversed, holding that the order was void as to Amoco:

Was Amoco denied due process of law? We hold it was.

Statutorily authorized deprivation of property solely on the basis of publication service is constitutionally deficient in situations where, with use of due diligence, actual notice is possible. Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 70 S.Ct. 652, 94 L.Ed. 865 (1950); Cravens v. Corporation Commission, Okl. 613 P.2d 442 (1980).

In the situation here it was even more important that all mineral interest owners in section 20 be constitutionally notified since a producing well existed on it -- a well that Cherokee knew or should have know about. It could easily have discovered the names and addresses of some if not all owners of both the working as well as the royalty interests of Lawton "A", as well as other areas of section 20.

The 1970 spacing and drilling order of the corporation commission is, therefore, void as to Amoco.

Id. at 310 (emphasis added). Accord, Union Texas Petroleum v. Corporation Commission, 651 P.2d 652 (Okla. 1982), cert. denied 103 S.Ct. 82 (1982); Walker v. Cleary Petroleum Corp., 421 So.2d 85 (Ala. 1982); Olansen v. Texaco, Inc., 587 P.2d 976 (Okla. 1978) (reasonable notice must be given to royalty owners).

In the present case, McHugh knew the Edwards' whereabouts, since the Edwards' address was plainly denoted on Leases 1, 2, and 3. Moreover, as lessee under those leases, McHugh had been paying rentals, royalties, and bonuses to the Edwards, and he certainly knew where to send those payments. Nonetheless, he failed to give constitutionally sufficient notice of a hearing which significantly and adversely affected the Edwards' property rights. We have no idea why McHugh decided to act in that fashion. However, the conclusion remains that the Commission lacked jurisdiction to deprive the Edwards of their property rights, and Order No. R-7407 is void as against them. <sup>4/</sup>

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4 Even absent due process requirements, McHugh should have been required to give notice to plaintiffs of his application in Case No. 7980, based on general principles of fair dealing. It has been held that in New Mexico a lessor and lessee stand in the relation of principal and agent, and the lessee should, in good faith, communicate with the lessor, to the extent possible, regarding matters of mutual interest. Amoco v. Jacobs, 746 F.2d 1394 (10th Cir. 1984). Thus, a lessee must not take action in which he has an interest adverse to that of the lessor, unless the lessor has full knowledge and consents to the action. Phillips Petroleum v. Peterson, 218 F.2d 926 (10th Cir. 1954). In the present case the interests of plaintiffs and McHugh were obviously disparate, and McHugh should have notified plaintiffs of his proposed respacing of the subject pool as a matter of good faith dealing.

McHugh's claims that he merely followed current Commission statutes and rules in failing to give notice are without merit. The pertinent statute permitted notice by publication or by personal service. McHugh chose to forego personal service and rely solely on publication notice. Reliance on statutory provisions for publication notice will not validate notice which is otherwise unconstitutional. Mullane, supra; Olansen v. Texaco Inc., supra; Cravens v. Corporation Commission, supra. Thus some type of actual notice is required, regardless of the terms of the statutes or the Commission's rules. <sup>5/</sup>

B. The Court's Order Should be Applied to the Present Case and Prospectively.

McHugh virtually concedes that the Edwards' constitutional rights were violated by citing Carlile Trust v. Cotton Petroleum Corp., No. 61112, slip op. (Okla., May 5, 1986). McHugh nevertheless claims that the Court's ruling should not apply to the case at bar. In essence, McHugh acknowledges that the Edwards' constitutional rights have been violated, but suggests that they have no remedy. In support of this patently unfair position, McHugh cites cases from other jurisdictions which have developed a policy -- unique to that particular state -- to apply judicial decisions prosectively, rather than to the case at bar.

Curiously, McHugh fails to refer to any New Mexico decisions supporting his argument. McHugh's omission is telling because

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5 The Commission's notice rules have since been drastically changed, and now require notice by certified mail in most instances.

the law of New Mexico is directly contrary to his desire to dismantle due process requirements and deprive the Edwards of any effective remedy. It has long been the practice of the New Mexico appellate courts to apply changes in the law prospectively and to the case at bar. For example, in Vaughn v. United Nuclear Corp., 98 N.M. 481, 650 P.2d 3 (Ct. App. 1981), the Court of Appeals made a radical departure from prior worker's compensation law. The change was not only applied prospectively, it was applied to the case at bar as well. Accord, Scott v. Rizzo, 96 N.M. 682, 634 P.2d 1234 (1981); Cate v. Archon Oil Co., 695 P.2d 1352 (Kan. 1985).

Plainly, the law of New Mexico requires that a remedy be granted to the Edwards for the violation of their due process rights. This compelling result cannot be altered by McHugh's suggestion that the Court's order would somehow "wreak havoc with New Mexico's system of regulating oil and gas production." McHugh's Memorandum, p. 27. There is no havoc to wreak because the Court's decision could not possibly affect previous Commission orders that have been rendered final by lack of timely challenge. The Court's holding that due process required proper notice would only apply, quite logically, to the present case and to prospective Commission hearings.

McHugh's position not only is contrary to established New Mexico law, it also is contrary to the United States Supreme Court decision in Chevron Oil Company v. Huson, 404 U.S. 97 (1971). Chevron set forth several principles for a court to consider when deciding whether to limit a new law to prospective

application. It should be noted that the court in Chevron refused retroactive application of the case at issue in order to preserve a remedy for plaintiff. Refusal of the Edwards' request in this case would bar any adequate remedy to plaintiffs. Furthermore, none of the Chevron principles is applicable here.

1. No New Principle of Law is Enunciated: Chevron states that a court should consider prospective application only if its ruling establishes a new principle of law whose resolution was not clearly foreshadowed. The ruling urged by the Edwards in this case is certainly not novel -- the Edwards request only that the Commission's hearing conform to hornbook due process standards pronounced by the United States Supreme Court over 25 years ago. Mullane v. Central Hanover Bank & Trust, 339 U.S. 306 (1950).

The New Mexico appellate courts ruled over ten years ago that due process requirements applied to administrative proceedings. Matter of Protest of Miller, supra. Moreover, it has long been held that proceedings before an oil and gas conservation body are subject to the notice requirements of due process. Moore Oil v. Snakard, 150 F.Supp. 250 (W.D. Okla. 1957). Moore Oil was cited by the court in Olansen v. Texaco Inc., 587 P.2d 976 (Okla. 1978), where the court stated that "the implications of the Mullane decision, and others following it were not entirely lost on attorneys specializing in the field of oil and gas conservation law." 587 P.2d at 976. In short, the due process standards of Mullane have been apparent for over 30 years. The Edwards, therefore, don't seek to change the law;

rather, they only request that the Commission and McHugh follow it.

2. Purpose of and Effect of Ruling: The second factor in Chevron is the purpose and effect of the rule in question. The purpose of the ruling requested the Edwards is simply to give adequate notice of proceedings before the Commission to interested parties, so that they may participate in the proceedings. It certainly is not a radical argument to suggest that McHugh must make a diligent effort to notify the Edwards before purloining their property rights.

3. Weighing the Equities: A third factor in Chevron concerns equity, and here the scales of equity tip heavily against McHugh. He is the one who, with knowledge of the Edwards' address, decided to conduct a hearing at the Commission with no notice, although N.M. Stat. Ann. § 70-2-7 (1978) clearly allowed personal notice to be served on the Edwards. After learning of Order No. R-7407, plaintiffs promptly filed suit to assert their rights. Because the order is invalid as to the Edwards, McHugh is the one who has the burden to rebut the presumed correctness of 40 acre spacing and establish the validity of a 320 acre spacing request. In the face of his inequitable conduct, however, McHugh suggests that he should be rewarded for his surreptitious activity and that the Edwards should be penalized for the deprivation of their property rights. Plainly, the Chevron principles require that the Court's order apply to the present case so the Edwards can receive a meaningful remedy. That remedy is invalidation of the Commission's order as

to the Edwards, and of McHugh's attempted poolings based on that order.

- C. Because 320 Acre Spacing is Invalid As Against The Edwards, They Are Entitled to all Royalties from the E.T. #1 Well, and Leases 2 and 3 Expired on April 16, 1984, and Should be Cancelled.

Leases 1, 2, and 3, as extended, each had primary terms which expired on April 16, 1984. The "primary term" of an oil and gas lease is the term during which a lease remains in effect without production of oil or gas. 8 H. Williams & C. Meyers, Oil and Gas Law, p. 669. An oil or gas lease expires automatically at the end of its primary term if oil or gas is not produced from the leasehold. Leases 1, 2, and 3 provided in paragraph 5 that:

Lessee is hereby granted the right...to pool or combine this lease...with any other land, lease, leases...for the production of oil or gas. Units pooled hereunder shall not exceed the standard proration unit fixed by law or by the New Mexico Oil Conservation Commission...

When Leases 1, 2, and 3 were executed, the standard spacing or proration unit for wells completed in the Mancos formation was 40 acres; this was purportedly increased to 320 acres by the Commission's spacing order, effective March 1, 1984. As discussed above, since the 320 acre spacing order is ineffective as against the Edwards, McHugh could not pool Leases 1, 2, and 3 to form 320 acre spacing units. As a result, the original 40 acre spacing governs Leases 1, 2, and 3.

There are three legal consequences resulting from the necessary conclusion that the leases are governed by 40 acre spacing. First, the Edwards remain entitled to 100% of the



royalties from the E.T. #1 Well, since they own all of the 40 mineral acres underlying that well. Second, the drilling of the Full Sail #1 well could not, as a matter of law, hold Lease 2, because the Full Said #1 Well was not drilled on any 40 acre spacing unit within Lease 2. Accordingly, Lease 2 expired by its own terms on April 16, 1984. Similarly, the Janet #2 Well was not drilled on any 40 acre spacing unit within Lease 3, and that lease expired by its terms on April 16, 1984.

To the extent that McHugh argues that he will suffer hardship by the cancellation of Leases 2 and 3, his argument is wide of the mark. In New Mexico, oil and gas leases are strictly construed against the lessee and any question as to the leases' existence is resolved in favor of cancellation. Greer v. Salmon, N.M. 249, 479 P.2d 294 (1970). McHugh, like any other leasee in New Mexico, is bound to act prudently in order to avoid the consequences of termination mandated by the parties' lease contract. Here, McHugh's conduct was anything but prudent. He took a calculated risk in conducting Case No. 7970 with inadequate notice while all the time knowing the Edwards' whereabouts. He took a greater risk by ignoring the primary term of the leases and by drilling wells pursuant to a spacing order that could be attacked.

McHugh is now relegated to arguing equities and hardship, and maintaining that he should not be penalized by the Commission's invalid order. McHugh has forgotten one important fact and one important principle of oil and gas law. The important fact is that McHugh was the one who failed to give notice and

caused this attack on the Commission's order. The important legal principle is that an oil and gas lease must be strictly enforced according to its terms. Since no well was drilled on Leases 2 and 3 by April 16, 1984, those leases expired as a matter of law. That conclusion is not radical; it is a result required by the lease contracts themselves.

V. CONCLUSION

The Commission's invalid spacing order formed the improper predicate for McHugh's attempted pooling of the leases to form 320 acre spacing units. The order deprived the Edwards of due process of law and, therefore, is void. As a result of the void order, 40 acre spacing governs Leases 1, 2, and 3. The Edwards, as owners of all minerals underlying the 40 acres surrounding the E.T.#1 Well, are entitled to 100% of the royalties from that well in the future. Moreover, the Edwards are entitled to past damages as a result of the reduction of their royalty from the date of the Commission's void spacing order. The extent of past damages must necessarily be determined at a trial, and is not part of the Edwards' motion for summary judgment.

Additionally, the Edwards are entitled to summary judgment ordering the cancellation of Leases 2 and 3. McHugh failed to drill a well on any 40 acre spacing unit applicable to those leases, and the lease expired by operation of law on April 16, 1984.

Respectfully submitted,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

By

James Bruce

Cwen M. Lopez  
James Bruce  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs Floyd  
E. and Emma B. Edwards

Certificate of Service

We hereby certify that we have mailed  
a true and correct copy of the foregoing  
pleading to all opposing counsel of record  
this 27th day of December, 1986.

James Bruce  
Hinkle, Cox, Eston, Coffield & Hensley  
P.O. Box 2068  
Santa Fe, NM 87504-2068

JAMES E. SPERLING  
JOSEPH E. ROEHL  
DANIEL A. SISK  
ALLEN C. DEWEY, JR.  
FRANK H. ALLEN, JR.  
JAMES A. PARKER  
JOHN R. COONEY  
KENNETH L. HARRIGAN  
PETER J. ADANG  
DALE W. EK  
JAMES M. PARKER  
CHARLES I. WELLBORN  
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JUDY A. FRY  
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MARK B. THOMPSON III  
GEORGE J. HOPKINS  
JEFFREY W. LOUBET  
R. E. THOMPSON  
RUTH M. SCHIFANI  
THOMAS L. JOHNSON  
LYNN H. SLADE  
ZACHARY L. MCCORMICK  
CLIFFORD K. ATKINSON  
DOUGLAS A. BAKER  
SUSAN R. STOCKSTILL  
LARRY P. AUSERMAN  
JOHN E. HEER III  
J. DOUGLAS FOSTER

LAW OFFICES  
MODRALL, SPERLING, ROEHL, HARRIS & SISK

A PROFESSIONAL ASSOCIATION  
500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000  
POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103  
TELECOPIER (505) 247-2299 ZAP MAIL (505) 242-2155  
(505) 848-1800

JOHN F. SIMMS  
(1885-1954)

J. R. MODRALL  
(1902-1977)

AUGUSTUS T. SEYMOUR  
(1907-1965)

GEORGE T. HARRIS, JR.  
(1922-1985)

LELAND S. SEDBERRY, JR.  
(1930-1985)

February 2, 1987

DOUGLAS R. VADNAIS  
GEOFFREY D. RIEDER  
JOHN S. THAL  
BENJAMIN SILVA, JR.  
WALTER E. STERN III  
PATRICK J. ROGERS  
DUANE E. BROWN  
MARTHA G. BROWN  
PAUL MAESTAS  
JEFFREY TWERSKY  
NEAL E. BINCZEWSKI  
TODD R. BRAGGINS  
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JANET R. BRAZILL  
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SEALY H. CAVIN, JR.  
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ELEANOR K. BRATTON  
NORA C. KELLY  
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DONALD R. FENSTERMACHER  
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DOUGLAS G. SCHNEEBECK  
PEARL MAYS-TABORN  
KYLE H. MOBERLY  
CHARLES A. ARMGARDT  
ROBERT G. BURGESS  
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KATHRYN D. LUCERO  
SUZANNE R. SPIERS  
TIMOTHY R. VAN VALEN

Angela Romero, Acting Clerk  
Santa Fe County Judicial Complex  
P.O. Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd Edwards, et al., v. Jerome  
P. McHugh, et al.; Rio Arriba  
County Cause No. RA 85-373(C)

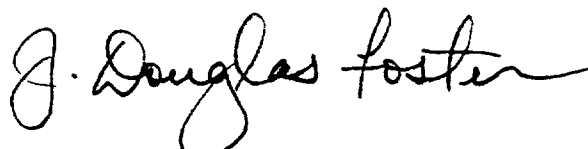
Dear Ms. Romero:

Enclosed please find the originals of the following to  
be filed in the captioned matter:

1. Answer and Counterclaim of Defendant Jerome P.  
McHugh to Plaintiff's First Amended Complaint; and
2. Answer of Defendant Kindermac Partners to  
Plaintiffs' First Amended Complaint.

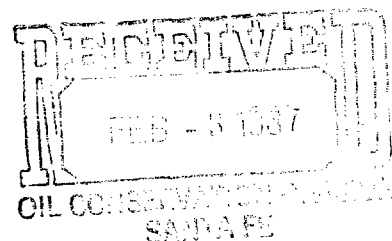
Also enclosed is a copy of each to be endorsed and  
returned to me. A self-addressed stamped envelope is enclosed  
for your convenience.

Very truly yours,



J. DOUGLAS FOSTER

JDF/pap  
Enclosures  
cc: counsel of record



FIRST JUDICIAL DISTRICT COURT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

NO. RA 85-373(C)

JEROME P. McHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

ANSWER OF DEFENDANT KINDERMACH PARTNERS  
TO PLAINTIFFS' FIRST AMENDED COMPLAINT

Defendant Kindermach Partners, for itself and on behalf of McHugh Lindrith 1983, Ltd., responds to Plaintiffs' First Amended Complaint (the "Complaint") as follows:

FIRST DEFENSE

1. Defendant admits paragraph 1 of the Complaint.
2. Defendant admits that Jerome P. McHugh is a citizen of the State of Colorado, that McHugh Lindrith 1983, Ltd. is a Colorado limited partnership having Kindermach Partners as its general partner, and that Jerome P. McHugh and McHugh Lindrith 1983, Ltd. are subject to the jurisdiction of this Court for purposes of this action brought by Plaintiffs. Defendant further admits that the New Mexico Oil Conservation

Commission is a governmental agency of the State of New Mexico. Defendant is without sufficient information to admit or deny the remaining allegations in paragraph 2 of the Complaint.

3. Defendant responds to paragraph 3 of the Complaint as provided in paragraphs 1 and 2 above.

4. Defendant is without sufficient knowledge to admit or deny that Lease No. 1 was executed by Plaintiffs on April 16, 1980. Defendant admits that Exhibit A to the Complaint is a true copy of Lease No. 1 except to the extent it contains handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 4 of the Complaint.

5. Defendant admits paragraph 5 of the Complaint.

6. Defendant admits paragraph 6 of the Complaint.

7. Defendant denies any implication that the E.T. #1 Well produces exclusively from the Mancos formation, and denies that the E.T. #1 Well has been classified at all times and for all purposes as an oil well. Defendant further denies that Plaintiffs were, or are, entitled to all of the royalty on production from the E.T. #1 Well. Defendant admits the remaining allegations in paragraph 7 of the Complaint.

8. Defendant admits paragraph 8 of the Complaint.

9. Defendant denies paragraph 9 of the Complaint.

10. Defendant admits that McHugh did not cause personal service or service by mail to be made upon Plaintiffs in connection with Case No. 7980. Defendant denies that this was a "failure" of any kind.

11. Defendant denies that notice given in connection with Case No. 7980 was insufficient. Defendant admits Exhibit D to the Complaint is a true copy of Order No. R-7407 except to the extent it contains handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 11 of the Complaint.

12. Defendant admits that Order No. R-7407 applies to land embraced within Lease No. 1, but denies any implication that Order No. R-7407 is ineffective. Defendant denies the remaining allegations contained in paragraph 12 of the Complaint.

13. Defendant denies paragraph 13 of the Complaint.

14. Defendant denies paragraph 14 of the Complaint.

15. Defendant admits that Exhibit E to the Complaint is a true copy of a letter received by McHugh and that Exhibit F to the Complaint is a true copy of the McHugh's response. Defendant denies the remaining allegations contained in paragraph 15 of the Complaint.

16. Defendant denies paragraph 16 of the Complaint.

17. Defendant responds to paragraph 17 of the Complaint as stated in paragraphs 1 through 16 above.

18. Defendant denies paragraph 18 of the Complaint.

19. Defendant denies paragraph 19 of the Complaint.

20. Defendant answers paragraph 20 of the Complaint as stated in paragraphs 1, 2, 8, 9, 10, 11, 13 and 16 above.

21. Defendant is without sufficient knowledge to admit or deny that Plaintiffs executed Lease No. 2 and Lease No.

3 on April 16, 1980. Defendant admits that Exhibits G, H, I, J, K and L to the Complaint are true copies of the originals except to the extent they contain handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 21 of the Complaint.

22. Defendant admits paragraph 22 of the Complaint but denies any implication that Order No. R-7407 is ineffective.

23. Defendant admits paragraph 23 of the Complaint.

24. Defendant denies any implication that the drilling of the Full Sail #1 Well is not considered operations on the land covered by Lease No. 2. Defendant admits the remaining allegations in paragraph 24 of the Complaint.

25. Defendant denies any implication that the Janet #2 Well produces exclusively from the Gavilan-Mancos formation and denies that the Janet #2 Well has been classified at all times and for all purposes as an oil well. Defendant admits the remaining allegations in paragraph 25 of the Complaint.

26. Defendant denies that no drilling operations were considered to be commenced on land covered by Lease Nos. 2 and 3 on or before April 16, 1984. Defendant admits the remaining allegations in paragraph 26 of the Complaint.

27. Defendant denies any implication that the pooling of lands covered by Lease No. 2 with lands on which the Full Sail No. 1 Well is located is ineffective and any implication that such pooling was accomplished solely to preserve Lease 2. Defendant further denies that the description of a "pooling clause" contained in the last sentence of paragraph 27 of the



Complaint is accurate or complete for all purposes. Defendant admits the remaining allegations contained in paragraph 27 of the Complaint.

28. Defendant denies any implication that the pooling of lands covered by Lease No. 3 with lands upon which the Janet #2 Well is located is ineffective. Defendant denies any implication that Lease No. 3 is preserved solely by production from the formation that was the subject of Order No. R-7407 and any implication that such pooling was accomplished solely to preserve Lease 3. Defendant admits the remaining allegations in paragraph 28 of the Complaint.

29. Defendant denies paragraph 29 of the Complaint.

30. Defendant denies paragraph 30 of the Complaint.

31. Defendant denies paragraph 31 of the Complaint.

32. Defendant answers paragraph 32 of the Complaint as stated in paragraphs 1 through 16 and 20 through 31 above.

33. Defendant admits paragraph 33 of the Complaint.

34. Defendant admits that McHugh made application to the Commission in 1984 to create the Gavilan-Greenhorn-Graneros-Dakota Oil Pool, designated by the Commission as Case No. 8350. Defendant denies the remaining allegations contained in paragraph 34 of the Complaint.

35. Defendant admits that McHugh did not cause personal service or service by mail to be made upon Plaintiffs in connection with Case No. 8350. Defendant admits that notice of Case No. 8350 was given by publication. Defendant denies that this was a "failure" of any kind and denies any implication

that Plaintiffs did not have actual notice of Case No. 8350.

36. Defendant admits that Exhibit M to the Complaint is a true copy of Order No. R-7745. Defendant denies the remaining allegations contained in paragraph 36 of the Complaint.

37. Defendant admits paragraph 37 of the Complaint, but denies any implication that Order No. R-7745 is ineffective.

38. Defendant denies paragraph 38 of the Complaint.

39. Defendant denies paragraph 39 of the Complaint.

40. Defendant denies paragraph 40 of the Complaint.

41. Defendant denies paragraph 41 of the Complaint.

42. Defendant denies each and every allegation not expressly admitted.

#### SECOND DEFENSE

43. Plaintiffs fail to state a claim upon which relief can be granted.

#### THIRD DEFENSE

44. Plaintiffs' claims are barred by the doctrines of estoppel and waiver.

#### FOURTH DEFENSE

45. Plaintiffs have failed to join all parties to this action that must be joined under Rule 19 of the New Mexico Rules of Civil Procedure and under §§ 44-6-1 et seq., NMSA (1978).

#### FIFTH DEFENSE

46. Plaintiffs have failed to exhaust their administrative remedies.

SIXTH DEFENSE

47. The New Mexico Oil Conservation Commission has primary jurisdiction over the subject matter of this action, and this action should therefore be dismissed or stayed until the Oil Conservation Commission has ruled on that subject matter.


48. Defendant is entitled under the Leases to recover from Plaintiffs, all costs, expenses and reasonable attorney's fees incurred in connection with this action.

WHEREFORE, Defendant prays that Plaintiffs take nothing by their Complaint, and that this Court enter its Order denying the relief requested by Plaintiffs and awarding to Defendant his costs, expenses and attorney's fees in this action.

HOLME ROBERTS & OWEN  
Marla J. Williams, Esq.  
Attorneys for Defendant  
Kindermac Partners  
1700 Broadway  
Denver, Colorado 80290

and

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

BY   
J. DOUGLAS FOSTER  
Attorneys for Defendant  
Kindermac Partners  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a true and correct copy of the foregoing was mailed to opposing counsel of record this 2nd day of February, 1987.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By JDF  
J. Douglas Foster

FIRST JUDICIAL DISTRICT COURT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

NO. RA 85-373(C)

JEROME P. McHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

ANSWER AND COUNTERCLAIM OF DEFENDANT  
JEROME P. McHUGH TO PLAINTIFFS' FIRST AMENDED COMPLAINT

Jerome P. McHugh, one of the Defendants in this cause, responds to Plaintiffs' First Amended Complaint (the "Complaint") as follows:

FIRST DEFENSE

1. Defendant admits paragraph 1 of the Complaint.
2. Defendant admits he is a citizen of the State of Colorado, that McHugh Lindrith 1983, Ltd. is a Colorado limited partnership having Kindermac Partners as its general partner, and that he and McHugh Lindrith 1983, Ltd. are subject to the jurisdiction of this Court for purposes of this action brought by Plaintiffs. Defendant also admits that the New Mexico Oil Conservation Commission is a governmental agency of the State of

New Mexico. Defendant is without sufficient information to admit or deny the remaining allegations in paragraph 2 of the Complaint.

3. Defendant responds to paragraph 3 of the Complaint as provided in paragraphs 1 and 2 above.

4. Defendant is without sufficient knowledge to admit or deny that Lease No. 1 was executed by Plaintiffs on April 16, 1980. Defendant admits that Exhibit A to the Complaint is a true copy of Lease No. 1 except to the extent it contains handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 4 of the Complaint.

5. Defendant admits paragraph 5 of the Complaint.

6. Defendant admits paragraph 6 of the Complaint.

7. Defendant denies any implication that the E.T. #1 Well produces exclusively from the Mancos formation, and denies that the E.T. #1 Well has been classified at all times and for all purposes as an oil well. Defendant further denies that Plaintiffs were, or are, entitled to all of the royalty on production from the E.T. #1 Well. Defendant admits the remaining allegations in paragraph 7 of the Complaint.

8. Defendant admits paragraph 8 of the Complaint.

9. Defendant denies paragraph 9 of the Complaint.

10. Defendant admits he did not cause personal service or service by mail to be made upon Plaintiffs in connection with Case No. 7980. Defendant denies that this was a "failure" of any kind.

11. Defendant denies that notice given in connection with Case No. 7980 was insufficient. Defendant admits Exhibit D to the Complaint is a true copy of Order No. R-7407 except to the extent it contains handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 11 of the Complaint.

12. Defendant admits that Order No. R-7407 applies to land embraced within Lease No. 1, but denies any implication that Order No. R-7407 is ineffective. Defendant denies the remaining allegations contained in paragraph 12 of the Complaint.

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15. Defendant admits that Exhibit E to the Complaint is a true copy of a letter received by Defendant and that Exhibit F to the Complaint is a true copy of the Defendant's response. Defendant denies the remaining allegations contained in paragraph 15 of the Complaint.

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17. Defendant responds to paragraph 17 of the Complaint as stated in paragraphs 1 through 16 above.

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20. Defendant answers paragraph 20 of the Complaint as stated in paragraphs 1, 2, 8, 9, 10, 11, 13 and 16 above.

21. Defendant is without sufficient knowledge to admit or deny that Plaintiffs executed Lease No. 2 and Lease No.

3 on April 16, 1980. Defendant admits that Exhibits G, H, I, J, K and L to the Complaint are true copies of the originals except to the extent they contain handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 21 of the Complaint.

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26. Defendant denies that no drilling operations were considered to be commenced on land covered by Lease Nos. 2 and 3 on or before April 16, 1984. Defendant admits the remaining allegations in paragraph 26 of the Complaint.

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Complaint is accurate or complete for all purposes. Defendant admits the remaining allegations contained in paragraph 27 of the Complaint.

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34. Defendant admits that he made application to the Commission in 1984 to create the Gavilan-Greenhorn-Graneros-Dakota Oil Pool, designated by the Commission as Case No. 8350. Defendant denies the remaining allegations contained in paragraph 34 of the Complaint.

35. Defendant admits that he did not cause personal service or service by mail to be made upon Plaintiffs in connection with Case No. 8350. Defendant admits that notice of Case No. 8350 was given by publication. Defendant denies that this was a "failure" of any kind and denies any implication that

Plaintiffs did not have actual notice of Case No. 8350.

36. Defendant admits that Exhibit M to the Complaint is a true copy of Order No. R-7745. Defendant denies the remaining allegations contained in paragraph 36 of the Complaint.

37. Defendant admits paragraph 37 of the Complaint, but denies any implication that Order No. R-7745 is ineffective.

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39. Defendant denies paragraph 39 of the Complaint.

40. Defendant denies paragraph 40 of the Complaint.

41. Defendant denies paragraph 41 of the Complaint.

42. Defendant denies each and every allegation not expressly admitted.

#### SECOND DEFENSE

43. Plaintiffs fail to state a claim upon which relief can be granted.

#### THIRD DEFENSE

44. Plaintiffs' claims are barred by the doctrines of estoppel and waiver.

#### FOURTH DEFENSE

45. Plaintiffs have failed to join all parties to this action that must be joined under Rule 19 of the New Mexico Rules of Civil Procedure and under §§ 44-6-1 et seq., NMSA (1978).

#### FIFTH DEFENSE

46. Plaintiffs have failed to exhaust their administrative remedies.

SIXTH DEFENSE

47. The New Mexico Oil Conservation Commission has primary jurisdiction over the subject matter of this action, and this action should therefore be dismissed or stayed until the Oil Conservation Commission has ruled on that subject matter.

COUNTERCLAIM

48. On December 18, 1984, Plaintiffs filed an action in the United States District Court for the District of New Mexico, alleging substantially the same claims as set forth in the Complaint. That action was dismissed on Defendant's motion because of Plaintiff's procedural errors (the Commission being an indispensable party that was not, and could not be, joined).

49. As the prevailing party in the Federal District Court action, Defendant is entitled under the Leases to recover from Plaintiffs all of Defendant's costs, expenses and reasonable attorney's fees.

50. Defendant is also entitled under the Leases to recover from Plaintiffs, all costs, expenses and reasonable attorney's fees incurred in connection with this action.

WHEREFORE, Defendant prays that Plaintiffs take nothing by their Complaint, and that this Court enter its Order denying the relief requested by Plaintiffs and awarding to Defendant his costs, expenses and attorney's fees in this action and the Federal District Court action.

HOLME ROBERTS & OWEN  
Marla J. Williams, Esq.  
Attorneys for Defendant  
Jerome P. McHugh  
1700 Broadway  
Denver, Colorado 80290

and

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

BY J. Douglas Foster  
J. DOUGLAS FOSTER  
Attorneys for Defendant  
Jerome P. McHugh  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a true  
and correct copy of the fore-  
going was mailed to opposing  
counsel of record this 2nd  
day of February, 1987.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By JDF  
J. Douglas Foster

FIRST JUDICIAL DISTRICT COURT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373(C)

JEROME P. McHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

REPLY MEMORANDUM IN SUPPORT OF MOTION TO DISMISS  
OR FOR SUMMARY JUDGMENT BY DEFENDANT McHUGH AND IN  
OPPOSITION TO MOTION FOR SUMMARY JUDGMENT BY PLAINTIFFS

The parties have filed cross-motions for summary judgment. The memorandum filed by the plaintiffs blurs the issues and contains several misstatements of law. Defendant McHugh submits this reply memorandum in support of his motion and in opposition to the motion by the plaintiffs.

I. Introduction.

The plaintiffs contend that they have been deprived of their property without due process. In reality, the plaintiffs boldly seek to repudiate a contract that they freely entered into.

The plaintiffs executed three oil and gas leases in

1980. The plaintiffs have already received in excess of \$200,000 under those leases. Affidavit of Jerome P. McHugh in support of McHugh's motion for summary judgment. An additional sum, also in excess of \$200,000, has been tendered to but refused by the plaintiffs. Id. Apparently believing that they can reap even greater benefits, the plaintiffs now disavow that portion of the contract that no longer suits them. Realizing, however, that a direct attempt to void the contract would fail, the plaintiffs instead attempt to renege on their agreement by attacking the spacing order issued by the Commission.

The plaintiffs complain that lack of personal notice to them of the Commission spacing proceeding unfairly denied them the opportunity to present evidence on the spacing issue. Amazingly, however, during the more than three years since the Commission hearing, the plaintiffs have never asked the Commission to change its decision and have never presented any evidence to the Commission that would support a change in spacing. The plaintiffs, even now, have nothing to add to the facts considered by the Commission in 1983, and their "participation" at that time could not have altered what was obviously a correct decision by the Commission. The plaintiffs' protest that they were treated "unfairly" therefore rings hollow. As set forth in McHugh's first memorandum, and elaborated on below, "due process" and constitutional rights are false issues in this litigation. The real issue is whether McHugh has performed his contract with the plaintiffs, and the undisputed evidence is that he has.

II. This Controversy Actually Involves The Correct Interpretation Of Contract Rights, And Procedural Due Process Is Not An Issue.

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A. The Contract.

In spite of the plaintiffs' attempt to obscure it, the real issue in this case is the correct interpretation of the contract between the parties. The plaintiffs' complaint is that their production royalties from one lease were reduced and the other two leases were extended into secondary terms. As fully explained in McHugh's initial memorandum, the "pooling clause" in the leases executed by the plaintiffs fully authorized both the adjustment of royalties and the extension of the leases. The plaintiffs do not dispute this. Moreover, the plaintiffs do not contend that the pooling clause is invalid. The plaintiffs are undoubtedly aware of the numerous cases which have upheld the validity of similar pooling provisions. See, for example, Phillips Petroleum Company v. Peterson, 218 F.2d 926 (10th Cir. 1954), cert denied, 349 U.S. 947 (1955). Furthermore, the plaintiffs do not allege that McHugh improperly exercised his rights under the pooling clause. The plaintiffs concede that "it is not McHugh's attempted 'pooling' of acreage which is subject to attack . . . ." Plaintiffs' memorandum, p. 6.

The plaintiffs do claim that McHugh should have given them personal notice of his application to increase spacing from 40 to 320 acres. Plaintiffs' memorandum, p. 16, n. 4. However, the cases cited by the plaintiffs in that regard actually support McHugh's position that the contract between the parties

fully authorized McHugh's actions.

In Amoco Production Co. v. Jacobs, 746 F.2d 1394 (10th Cir. 1984), the lessors executed a lease authorizing the lessee to "unitize, pool, or combine" the lessors' property with other lands by entering into a cooperative or unit plan "approved by any governmental authority." The lessee entered into a unitization agreement, and the lessors objected, in part because, by virtue of the unitization, "their particular lease was extended without their consent." Id. at 1397. The lessors contended that the unitization was "unenforceable because they never consented to formation of the unit." Id. at 1405. Thus, their claim was similar to that made by the plaintiffs in this case, wherein they argue that the pooling of their lease with others was ineffective because they did not participate in the Commission proceeding which "provided the indispensable prerequisite" for pooling of their leases. Plaintiffs' memorandum, p. 11.

The court in Amoco Production Co. v. Jacobs, supra, rejected such a claim, "inasmuch as the original lease contract made provision for a unitization program and indeed allowed action to be taken without the express approval of individual owners." 746 F.2d at 1405. Just as approval by "governmental authority" was a condition to exercise of the contractual right to unitize in that case, Commission approval of 320 acre spacing was a condition to exercise of McHugh's contractual right to pool 320 acre tracts in this case. There was no suggestion in Amoco that the lessors were entitled to advance personal notice that the governmental authority was about to consider the unit-



ization, and there is no basis for requiring such personal notice in this case either. Here, as there, the lease contract itself "allowed action to be taken without the express approval of individual owners." Indeed, the lease contract, by its own terms, provided that "express approval."

Likewise, in Phillips Petroleum Company v. Peterson, 218 F.2d 926 (10th Cir. 1954), another case cited by the plaintiffs, the lessors attacked the validity of unitization under lease provisions similar to those in Amoco Production Co. v. Jacobs, supra. In Phillips the government approval necessary to effectuate the unitization was obtained before any notice was given to the lessors. 218 F.2d at 929. Nevertheless, the Tenth Circuit stated the following in connection with the lease provision that authorized unitization.

Thus, it will be seen that unitization is a conservation measure which benefits both lessor and lessee and tends to prevent waste of a natural resource.

Anticipatory provisions in leases for the commitment by the lessee of such leases to unitization of necessity must be in general terms. Neither the lessor nor the lessee has any way of knowing at the time the lease is taken the facts with respect to which it will be necessary for the lessee to apply his power. It is not practicable for the lessee to await the ascertainment of such facts. He knows from experience that because of the possibility of many changes in ownership of the lessor's interest as time goes on, it may be difficult to effect an agreement for unitization after the lease is taken, if the right to unitize is not included in the lease itself.

The practice of unitization by a power granted the lessee in advance . . . will be fair and profitable both to the lessor and lessee, and is vital to the oil and gas industry in the interests of the conservation of both natural and material resources. It should be upheld . . . .

218 F.2d at 933 (emphasis added).

The above cases help focus on the fact that, in the case now before this Court, we are dealing with a question of contract law only, not a question of constitutional law. The plaintiffs could have negotiated for a pooling clause that limited pooling to 40 acres for oil wells. Many leases contain such a limitation. See, for example, Manufacturers National Bank of Detroit v. Director, Department of Natural Resources, et al., 362 N.W. 2d 572, 84 OGR 103, 111 (Mich. 1985). The plaintiffs also could have negotiated for a pooling clause which required notice to the plaintiffs before McHugh exercised the right to pool. Instead, the plaintiffs agreed to a provision wherein McHugh "is hereby granted the right and power, from time to time, to pool . . ." the plaintiffs' lease. Exhibit A to plaintiffs' complaint, para. 5 (emphasis added). Indeed, the plaintiffs could have refused to lease their property altogether unless the lease was drawn without a pooling clause. The ability of the plaintiffs to negotiate for non-standard provisions is amply demonstrated by the fact that the leases they executed contained numerous additions to and deletions from the form provisions, including a higher than normal royalty. See Exhibit A to plaintiffs' complaint.

The simple fact is that the plaintiffs agreed to a contractual provision which authorizes precisely the actions taken by McHugh in this case, without prior notice to the plaintiffs and without the plaintiffs' participation in the formulation of Commission order R-7407. As stated by the court

in Phillips Petroleum Company v. Peterson, supra, pooling "is a conservation measure which benefits both lessor and lessee and tends to prevent waste of a natural resource." 218 F.2d at 933 (emphasis added). The plaintiffs in this case were obviously aware of the potential benefits of pooling to them, and that is why they agreed to it. Those benefits have been very real, indeed, in the form of more than \$130,000 in accrued royalties on Leases 2 and 3 which plaintiffs would not receive if this pooling is determined to be ineffective. Affidavit of Jerome P. McHugh attached to McHugh's motion for summary judgment. It is too late for the plaintiffs to change the contract, simply because they envision even greater profits in the future under different contractual terms.

B. Due Process.

Contrary to the plaintiffs' assertion, McHugh does not contest and has never contested the obvious proposition that the entry of Commission order R-7407 constituted state action. The essential point, however, is that the Commission order did not deprive the plaintiffs of any property interest. The plaintiffs implicitly acknowledge this when they state that the Commission order "provided the indispensable prerequisite" for the reduction of royalties and extension of the leases. "Without that order, the pooling of 320 acres could not have conceivably occurred, by contract or otherwise." Plaintiffs' memorandum, p. 11. From that proposition, the plaintiffs make an unwarranted leap of logic to the conclusion that "from the foregoing, it is clear that plaintiffs were deprived of their property by state

action." Plaintiffs' memorandum, p. 12.

The plaintiffs are unable to explain, legally or logically, how the status of Commission order R-7407 as a "prerequisite" to application of the contractual pooling provision in the lease transformed the order into state action that deprived the plaintiffs of their property rights. The issuance of the Commission order may have affected the plaintiffs' rights under their contract with McHugh by fulfilling the condition necessary to exercise of the contractual right to pool 320 acre tracts. However, as discussed above, the exercise of that contractual right to pool actually caused the reduction in plaintiffs' royalties on Lease 1 and the extension of Leases 2 and 3 of which the plaintiffs complain. Moreover, even where government actions "adversely affect an individual but do not constitute a denial of that individual's life, liberty or property, the government does not have to give the person any hearing or process whatsoever." Rotunda, Nowak, & Young, Treatise on Constitutional Law: Substance and Procedure, § 17.2 at 202 (1986) (emphasis added). Thus, whether the Commission order is deemed to have adversely affected the plaintiffs or not, due process is not applicable.

What the plaintiffs really assert, without admitting it, is that the Commission should have considered whether the pooling clause in the lease contract was "fair" to them in altering their royalty payments and extending their leases. However, due process requires fairness only with respect to government action, not private contracts. Rotunda, Nowak &

Young, supra, § 17.5. It was not the role of the Commission to determine the fairness of the private contract between the plaintiffs and McHugh. The courts fulfill that function, and, as noted above, the courts have repeatedly upheld the validity of pooling clauses.

Contrary to the plaintiffs assertion, Manufacturers National Bank of Detroit v. Director, Department of Natural Resources, et al., 362 N.W. 2d 572, 84 OGR 103 (Mich. 1985), directly supports the proposition that the plaintiffs' property was not taken by state action in this case.<sup>1</sup> There the lessors claimed that their royalty was reduced when the Department of Natural Resources changed well spacing from 80 to 240 acres. The lessees, on the other hand, argued that "the legal interests of the royalty owners within the unit were pooled by private action pursuant to the leases. . . ." 84 OGR at 104-105.

The Supreme Court of Michigan first reviewed the

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<sup>1</sup> The plaintiffs claim that Manufacturers National Bank of Detroit "is not on point because well spacing was not at issue in that case." Plaintiffs' memorandum, p. 10, n. 2. The plaintiffs are simply incorrect. While that case involved the creation of a "drilling unit" by the Michigan equivalent of the New Mexico Commission, a "drilling unit" has the same definition under Michigan law as a "spacing and proration unit" under New Mexico law. Compare 84 OGR at 106 and Section 70-2-17(B) N.M.S.A. (1978). (McHugh provided the Court with a copy of the Manufacturers National Bank of Detroit case when it filed its motion for summary judgment in November.) Indeed, in that case the lessee sought to increase spacing from 80 to 240 acres (compared to McHugh's application for an increase from 40 to 320 acres). Far from being "not on point," the striking factual similarities between that case and this one make it particularly "on point" with respect to the issues before this Court.

Michigan statutes relating to spacing and proration units and compulsory pooling. The court then noted that the lease in question granted the lessee "the right, at its option, . . . to unitize and pool . . ." the lessors' premises with other land in the area, and to adjust the lessors' royalty accordingly.<sup>2</sup> The "essence" of the case, as the Michigan Supreme Court saw it, was whether the order increasing spacing from 80 to 240 acres pooled royalty interests and was therefore the cause of a reduction in royalty to the lessors.

However, we find that the Supervisor of Wells has not pooled the properties involved in the present case. Nor has he allocated the production of the well. Those events took place as a result of private contracts, and, for that reason, plaintiffs' claim must fail.

That portion of the statute relating to drilling units makes no mention of altering ownership interests when determining the proper size for drilling units in a pool . . . . Therefore, we cannot agree with plaintiffs and the Court of Appeals when they state that plaintiffs' ownership interest was pooled with the interests of others when the 240 acre drilling unit was established.

84 OGR at 114. Thus, under Michigan law, the adjustment in the property rights of the lessors was attributed to the operation of the pooling clause in the lease contract, not state action.

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<sup>2</sup> The "pooling clause" considered by the Michigan Supreme Court was virtually identical to the "pooling clause" agreed to by the plaintiffs in this case. However, the pooling clause in Manufacturers National Bank of Detroit limited the size of pooled gas units to a maximum of 640 acres, instead of tying the size of the pooled unit to regulations promulgated by the state conservation authority. Thus, the pooling clause in Manufacturers National Bank of Detroit contained a contractual limitation that is missing from the lease contract agreed to by the plaintiffs in this case.

Like the plaintiffs in this case, the plaintiffs in Manufacturers National Bank of Detroit attempted to rely on Oklahoma case law for the proposition that "spacing orders promulgated by oil and gas conservation bodies deprive mineral interest owners of property rights." Plaintiffs' memorandum, p. 12. The Michigan Supreme Court's response is equally applicable to the case at bar.

. . . [D]rilling units draw their nature from the statutes which authorize their existence. The Oklahoma statute on point provides for the mandatory pooling of royalty interests and for the allocation of production to royalty holders . . . .

Of course, the Michigan statutes make no mention of the automatic pooling of royalty or working interests in connection with the establishment of a drilling unit. We must therefore conclude that the creation of a drilling unit pools no ownership interest whatsoever. Courts of other states, in quite different fact situations, have apparently reached the same result under their own statutes. [citations omitted from North Dakota, Louisiana, and Texas.]

84 OGR at 115-116 (emphasis in original).

The opinion in Manufacturers National Bank of Detroit simply points out what is obvious from a comparison of the Oklahoma and Michigan statutes. In Oklahoma, a spacing order also pools royalty interests, by definition adjusting the payment of royalties and directly affecting the lessor's property interest. In Michigan, a spacing order merely determines the size of the units on which wells may be drilled. Any effect on the lessor's royalty interest is the result of the contractual pooling provisions in the lease, not state action. The New Mexico statutes are virtually identical to the Michigan statutes. See complete discussion in McHugh's prior memorandum,

pp. 11-16. A spacing order in New Mexico does not pool royalty interests and does not "deprive" lessors of their property. The plaintiffs' property rights in this case were determined solely by the terms of the lease contract which they agreed to and from which they have already derived so much benefit.

III. Any Ruling Requiring Personal Notice Of Commission Spacing Proceedings Should Be Applied Prospectively Only.

---

The plaintiffs have simply missed the point when they allege that McHugh "concedes" a violation of due process by citing Carlisle Trust v. Cotton Petroleum Corp., No. 61112, slip. op. (Okla. May 5, 1986). Plaintiffs' memorandum, p. 17. As discussed in McHugh's original memorandum (McHugh memorandum, p. 22, n. 7), and as further discussed in detail above, the Oklahoma cases determined that royalty owners must be personally notified of spacing proceedings in Oklahoma only because the Oklahoma spacing order statute explicitly pools royalty interests and thereby directly affects property interests. The plaintiffs' refusal to acknowledge the critical distinction between the Oklahoma and New Mexico statutes demonstrates either their lack of understanding of those statutes or else their recognition that the New Mexico statutes do not support their position.

The plaintiffs also claim that "the law of New Mexico is directly contrary to" McHugh's position that a new personal notice requirement should be applied prospectively only. This is a serious misstatement of the law. First, it is recognized in New Mexico that "courts have broad authority in determining



whether to grant prospective or retroactive application of a new rule. . . . The choice generally depends on policy considerations, judicial philosophy and fairness." Maxwell v. Ross Hyden Motors, Inc., 104 N.M. 470, 722 P.2d 1192, 1193 (Ct. App. 1986).

Second, in deciding whether case law should be applied prospectively or retroactively, the New Mexico courts have specifically looked to the United States Supreme Court's decision in Chevron Oil Co. v. Huson, 404 U.S. 97, 92 S.Ct. 349 (1971), the very case relied on by McHugh in his initial memorandum in support of this motion. Norris v. Saueressig, 104 N.M. 85, 717 P.2d 61, 63 (Ct. App. 1985); Whenry v. Whenry, 98 N.M. 737, 739, 652 P.2d 1188 (1982).

Third, the New Mexico Supreme Court in Hicks v. State, 88 N.M. 588, 544 P.2d 1153 (1976), applied its decision in a purely prospective manner, and not in the manner that Plaintiffs maintain "has long been the practice of the New Mexico appellate courts." Plaintiffs' memorandum, p. 18. The Court originally made its decision applicable "to cases arising in the future, to the case at bar and to all similar pending actions." 88 N.M. at 594. On rehearing the Court changed its position and declared that the decision "should apply only to cases arising in the future." Id. The Court considered the argument that it was "unfair to deprive the present claimant of his day in court." The Court concluded, however, that policy considerations outweighed the apparent unfairness and dictated a purely prospective enforcement of the decision. Contrary to the plaintiffs' categorical contention, therefore, the law of New Mexico

both recognizes and applies purely prospective application of court decisions.

The plaintiffs next seek to avoid prospective application of what would clearly be a new personal notice rule in New Mexico by making an amazing argument. Mullane v. Central Hanover Bank & Trust, 339 U.S. 306 (1950), held that personal notice to known beneficiaries of a trust is required before the trust can be fully settled and the rights of those beneficiaries cut off. Since this due process requirement was instituted in 1950, the plaintiffs argue that in this case they "don't seek to change the law; rather, they only request that the Commission and McHugh follow it." Plaintiffs' memorandum, p. 19-20. Of course, Mullane had nothing to do with royalty owners, pooling clauses, or oil and gas spacing proceedings. The specific law on that question in New Mexico has been and so far remains the statute which provides that notice of Commission proceedings may be given by publication. It is ludicrous for the plaintiffs to contend that a decision by this Court declaring such notice by publication unconstitutional is not a change of law in New Mexico.

Certainly the Supreme Court of Oklahoma believed that it changed the existing law when it declared Oklahoma's notice statute unconstitutional.

The new constitutional rule announced today does not operate here to condemn a prior course of conduct pursued by a private party-litigant. Rather, it corrects a defective agency process of long standing which had received extended and certain statutory sanction.

Carlisle, supra, slip. op. at 14 (emphasis added). The Carlisle court was well aware of the Mullane decision (slip. op. at 8). Nevertheless, the decision to require personal instead of published notice in spacing proceedings represented a radical change in law that dictated in favor of prospective application. The same considerations require purely prospective application in this case.

A major factor in deciding whether to apply judicial decisions prospectively or retroactively is equity and fairness. Maxwell v. Ross Hyden Motors, Inc., supra; Chevron Oil Co. v. Huson, supra. The plaintiffs maintain that it was inequitable for McHugh not to notify them of the spacing proceeding, yet the plaintiffs are unable to identify any duty to do so, whether contractual or statutory. McHugh had no such duty under the terms of the lease agreement (see discussion at pp. 3-7 above), and any statutory duty was that of the Commission. § 70-2-7, N.M.S.A. (1978). The Commission fulfilled its statutory duty through notice by publication.

The plaintiffs then attempt to turn the law on its head by arguing that McHugh "has the burden to rebut the presumed correctness of 40 acre spacing and establish the validity of a 320 acre spacing request." Plaintiffs' memorandum, p. 20. The plaintiffs ignore the fact that the Commission, not McHugh, is expressly charged with administering the conservation statutes of the state of New Mexico. The Commission, not McHugh, after hearing contested evidence on the issue at a public hearing, found that 320 acre spacing was

necessary "in order to prevent the economic loss caused by the drilling of unnecessary wells, to prevent reduced recovery of hydrocarbons which might result from the drilling of too many wells, and to otherwise prevent waste and protect correlative rights. . . ." Order R-7407, Exhibit D to plaintiffs' complaint. Contrary to the plaintiffs' assertion, the Commission order is "prima facie valid and the burden shall be upon the party or parties seeking review to establish the invalidity of such action of the Commission." Section 70-2-25 (B) N.M.S.A. (1986). The plaintiffs have the burden of proving the Commission's decision incorrect; neither the Commission nor McHugh are now required to prove the geological validity of 320 acre spacing.

That the plaintiffs wish to reverse the burden of proof is explainable by the fact that the plaintiffs have never submitted evidence to rebut the presumption of validity supporting the Commission's decision. The plaintiffs have neither told the Commission that 320 acre spacing is inappropriate nor submitted evidence to the Commission of what spacing is appropriate, even though it is the Commission that is required to set spacing in New Mexico. Instead, the plaintiffs have merely submitted an affidavit to this Court wherein they state that "we do not think that 320 acre spacing is proper. . . ."

This feeble attempt to create a fact issue concerning the validity of the Commission's decision to increase spacing to 320 acres merely highlights, more than any other single fact, the emptiness of the plaintiffs' claim that they have been

treated unfairly. If the plaintiffs have no evidence to contest 320 acre spacing now, they had no evidence to contest it in 1983, when the Commission hearing occurred. The plaintiffs could have presented no facts relevant to the Commission's inquiry at that time, and their participation at the hearing could have made no difference in the outcome. That explains why the plaintiffs did not subsequently seek a rehearing from the Commission, did not appeal the Commission's order, and did not initiate an original proceeding to reduce the spacing from 320 acres to 40 acres. The plaintiffs could not have justified their position on spacing factually, so they made no effort to change the Commission's substantive decision.

Nevertheless, the plaintiffs cleverly invented an argument that, if successful, would permit them to repudiate the agreement they made in 1980. Thus, the plaintiffs cried "foul" over a lack of personal notice that, even if given, would not have changed the Commission's decision and would not have avoided the contractual pooling which is the real cause of the plaintiffs' current displeasure. Whether or not this Court decides that personal notice of spacing proceedings should be provided to royalty owners in the future, the equities of this case do not favor the plaintiffs. They have not been denied an opportunity to protect their rights. They will continue to enjoy enormous benefits from the contract they made in 1980. They should not be permitted to repudiate that contract by falsely invoking the Constitution.

HOLME, ROBERTS & OWEN  
Marla Williams  
1700 Broadway  
Denver, Colorado 80290  
(303) 861-7000

and

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

BY J. Douglas Foster  
J. DOUGLAS FOSTER  
Attorneys for Defendant,  
Jerome P. McHugh  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a true  
and correct copy of the fore-  
going was mailed to opposing  
counsel of record this 12th  
day of January, 1987.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By JDF  
J. Douglas Foster

JAMES E. SPERLING  
JOSEPH E. ROEHL  
DANIEL A. SISK  
ALLEN C. DEWEY, JR.  
FRANK H. ALLEN, JR.  
JAMES A. PARKER  
JOHN R. COONEY  
KENNETH L. HARRIGAN  
PETER J. ADANG  
DALE W. EK  
JAMES M. PARKER  
CHARLES I. WELLBORN  
DENNIS J. FALK  
ARTHUR D. MELENDRES  
JAMES P. HOUGHTON  
JUDY A. FRY  
PAUL M. FISH  
MARK B. THOMPSON III  
GEORGE J. HOPKINS  
JEFFREY W. LOUBET  
R. E. THOMPSON  
RUTH M. SCHIFANI  
THOMAS L. JOHNSON  
LYNN H. SLADE  
ZACHARY L. MCCORMICK  
CLIFFORD K. ATKINSON  
DOUGLAS A. BAKER  
SUSAN R. STOCKSTILL  
LARRY P. AUSERMAN  
JOHN E. HEER III  
J. DOUGLAS FOSTER

LAW OFFICES  
**MODRALL, SPERLING, ROEHL, HARRIS & SISK**

A PROFESSIONAL ASSOCIATION  
500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000  
POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103  
TELECOPIER (505) 247-2299 ZAP MAIL (505) 242-2155  
(505) 848-1800

JOHN F. SIMMS  
(1885-1954)

AUGUSTUS T. SEYMOUR  
(1907-1965)

GEORGE T. HARRIS, JR.  
(1922-1985)

J. R. MODRALL  
(1902-1977)

LELAND S. SEDBERRY, JR.  
(1930-1985)

DOUGLAS R. VADNAIS  
GEOFFREY D. RIEDER  
JOHN S. THAL  
BENJAMIN SILVA, JR.  
WALTER E. STERN III  
PATRICK J. ROGERS  
DUANE E. BROWN  
MARTHA C. BROWN  
PAUL MAESTAS  
JEFFREY TWERSKY  
NEAL E. BINCZEWSKI  
TODD R. BRAGGINS  
KEVIN T. RIEDEL  
JANET R. BRAZIEL  
ROBERT PAMPPELL  
SEALY H. CAVIN, JR.  
GEORGE F. KOINIS  
ELEANOR K. BRATTON  
NORA C. KELLY  
WILLIAM C. SCOTT  
DONALD R. FENSTERMACHER  
HALSEY L. WASHBURN  
TERRY S. KRAMER  
TIM L. FIELDS  
DOUGLAS G. SCHNEEBECK  
PEARL MAYS-TABORN  
KYLE H. MOBERLY  
CHARLES A. ARMGARDT  
ROBERT G. BURGESS  
DALE B. EPPLER  
KATHRYN D. LUCERO  
SUZANNE R. SPIERS  
TIMOTHY R. VAN VALEN

January 12, 1987

The Honorable Patricio M. Serna  
SANTA FE COUNTY JUDICIAL COMPLEX  
P.O. Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd Edwards, et al., v. Jerome  
P. McHugh, et al.; Rio Arriba  
County Cause No. RA 85-373(C)

Dear Judge Serna:

Enclosed is a copy of our Reply Memorandum with respect to the pending Motions for Summary Judgment in this case. I also enclose copies of the two Michigan and Oklahoma cases which are discussed in the Memorandum but which may not be easily accessible to you.

The original of the Memorandum has been forwarded to the Clerk of the Court for filing.

Very truly yours,



J. DOUGLAS FOSTER

JDF/pap  
Enclosures

cc: James Bruce, Esq.  
Mary Ann Green, Esq.  
Rex D. Throckmorton, Esq.  
Jeff Taylor, Esq. ✓  
Robert G. Stovall, Esq.  
Marla Williams, Esq.  
Kent Craig

LAW OFFICES  
MODRALL, SPERLING, ROEHL, HARRIS & SISK

A PROFESSIONAL ASSOCIATION

500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000  
POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103  
TELECOPIERS (505) 247-2299 (505) 242-5352  
(505) 848-1800

JOHN F. SIMMS  
(1885-1954)

J. R. MODRALL  
(1902-1977)

AUGUSTUS T. SEYMOUR  
(1907-1965)

GEORGE T. HARRIS, JR.  
(1922-1985)

LELAND S. SEDBERRY, JR.  
(1930-1985)

May 20, 1987

JAMES E. SPERLING  
JOSEPH E. ROEHL  
DANIEL A. SISK  
ALLEN C. DEWEY, JR.  
FRANK H. ALLEN, JR.  
JAMES A. PARKER  
JOHN R. COONEY  
KENNETH L. HARRIGAN  
PETER J. ADANG  
DALE W. EK  
JAMES M. PARKER  
CHARLES I. WELLBORN  
DENNIS J. FALK  
ARTHUR D. MELENDRES  
JAMES P. HOUGHTON  
JUDY A. FRY  
PAUL M. FISH  
MARK B. THOMPSON III  
GEORGE J. HOPKINS  
JEFFREY W. LOUBET  
R. E. THOMPSON  
RUTH M. SCHIFANI  
THOMAS L. JOHNSON  
LYNN H. SLADE  
ZACHARY L. MCCORMICK  
CLIFFORD K. ATKINSON  
DOUGLAS A. BAKER  
SUSAN R. STOCKSTILL  
LARRY P. AUSERMAN  
JOHN E. HEER III  
J. DOUGLAS FOSTER  
DOUGLAS R. VADNAIS

GEOFFREY D. RIEDER  
JOHN S. THAL  
BENJAMIN SILVA, JR.  
WALTER E. STERN III  
PATRICK J. ROGERS  
DUANE E. BROWN  
MARTHA G. BROWN  
PAUL MAESTAS  
JEFFREY TWERSKY  
NEAL E. BINCZEWSKI  
TODD R. BRAGGINS  
KEVIN T. RIEDEL  
JANET R. BRAZIEL  
ROBERT PAMPELL  
SEALY H. CAVIN, JR.  
GEORGE F. KOINIS  
ELEANOR K. BRATTON  
NORA C. KELLY  
WILLIAM C. SCOTT  
DONALD R. FENSTERMACHER  
PEARL MAYS-TABORN  
TERRY S. KRAMER  
TIM L. FIELDS  
DOUGLAS G. SCHNEEBECK  
PEARL MAYS-TABORN  
KYLE H. MOBERLY  
CHARLES A. ARMGARDT  
ROBERT C. BURGESS  
DALE B. EPLER  
KATHRYN D. LUCERO  
SUZANNE R. SPIERS  
TIMOTHY R. VAN VALEN

SANTA FE OFFICE  
119 EAST MARCY  
SUITE 200

SANTA FE, NEW MEXICO 87501  
(505) 983-2020

LAS CRUCES OFFICE  
210 A WEST LAS CRUCES AVENUE  
LAS CRUCES, NEW MEXICO 88004  
(505) 523-2087

LAS CRUCES AFFILIATE  
DARDEN, VALENTINE & DRIGGERS, P.C.  
200 WEST LAS CRUCES AVENUE  
LAS CRUCES, NEW MEXICO 88004  
(505) 526-6655

Angela Romero, Acting Clerk  
Santa Fe County Judicial Complex  
P.O. Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd Edwards, et al., v. Jerome  
P. McHugh, et al.; Rio Arriba  
County Cause No. RA 85-373(C)

Dear Ms. Romero:

Enclosed please find the original of Defendant  
McHugh's Response to Motion for Clarification to be filed in the  
captioned matter.

Also enclosed is an extra copy to be endorsed and  
returned to me. A self-addressed stamped envelope is enclosed  
for your convenience.

Very truly yours,



J. DOUGLAS FOSTER

JDF/pap  
Enclosures  
cc: counsel of record



FIRST JUDICIAL DISTRICT COURT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373(C)

JEROME P. McHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

DEFENDANT McHUGH'S RESPONSE TO MOTION FOR CLARIFICATION

The plaintiffs have filed a "motion for clarification" of the Court's ruling on cross-motions for summary judgment announced orally on March 31, 1987. Instead of seeking clarification, however, the plaintiffs' motion actually requests the Court to substantially alter that portion of the Court's decision with which the plaintiffs disagree, while retaining that portion which suits the plaintiffs' purposes. If the Court is to reconsider its ruling, the entire ruling should be reconsidered, with all parties being given the opportunity to submit additional briefs, evidence, and argument on the issues raised by the parties' cross-motions for summary judgment. If, on the other hand, the issue to be decided now is simply how to

translate the Court's oral ruling into a written order, that issue is easily resolved. The proposed order submitted by the plaintiffs with their motion for clarification, however, does not accurately reflect the Court's oral ruling on March 31. For the reasons set forth below, defendant McHugh submits that the proposed order submitted to the Court on May 5, 1987, and approved by four of the six parties to this litigation, a copy of which is attached hereto, more accurately reflects the Court's ruling and should be entered as the order of the Court.

On March 31 the Court found that the Commission's failure to give the plaintiffs actual notice of case no. 7980 violated their constitutional rights in that the decision reached by the Commission in case no. 7980 diluted the plaintiffs' property rights without first giving the plaintiffs the opportunity to be heard. See transcript of proceedings, attached hereto. The Court remanded the matter to the Commission to reopen case no. 7980 for the purpose of giving the plaintiffs that opportunity to be heard. As indicated in his legal briefs and at oral argument, defendant McHugh believes that the Commission's use of notice by publication complied with constitutional standards. However, given the Court's contrary conclusion, McHugh wholeheartedly concurs with the Court's further conclusion that a remand to the Commission to reopen the case "is fair and what appears to be in line with common sense." See transcript of proceedings, p. 1. McHugh submits that the proposed order forwarded to the Court on May 5 closely tracks the oral findings and conclusions made by the Court on March 31.

The plaintiffs' motion for clarification suggests that the Court did not provide the parties with sufficient guidance as to how to proceed on remand. Defendant McHugh disagrees. He understands the Court's ruling to be that the Edwards should have the opportunity to present whatever evidence and arguments they deem appropriate concerning the propriety of 320 acre spacing in the Gavilan-Mancos Oil Pool. The supposed legal and procedural uncertainties raised by the plaintiffs in their motion for clarification are no hindrance to the entry of an order in the form proposed by four of the defendants. Each of those issues can and should be addressed by the parties, including the Commission, in the first instance. Once the Commission reaches a decision on remand, that decision will be subject to judicial review like any other decision reached by the Commission. The fact that the plaintiffs fear an adverse result before the Commission is not justification for asking this Court to completely change its prior ruling. Simply stated, the plaintiffs complained of the lack of an opportunity to be heard before the Commission, and the Court has granted them that opportunity. Whether the plaintiffs will be able to convince the Commission to change its prior decision is not a question of constitutional law and is not a matter with which this Court should be concerned until the Commission has reached a decision on remand.

Defendant McHugh also opposes the plaintiffs' request that the Court certify this matter for interlocutory appeal. It is clear that not all issues have yet been decided by the Court.

By virtue of the Court's prior ruling, whether the plaintiffs are entitled to additional royalties and/or cancellation of leases will depend on the decision reached by the Commission. To permit an appeal at this time would not "materially advance the ultimate termination of the litigation." Section 39-3-4 N.M.S.A. (1978). As a matter of policy, the New Mexico Supreme Court "does not favor piecemeal appeals." Banquest/First National Bank of Santa Fe v. LMT, Inc., et al., N.M. Bar Bulletin Vol. 26, No. 17, April 23, 1987. The Supreme Court also disfavors "fragmentation in the adjudication of related legal or factual issues" and the necessity of considering the same issues more than once. Id. To permit an appeal at this time would likely result in "piecemeal appeals," and would not contribute to judicial economy or materially advance the ultimate termination of the litigation.

Respectfully submitted,

HOLME, ROBERTS & OWEN  
Marla Williams  
1700 Broadway  
Denver, Colorado 80290  
(303) 861-7000

and

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

BY J. Douglas Foster  
J. DOUGLAS FOSTER  
Attorneys for Defendant,  
Jerome P. McHugh  
Post Office Box 2168  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a true and correct copy of the foregoing was mailed to opposing counsel of record this 20th day of May, 1987.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By  \_\_\_\_\_  
J Douglas Foster

27

# COPY

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373 (c)

JEROME P. McHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI OIL  
AND GAS INC., THE NEW MEXICO OIL  
CONSERVATION COMMISSION, DUGAN  
PRODUCTION CORP., and McHUGH  
LINDRETH 1983 LTD. and its general  
partner, KINDERMAC PARTNERS.

Defendants.

!

## ORDER

This matter came on for hearing on March 31, 1987,  
on the Motions for Summary Judgment filed by defendants,  
Jerome P. McHugh, Dugan Production Corp., Joseph R.  
Mazzola, Kenai Oil and Gas, Inc., and the New Mexico Oil  
Conservation Commission, and on the Cross Motion for  
Partial Summary Judgment filed by plaintiffs, and the Court  
having considered the arguments of counsel and being otherwise  
fully advised in the premises,

FINDS:

(1) that the plaintiffs' mineral rights are property  
rights which are protected by the state and federal constitutions;

(2) that the proceedings in Oil Conservation Commission Case No. 7980 materially and adversely affected those property rights of the plaintiffs;

(3) that the plaintiffs were entitled to reasonable notice of Case No. 7980 which resulted in the entry of Commission Order No. R-7407;

(4) that the notice given by the Commission by publication was unreasonable;

(5) that under the facts of this case, actual notice of Case No. 7980 should have been given to the plaintiffs by the Commission;

(6) that declaring Order No. R-7407 void would be inequitable and would provide a windfall to the plaintiffs;

(7) that Case No. 7980 should be reopened for a determination by the Commission as to whether Order No. R-7407 should be modified or rescinded; and

(8) that the plaintiffs should be given the opportunity to present whatever facts and/or arguments they deem appropriate with respect to the merits of Case No. 7980.

Having made the foregoing findings, it is, therefore,  
ORDERED that the Motions for Summary Judgment filed herein by the defendants be and hereby are denied, and it is further

ORDERED, that the Motion for Partial Summary Judgment filed herein by the plaintiffs be and hereby is granted in part, and this case is remanded to the Oil Conservation Commission for further proceedings in Case No. 7980 to determine whether Order R-7407 should or should not be rescinded or modified.

\_\_\_\_\_  
DISTRICT JUDGE

APPROVED AS TO FORM:

HINKLE, COX<sup>d</sup>, EATON, COFFIELD  
& HENSLEY

By \_\_\_\_\_

JAMES BRUCE  
THOMAS HNASKO  
Attorneys for Plaintiffs,  
Floyd E. Edwards and wife,  
Emma B. Edwards  
P.O. Box 2068  
Santa Fe, New Mexico 87504  
(505) 982-4554

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By J. Douglas Foster

J. DOUGLAS FOSTER  
Attorneys for Defendant,  
Jerome P. McHugh  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street, N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800



*Robert G. Stovall*

ROBERT G. STOVALL  
Attorneys for Dugan Production  
Corp.

P.O. Box 208  
Farmington, New Mexico 87499  
(505) 325-1821

*by JOT per telephone 5/4/87*

~~RODEY, DICKASON, SLOAN, AKIN &  
ROBB, P.A.~~

By \_\_\_\_\_

PAUL A. COOTER  
Attorneys for Defendants  
Joseph R. Mazzola and  
Kenai Oil and Gas, Inc.  
P.O. Box 1357  
Santa Fe, New Mexico 87504-1357  
(505) 984-0100

*Jeffrey L. Taylor*  
JEFFREY L. TAYLOR  
Attorney for Defendant  
The New Mexico Oil Conservation  
Commission  
Oil Conservation Division  
Energy and Minerals Department  
Land Office Building, Room 206  
310 Old Santa Fe Trail  
P.O. Box 2088  
Santa Fe, New Mexico 87501  
(505) 827-5805

POPEJOY & LEACH

By \_\_\_\_\_

MARY ANN GREEN  
Attorneys for Defendant Evans  
215 Gold Avenue SW  
P.O. Box 2107  
Albuquerque, New Mexico 87103  
(505) 243-3322

4/10  
TUESDAY, MARCH 21, 1957-12:25-02:05 P.M. CIVIL DECISION

FLOYD E. EDWARDS, et ux., vs. JEROME E. SCHWAB, LA 25-174(3)

THE COURT: Okay. I am ready to rule.

(12:25 p.m.)

THE COURT: I find that the Edwards' mineral rights are property rights which are protected by the State and Federal Constitutions.

I find that the proceedings in Case Number 7980 materially and adversely affected the property rights, and that they were entitled to reasonable notice of that case.

I find that notice by publication was unreasonable.

I am specifically finding that, in this case, in view of such a significant dilution of property rights, that actual notice should have been given - dilution - should have been given, so I am granting your motion, partial motion for summary judgment.

However, with respect to - to the remedy, to be fair to everybody, and to avoid any possible windfall, I am going to remand it back to the Commission, and instruct them to reopen the case with respect to - to the Plaintiffs and in the event that they do reconsider their order, then the Court will require back royalty payments consistent with their interest.

I am trying to do what is fair and what appears to be in line with common sense.

So, that is going to be the decision of the Court.

1           MR. STOVALL: Your Honor, just a moment, please, before  
2 your    before we adjourn.

3           MR. TAYLOR: Your Honor, I guess we just need a point  
4 of clarification on how the rehearing should take place.  
5 We are currently-

6           THE COURT: If they desire one. They might waive  
7 their right.

8           MR. TAYLOR: We are currently hearing the same case,  
9 again and we could do this reconsideration within the  
10 framework of the hearing on this very matter that is  
11 going on, now or I suppose, the only other way I can  
12 think of would be, allow Mr. Edwards to come in and put  
13 on- - on a case and we could consider that along with  
14 the transcript of the original case, you know, without- -  
15 without looking at what is going on in the current hearing.  
16 Mr. Edwards has intervened in the current proceeding,  
17 although as far as I know, he has not proposed- - he  
18 is not proposing 40 acre spacing, and obviously, if you  
19 don't propose it at the hearing, you don't get it.

20           THE COURT: Well, I am going to leave that up to  
21 the parties, see how you wish to proceed, if there is an  
22 impasse, then why don't we have a conference call or  
23 something, you all can give me different options that we  
24 can do, and then, I will go ahead and decide.

25           MR. HASKO: Your Honor, one problem we are going to

have, we will be doing something in conformance with the Court's order, we will have a problem on the effective date of 320 acre spacing as it applies to the Edwards. The Commission- - It is my understanding, and we will take the position, that they are not- - they are not able to- - to make this present order retroactive. It will have to be effective from the date that the Commission issues it, and we will abide by it.

MR. TAYLOR: I will submit to the Court that the order on 40 acres would have to relate from the earlier defective order.

MR. HNASKO: Is Mr. Taylor suggesting a Constitutional violation without a remedy, is how it's stacking up from our side of the table?

MR. TAYLOR: If we make the 40 acre spacing effective from the date of the original order complained from, there would be 40 acre spacing.

MR. HNASKO: Mr. McHugh would lose his leases, then, Mr. Taylor.

MR. TAYLOR: Yes. He would. I thought that is the remedy you wanted.

THE COURT: Yes. This would have an impact on the leases.

MR. TAYLOR: He would have to prove that, of course, we wouldn't automatically- - he would have to bring forward

all of the evidence on these things.

MR. HASKO: Well, we - that is probably going to be a little different than - as I understand now you are running the hearing over there, because obviously, if the order - if I understand the Court's order, there was a taking of property without due process of law, because we weren't notified of the hearing. It is the Edwards' - It is Mr. McHugh's burden to prove the appropriateness of 320 acre spacing in the Commission. It's not the Edwards' burden of proof, that - because he is the applicant, and he was the applicant in the hearing in which we received no notice, so I would assume that we all concur that he will have the burden of proving 320 acre spacing, and that should he prove something else, for instance, 640 acre spacing, that 320 acre spacing order which was previously entered is of no force and effect when applied to the Edwards, because, Your Honor, the reason we raise this is because Mr. McHugh is going for a different spacing determination, today than he did back in December, of 1932, which presents another problem.

MR. TAYLOR: I would present, then that the best way to deal with this would be to have Mr. Edwards come in to us and put on a case for 40 acre spacing, and in which we would view with the record of the original hearing.

MR. HASKO: But, it is not Mr. Edwards' burden to

put on a case for 40 acre spacing.

MR. TAYLOR: There was already a case put on for 320, if he doesn't want to put one on, if 320 carries the weight of the evidence, 320 would be the space that would be provided for.

MR. HASKO: We will have to consider this, and get back with Your Honor, because it's a difficult situation.

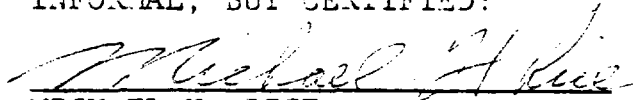
THE COURT: Yeah. Why don't you all do that.

We will be in recess.

(12:35 p.m.)

\*\*\*

INFORMAL, BUT CERTIFIED:



MICHAEL H. RICE

OFFICIAL COURT REPORTER

CSR NO. 63

EXPIRATION DATE: 12/31/37

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

ENDORSED  
FILED IN MY OFFICE THIS  
DEC 30 1986

FLOYD E. EDWARDS, et al.

Plaintiffs,

vs.

No. RA 85-373 (C)

JEROME P. MCHUGH, et al.,

Defendants.

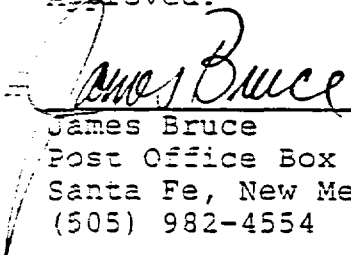
ORDER

This matter having come before the Court upon plaintiffs' motion to amend complaint, and the Court being fully apprised in the premises, it is hereby ordered that plaintiffs shall amend their complaint.

ORIGINAL SIGNED BY  
PATRICIO M. SERNA DISTRICT JUDGE

\_\_\_\_\_  
District Judge

Approved:

  
\_\_\_\_\_  
James Bruce  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorney for Plaintiffs

Approved by telephone conversation on 12/17/86  
J. Douglas Foster  
Attorney for Defendant Jerome P. McHugh

Approved by letter dated 12/19/86  
Rex D. Throckmorton  
Attorney for Defendants Kenai Oil and Gas, Inc.  
and Joseph Mazzola

Approved by telephone conversation on 12/23/86

Mary Ann Green

Attorney for Defendant Don Evans

Approved by conversation of 12/23/86

Jeff Taylor

Attorney for Defendant New Mexico

Oil Conservation Commission



# HINKLE, COX, EATON, COFFIELD & HENSLEY

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

1700 TEXAS AMERICAN BANK BUILDING  
POST OFFICE BOX 12118  
AMARILLO, TEXAS 79101  
(806) 372-5569

700 UNITED BANK PLAZA  
POST OFFICE BOX 10  
ROSWELL, NEW MEXICO 88201  
(505) 622-6510

January 20, 1987

LEWIS C. COX  
PAUL W. EATON  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C.D. MARTIN  
PAUL J. KELLY, JR.  
OWEN M. LOPEZ  
DOUGLAS L. LUNSFORD  
T. CALDER EZZELL, JR.  
WILLIAM B. BURFORD\*  
RICHARD E. OLSON  
RICHARD A. SIMMS  
RICHARD R. WILFONG\*  
STEVEN D. ARNOLD  
JAMES J. WECHSLER  
NANCY S. CUSACK  
JEFFREY L. FORNACIARI  
JEFFREY D. HEWETT\*  
JAMES BRUCE

JERRY F. SHACKELFORD\*  
JEFFREY W. HELLBERG\*

ALBERT L. PITTS  
FRED W. SCHWENDIMANN  
THOMAS D. HAINES, JR.  
THOMAS M. HNASKO  
MICHAEL F. MILLERICK  
FRANKLIN H. MCCALLUM\*  
ALLEN G. HARVEY  
GREGORY J. NIBERT  
JUDY K. MOORE\*  
DAVID T. MARKETTE\*  
JAMES R. MCADAMS\*  
JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM F. JOHNSON\*  
CHRISTOPHER S. RAY

OF COUNSEL  
ROY C. SHODGRASS, JR.  
O. H. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT

CLARENCE E. HINKLE (1901-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)

\*NOT LICENSED IN NEW MEXICO

The Honorable Patricio M. Serna  
District Judge  
Post Office Box 2268  
Santa Fe County Judicial Complex Building  
Santa Fe, New Mexico 87504-2268

HAND DELIVERED

Re: Floyd E. Edwards, et al. v. Jerome P. McHugh,  
et al., No. RA 85-373(C)

Dear Judge Serna:

Pursuant to Local Rule 26(d), I enclose a copy of plaintiffs' reply memorandum in support of partial summary judgment, the original of which was filed with the district court clerk on today's date. I have also enclosed copies of the decisions in Cravens v. Corporation Commission, 613 P.2d 442 (Okla. 1980) and Louthan v. Amoco Production Co., 652 P.2d 308 (Okla. Ct. App. 1982).

Defendant McHugh originally filed a motion for summary judgment and requested a setting on the matter. Inasmuch as we have responded to McHugh's motion and filed a cross-motion for partial summary judgment, we respectfully request that our cross-motion be heard at the same time that McHugh's motion is heard, pursuant to his request for a setting.

Thank you for your consideration of this matter.

Very truly yours,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY



Thomas M. Hnasko

TMH: jr

Enclosures

cc: J. Douglas Foster, Esq.  
Mary Anne Green, Esq.  
Rex D. Throckmorton, Esq.

Jeff Taylor, Esq.  
Marla Williams, Esq.

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373 (C)

JEROME P. MCHUGH; et al.,

Defendants.

PLAINTIFFS' REPLY MEMORANDUM IN SUPPORT  
OF MOTION FOR PARTIAL SUMMARY JUDGMENT

In our memorandum in support of partial summary judgment and in opposition to McHugh's motion for summary judgment, we stated that commission order R-7407 deprived the Edwards of "due process of law in contravention of the New Mexico and United States Constitutions, and order R-7407 is void as to them." In his response brief, McHugh accuses us of "blurring the issues" and making "several misstatements of law." Accordingly, it should be clear to the Court that either the Edwards or McHugh is not telling it straight. The object of this reply, therefore, is to let the facts and the law tell the Court whether Order R-7407, promulgated without notice to the Edwards, deprived them of their property without due process of law.

INTRODUCTION

McHugh has spent considerable time laboring over the proposition that the Edwards' royalty interest has been diluted by contractual provision, rather than by constitutionally infirm

governmental action. McHugh's position is flawed, because he has wholly failed to distinguish between a commission order allowing an increase in well spacing and a lessee's contractual right to pool lease acreage in accordance with that spacing order. McHugh's contractual pooling right is not an issue in this case. Rather, it is commission order R-7407, which illegally increased well spacing to 320 acres and formed the basis for McHugh's attempted pooling of 320 acre tracts, that is repugnant to due process and void as to the Edwards.

With the issue property focused, the conclusion is inescapable that the deprivation of the Edwards' property rights occurred as a result of state action. Without the entry of order R-7407, McHugh had no contractual right to pool the Edwards' lease acreage into 320 acre spacing units and thereby dilute the Edwards' royalty interest. Thus, the commission's hearing in Case No. 7980, conducted without any notice to the Edwards, provided the indispensable state action for the illegal taking of the Edwards' property.

With a tacit admission that commission order R-7407 is repugnant to due process, McHugh argues that the constitutional requirement of personal notice of commission proceedings should be applied prospectively, but not to the present case. In support of his position, McHugh erroneously suggests that the Court would have to make new law and "strike down the New Mexico statute" governing notice of commission hearings. McHugh's Memorandum at 18. In fact, the Court should do nothing to section 70-2-7. That statute authorizes personal notice of

commission hearings and, therefore, is constitutional on its face. The limited conclusion required in this case is that McHugh and the commission unconstitutionally applied section 70-2-7 to the Edwards, by failing to personally notify them of a proceeding which effectively purloined their royalty interests. Accordingly, order R-7407 is void as to the Edwards, and McHugh's attempted pooling of 320 acre tracts, which was based on that infirm order, is of no effect.

#### ARGUMENT

##### POINT I

COMMISSION ORDER R-7407 WAS THE PREDICATE FOR McHUGH'S IMPROPER POOLING OF THE EDWARDS' ACREAGE INTO 320 ACRE SPACING UNITS AND HIS ILLEGAL DILUTION OF THE EDWARDS' ROYALTY INTEREST.

McHugh concedes that "Commission approval of 320 acre spacing was a condition to exercise of [sic] McHugh's contractual right to pool 320 acre tracts in this case." McHugh's Reply Memorandum at 4. (emphasis added). Despite this concession, McHugh inappositely urges that this is a contract case and that "the contract between the parties fully authorized McHugh's action." McHugh's Reply Memorandum at 3-4. We have difficulty following this logic, particularly since the parties' lease contracts did not give McHugh any right to unilaterally increase well spacing units to 320 acres and thereby dilute the Edwards' royalty interest. The contract limits McHugh's pooling rights and states that "units pooled hereunder shall not exceed the standard proration unit [spacing unit] fixed by law or by the New Mexico Oil Conservation Commission...." Complaint, Exhibit A, para. 6 (emphasis added).

Prior to the commission hearing in Case No. 7980, the standard spacing unit fixed by the commission for the Edwards' acreage was 40 acres. Rule 104, O.C.D. Rules and Regulations. Pursuant to the parties' lease contracts, McHugh could only pool the Edwards' mineral acreage into 40 acre tracts. Accordingly, without the commission order purporting to increase well spacing from 40 to 320 acres, McHugh could not possibly have pooled the Edwards' acreage with other acreage to form 320 acre spacing units, and the Edwards' royalty interest would not have been diluted.

The law unambiguously provides that a commission order purporting to increase the size of spacing units is repugnant to due process and void unless preceded by actual notice to affected parties. For example, in Cravens v. Corporation Commission, 613 P.2d 442 (Okla. 1981), the commission increased well spacing from 80 to 160 acres, without notice to Cravens. Like the present case, the commission's action formed the improper predicate for the lessee's attempt to pool 160 acre tracts and dilute Craven's royalty interest. Relying on principles of due process enunciated in Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306 (1950), the Oklahoma Supreme Court voided the order as to Cravens, since he was afforded no personal notice. As a result of the voided order, the lessee's attempted pooling of 160 acre tracts was likewise ineffective.

Similarly, in Louthan v. Amoco Production Co., 652 P.2d (Okla. App. 1982), the court voided a commission order purporting to increase well spacing from 160 to 640 acres. The court based

its decision on the failure of the applicant to give Amoco notice of the proceedings. Since the commission's order provided the indispensable requisite for the applicant's ability to pool leases into 640 acre spacing units and to dilute royalty interests, the court held that the order was "void as to Amoco." For other cases on point, see Union Texas Petroleum v. Corporation Commission, 651 P.2d 652 (Okla. 1982), cert. denied 103 S.Ct. 82 (1982); Walker v. Cleary Petroleum Corp., 421 So.2d 85 (Ala. 1982); Olansen v. Texaco, Inc., 587 P.2d 976 (Okla. 1978) (reasonable notice must be given to royalty owners ).

McHugh has ignored the relevant case law and confused the concepts of spacing unit orders and contractual pooling rights. He has failed to recognize that he had no right to pool 320 acre tracts, but for the commission's order purportedly establishing 320 acre spacing units for the leases in question. For example, McHugh places great reliance on Amoco Production Co. v. Jacobs, 746 F.2d 1394 (10th Cir. 1984), a case which has nothing to do with the propriety of a commission spacing order. In Amoco, the plaintiff did not challenge any commission order authorizing an increase in the size of well spacing units; rather, the plaintiff argued that mineral interests could not be pooled into a well spacing unit without notice to him. The court ruled, quite correctly, that the lease contracts allowed the pooling without further approval of or notice to the plaintiff. In the present case, McHugh has the contractual right to pool 40 acre tracts without notice to or approval from the Edwards. Absent a commission hearing conducted with notice to the Edwards, however,

he does not have the contractual right to pool the Edwards' mineral acreage into 320 acre tracts.

McHugh has further confused the concepts of pooling and well spacing orders by relying on Manufacturer's National Bank of Detroit v. Director, Department of Natural Resources, et al., 362 N.W.2d 572, 84 OGR 103, 111 (Mich. 1985). McHugh has failed to disclose the fact that the plaintiffs in National Bank of Detroit were given notice of and challenged the commission's proceedings which increased the size of well spacing units. Thus, that case is inapposite to the present situation. The plaintiffs in National Bank of Detroit, unlike the Edwards, simply alleged that the the commission's well spacing order constituted an unlawful pooling of the leases. Because the spacing order was validly entered with notice to the royalty interest owners, the court held that the lessee could then pool the mineral acreage in accordance with the terms of the leases.

McHugh's attempts to confuse spacing orders and contractual pooling rights should not be countenanced. The Edwards have never maintained that the commission's spacing orders constitute a pooling of the leases, nor have they maintained that McHugh could not pool acreage in accordance with a valid commission spacing order. The point is that McHugh has no right to pool acreage into 320 acre tracts, except after obtaining a legitimate commission order increasing the size of well spacing units from 40 to 320 acres. He obtained that order, but without notice to the Edwards. Accordingly, it was order R-7407, not the parties'

contract, which provided the impermissible requisite for the dilution of the Edwards' royalty interest.

## POINT II

THE COMMISSION'S ENTRY OF ORDER R-7407 WAS THE INDISPENSIBLE STATE ACTION WHICH DEPRIVED THE EDWARDS OF THEIR PROPERTY WITHOUT DUE PROCESS OF LAW.

The commission's hearing in Case No. 7980, conducted without notice to the Edwards, provided the necessary state action for McHugh's attempted pooling of 320 acre tracts. In the case filed in federal court, McHugh agreed with this conclusion and sought to dismiss the Edwards' complaint because they had failed to join the commission, an indispensable party. In his memorandum-in-chief in this case, McHugh reversed course and maintained that "plaintiffs have not suffered a deprivation of property due to government action." McHugh's memorandum-in-chief at 14. McHugh has changed his mind again and now concedes that he "does not contest and has never contested the obvious proposition that the entry of commission order R-7407 constituted state action." McHugh's Reply Memorandum at 7.

Because the parties agree that order R-7407 constituted state action, it is only necessary for the Court to determine that the order deprived the Edwards of their property without due process of law. That determination is easily made, since the Edwards' royalty interest is a real property right subject to the protection of the New Mexico and United States Constitutions. Terry v. Humphries, 27 N.M. 564, 203 P. 539 (1922); Duval v. Stone, 54 N.M. 27, 213 P.2d 212 (1949). Without the entry of order R-7407, McHugh could not have pooled mineral acreage into



320 acre tracts, and the Edwards' royalty interest would not have been diluted. Therefore, order R-7407 plainly deprived the Edwards of their property without due process of law.

Although McHugh does not dispute the significant and adverse state action of order R-7407, he nonetheless argues the abstract proposition that the order only "adversely affected" the Edwards' property rights. McHugh's Reply Memorandum at 8. This position is nonsense. It ignores the fact that the order itself provided the indispensable requisite for the illegal pooling which diluted the Edwards' royalty interest. Moreover, the courts have flatly rejected McHugh's "adversely affected" argument and have uniformly held that a spacing order is void without proper notice to affected parties. See e.g., Cravens v. Corporation Commission, 613 P.2d 442 (Okla. 1980) (increase in spacing units size without notice to mineral interest owner cannot withstand due process scrutiny); Union Texas Petroleum v. Corporation Commission, 651 P.2d 652 (Okla. 1982), cert. denied, 103 S.Ct. 82 (1982) (changing of spacing unit size is void as to parties who do not receive notice); Louthan v. Amoco Production Company, 652 P.2d 308 (Okla. App. 1982) (spacing unit order void without proper notice).

In a further effort to deflate the significance of order R-7407, McHugh has made arguments that have no place in a summary judgment proceeding. He asserts that the Edwards do not contest the merits of the order, while failing to recognize that the Edwards were given no opportunity to attend the hearing in Case No. 7980. He then accuses the Edwards of failing to appeal the

commission's order, although the Edwards did not even know the order had been entered until they received their diluted royalty checks, long after the appeal period had expired. See Affidavit of Floyd and Emma Edwards, attached to the Edwards' motion for partial summary judgment. Moreover, the Edwards seek damages and lease cancellation as a result of void order R-7407, a remedy that the commission is without power to grant.

Finally, McHugh attempts to divert the Court's attention from Order R-7407 by arguing the irrelevant fact that the Edwards have received monetary benefits from the parties' lease contracts. The point is that the Edwards are entitled to receive the benefit of their bargain, which is a royalty interest based on the pooling of acreage into 40 acre well spacing units. <sup>1/</sup> As a direct result of the commission's invalid order, the Edwards have been deprived of the benefits guaranteed to them by their lease contracts.

### POINT III

THE COURT'S JUDGMENT MUST NECESSARILY VOID ORDER R-7407 AS TO THE EDWARDS.

In his final point, McHugh requests absolution for violating the Edwards' due process rights and argues that personal notice of commission proceedings should only be required in future cases. McHugh bases his argument on the assertion that the

---

1 McHugh fails to tell the Court the significant benefits he will realize if illegal order R-7407 is upheld. McHugh will only have to drill one well for each 320 acre tract, instead of eight wells on the same amount of acreage. As a result, McHugh will be able to hold all leases within a 320 acre tract by drilling only one well. Under this scenario, McHugh dilutes the interests of royalty owners, while maintaining 100% of his interest in production from that well.

Court's ruling would "change the law", result in an invalidation of section 70-2-7, and subject previous commission orders to constitutional attack. McHugh's position is wrong on all counts.

First, there is no law to change. Section 70-2-7 provides that personal notice of commission hearings may be given to affected persons:

Any notice required to be given under this act or under any rule, regulation or order prescribed by the commission or division shall be by personal service on the person affected, or by publication....

N.M. Stat. Ann. § 70-2-7 (1978) (emphasis added). Section 70-2-7, which authorizes personal service, is plainly constitutional on its face. The procedure in the statute is similar to that provided in Rule 4 of the Rules of Civil Procedure. If a person's whereabouts are known, personal service is necessary. If the person cannot be found, publication will suffice. Here, McHugh and the commission unconstitutionally applied section 70-2-7 to the Edwards, since McHugh has always known the Edwards' address and failed to give them personal notice of the commission hearing. See leases attached to plaintiffs' complaint. Accordingly, it is order R-7407, and not section 70-2-7, which violates due process.

This conclusion is on all fours with the decisions in Louthan v. Amoco Production Company, supra, and Cravens v. Corporation Commission, supra. In those cases the court did not strike down any statute or regulation of the conservation

commission. Rather, the court held that the specific spacing order was entered without proper notice to the plaintiffs and, accordingly, voided that order as to those particular plaintiffs. That is precisely the result required in the present case.

McHugh's argument that voiding order R-7407 will subject previous commission decisions to challenge is stilted, at best. Previous commission orders have been rendered final by lack of timely challenge. Additionally, since no statute or regulation need be invalidated by the entry of partial summary judgment, the only issue is whether order R-7407 is void as to the Edwards. Because the order deprived the Edwards of their property without due process, the order must be voided to vindicate that specific due process violation.

With respect to future commission orders, it will be the applicant's burden to correctly apply section 70-2-7 to ensure that interested persons, whose whereabouts are known, are afforded proper notice of the proceedings. This is certainly not a stringent burden to place on a lessee, who has a common law duty to deal fairly and in good faith with royalty owners. Amoco v. Jacobs, 746 F.2d 1394 910th Cir. 1984); Phillips Petroleum v. Peterson, 218 F.2d 926 (10th Cir. 1954). Furthermore, the question is largely academic because the commission has recently amended its regulations to require notice by certified mail to interested parties. Rule 1207, O.C.D. Rules and Regulations.

#### CONCLUSION

For the reasons set forth in the Edwards' memorandum-in-chief and in this reply memorandum, commission order R-7407

constituted state action which provided the requisite for McHugh's dilution of the Edwards' royalty interest without due process of law. Because the order is without effect, 40 acre spacing governs the Edwards' mineral acreage, and McHugh had no right to attempt the pooling of 320 acre tracts. Accordingly, the Edwards are entitled to partial summary judgment that:


1. Order R-7407 is void as to the Edwards;
2. 40 acre spacing governs leases 1, 2, and 3;
3. As owners of all minerals underlying the 40 acres surrounding the E.T. #1 Well on Lease No. 1, the Edwards are entitled to 100% of the royalties from that well; and
4. As a result of McHugh's failure to drill a well on any 40 acre spacing unit applicable to leases 2 and 3 before April 16, 1984, those leases expired by operation of law on that date, which was the expiration of their primary terms.

The extent of past damages as a result of McHugh's unlawful reduction of the Edwards' royalty interest from the E.T. #1 Well will be determined at trial.

Respectfully submitted,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

  
\_\_\_\_\_  
Owen M. Lopez  
James Bruce

  
\_\_\_\_\_  
Thomas M. Hnasko  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs  
Floyd E. and Emma B. Edwards

**Certificate of Service**

We hereby certify that we have mailed  
a true and correct copy of the foregoing  
pleading to all opposing counsel of record  
this 20 day of January, 1987.

*[Handwritten Signature]*

---

**Hinkle, Cox, Eston, Coffield & Hensley**  
P.O. Box 2068  
Santa Fe, NM 87504-2068

ENDORSED  
FILED IN MY OFFICE THIS

JAN 21 1987

FIRST JUDICIAL DISTRICT COURT

COUNTY OF SANTA FE

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. McHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI  
OIL AND GAS, INC., and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

REQUEST FOR HEARING

1. Specific matters requested to be heard: Trial on the merits.
2. Judge to Whom Assigned: Patricio M. Serna, Div. III.
3. Non-Jury xxx Jury \_\_\_\_\_
4. Estimated time required for hearing all parties and witnesses: One day.
5. Pre-Trial conference needed? Yes \_\_\_\_\_ No xxx.
6. Names, addresses and telephone numbers of all counsel or parties pro se entitled to notice:

James Bruce  
HINKLE, COX, EATON,  
COFFIELD & HENSLEY  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

J. Douglas Foster  
MODRALL, SPERLING, ROEHL,  
HARRIS & SISK  
Post Office Box 2168  
Albuquerque, New Mexico 87103  
(505) 848-1800

Attorneys for Defendant Jerome P. McHugh

Mary Ann Green  
POPEJOY & LEACH, P.C.  
Post Office Box 2107  
Albuquerque, New Mexico 87103  
(505) 243-3322

Attorneys for Defendant Don Evans

Rex D. Throckmorton  
RODEY, DICKASON, SLOAN,  
AKIN & ROBB, P.A.  
Post Office Box 1888  
Albuquerque, New Mexico 87103  
(505) 765-5900

Attorneys for Defendants Joseph R. Mazzola  
and Kenai Oil and Gas, Inc.

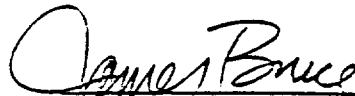
Jeffrey L. Taylor  
Post Office Box 2088  
Santa Fe, New Mexico 87504  
(505) 827-5800

Attorney for Defendant New Mexico Oil  
Conservation Commission

Robert G. Stovall  
Post Office Box 208  
Farmington, New Mexico 87499  
(505) 325-1821

Attorney for Defendant Dugan  
Production Corp.

Submitted by:



James Bruce  
HINKLE, COX, EATON,  
COFFIELD & HENSLEY  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

NOTICE OF HEARING



Please take notice that the above-entitled case will come on for hearing before the Honorable Patricio M. Serna, District Judge, Division III, at the below date, time and place.

DATE: \_\_\_\_\_

TIME: \_\_\_\_\_

PLACE: Santa Fe Judicial Complex, Div. III.

PATRICIO M. SERNA, District Judge

By \_\_\_\_\_  
Secretary

Notice mailed: \_\_\_\_\_, 1987.

By: \_\_\_\_\_

Certificate of Service

We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 21<sup>st</sup> day of January, 1987.

Charles Bruce  
Hinkle, Cox, Eaton, Coffield & Hensley  
P.O. Box 2068  
Santa Fe, NM 87504-2068

FEB 04 1985

ANGELA ROBERTS  
Acting, District Court Clerk

STATE OF NEW MEXICO  
IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA

FIRST JUDICIAL DISTRICT COURT

FEB 04 1985

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

ANGELA ROBERTS  
Acting, District Court Clerk

Plaintiffs,

v.

No. RA 85-373(c)

JEROME P. MCHUGH,  
JOSEPH R. MAZZOLA,  
DON EVANS, KENAI OIL  
AND GAS, INC. and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

ANSWER OF DEFENDANT NEW MEXICO  
OIL CONSERVATION COMMISSION

The New Mexico Oil Conservation Commission (OCC) a Defendant in this action, by and through its Attorney, Jeffery Taylor, responds to Plaintiff's Complaint as follows:

1. Paragraph 1 is admitted.
2. Defendant is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 2, except that the Oil Conservation Commission is a governmental agency of the State of New Mexico.

3. The allegations contained in Paragraph 3 are responded to as in paragraphs 1 and 2 herein.

4. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 4.

5. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 5.

6. Defendant OCC admits the allegations contained in Paragraph 6.

7. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 7, except that records of the Oil Conservation Division indicate that the well is dually completed in the Mancos and Basin Dakota formations.

8. Defendant OCC admits that in 1983 Jerome McHugh applied to the Division to establish a new oil pool, with special pool rules including a provision for 320-acre spacing.

9. Paragraph 9 states a legal conclusion which defendant OCC is not required to admit or deny.

10. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 10.

11. Defendant OCC admits that the application in Case 7980 was granted by Order No. R-7407, and that Exhibit D is

a true copy thereof. The allegation that notice was insufficient is a question of law which Defendant neither admits nor denies.

12. Defendant OCC is without sufficient information to form a belief as to the effect of Order No. R-7407 on Plaintiff's royalties, if any. Defendant denies that Order No. R-7407 explicitly purports to affect Plaintiff's royalty.

13. The allegations contained in Paragraph 13 are legal conclusions which Defendant neither admits nor denies.

14. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 14.

15. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 15.

16. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 16.

17. The allegations contained in Paragraph 17 are responded to in Paragraphs 1 through 16 herein.

18. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 18.

19. The allegations contained in Paragraph 19 are legal conclusions which Defendant neither admits nor denies.

20. The allegations contained in Paragraph 20 are responded to in Paragraphs 1, 2, 8, 9, 10, 11, 13, and 16 herein.

21. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 21.

22. Defendant admits the allegations contained in Paragraph 22.

23. Defendant OCC is without sufficient information to form a belief as to the allegations contained in Paragraph 23.

24. Defendant OCC admits the allegations contained in Paragraph 24.

25. Defendant OCC admits the allegations contained in Paragraph 25.

26. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 26.

27. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 27.

28. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 28.

29. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 29.

30. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 30.

31. Paragraph 31 contains legal conclusions that Defendant neither admits nor denies.

#### SECOND DEFENSE

32. Plaintiffs fail to state a claim upon which relief can be granted.

#### THIRD DEFENSE

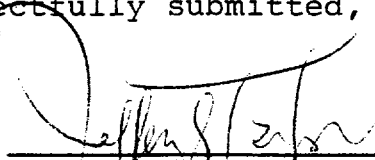
33. Plaintiffs have failed to exhaust their administrative remedies.

#### FOURTH DEFENSE

34. The New Mexico Oil Conservation Division has primary jurisdiction over this matter pursuant to Section 70-2-1 et. seq. NMSA (1978) and this action should be

stayed until Plaintiff has sought relief through administrative proceedings.

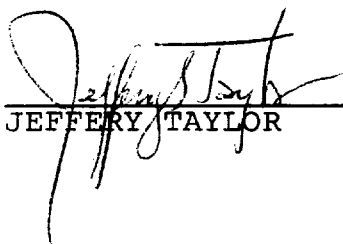
Respectfully submitted,



---

JEFFERY S. TAYLOR  
General Counsel  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504  
(505) 827-5805

I hereby certify that a true and correct copy of the foregoing was mailed to Counsel of Record this 4th day of February, 1986.



---

JEFFERY TAYLOR

FEB 04 1985

ANCELA ROMERO  
Acting, District Court Clerk

STATE OF NEW MEXICO  
IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA

FIRST JUDICIAL DISTRICT

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373(c)

JEROME P. McHUGH,  
JOSEPH R. MAZZOLA,  
DON EVANS, KENAI OIL  
AND GAS, INC. and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

ANSWER OF DEFENDANT NEW MEXICO  
OIL CONSERVATION COMMISSION

The New Mexico Oil Conservation Commission (OCC) a Defendant in this action, by and through its Attorney, Jeffery Taylor, responds to Plaintiff's Complaint as follows:

1. Paragraph 1 is admitted.
2. Defendant is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 2, except that the Oil Conservation Commission is a governmental agency of the State of New Mexico.



3. The allegations contained in Paragraph 3 are responded to as in paragraphs 1 and 2 herein.

4. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 4.

5. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 5.

6. Defendant OCC admits the allegations contained in Paragraph 6.

7. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 7, except that records of the Oil Conservation Division indicate that the well is dually completed in the Mancos and Basin Dakota formations.

8. Defendant OCC admits that in 1983 Jerome McHugh applied to the Division to establish a new oil pool, with special pool rules including a provision for 320-acre spacing.

9. Paragraph 9 states a legal conclusion which defendant OCC is not required to admit or deny.

10. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 10.

11. Defendant OCC admits that the application in Case 7980 was granted by Order No. R-7407, and that Exhibit D is

a true copy thereof. The allegation that notice was insufficient is a question of law which Defendant neither admits nor denies.

12. Defendant OCC is without sufficient information to form a belief as to the effect of Order No. R-7407 on Plaintiff's royalties, if any. Defendant denies that Order No. R-7407 explicitly purports to affect Plaintiff's royalty.

13. The allegations contained in Paragraph 13 are legal conclusions which Defendant neither admits nor denies.

14. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 14.

15. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 15.

16. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 16.

17. The allegations contained in Paragraph 17 are responded to in Paragraphs 1 through 16 herein.

18. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 18.

19. The allegations contained in Paragraph 19 are legal conclusions which Defendant neither admits nor denies.

20. The allegations contained in Paragraph 20 are responded to in Paragraphs 1, 2, 8, 9, 10, 11, 13, and 16 herein.

21. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 21.

22. Defendant admits the allegations contained in Paragraph 22.

23. Defendant OCC is without sufficient information to form a belief as to the allegations contained in Paragraph 23.

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25. Defendant OCC admits the allegations contained in Paragraph 25.

26. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 26.

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28. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 28.

29. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 29.

30. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 30.

31. Paragraph 31 contains legal conclusions that Defendant neither admits nor denies.

#### SECOND DEFENSE

32. Plaintiffs fail to state a claim upon which relief can be granted.

#### THIRD DEFENSE

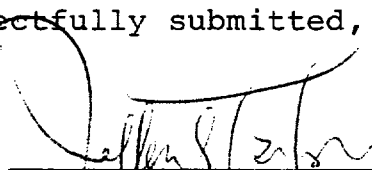
33. Plaintiffs have failed to exhaust their administrative remedies.

#### FOURTH DEFENSE

34. The New Mexico Oil Conservation Division has primary jurisdiction over this matter pursuant to Section 70-2-1 et. seq. NMSA (1978) and this action should be

stayed until Plaintiff has sought relief through administrative proceedings.

Respectfully submitted,



---

JEFFERY S. TAYLOR  
General Counsel  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504  
(505) 827-5805

I hereby certify that a true and correct copy of the foregoing was mailed to Counsel of Record this 4<sup>th</sup> day of February, 1986.



---

JEFFERY TAYLOR

FIRST JUDICIAL DISTRICT COURT

FEB 04 1986

ANGELA ROMERO  
Acting, District Court Clerk

STATE OF NEW MEXICO  
IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

FIRST JUDICIAL DISTRICT COURT

Plaintiffs,

v.

No. RA 85-373 (c)

JEROME P. MCHUGH,  
JOSEPH R. MAZZOLA,  
DON EVANS, KENAI OIL  
AND GAS, INC. and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

ANSWER OF DEFENDANT NEW MEXICO  
OIL CONSERVATION COMMISSION

The New Mexico Oil Conservation Commission (OCC) a Defendant in this action, by and through its Attorney, Jeffery Taylor, responds to Plaintiff's Complaint as follows:

1. Paragraph 1 is admitted.
2. Defendant is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 2, except that the Oil Conservation Commission is a governmental agency of the State of New Mexico.

3. The allegations contained in Paragraph 3 are responded to as in paragraphs 1 and 2 herein.

4. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 4.

5. Defendant OCC is without sufficient information to form a belief as to the truth of the allegations contained in Paragraph 5.

6. Defendant OCC admits the allegations contained in Paragraph 6.

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#### SECOND DEFENSE

32. Plaintiffs fail to state a claim upon which relief can be granted.

#### THIRD DEFENSE

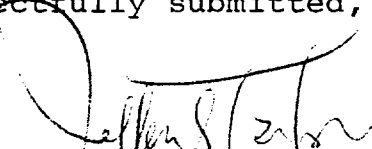
33. Plaintiffs have failed to exhaust their administrative remedies.

#### FOURTH DEFENSE

34. The New Mexico Oil Conservation Division has primary jurisdiction over this matter pursuant to Section 70-2-1 et. seq. NMSA (1978) and this action should be

stayed until Plaintiff has sought relief through administrative proceedings.

Respectfully submitted,



---

JEFFERY S. TAYLOR  
General Counsel  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504  
(505) 827-5805

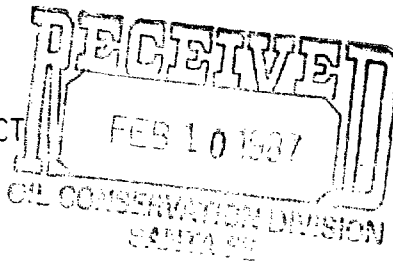
I hereby certify that a true and correct copy of the foregoing was mailed to Counsel of Record this 4<sup>th</sup> day of February, 1986.



---

JEFFERY TAYLOR

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO



FLOYD E. EDWARDS, et. ux.,

Plaintiffs,

v.

No.: RA-85-373(C)

JEROME P. McHUGH, et. al.,

Defendants.

MOTION TO VACATE HEARING DATE  
and  
REQUEST FOR EXTENSION OF TIME TO FILE RESPONSIVE PLEADING

COMES NOW the Defendant, Dugan Production Corp., and moves this Court for an Order vacating trial date set for March 31, 1986, and requesting additional time in which to file responsive pleadings and motions in this matter.

As grounds therefore, this Defendant alleges as follows:


1. This Defendant was served with an amended complaint on or about January 3, 1987.
2. This Defendant did not receive any additional pleadings, motions or other filings in this matter until a period beginning after January 15, 1987, and continuing through the end of the month of January 1987, notwithstanding the fact that this action had been filed sometime previously and substantial communication and motions had been filed.
3. This Defendant requires additional time in which to prepare an

appropriate responsive pleading or motion and requests the Court grant an extension until March 15, 1987, in which to prepare such pleadings or motions.

4. Review of temporary pool rules established by Oil Conservation Commission Order No. R-7407, which is the subject matter of this dispute, set for hearing commencing on or about March 30, 1987, and this Defendant will be actively engaged in said hearing commencing at that time, and may not be available for this hearing.
5. Said hearing on temporary rules established by Order No. R-7407 may be material to this case, and Plaintiff has notice of and will have the opportunity to participate in said hearing.
6. This Defendant has obtained the concurrence of all counsel in a request for extension of time in which to file responsive pleadings and has obtained the concurrence of all counsel except counsel for the Plaintiff in its motion to vacate the hearing. Counsel for the Plaintiff has indicated at this time that it opposes vacating the hearing.

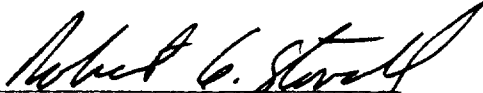
WHEREFORE, Defendant requests that this Court issue an order vacating the trial on this matter set for March 31, 1987, for an indefinite period, and further requests an additional period of time in which to file responsive pleadings or motions in this matter.

Respectfully submitted,



Robert G. Stovall, Attorney for Defendant  
Dugan Production Corp.  
P. O. Box 208  
Farmington, NM 87499  
(505) 325-1821

I hereby certify that a true copy of the foregoing pleading was mailed to all counsel of record this 9th day of February, 1987.



Robert G. Stovall

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS, et. ux.,

Plaintiffs,

v.

No.: RA-85-373(C)

JEROME P. McHUGH, et. al.,

Defendants.

ORDER

Upon motion, the Defendant, Dugan Production Corp., said Defendant is hereby granted an extension of time until March 15, 1987, in which to file responsive pleadings and motions in this matter.

---

District Judge

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS, et. ux.,

Plaintiffs,

v.

No.: RA-85-373(C)

JEROME P. McHUGH, et. al.,

Defendants.

ORDER

Upon motion of Defendant, Dugan Production Corp., trial setting in this matter for March 31, 1987, at 9:00 a.m., is hereby vacated. Trial will be re-set at a time to be determined in the future.

---

District Judge



FEB 27 1987  
OIL CONSERVATION COMMISSION  
STATE

ENDORSED  
FILED IN MY OFFICE THIS

FEB 26 1987

STATE OF NEW MEXICO  
IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373(C)

JEROME P. McHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

REQUEST FOR SETTING

1. Specific matters requested to be heard Defendant McHugh's Motion to Dismiss, or, in the Alternative, for Summary Judgment.
2. Judge to whom assigned Hon. Patricio M. Serna
3. Non-Jury xxx Jury \_\_\_\_\_
4. Estimated total time required for hearing all parties and witnesses one hour
5. Pre-Trial conference needed? Yes \_\_\_\_\_ No xxx

6. Names, addresses, and telephone numbers of all counsel or parties pro se entitled to notice:

James Bruce, Esq.  
HINKLE, COX, EATON, COFFIELD  
& HENSLEY  
P.O. Box 2068  
Santa Fe, New Mexico 87504-2068

Mary Ann Green, Esq.  
POPEJOY & LEACH  
215 Gold Avenue SW  
P.O. Box 2107  
Albuquerque, New Mexico 87103

Rex D. Throckmorton, Esq.  
RODEY, DICKASON, SLOAN, AKIN  
& ROBB  
Suite 700  
20 First Plaza  
P.O. Box 1888  
Albuquerque, New Mexico 87103

Jeff Taylor, Esq.  
Oil Conservation Division  
Energy and Minerals Department  
Land Office Building, Room 206  
310 Old Santa Fe Trail  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Marla Williams, Esq.  
HOLME, ROBERTS & OWEN  
1700 Broadway  
Denver, Colorado 80290

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By J. Douglas Foster  
J. Douglas Foster  
Attorneys for Defendant,  
Jerome P. McHugh  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

NOTICE OF HEARING

Please take notice that the above-entitled case will come on for hearing before the Honorable Patricio M. Serna, District Judge, Division III, at the below date, time and place.

DATE: April 24, 1987

TIME: 9:00 a.m.

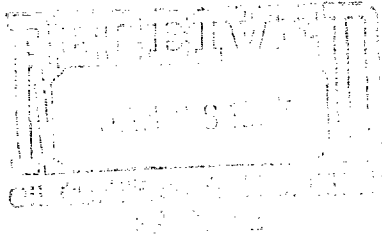
PLACE: Santa Fe Judicial Complex, Div. III

PATRICIO M. SERNA,  
District Judge

By Pat Madrid  
Secretary

Notice mailed February 26, 1986.

FIRST JUDICIAL DISTRICT COURT  
COUNTY OF SANTA FE  
STATE OF NEW MEXICO



ENDORSED  
FILED IN MY OFFICE THIS  
JAN 27 1987

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. McHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI  
OIL AND GAS, INC., and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

REQUEST FOR HEARING

1. Specific matters requested to be heard: Trial on the merits.
2. Judge to Whom Assigned: Patricio M. Serna, Div. III.
3. Non-Jury xxx Jury \_\_\_\_\_
4. Estimated time required for hearing all parties and witnesses: One day.
5. Pre-Trial conference needed? Yes \_\_\_ No xxx.
6. Names, addresses and telephone numbers of all counsel or parties pro se entitled to notice:

James Bruce  
HINKLE, COX, EATON,  
COFFIELD & HENSLEY  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

J. Douglas Foster  
MODRALL, SPERLING, ROEHL,  
HARRIS & SISK  
Post Office Box 2168  
Albuquerque, New Mexico 87103  
(505) 848-1800

Attorneys for Defendant Jerome P. McHugh

Mary Ann Green  
POPEJOY & LEACH, P.C.  
Post Office Box 2107  
Albuquerque, New Mexico 87103  
(505) 243-3322

Attorneys for Defendant Don Evans

Rex D. Throckmorton  
RODEY, DICKASON, SLOAN,  
AKIN & ROBB, P.A.  
Post Office Box 1888  
Albuquerque, New Mexico 87103  
(505) 765-5900

Attorneys for Defendants Joseph R. Mazzola  
and Kenai Oil and Gas, Inc.

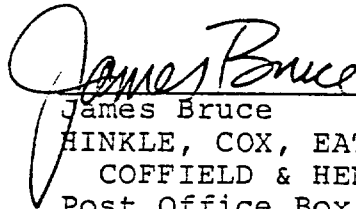
Jeffrey L. Taylor  
Post Office Box 2088  
Santa Fe, New Mexico 87504  
(505) 827-5800

Attorney for Defendant New Mexico Oil  
Conservation Commission

Robert G. Stovall  
Post Office Box 208  
Farmington, New Mexico 87499  
(505) 325-1821

Attorney for Defendant Dugan  
Production Corp.

Submitted by:

  
James Bruce

HINKLE, COX, EATON,  
COFFIELD & HENSLEY  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

NOTICE OF HEARING

Please take notice that the above-entitled case will come on for hearing before the Honorable Patricio M. Serna, District Judge, Division III, at the below date, time and place.

DATE: March 31, 1987

TIME: 9.00 a.m.

PLACE: Santa Fe Judicial Complex, Div. III.

T.D.

PATRICIO M. SERNA, District Judge

By: Pat Madrid  
Secretary

Notice mailed: Jan 27, 1987.

By: Pat Madrid

Certificate of Service

We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 21<sup>st</sup> day of February, 1987.

[Signature]  
Hinkle, Cox, Eaton, Coffield & Hensley  
P.O. Box 2068  
Santa Fe, NM 87504-2068

FIRST JUDICIAL DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife, EMMA B. EDWARDS,  
Plaintiffs,

vs.  
JEROME P. McHUGH, JOSEPH R. MAZZOLA, DON EVANS,  
KENAI OIL AND GAS INC., and THE NEW MEXICO OIL  
CONSERVATION COMMISSION,

NO. RA 85-373(C)

Defendants.  
SUMMONS

TO

New Mexico Oil Conservation Commission  
By: Attorney General of New Mexico  
Bataan Memorial Building  
Santa Fe, New Mexico 87503

Defendant(s), Greeting:

You are hereby directed to serve a pleading or motion in response to the Complaint within 30 days after service of the Summons, and file the same, all as provided by law.

You are notified that, unless you so serve and file a responsive pleading or motion, the Plaintiff(s) will apply to the Court for the relief demanded in the Complaint.

Attorney or Attorneys For Plaintiff: Hinkle, Cox, Eaton, Coffield & Hensley  
Address: James Bruce  
P. O. Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

PETRA JIMENEZ MAES

WITNESS the Honorable \_\_\_\_\_, District Judge of Said Court of the State of New Mexico and the Seal of the District Court of Said County, this 7 day of Jan. 19 86.

ANGELA ROMERO  
Acting, District Court Clerk

CLERK OF THE DISTRICT COURT

(SEAL)

By: Esperanza Gonzalez  
Deputy

FIRST JUDICIAL DISTRICT COURT

DEC 04 1985

ANGELA ROMERO  
Acting, District Court Clerk

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

NO. RA 85-37300

JEROME P. MCHUGH,  
JOSEPH R. MAZZOLA, DON  
EVANS, KENAI OIL AND  
GAS INC., and the NEW  
MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

COMPLAINT FOR DECLARATORY RELIEF,  
AN ACCOUNTING, DAMAGES, AND FOR  
CANCELLATION OF OIL AND GAS LEASES

Plaintiffs, for their claims for relief, state:

JURISDICTION

1. The lands involved herein are situated wholly within  
Rio Arriba County, New Mexico.

?  
w/ 31  
Except  
20 to 000

2. Plaintiffs Floyd E. and Emma B. Edwards, husband and  
wife, are citizens of the State of California. Defendant Jerome  
P. McHugh ("McHugh"), upon information and belief, is a citizen  
of the State of Colorado, but is doing business within the State  
of New Mexico so as to be subject to the jurisdiction of this  
Court. Defendant Joseph R. Mazzola ("Mazzola"), upon information  
and belief, is a citizen of Colorado, but owns real property in  
New Mexico which is the subject of this action, and is therefore  
subject to the jurisdiction of this Court. Defendant Don Evans



("Evans"), upon information and belief, is a citizen of Arizona, but owns real property in New Mexico which is the subject of this action, and is therefore subject to the jurisdiction of this Court. Defendant Kenai Oil and Gas Inc. ("Kenai"), upon information and belief, is a Delaware corporation with its principal place of business in Colorado, but owns real property in New Mexico which is the subject of this action, and is therefore subject to the jurisdiction of this Court. Defendant New Mexico Oil Conservation Commission ("the Commission") is a governmental agency of the State of New Mexico.

FIRST CLAIM

3. Plaintiffs incorporate and reallege paragraphs 1 and 2 the same as if fully set forth herein.

4. On April 16, 1980, Plaintiffs executed an oil and gas lease to Kenai covering the following described land in Rio Arriba County, New Mexico, and comprising 320.00 acres, more or less:

Township 25 North, Range 2 West, N.M.P.M.

Section 20:	S $\frac{1}{2}$ SE $\frac{1}{4}$
Section 28:	N $\frac{1}{2}$ NW $\frac{1}{4}$
Section 29:	NE $\frac{1}{4}$

A true copy of this lease is attached hereto, marked Exhibit A, and incorporated herein for all purposes (hereafter referred to as "Lease No. 1"). Lease No. 1 is recorded at Book 89, page 676 of the records of Rio Arriba County, New Mexico. The primary term of Lease No. 1 was extended to April 16, 1984, by extensions granted by Plaintiffs, true copies of which are attached hereto,

marked Exhibits B and C, and incorporated herein for all purposes.

*W/K*  
5. Lease No. 1 was subsequently assigned to McHugh. Upon information and belief, Lease No. 1 is subject to overriding royalty interests owned by Defendants Mazzola, Evans, and Kenai.

6. During the year 1983, McHugh drilled and completed the E.T. # 1 Well, located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 28, Township 25 North, Range 2 West.

7. The E.T. #1 Well produces from the Mancos formation and is classified by the New Mexico Oil Conservation Division ("OCD") as an oil well. Under the Rules and Regulations of the OCD, well spacing for the Mancos formation and the E. T. #1 Well was 40 acres when McHugh drilled the well. Plaintiffs, as owners of the entire mineral interest in the 40 acres underlying the well (the NE $\frac{1}{4}$ NW $\frac{1}{4}$  of said Section 28), were entitled to all of the royalty on production of oil and gas from the E. T. # 1 Well.

8. In late 1983, McHugh applied to the Commission to increase well spacing in the Mancos formation from 40 acres to 320 acres. McHugh's application was designated Case No. 7980 by the Commission.

*Legal conclusion*  
9. Before the Commission or the OCD may act on an application to increase well spacing, due process and N.M. Stat. Ann. § 70-2-7 (1978) require that interested parties whose addresses are known must be notified by personal service or by mail.

*W/K sufficient*  
10. Although McHugh knew Plaintiffs' address, he failed to notify Plaintiffs of his pending application by personal service

or by mail. Instead, only publication notice of Case No. 7980 was given.

11. Despite the insufficient notice in Case No. 7980, the Commission granted McHugh's application and, by Order No. R-7407, increased the spacing in the Mancos formation to 320 acres. A true copy of Order No. R-7407 is attached hereto, marked Exhibit D, and incorporated herein for all purposes.

12. Order No. R-7407 purports to reduce Plaintiffs' royalty entitlement by allowing royalty payments to be computed on the basis of 320 acre spacing, as opposed to 40 acre spacing.

*Legal Conclusion* 13. Due to the insufficient notice in Case No. 7980, Plaintiffs' were denied due process under both the federal and New Mexico constitutions. As a result, Order No. R-7407 is invalid as against Plaintiffs.

14. Since the effective date of Order No. R-7407, Plaintiffs' royalty interest has been unlawfully reduced, and McHugh has failed to pay royalties to Plaintiffs based upon 40 acre spacing. The proper amount of unpaid royalties cannot be determined precisely at this time, but upon information and belief said sum exceeds \$60,000.00.

*W/ Knowledge* 15. Plaintiffs have made demand upon McHugh for an accounting and for payment of royalties properly due. A true copy of Plaintiffs' demand letter is attached, marked Exhibit E, and incorporated herein for all purposes. Despite demand, Defendant has refused and continues to refuse to account for and pay said royalties. A true copy of McHugh's letter of refusal is attached

hereto, marked Exhibit F, and incorporated herein for all purposes.

16. A real and actual controversy exists between the parties as to the validity of Order No. R-7407. Therefore, a claim for declaratory relief is appropriate pursuant to the provisions of N.M. Stat. Ann. §§ 44-6-1 et seq. (1978).

WHEREFORE, Plaintiffs pray that this Court enter its Order declaring that Order No. R-7407 is invalid as against Plaintiffs, requiring McHugh to account to Plaintiffs for all royalties due them, for damages in the same amount, plus interest, for costs, together with a reasonable attorneys fee as provided by Lease No. 1, and for such other and further relief as to the Court seems just and proper.

SECOND CLAIM

17. Plaintiffs incorporate and reallege paragraphs 1 through 16 of the same as if fully set forth herein.

*w/o knowledge* 18. Despite demand, McHugh has failed to account to and pay to Plaintiffs the royalties due to them, and has thus materially breached the terms of Lease No. 1. As a result, Lease No. 1 should be cancelled.

*Legal conclusion* 19. Under the provisions of N.M. Stat. Ann. § 70-1-4 (1978), Plaintiffs are entitled to recover the sum of \$100.00 as damages, and costs, together with a reasonable attorney's fee for preparing and prosecuting a suit for release of Lease No. 1. Plaintiffs are also entitled to recover under said statute any additional damages that the evidence in the case will warrant.

In addition, Plaintiffs are entitled to attorneys fees under the terms of Lease No. 1.

WHEREFORE, Plaintiffs pray that this Court enter its Order requiring McHugh to execute and deliver to Plaintiffs his release of Lease No. 1, for a reasonable attorney's fee, for all damages authorized under N.M. Stat. Ann. § 70-1-4 (1978), and for such other and further relief as to the Court seems just and proper.

THIRD CLAIM

20. Plaintiffs incorporate and reallege paragraphs 1, 2, 8, 9, 10, 11, 13, and 16 the same as if fully set forth herein.

21. On April 16, 1980, Plaintiffs executed the following oil and gas leases to Kenai:

*W/o Knowledge* (a) A lease covering the following described land in Rio Arriba County, New Mexico and comprising 326.88 acres, more or less:

Township 25 North, Range 2 West, N.M.P.M.

Section 29: SW $\frac{1}{2}$ SW $\frac{1}{2}$   
Section 30: Lot 4

Township 25 North, Range 3 West, N.M.P.M.

Section 25: S $\frac{1}{2}$ SE $\frac{1}{4}$   
Section 36: NE $\frac{1}{4}$

A true copy of this lease is attached hereto, marked Exhibit G and incorporated herein for all purposes (hereafter referred to as "Lease No. 2"). Lease No. 2 is recorded at Book 89, page 685 of the records of Rio Arriba County, New Mexico. The primary term of Lease No. 2 was extended to April 16, 1984, by extensions granted by Plaintiffs, true copies of which are attached hereto,

marked Exhibits H and I, and incorporated herein for all purposes.

(b) A lease covering the following described land in Rio Arriba County, New Mexico and comprising 200 acres, more or less:

Township 25 North, Range 2 West, N.M.P.M.

Section 21: SE $\frac{1}{4}$ SW $\frac{1}{4}$ , W $\frac{1}{2}$ W $\frac{1}{2}$

A true copy of this lease is attached hereto, marked Exhibit J, and incorporated herein for all purposes (hereafter referred to as "Lease No. 3"). Lease No. 3 is recorded at Book 89, page 694 of the records of Rio Arriba County, New Mexico. The primary term of Lease No. 3 was extended to April 16, 1984, by extensions granted by Plaintiffs, true copies of which are attached hereto, marked Exhibits K and L, and incorporated herein for all purposes.

22. Order No. R-7407 (Exhibit D) purportedly applies to land embraced within Lease Nos. 2 and 3.

*W/O Knowledge* 23. Lease Nos. 2 and 3 were subsequently assigned to McHugh. Upon information and belief, Lease Nos. 2 and 3 are subject to overriding royalty interests owned by Defendants Mazzola, Kenai and Evans.

24. During the year 1984, McHugh drilled and completed the Full Sail #1 Well, located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 29, Township 25 North, Range 2 West. This well is classified by the OCD as an oil well and produces from the Mancos formation. It is not located on property covered by Lease No. 2.

25. During the year 1983, McHugh drilled and completed the Janet #2 Well, located on the NE $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 21, Township 25 North, Range 2 West. This well is classified by the OCD as an oil well and produces from the Mancos formation. It is not located on property covered by Lease No. 2.

26. Lease Nos. 2 and 3 each provide in paragraph 4 thereof that "If operations for drilling are not commenced on said land or on land pooled therewith on or before [April 16, 1984], this lease shall terminate." No well drilling operations were commenced on land covered by Lease Nos. 2 and 3 on or before April 16, 1984.

27. Upon information and belief, McHugh is attempting to use the Full Sail #1 Well and the 320 acre spacing established by Order No. R-7407 to preserve Lease No. 2 into its secondary term by means of the lease "pooling clause" (paragraph 5 of Lease No. 2). A "pooling clause" in a lease allows a lessee to join leased acreage or portions of leased acreage with other leased acreage to form a unit complying with OCD well spacing requirements.

28. Upon information and belief, McHugh is attempting to use the Janet #2 Well and the 320 acre spacing established by Order No. R-7407 to preserve Lease No. 3 into its secondary term by means of the lease pooling clause (paragraph 5 of Lease No. 3).

29. Because Order No. R-7407 is invalid as against Plaintiffs, the proper well spacing for the Full Sail #1 Well and the Janet #2 Well is 40 acres, as provided by the statewide oil wells spacing rules of the OCD. Therefore, McHugh has failed to comply

with paragraph 4 of Lease Nos. 2 and 3 by commencing drilling operations on or before April 16, 1984. As a result, Lease Nos. 2 and 3 terminated automatically on April 16, 1984, by their terms.

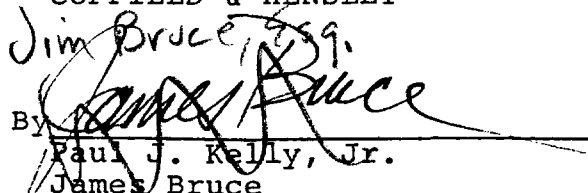
30. Plaintiffs have made demand upon McHugh to release Lease Nos. 2 and 3 (Exhibit E), but McHugh has refused to release Lease Nos. 2 and 3 (Exhibit F). Cancellation of Lease Nos. 2 and 3 is therefore proper.

31. Under the provisions of N.M. Stat. Ann. § 70-1-4 (1978), Plaintiffs are entitled to recover the sum of \$100.00 as damages, and all costs, together with a reasonable attorney's fee for preparing and prosecuting a suit for release of Lease Nos. 2 and 3, and Plaintiffs are also entitled to recover under said statute any additional damages that the evidence in the case will warrant. In addition, Plaintiffs are entitled to attorneys fees under the terms of Lease Nos. 2 and 3.

WHEREFORE, Plaintiffs pray that this Court enter its Order declaring that Order No. R-7407 is invalid as against Plaintiffs, requiring McHugh to execute and deliver to Plaintiffs his release of Lease Nos. 2 and 3, for a reasonable attorney's fee, for all damages authorized under N.M. Stat. Ann. § 70-1-4 (1978), and for such other and further relief as to the court seems just and proper.

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

Jim Bruce, Esq.

By   
Paul J. Kelly, Jr.  
James Bruce



Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

STATE OF NEW MEXICO  
IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA

NO. RA 85-373(C)

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

JEROME P. MCHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

ANSWER AND COUNTERCLAIM  
OF DEFENDANT JEROME P. MCHUGH

Jerome P. McHugh, one of the Defendants in this cause,  
responds to Plaintiff's Complaint (the "Complaint") as follows:

FIRST DEFENSE

1. Defendant admits paragraph 1 of the Complaint.
2. Defendant admits he is a citizen of the State of Colorado, that he is subject to the jurisdiction of this Court for purposes of this action brought by Plaintiffs and that the New Mexico Oil Conservation Commission is a governmental agency of the State of New Mexico. Defendant is without sufficient information to admit or deny the remaining allegations in paragraph 2 of the Complaint.
3. Defendant responds to paragraph 3 of the Complaint as provided in paragraphs 1 and 2 above.

4. Defendant is without sufficient knowledge to admit or deny that Lease No. 1 was executed by Plaintiffs on April 16, 1980. Defendant admits that Exhibit A to the Complaint is a true copy of Lease No. 1 except to the extent it contains handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 4 of the Complaint.

5. Defendant admits paragraph 5 of the Complaint.

6. Defendant admits paragraph 6 of the Complaint.

7. Defendant denies any implication that the E.T. #1 Well produces exclusively from the Mancos formation, and denies that Plaintiffs were, or are, entitled to all of the royalty on production from the E.T. #1 Well. Defendant admits the remaining allegations in paragraph 7 of the Complaint.

8. Defendant admits paragraph 8 of the Complaint.

9. Defendant denies paragraph 9 of the Complaint.

10. Defendant admits he did not cause personal service or service by mail to be made upon Plaintiffs in connection with Case No. 7980. Defendant denies that this was a "failure" of any kind.

11. Defendant denies that notice given in connection with Case No. 7980 was insufficient. Defendant admits Exhibit D to the Complaint is a true copy of Order No. R-7407 except to the extent it contains handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 11 of the Complaint.

12. Defendant denies paragraph 12 of the Complaint.

13. Defendant denies paragraph 13 of the Complaint.

14. Defendant denies paragraph 14 of the Complaint.

15. Defendant admits that Exhibit E to the Complaint is a true copy of a letter received by Defendant and that Exhibit F to the Complaint is a true copy of Defendant's response. Defendant denies the remaining allegations contained in paragraph 15 of the Complaint.

16. Defendant denies paragraph 16 of the Complaint.

17. Defendant responds to paragraph 17 of the Complaint as stated in paragraphs 1 through 16 above.

18. Defendant denies paragraph 18 of the Complaint.

19. Defendant denies paragraph 19 of the Complaint.

20. Defendant answers paragraph 20 of the Complaint as stated in paragraphs 1, 2, 8, 9, 10, 11, 13 and 16 above.

21. Defendant is without sufficient knowledge to admit or deny that Plaintiffs executed Lease No. 2 and Lease No. 3 on April 16, 1980. Defendant admits that Exhibits G, H, I, J, K and L to the Complaint are true copies of the originals except to the extent they contain handwritten underscoring, margin notations or similar markings. Defendant admits the remaining allegations contained in paragraph 21 of the Complaint.

22. Defendant admits paragraph 22 of the Complaint but denies any implication that Order No. P-7407 is ineffective.

23. Defendant admits paragraph 23 of the Complaint.

24. Defendant denies any implication that the drilling of the Full Sail #1 Well is not considered operations on the land covered by Lease No. 2. Defendant admits the remaining

allegations in paragraph 24 of the Complaint.

25. Defendant denies any implication that the Janet #2 Well produces exclusively from the Gavilan-Mancos formation. Defendant admits the remaining allegations in paragraph 25 of the Complaint.

26. Defendant denies that no drilling operations were considered to be commenced on land covered by Lease Nos. 2 and 3 on or before April 16, 1984. Defendant admits the remaining allegations in paragraph 26 of the Complaint.

27. Defendant denies any implication that the pooling of lands covered by Lease No. 2 with lands on which the Full Sail No. 1 Well is located is ineffective. Defendant further denies that the description of a "pooling clause" contained in the last sentence of paragraph 27 of the Complaint is accurate or complete for all purposes. Defendant admits the remaining allegations contained in paragraph 27 of the Complaint.

28. Defendant denies any implication that the pooling of lands covered by Lease No. 3 with lands upon which the Janet #2 Well is located is ineffective and Defendant denies any implication that Lease No. 3 is preserved solely by production from the formation that was the subject of Order No. R-7407. Defendant admits the remaining allegations in paragraph 28 of the Complaint.

29. Defendant denies paragraph 29 of the Complaint.

30. Defendant denies paragraph 30 of the Complaint.

31. Defendant denies paragraph 31 of the Complaint.

32. Defendant denies each and every allegation not

expressly admitted.

SECOND DEFENSE

33. Plaintiffs fail to state a claim upon which relief can be granted.

THIRD DEFENSE

34. Plaintiffs' claims are barred by the doctrines of estoppel and waiver.

FOURTH DEFENSE

35. Plaintiffs have failed to join all parties to this action that must be joined under Rule 19 of the New Mexico Rules of Civil Procedure and under §§ 44-6-1 et seq., NMSA (1978).

FIFTH DEFENSE

36. Plaintiffs have failed to exhaust their administrative remedies.

SIXTH DEFENSE

37. The New Mexico Oil Conservation Commission has primary jurisdiction over the subject matter of this action, and this action should therefore be dismissed or stayed until the Oil Conservation Commission has ruled on that subject matter.

COUNTERCLAIM

38. On December 18, 1984, Plaintiffs filed an action in the United States District Court for the District of New Mexico, alleging substantially the same claims as set forth in the Complaint. That action was dismissed on Defendant's motion because of Plaintiff's procedural errors (the Commission being an indispensable party that was not, and could not be, joined).

39. As the prevailing party in the Federal District

Court action, Defendant is entitled under the Leases to recover from Plaintiffs all of Defendant's costs, expenses and reasonable attorney's fees.

40. Defendant is also entitled under the Leases to recover from Plaintiffs, all costs, expenses and reasonable attorney's fees incurred in connection with this action.

WHEREFORE, Defendant prays that Plaintiffs take nothing by their Complaint, and that this Court enter its Order denying the relief requested by Plaintiffs and awarding to Defendant his costs, expenses and attorney's fees in this action and in the Federal District Court action.

HOLME ROBERTS & OWEN  
Marla J. Williams, Esc.  
~~Attorneys for Defendant~~  
~~Jerome P. McHugh~~  
1700 Broadway  
Denver, Colorado 80290

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

*Foster*  
BY *J. Douglas Foster*  
~~J. DOUGLAS FOSTER~~  
~~Attorneys for Defendant~~  
~~Jerome P. McHugh~~  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a true and correct copy of the foregoing was mailed to opposing counsel of record this 31st day of January, 1986.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

BY *J. Douglas Foster*  
J. Douglas Foster

HINKLE, COX, EATON, COFFIELD & HENSLEY

LEWIS C. COX  
PAUL W. EATON  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.  
OWEN M. LOPEZ  
DOUGLAS L. LUNSFORD  
T. CALDER EZZELL, JR.  
WILLIAM B. BURFORD\*  
RICHARD E. OLSON  
RICHARD A. SIMMS  
DEBORAH NORWOOD\*  
RICHARD R. WILFONG\*  
STEVEN D. ARNOLD  
JAMES J. WECHSLER  
NANCY S. CUSACK  
JEFFREY L. FORNACIARI  
JEFFREY D. HEWETT\*

JAMES BRUCE  
JERRY F. SHACKELFORD\*  
ALBERT L. PITTS  
FRED W. SCHWENDIMANN  
THOMAS D. HAINES, JR.  
THOMAS M. HNASKO  
MICHAEL F. MILLERICK  
FRANKLIN H. MCCALLUM\*  
ALLEN G. HARVEY\*  
GREGORY J. NIBERT  
JUDY K. MOORE\*  
DAVID T. MARKETTE\*  
JAMES R. MCADAMS\*  
BRUCE R. ROGOFF  
JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM R. JOHNSON\*

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

1700 TEXAS AMERICAN BANK BUILDING  
POST OFFICE BOX 12118  
AMARILLO, TEXAS 79101  
(806) 372-5569

700 UNITED BANK PLAZA  
POST OFFICE BOX 10  
ROSWELL, NEW MEXICO 88201  
(505) 622-6510

April 14, 1986

OF COUNSEL  
ROY C. SHODGRASS, JR.  
G. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD

CLARENCE E. HINKLE (1904-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)

\*NOT LICENSED IN NEW MEXICO

Jeffrey S. Taylor, Esq.  
General Counsel  
Oil Conservation Division  
Post Office Box 1148  
Santa Fe, New Mexico 87504-1148

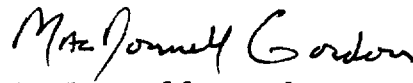
Re: Edwards v. McHugh, et al., No. RA 85-373(C)

Dear Mr. Taylor:

Enclosed please find a copy of our Certificate of Service of Plaintiffs' First Set of Interrogatories Propounded to Defendant Jerome P. McHugh and Certificate of Service of Plaintiffs' First Request for Production Directed to Defendant Jerome P. McHugh in the above-captioned matter.

Very truly yours,

HINKLE, COX, EATON, COFFIELD  
& HENSLEY



MacDonnell Gordon

MG/mg  
Enclosures



ENDORSED  
FILED IN MY OFFICE THIS

APR 11 1986

SYLVIA L. SEDILLO  
District Court Clerk

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373(C)

JEROME P. MCHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI  
OIL AND GAS, INC., and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

CERTIFICATE OF SERVICE  
OF PLAINTIFFS' FIRST SET OF INTERROGATORIES  
PROPOUNDED TO DEFENDANT JEROME P. MCHUGH

The plaintiffs, by and through their attorneys, Hinkle, Cox, Eaton, Coffield & Hensley, and pursuant to Rule 33 of the New Mexico Rules of Civil Procedure and Rule 37A of the Rules of the District Court, First Judicial District, hereby certify that the Plaintiffs' First Set of Interrogatories was served by mail on the defendant Jerome P. McHugh this 11th day of April, 1986.

Respectfully submitted,

HINKLE, COX, EATON, COFFIELD  
& HENSLEY

*MacDonnell Gordon*

MacDonnell Gordon  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

ENDORSED  
FILED IN MY OFFICE THIS  
APR 11 1986  
SYLVIA L. SEDILLO  
District Court Clerk

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373(C)

JEROME P. McHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI  
OIL AND GAS, INC., and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

CERTIFICATE OF SERVICE  
OF PLAINTIFFS' FIRST REQUEST FOR PRODUCTION  
DIRECTED TO DEFENDANT JEROME P. McHUGH

The plaintiffs, by and through their attorneys, Hinkle, Cox, Eaton, Coffield & Hensley, and pursuant to Rule 34 of the New Mexico Rules of Civil Procedure and Rule 37A of the Rules of the District Court, First Judicial District, hereby certify that the Plaintiffs' First Request for Production was served by mail on the defendant Jerome P. McHugh this 11th day of April, 1986.

Respectfully submitted,

HINKLE, COX, EATON, COFFIELD  
& HENSLEY

*MacDonnell Gordon*

MacDonnell Gordon  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

# HINKLE, COX, EATON, COFFIELD & HENSLEY

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

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POST OFFICE BOX 12118  
AMARILLO, TEXAS 79101  
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POST OFFICE BOX 10  
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STUART D. SHANOR  
C. D. MARTIN  
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JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM R. JOHNSON\*  
CHRISTOPHER S. RAY

March 13, 1987

OF COUNSEL  
ROY C. SNODGRASS, JR.  
O. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT

CLARENCE E. HINKLE (904-9885)  
W. E. BONDURANT, JR. (913-9721)  
ROBERT A. STONE (905-1981)

\*NOT LICENSED IN NEW MEXICO

J. Douglas Foster  
Modrall Law Firm  
Post Office Box 2168  
Albuquerque, New Mexico 87103

Re: Edwards v. McHugh

Dear Doug:

We are writing to request your permission to amend our complaint. This amendment is based on the following new cause of action:

1. Order No. R-7407 provides for temporary 320 acre spacing, effective March 1, 1984, established for a three year period. See Finding Nos. 11 and 16; Special Rule 2; Order No. 1.
2. Order No. R-7745 provides for temporary 320 acre spacing, for a period ending March 1, 1987. See Finding Nos. 25 and 29; Special Rule 2.
3. As a result of the foregoing, on March 2, 1987, 320 acre spacing in the Dakota and Mancos formations reverted to 40 acre spacing. Therefore, regardless of the other causes of action, the Edwards, as of March 2, 1987, are entitled to all royalties from the E.T. No. 1 Well. In addition Leases 2 and 3 (as described in the complaint) have terminated due to failure to drill wells thereon.

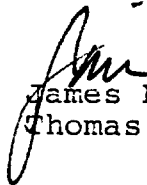
J. Douglas Foster  
March 13, 1987  
Page 2

Copies of the orders are enclosed for your convenience.

By copies of this letter to other counsel, we are also requesting their consent to amendment of the complaint.

Very truly yours,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

  
James Bruce  
Thomas M. Hnasko

JGB:TMH:jr  
Enclosures

cc: All Counsel of Record w/enc.

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION COMMISSION

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

REOPENING OF CASES 8350, 7980, 8946  
AND 8950; AND THE APPLICATION OF  
BENSON-MONTIN-GREER DRILLING CORP.,  
JEROME P. MCHUCH & ASSOCIATES AND  
SUN EXPLORATION & PRODUCTION CO. - CASE  
9113 AND APPLICATION OF MESA GRANDE  
RESOURCES, INC. - CASE 9114.

OIL CONSERVATION DIVISION

RECEIVED

MOTION OF FLOYD AND EMMA EDWARDS  
TO VACATE HEARING

Floyd and Emma Edwards through counsel Oman, Gentry & Yntema, P.A., and hereby move this Commission to vacate the hearing on the above referenced Cases, which hearing is presently scheduled to begin on March 30, 1987.

Floyd and Emma Edwards are lessors under three oil and gas leases located in the Gavilan-Mancos Oil Pool in Rio Arriba County. The Edwards' property interests will be significantly impacted by the Commission's actions and decisions on the various matters that will be heard at the hearing, and thus they are clearly interested parties. The Edwards plan on presenting testimony at the hearing. Therefore, based on the grounds discussed below, the Edwards would at this time respectfully request that the hearing be vacated and rescheduled to occur at a later date:

I  
THE EDWARDS RECENTLY RETAINED  
NEW COUNSEL BECAUSE OF A  
CONFLICT OF INTEREST

The Edwards were previously represented by the law firm of Hinkle, Cox, Eaton, Coffield & Hensley. However, due to an unavoidable conflict of interest that only recently developed, it became necessary for the Hinkle firm to withdraw as attorney for the Edwards. The firm of Oman, Gentry & Yntema, P.A. was only retained by the Edwards on March 2, 1987.

Due to the magnitude and complexity of the matters to be heard by the Commission and the immense economic affect that the Commission's decision will have on the Edwards', and other parties similarly situated, the Edwards need additional time to adequately prepare their case and to contact other individuals who are similarly situated and who may wish to be heard but to the best of the Edwards' knowledge and information did not receive notice of this hearing. The Edwards will oppose, among other things, the proposed increase in the spacing units from 40 to 320 or 640 acres and the proposed changes in the Gavilan-Mancos Pool and the West Puerto Chiquito-Mancos Pool. These are obviously very complex matters that require a great deal of time for adequate preparation, including the retention of the appropriate expert witness or witnesses. Unless the Commission agrees to delay the hearing of the matters scheduled to come before the Commission on March 30, 1987, as enumerated in the caption to this pleading, the unforeseeable conflict of interest of the Hinkle law firm

will have the affect of denying the Edwards and their attorneys sufficient time to make appropriate, adequate preparation required in order to present the Edwards' position in these cases, which is representative of the position of other royalty interest owners.

II  
PENDING LITIGATION INVOLVING  
THE OIL CONSERVATION COMMISSION

As the Commission is aware, the Edwards are currently involved in litigation with Jerome McHugh and other parties, including this Commission. (Floyd E. Edwards, et al. v. Jerome P. McHugh, et al., No. RA 85-373(C), State District Court, Rio Arriba County). The main issue in the litigation is that the purported rulings of this Commission in Cases 7980 and 8350, which rulings increased the spacing unit from 40 to 320 acres, were and are unconstitutional and void, at least as to the Edwards, because the Edwards were deprived of a protected property right without proper notice and an opportunity to be heard before the Commission.

Under Order Nos. R-7407 and R-7745, the Commission purportedly increased the spacing units from 40 to 320 acres for a three year period of time ending on March 1, 1987. The Edwards, obviously, oppose such an increase, and would have appeared in opposition to such proposed increase at the original hearing, if they had simply been provided with notice of that hearing. The Edwards will be filing with this Commission a Memorandum regarding this issue of notice and the invalidity of Order Nos. R-7407 and R-7745.

Should the Edwards prevail in this litigation, Order Nos. R-7407 and 7745 would be invalid, at least as they applied to the Edwards. Should they prevail, other similarly situated parties may then seek identical relief from the Courts. Ultimately, this could result in a very confused and complicated situation regarding Order Nos. R-7407 and R-7745 and their application.

On March 26, 1987, a hearing on the Edwards' motion for summary judgment will be heard by the Court. That motion seeks a ruling from the Court on the notice issue and, consequently, the validity of Order Nos. R-7407 and R-7745. A decision from the Court should be forthcoming shortly thereafter.

In view of the possible confusion and problems that would result from a judicial decision favorable to the Edwards and considering the principle of judicial or administrative economy, it only seems logical and rational for this Commission to vacate the hearing scheduled for March 30 and continue it until a subsequent date after a judicial decision has been rendered.

III  
ADEQUACY OF NOTICE  
FOR THESE HEARINGS

Should the Court rule that the Edwards as royalty interest owners were entitled to actual notice, then all royalty interest owners in these upcoming hearings are entitled to actual notice, as a matter of constitutional law and due process.

Should the Court rule that the Edwards as royalty interest owners were not entitled to actual notice, then royalty interest



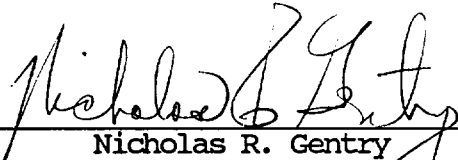
owners in these hearings are not entitled, constitutionally, to actual notice. However, it appears from a reading of Rule 1207 of the Commission's Rules on Procedure that royalty interest owners would still be legally entitled to actual notice under the Commission's own rules of procedure, which have the force of law. See Jaramillo v. Fisher Controls Co., Inc., 102 N.M. 614, 698 P.2d 887 (Ct. App., 1985) Rule 1207 (a) (7) provides for actual notice to royalty interest owners in order to protect their property interests.

In any case, it is imperative to determine exactly what notice was provided to royalty interest owners. Based on past experience before the Commission and based on our best knowledge and information, all royalty interest owners who will have property rights affected by these hearings have not, in fact, been provided actual notice of these hearings.

Again, it is only logical and rational for the Commission to continue the hearing until proper notice is provided, as either constitutionally or legally mandated.

OMAN, GENTRY & YNTEMA, P.A.

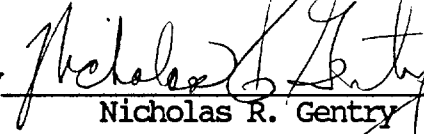
By

  
Nicholas R. Gentry  
Attorney for Floyd and  
Emma Edwards  
215 Gold S.W., Suite 201  
P. O. Box 1748  
Albuquerque, New Mexico 87103  
(505) 843-9565

I hereby certify that a true and correct copy of the foregoing Motion Of Floyd And Emma Edwards For Continuance Of Hearing was mailed to all counsel of record this 2<sup>nd</sup> day of March, 1987.

OMAN, GENTRY & YNTEMA, P.A.

By

  
\_\_\_\_\_  
Nicholas R. Gentry

LAW OFFICES

MODRALL, SPERLING, ROEHL, HARRIS & SISK

A PROFESSIONAL ASSOCIATION

500 FOURTH STREET NW  
SUNWEST BUILDING, SUITE 1000  
POST OFFICE BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103  
TELECOPIERS (505) 247-2299 (505) 242-5352  
(505) 848-1800

JOHN F. SIMMS  
(1985-1954)

J. R. MODRALL  
(1902-1977)

AUGUSTUS T. SEYMOUR  
(1907-1965)

GEORGE T. HARRIS, JR.  
(1922-1985)

LELAND S. SEDBERRY, JR.  
(1930-1985)

April 8, 1987

JAMES E. SPERLING  
JOSEPH E. ROEHL  
DANIEL A. SISK  
ALLEN C. DEWEY, JR.  
FRANK H. ALLEN, JR.  
JAMES A. PARKER  
JOHN R. COONEY  
KENNETH L. HARRIGAN  
PETER J. ADANG  
DALE W. EK  
JAMES M. PARKER  
CHARLES I. WELLBORN  
DENNIS J. FALK  
ARTHUR D. MELENDRES  
JAMES P. HOUGHTON  
JUDY A. FRY  
PAUL M. FISH  
MARK B. THOMPSON III  
GEORGE J. HOPKINS  
JEFFREY W. LOUBET  
R. E. THOMPSON  
RUTH M. SCHIFANI  
THOMAS L. JOHNSON  
LYNN H. SLADE  
ZACHARY L. McCORMICK  
CLIFFORD K. ATKINSON  
DOUGLAS A. BAKER  
SUSAN R. STOCKSTILL  
LARRY P. AUSERMAN  
JOHN E. HEER III  
J. DOUGLAS FOSTER  
DOUGLAS R. VADNAIS

GEOFFREY D. RIEDER  
JOHN S. THAL  
BENJAMIN SILVA, JR.  
WALTER E. STERN III  
PATRICK J. ROGERS  
DUANE E. BROWN  
MARTHA C. BROWN  
PAUL MAESTAS  
JEFFREY TWERSKY  
NEAL E. BINCZEWSKI  
TODD R. BRAGGINS  
KEVIN T. RIEDEL  
JANET R. BRAZIEL  
ROBERT PAMPPELL  
SEALY H. CAVIN, JR.  
GEORGE F. KOINIS  
ELEANOR K. BRATTON  
NORA C. KELLY  
WILLIAM C. SCOTT  
DONALD R. FENSTERMACHER  
HALSEY L. WASHBURN  
TERRY S. KRAMER  
TIM L. FIELDS  
DOUGLAS G. SCHNEEBECK  
PEARL MAYS-TABORN  
KYLE H. MOBERLY  
CHARLES A. ARMGARDT  
ROBERT C. BURGESS  
DALE B. EPLER  
KATHRYN D. LUCERO  
SUZANNE R. SPIERS  
TIMOTHY R. VAN VALEN

APR 10 1987

SANTA FE OFFICE  
119 EAST MARCY  
SUITE 200  
SANTA FE, NEW MEXICO 87501  
(505) 983-2020

LAS CRUCES OFFICE  
210 A WEST LAS CRUCES AVENUE  
LAS CRUCES, NEW MEXICO 88004  
(505) 523-2087

LAS CRUCES AFFILIATE  
DARDEN, VALENTINE & DRIGGERS P.C.  
200 WEST LAS CRUCES AVENUE  
LAS CRUCES, NEW MEXICO 88004  
(505) 526-6655

The Honorable Patricio M. Serna  
SANTA FE COUNTY JUDICIAL COMPLEX  
P.O. Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd Edwards, et al., v. Jerome  
P. McHugh, et al.; Rio Arriba  
County Cause No. RA 85-373(C)

Dear Judge Serna:

This letter is in response to Mr. Hnasko's letter of April 6, 1987, concerning the recent decision in Macaron v. Associates Capital Services Corp., No. 8348, in the New Mexico Court of Appeals.

As the Macaron opinion indicates, it is based upon the decision of the United States Supreme Court in Mennonite Board of Missions v. Adams, 462 U.S. 791, 103 S.Ct. 2706 (1983). Both cases involved situations where the interests of mortgagees in real property were completely cut off by virtue of tax sales of which the mortgagees had no actual notice. In both cases the lack of actual notice prevented the mortgagees from paying off the tax liens and avoiding the tax sales. Thus, the lack of actual notice clearly prevented the mortgagees from protecting their rights. The courts were required to void the tax sales, because there was no other mechanism that would permit the mortgagees to undo the adverse effects of being denied notice. There was no administrative decision to be reconsidered and no administrative body to which the matter could be remanded.

In addition to the above, in the two tax cases the mortgagees received no windfall from the voiding of the tax sales. The relief granted by the courts put all parties in

Hon. Patricio M. Serna  
April 8, 1987  
Page 2

exactly the same position they would have been in had the mortgagees received actual notice of the impending sales. Thus, the mortgagees were provided with the opportunity to protect their rights by paying the past due taxes, and the purchaser at the original tax sale retained the ability to purchase the property if the mortgagees failed to pay the taxes.

The case now before this Court is clearly different. The plaintiffs' property rights can be protected without voiding the Oil Conservation Commission's order. The plaintiffs will have the opportunity to convince the Commission that it should not have increased spacing from 40 acres to 320 acres. The parties will thereby be placed in the same position they would have been in had the plaintiffs participated in the original Commission hearing. No party will receive a windfall, and the matter will be decided, as it should be, on the merits, with each party having a full opportunity to present its position. As the Court noted during oral argument, simply voiding the Commission order would provide a windfall to the plaintiffs, since, if the original Commission order was correct with regard to spacing, the plaintiffs have not been unfairly deprived of anything.

Neither Macaron nor Mennonite held that insufficient notice always requires the voiding of the defective proceeding. In Mennonite the Supreme Court remanded the case "for further proceedings not inconsistent with this opinion." 103 S.Ct at 2712. In Macaron the Court of Appeals remanded with instructions to void the tax sale. However, there was no indication in Macaron that any other relief was available to avoid the consequences of the lack of notice. As indicated above, such alternative relief is available in this case. Therefore, the Commission order need not and should not be voided.

If anything, the Macaron and Mennonite cases serve to highlight the defendants' position that no violation of due process occurred in this case. The "state action" in those cases was the occurrence of the tax sale and the issuance of the tax deed. That state action directly impacted the mortgagees, because a tax deed conveys a new and paramount title in fee simple absolute, striking down all previous titles and interests in the property. Bailey v. Barranca, 83 N.M. 90, 92, 488 P.2d 725 (1971). It was clearly "state action" that deprived the mortgagees of their property interests in Macaron and Mennonite, whereas the diminution in royalty payments to the plaintiffs in

Hon. Patricio M. Serna  
April 8, 1987  
Page 3

this case was the result of a contract freely entered into. Due process is therefore not involved in this case.

Very truly yours,

A handwritten signature in cursive script that reads "J. Douglas Foster". The signature is written in dark ink and is positioned above the printed name.

J. DOUGLAS FOSTER

JDF/pap

cc: James Bruce, Esq.  
Mary Ann Green, Esq.  
Paul Cooter, Esq.  
Jeff Taylor, Esq. ✓  
Robert G. Stovall, Esq.  
Marla Williams, Esq.  
Kent Craig

# HINKLE, COX, EATON, COFFIELD & HENSLEY

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

1700 TEXAS AMERICAN BANK BUILDING  
POST OFFICE BOX 9238  
AMARILLO, TEXAS 79105  
(806) 372-5569

700 UNITED BANK PLAZA  
POST OFFICE BOX 10  
ROSWELL, NEW MEXICO 88201  
(505) 622-6510

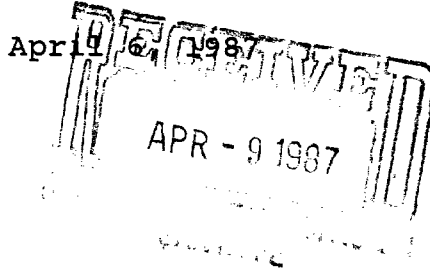
LEWIS C. COX  
PAUL W. EATON  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.  
OWEN M. LOPEZ  
DOUGLAS L. JANSFORD  
T. CALDER EZZELL, JR.  
WILLIAM B. BURFORD\*  
RICHARD E. OLSON  
RICHARD A. SIMMS  
RICHARD R. WILFONG\*  
STEVEN D. ARNOLD  
JAMES J. WECHSLER  
NANCY S. CUSACK  
JEFFREY L. FORNACIARI  
JEFFREY D. HEWETT\*  
JAMES BRUCE  
JERRY F. SHACKELFORD\*  
JEFFREY W. HELLBERG\*

ALBERT L. PITTS  
THOMAS M. HNASKO  
FRED W. SCHWENDIMANN  
THOMAS D. HAINES, JR.  
MICHAEL F. MILLERICK  
FRANKLIN H. MCCALLUM\*  
ALLEN G. HARVEY  
GREGORY J. HIBERT  
DAVID T. MARKETTE\*  
JAMES R. MCADAMS\*  
JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM R. JOHNSON  
KAREN M. RICHARDSON\*  
TIANE L. SOMMER  
JOSEPH J. MASTROGIOVANNI, JR.\*  
ELLEN S. CASEY  
JAMES C. BROCKMANN  
SUSAN L. NIESER\*

OF COUNSEL  
ROY C. SNOODGRASS, JR.  
O. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT

CLARENCE E. HINKLE (1904-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)

\*NOT LICENSED IN NEW MEXICO



The Honorable Patricio M. Serna  
District Judge  
P.O. Box 2268  
Santa Fe County Judicial Complex Building  
Santa Fe, New Mexico 87504-2268

Re: Floyd E. Edwards, et ux. v. Jerome P. McHugh, et al., No. RA 85-373(C)

Dear Judge Serna:

In reference to the Court's partial summary judgment pronounced orally at the hearing in the above-referenced case on March 31, 1987, I've enclosed the Court of Appeals' decision in Macaron v. Associates Capitol Services Corp., et al., No. 8348 (filed January 8, 1987). The case appears in the April 2nd edition of the Bar Bulletin and may substantially affect the Court's decision to recognize the violation of the Edwards' due process rights, but not to void OCD Order R-7407 as to the Edwards.

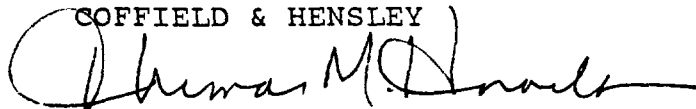
In Macaron, the Court of Appeals recognized that a mortgagee's lien is a property right protected by the Fourteenth Amendment to the United States Constitution. The Court held that notice by publication of a tax sale was insufficient and deprived the mortgagee of its property rights without due process of law. As a consequence of the due process violation, the Court remanded "with instructions to void the tax sale."

I thought I should bring the Macaron case to your attention so the Court may determine whether the partial summary judgment announced in favor of the Edwards should be modified to reflect that OCD Order R-7407 is void as to the Edwards.

Thank you for your kind attention to this matter.

Very truly yours,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

A handwritten signature in black ink, appearing to read "Thomas M. Hnasko". The signature is written in a cursive style with a large initial "T" and a long horizontal flourish at the end.

Thomas M. Hnasko

TMH/mh

xc: Kester L. Oman, Esq. (w/enc.)  
J. Douglas Foster, Esq. (w/enc.)  
✓ Jeffrey Taylor, Esq. (w/enc.)  
Mary Ann Green, Esq. (w/enc.)  
Paul Cooter, Esq. (w/enc.)  
Robert G. Stovall, Esq. (w/enc.)

**CONCLUSION**

There was substantial evidence to support the finding of misconduct by the administrative agency, and the trial court improperly reweighed the evidence and substituted its judgment for that of the administrative agency. For these reasons, the decision of the trial court is reversed, and the case is remanded for further proceedings

consistent with this opinion.

**IT IS SO ORDERED.**

s/**JAY HARRIS, District Judge**

**WE CONCUR:**

s/**THOMAS A. DONNELLY, Judge**

s/**PAMELA B. MINZNER, Judge**

property through 1983. On July 19, 1983, the State of New Mexico sold the property for the 1979 delinquent taxes pursuant to NMSA 1978, Section 7-38-61 (Repl.Pamp.1986). Roman was served by certified mail with notice of the impending tax sale. NMSA 1978, § 7-38-66 (Repl.Pamp.1986). Notice of the tax sale was also accomplished by publication in accordance with Section 7-38-67(B). No effort was undertaken by the state to discover the identity of, or serve notice in person or by mail on, the mortgagee or any other party who might have an interest in the property.

Plaintiff purchased the property at the tax sale for \$3,800 and the state issued a tax sale deed to him. See NMSA 1978, § 7-38-70(A) (Repl.Pamp.1986). Plaintiff subsequently filed a suit to quiet title in the property. The Bank contested plaintiff's claim and raised the failure to provide actual notice of the impending tax sale as a defense. The trial court quieted title in plaintiff and the Bank appeals. Aside from the Bank, none of the other parties with an interest in the property appeared below to contest the quiet title action nor are they parties to this appeal.

**DISCUSSION**

Shortly before the tax sale was conducted by the state, the United States Supreme Court decided *Mennonite Board of Missions v. Adams*, 462 U.S. 791 (1983). In *Mennonite*, the Supreme Court invalidated an Indiana tax sale because the Indiana Tax Code did not provide that the holder of a recorded mortgage, whose identity and address were reasonably ascertainable, be given actual notice of an impending tax sale. The Court first noted that the mortgagee has a legally protected property interest in the mortgaged property under Indiana law. Hence, the mortgagee is entitled to "notice reasonably calculated, under all the circumstances, to apprise interested parties of the pendency of the action and afford them an opportunity to present their objections."; *Id.* (quoting *Mullane v. Central Hanover Bank & Trust Co.*, 339 U.S. 306, 314 (1950)). The Court held that "[w]hen the mortgagee is identified in a mortgage that is publicly recorded, constructive notice by publication must be supplemented by notice mailed to the mortgagee's last known available address, or by personal service." *Id.* at 798.

**FROM THE NEW MEXICO COURT OF APPEALS**  
*Certiorari Not Applied For*

**GEORGE MACARON,**  
**Plaintiff-Appellee,**

**versus**

**ASSOCIATES CAPITAL SERVICES CORPORATION,**  
**ET AL., (INTERNATIONAL STATE BANK),**  
**Defendant-Appellant.**

**No. 8348 (filed January 8, 1987)**

***APPEAL FROM THE DISTRICT COURT OF COLFAX COUNTY***

**LEON KARELITZ, Judge**

**ROBERT S. SKINNER,**  
Raton, New Mexico  
Attorney for Plaintiff-Appellee

**PAMELA A. DUGGER**  
**KASTLER LAW OFFICES, LTD.**  
Raton, New Mexico  
Attorneys for Defendant-Appellant

**OPINION**  
**LORENZO F. GARCIA,**  
**Judge.**

Defendant International State Bank (Bank) appeals the trial court's order quieting title to real estate in plaintiff. The sole issue on appeal is whether notice by publication, in compliance with NMSA 1978, Section 7-38-67 (Repl.1986), provides a mortgagee of real property with constitutionally adequate notice of a proceeding to sell the mortgaged property for nonpayment of taxes. We hold that it does not and reverse the court's order and remand. (Although the tax sale occurred in 1983, we cite to the 1986 Replacement because the relevant provisions are identical in all material respects to the provisions in the 1982 Replacement

Pamphlet.)

**FACTS**

The facts giving rise to this appeal are not in dispute. Defendant Roman Construction Company (Roman) was the owner in fee of real property located in Colfax County. In June and August of 1979, Roman executed promissory notes in favor of the Bank for a total of \$162,000. These notes were secured by a mortgage and the mortgage was duly recorded in the office of the Colfax County Clerk on September 19, 1979. The identity of the Bank and its address were readily ascertainable from the publicly recorded mortgage.

As of January, 1979, prior to the execution of the notes and mortgage, the taxes on the property mortgaged to the Bank were delinquent. Roman failed to pay property taxes on the mortgaged



This case is controlled by the holding in *Mennonite*. The trial court sought to distinguish this case from *Mennonite* by finding that because the tax lien on the property had arisen before the note and mortgage had been executed, the Bank should have been on notice that the property was subject to sale for nonpayment of taxes. The trial court, accordingly, held that the Bank had all the notice to which it was entitled under the due process guarantee. We cannot agree with the trial court since, according to *Mennonite*, "a mortgagee's knowledge of delinquency in the payment of taxes is not equivalent to notice that a tax sale is pending." *Id.* at 800.

A mortgagee in New Mexico also possesses a substantial property interest. A mortgagee acquires a lien on the owner's property which may be conveyed together with the mortgagor's personal obligation to repay the debts secured by the mortgage. See NMSA 1978, §§ 39-5-1 to -23; NMSA 1978, § 48-7-7. See also *Slemmons v. Massie*, 102 N.M. 33, 690 P.2d 1027 (1984). The mortgagee's security interest generally has priority over subsequent claims or liens attaching to the property. See *Chessport Millworks, Inc. v. Solie*, 86 N.M. 265, 522 P.2d 812 (Cl.App.1974) (landlord's lien given priority on basis of "first in time, first in right" doctrine.) "The tax sale immediately and drastically diminishes the value of this security interest by granting the tax-sale purchaser a lien with priority over that of all other creditors." *Mennonite* at 798; see § 7-38-70(B). In this case, the Bank's interest in the property was extinguished on the date of the tax sale because it arose subsequent to the tax lien. See § 7-38-70(B). Consequently, the Bank possessed a constitutionally-protected interest in the mortgaged property and was entitled to notice reasonably calculated to apprise it of the impending tax sale. *Mennonite*; *Mullane*.

We next consider whether the New Mexico Tax Code sale provisions provide constitutionally adequate notice. See *Mennonite*. The New Mexico notice provisions are similar to Indiana's provisions. The Supreme Court found Indiana's provisions to be constitutionally inadequate. Compare §§ 7-38-66 and -67 with Ind. Code

Ann. §§ 6-1.1-24-3 and -4 (Burns 1984). In New Mexico, real property having delinquent taxes for more than three years may be sold at public auction. § 7-38-67(A). Prior to the sale, the Property Tax Division must publish notice in a newspaper of general circulation of an impending sale for at least three weeks immediately preceding the tax sale. § 7-38-67(B). The legal owner of the property is entitled to notice by certified mail to his last known address. § 7-38-66(A). There is no provision in New Mexico for notice by mail or personal service to mortgagees of property that is to be sold for nonpayment of taxes.

"Notice by mail or other means as certain to ensure actual notice is a minimum constitutional precondition to a proceeding which will adversely affect the liberty or property interests of any party, whether unlettered or well versed in commercial practice, if its name and address are reasonably ascertainable." *Mennonite* at 800 (emphasis in original). The Supreme Court rejected the argument that actual notice to the mortgagor was sufficient to apprise the mortgagee that his property interest was in danger of being destroyed by a tax sale. *Id.* at 799. It was unlikely that a mortgagor who had not taken steps to preserve his own property would take steps to preserve the interests of a mortgagee. See Note, *Mennonite Board of Missions v. Adams: 11 Years After Fuentes v. Shevin*, the Supreme Court Has Found That Creditors Also Have Notice Rights, 37 Ark.L.Rev. 971 (1984).

The *Mennonite* Court did not impose any extraordinary obligation on the state to discover the identity of the mortgagee. *Id.* at 798-99 n.4. Rather, the court required "reasonably diligent efforts" to discover names and addresses of those whose interest could be ascertained. *Id.* Here, extraordinary efforts were not necessary; the Bank had recorded the mortgage in the county clerk's office so that the identity and address of the Bank were readily ascertainable. The fact that the tax lien had arisen before the mortgage was executed and recorded does not mandate a different result. See *Mennonite* at 800; cf. *First Pennsylvania Bank N.A. v. Lancaster County Tax Claim Bureau*, 504 Pa. 179, 470 A.2d 938 (1983).

Although the trial court noted the sophistication of the Bank, "a party's ability to take steps to safeguard its interests does not relieve the State of its constitutional obligation." *Mennonite* at 799.

In conclusion, we hold that the manner of notice provided to the Bank did not meet the requirements of the due process clause of the fourteenth amendment of the United States Constitution. *Mennonite*. We reverse the trial court's order quieting title to the property in plaintiff and remand with instructions to void the tax sale.

Oral argument is not necessary. Cf. *Garcia v. Genuine Parts Co.*, 90 N.M. 124, 560 P.2d 545 (Cl.App.), cert. denied, 90 N.M. 254, 561 P.2d 1347 (1977).

IT IS SO ORDERED.

s/LORENZO F. GARCIA, Judge

WE CONCUR:

s/THOMAS A. DONNELLY, Chief  
Judge

s/WILLIAM W. BIVINS, Judge

HINKLE, COX, EATON, COFFIELD & HENSLEY

LEWIS C. COX  
PAUL W. EATON  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY JR.  
OWEN H. LOPEZ  
DOUGLAS L. LUNSFORD  
T. CALDER EZZELL, JR.  
WILLIAM B. BURFORD\*  
RICHARD E. OLSON  
RICHARD A. SIMMS  
RICHARD R. WILFONG\*  
STEVEN D. ARNOLD  
JAMES J. WECHSLER  
NANCY S. CUSACK  
JEFFREY L. FORMACIARI  
JEFFREY D. HEWETT\*  
JAMES BRUCE

JERRY F. SHACKELFORD\*  
JEFFREY W. HELLBERG\*  
ALBERT L. PITTS  
FRED W. SCHWENDIMANN  
THOMAS D. HAINES, JR.  
THOMAS M. HNASKO  
MICHAEL F. MILLERICK  
FRANKLIN H. MCCALLUM\*  
ALLEN G. HARVEY  
GREGORY J. NIBERT  
JUDY K. MOORE\*  
DAVID T. MARKETTE\*  
JAMES R. MCADAMS\*  
JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM R. JOHNSON\*  
CHRISTOPHER S. RAY

ATTORNEYS AT LAW  
218 MONTEZUMA  
POST OFFICE BOX 2068  
SANTA FE, NEW MEXICO 87504-2068  
(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

1700 TEXAS AMERICAN BANK BUILDING  
POST OFFICE BOX 12118  
AMARILLO, TEXAS 79101  
(806) 372-5569

700 UNITED BANK PLAZA  
POST OFFICE BOX 10  
ROSWELL, NEW MEXICO 88201  
(505) 622-6510

March 3, 1987

OF COUNSEL  
ROY C. SNOODGRASS, JR.  
O. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT

CLARENCE E. HINKLE (1904-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)

\*NOT LICENSED IN NEW MEXICO

The Honorable Patricio M. Serna  
First Judicial District  
Post Office Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd Edwards, et al. v. Jerome P. McHugh, et al.,  
No. RA-85-373(C)

Dear Judge Serna:

The parties in the above-referenced case have filed motions for summary judgment and for partial summary judgment. The Court has issued two notices of setting, one for the summary judgment motions and the other for a trial on the merits. The trial on the merits is scheduled for March 31st, while the hearing on the motions for summary judgment is scheduled for April 24th, nearly one month later.

I've spoken with Doug Foster, the attorney for McHugh, and he concurs with me that the settings should be switched around. Accordingly, it would be most appreciated if the Court could schedule the motions for summary judgment on March 31st. I would anticipate that arguments should take no longer than two hours.

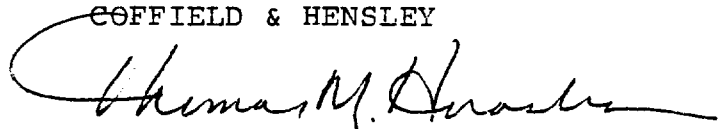
I would appreciate it if your secretary could inform all counsel of record that the motions for summary judgment will be heard on March 31st, instead of April 24th. If time is a problem, I would be more than happy to notify opposing counsel on the Court's request.

The Honorable Patricio M. Serna  
March 3, 1987  
Page 2

Thank you for your consideration.

Very truly yours,

HINKLE, COX, EATON,  
COFFIELD & HENSLEY



Thomas M. Hnasko

TMH:jr

cc: J. Douglas Foster, Esq.  
Mary Ann Green, Esq.  
Paul Cooter, Esq.  
Jeff Taylor, Esq.  
Robert G. Stovall, Esq.  
Marla Williams, Esq.  
Kent Craig, Esq.

RECEIVED  
APR 6 1987  
NATIONAL CONSERVATION DIVISION  
SANTA FE 73 (C)

FLOYD E. EDWARDS, et ux., vs. JEROME P. MCQUINN

THE COURT: Okay. I am ready to rule.

(12:25 p.m.)

THE COURT: I find that the Edwards' mineral rights are property rights which are protected by the State and Federal Constitutions.

I find that the proceedings in Case Number 7980 materially and adversely affected the property rights, and that they were entitled to reasonable notice of that case.

I find that notice by publication was unreasonable.

I am specifically finding that, in this case, in view of such a significant dilution of property rights, that actual notice should have been given - - dilution - - should have been given, so I am granting your motion, partial motion for summary judgment.

However, with respect to - - to the remedy, to be fair to everybody, and to avoid any possible windfall, I am going to remand it back to the Commission, and instruct them to reopen the case with respect to - - to the Plaintiffs and in the event that they do reconsider their order, then the Court will require back royalty payments consistent with their interest.

I am trying to do what is fair and what appears to be in line with common sense.

So, that is going to be the decision of the Court.

1 MR. STOVALL: Your Honor, just a moment, please, before  
2 you - - before we adjourn.

3 MR. TAYLOR: Your Honor, I guess we just need a point  
4 of clarification on how the rehearing should take place.  
5 We are currently- -

6 THE COURT: If they desire one. They might waive  
7 their right.

8 MR. TAYLOR: We are currently hearing the same case,  
9 again and we could do this reconsideration within the  
10 framework of the hearing on this very matter that is  
11 going on, now or I suppose, the only other way I can  
12 think of would be, allow Mr. Edwards to come in and put  
13 on- - on a case and we could consider that along with  
14 the transcript of the original case, you know, without- -  
15 without looking at what is going on in the current hearing.  
16 Mr. Edwards has intervened in the current proceeding,  
17 although as far as I know, he has not proposed- - he  
18 is not proposing 40 acre spacing, and obviously, if you  
19 don't propose it at the hearing, you don't get it.

20 THE COURT: Well, I am going to leave that up to  
21 the parties, see how you wish to proceed, if there is an  
22 impasse, then why don't we have a conference call or  
23 something, you all can give me different options that we  
24 can do, and then, I will go ahead and decide.

25 MR. HNASKO: Your Honor, one problem we are going to

1 have, we will be doing something in conformance with the  
2 Court's order, we will have a problem on the effective  
3 date of 320 acre spacing as it applies to the Edwards.  
4 The Commission- - It is my understanding, and we will  
5 take the position, that they are not- - they are not  
6 able to- - to make this present order retroactive. It  
7 will have to be effective from the date that the Commission  
8 issues it, and we will abide by it.

9 MR. TAYLOR: I will submit to the Court that the order  
10 on 40 acres would have to relate from the earlier defective  
11 order.

12 MR. HNASKO: Is Mr. Taylor suggesting a Constitutional  
13 violation without a remedy, is how it's stacking up from  
14 our side of the table?

15 MR. TAYLOR: If we make the 40 acre spacing effective  
16 from the date of the original order complained from, there  
17 would be 40 acre spacing.

18 MR. HNASKO: Mr. McHugh would lose his leases, then,  
19 Mr. Taylor.

20 MR. TAYLOR: Yes. He would. I thought that is the  
21 remedy you wanted.

22 THE COURT: Yes. This would have an impact on the  
23 leases.

24 MR. TAYLOR: He would have to prove that, of course,  
25 we wouldn't automatically- - he would have to bring forward

1 all of the evidence on these things.

2 MR. HNASKO: Well, we- - that is probably going to  
3 be a little different than- - as I understand how you are  
4 running the hearing over there, because obviously, if the  
5 order- - if I understand the Court's order, there was  
6 a taking of property without due process of law, because  
7 we weren't notified of the hearing. It is the Edwards'-  
8 It is Mr. McHugh's burden to prove the appropriateness  
9 of 320 acre spacing in the Commission. It's not the  
10 Edwards' burden of proof, that- - because he is the  
11 applicant, and he was the applicant in the hearing in  
12 which we received no notice, so I would assume that  
13 we all concur that he will have the burden of proving  
14 320 acre spacing, and that should he prove something  
15 else, for instance, 640 acre spacing, that 320 acre  
16 spacing order which was previously entered is of no force  
17 and effect when applied to the Edwards, because, Your Honor,  
18 the reason we raise this is because Mr. McHugh is going  
19 for a different spacing determination, today than he did  
20 back in December, of 1932, which presents another problem.

21 MR. TAYLOR: I would present, then that the best way  
22 to deal with this would be to have Mr. Edwards come in to  
23 us and put on a case for 40 acre spacing, and in which we  
24 would view with the record of the original hearing.

25 MR. HNASKO: But, it is not Mr. Edwards' burden to

put on a case for 40 acre spacing.

MR. TAYLOR: There was already a case put on for 320, if he doesn't want to put one on, if 320 carries the weight of the evidence, 320 would be the space that would be provided for.

MR. HNASKO: We will have to consider this, and get back with Your Honor, because it's a difficult situation.

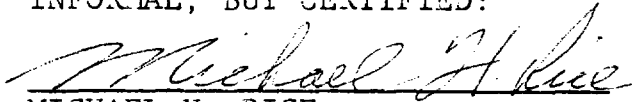
THE COURT: Yeah. Why don't you all do that.

We will be in recess.

(12:35 p.m.)

\*\*\*

INFORMAL, BUT CERTIFIED:



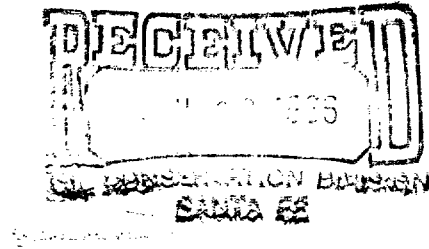
MICHAEL H. RICE

OFFICIAL COURT REPORTER

CSR NO. 68

EXPIRATION DATE: 12/31/37





STATE OF NEW MEXICO

IN THE DISTRICT COURT

COUNTY OF RIO ARRIBA

NO. RA 85-373(C)

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

JEROME P. McHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

CERTIFICATE OF SERVICE

I, J. Douglas Foster, of Modrall, Sperling, Roehl,  
Harris & Sisk, attorneys for Defendant, Jerome P. McHugh, hereby  
certify that a true and correct copy of the Defendant McHugh's  
First Set of Interrogatories and Request to Produce to  
Plaintiffs from Defendant McHugh was mailed, first class mail,  
postage paid, to the following counsel on this 8th day of July,  
1986.

James Bruce, Esq.  
HINKLE, COX, EATON, COFFIELD  
& HENSLEY  
P.O. Box 2068  
Santa Fe, New Mexico 87504-2068

Rex D. Throckmorton, Esq.  
RODEY, DICKASON, SLOAN, AKIN  
& ROBB  
Suite 700  
20 First Plaza  
P.O. Box 1888  
Albuquerque, New Mexico 87103

Jeff Taylor, Esq.  
Oil Conservation Division  
Energy and Minerals Department  
Land Office Building, Room 206 310 Old Santa Fe Trail  
P.O. Box 2088  
Santa Fe, NM 87501

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

BY J. Douglas Foster  
J. DOUGLAS FOSTER  
Attorneys for Defendant McHugh  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a true  
and correct copy of the fore-  
going was mailed to opposing  
counsel of record this 8th  
day of July, 1986.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By JDF  
J. Douglas Foster

STATE OF NEW MEXICO  
IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA

NO. RA 85-373(C)

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

JEROME P. MCHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; KENAI  
OIL AND GAS, INC.; and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

FIRST SET OF INTERROGATORIES AND REQUEST TO PRODUCE  
TO PLAINTIFFS FROM DEFENDANT MCHUGH

Defendant Jerome P. McHugh propounds to the Plaintiffs the following interrogatories and request to produce, to be answered in accordance with Rules 33 and 34 of the New Mexico Rules of Civil Procedure:


1. Set forth the name, home address and telephone number, and work address and telephone number of every witness whom you will or may call at the trial of this cause, together with a summary of each such witness' anticipated testimony.

2. With respect to every expert witness whom you will or may call as a witness at the trial of this cause, specify the following:

- (a) The name and profession of such expert witness;
- (b) The facts and opinions to which the expert is expected to testify; and
- (c) A summary of the grounds for each opinion.

3. Produce to Defendant by supplying a xerox copy of each and every exhibit which you intend to offer into evidence at the trial of this cause.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

BY   
J. DOUGLAS FOSTER  
Attorneys for Defendant McHugh  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street N.W.  
Albuquerque, New Mexico 87103  
(505) 848-1800

ENDORSED  
FILED IN MY OFFICE THIS

NOV 20 1986

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS, et al.

Plaintiffs,

vs.

No. RA 85-373 (C)

JEROME P. MCHUGH, et al.,

Defendants.

UNOPPOSED MOTION FOR  
EXTENSION OF TIME

Plaintiffs move for an extension of time in which to respond to defendants Motion to Dismiss or, in the Alternative, for Summary Judgment, and in support thereof state:

1. Defendant Jerome P. McHugh served plaintiffs with his Motion to Dismiss on November 12, 1986. This Motion has been adopted by defendants Joseph R. Mazzola and Kenai Oil and Gas Inc.

2. Due to several trials and administrative hearings since that date, plaintiffs' counsel has been unable to respond to the Motion to Dismiss, and requires additional time to respond.

3. All parties have concurred in this Motion.

WHEREFORE, plaintiffs request the Court to enter its order granting them until December 12, 1986, to respond to defendants' Motion.

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

By

*James Bruce*

Owen M. Lopez

James Bruce

Post Office Box 2068

Santa Fe, New Mexico

(505) 982-4554

87504-2068

Attorneys for Plaintiffs

**Certificate of Service**

We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 26<sup>th</sup> day of November, 1986.

*James Bruce*

Hinkle, Cox, Eston, Coffield & Hensley

P.O. Box 2068

Santa Fe, NM 87504-2068

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS, et al.

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, et al.,

Defendants.

ORDER

This matter having come before the Court upon plaintiffs' motion for extension of time, and the Court being fully apprised in the premises, it is hereby ordered that plaintiffs shall have until December 12, 1986 to file their response to defendants Motion to Dismiss.

\_\_\_\_\_  
District Judge

Approved:



\_\_\_\_\_  
James Bruce  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorney for Plaintiffs

Approved by telephone conversation on 11/20/86

J. Douglas Foster  
Attorney for Defendant Jerome P. McHugh

Approved by telephone conversation on 11/25/86

Rex D. Throckmorton  
Attorney for Defendants Kenai Oil and Gas, Inc.  
and Joseph Mazzola

Approved by telephone conversation on 11/25/86  
Mary Ann Green  
Attorney for Defendant Don Evans

Approved by conversation of 11/20/86  
Jeff Taylor  
Attorney for Defendant New Mexico  
Oil Conservation Commission



JAMES E. SPERLING  
JOSEPH E. ROEHL  
DANIEL A. SISK  
ALLEN C. DEWEY, JR.  
FRANK H. ALLEN, JR.  
JAMES A. PARKER  
JOHN R. COONEY  
KENNETH L. HARRIGAN  
PETER J. ADANG  
DALE W. EK  
JAMES M. PARKER  
CHARLES I. WELLBORN  
DENNIS J. FALK  
JOE R. G. FULCHER  
ARTHUR D. MELENDRES  
JAMES P. HOUGHTON  
JUDY A. FRY  
PAUL M. FISH  
MARK B. THOMPSON III  
GEORGE J. HOPKINS  
JEFFREY W. LOUBET  
R. E. THOMPSON  
RUTH M. SCHIFANI  
THOMAS L. JOHNSON  
LYNN H. SLADE  
ZACHARY L. MCCORMICK  
CLIFFORD K. ATKINSON  
DOUGLAS A. BAKER  
SUSAN R. STOCKSTILL  
LARRY P. AUSERMAN

LAW OFFICES  
**MODRALL, SPERLING, ROEHL, HARRIS & SISK**

A PROFESSIONAL ASSOCIATION

500 FOURTH STREET NW

SUNWEST BUILDING, SUITE 1000

Post Office Box 2168

ALBUQUERQUE, NEW MEXICO 87103

TELECOPIER (505) 247-2299 ZAP MAIL (505) 242-2155

(505) 848-1800

JOHN F. SIMMS  
(1885-1954)

J. R. MODRALL  
(1902-1977)

AUGUSTUS T. SEYMOUR  
(1907-1965)

GEORGE T. HARRIS, JR.  
(1922-1985)

LELAND S. SEDBERRY, JR.  
(1930-1985)

DOUGLAS R. VADNAIS  
GEOFFREY D. RIEDER  
JOHN S. THAL  
BENJAMIN SILVA, JR.  
WALTER E. STERN III  
PATRICK J. ROGERS  
JOHN E. HEER III  
ANTOINETTE S. LOPEZ  
DUANE E. BROWN  
MARTHA G. BROWN  
PAUL MAESTAS  
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NEAL E. BINCZEWSKI  
TODD R. BRAGGINS  
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KEVIN T. RIEDEL  
JANET R. BRAZIEL  
ROBERT PAMPPELL  
SEALY H. CAVIN, JR.  
GEORGE F. KOINIS  
ELEANOR K. BRATTON  
NORA C. KELLY  
DAVID S. PROFFIT  
WILLIAM C. SCOTT

June 4, 1986

Ms. Angela Romero  
Acting Clerk  
Santa Fe County Judicial Complex  
P. O. Box 2268  
Santa Fe, New Mexico 87504-2268

Re: Floyd E. Edwards, et al. v. Jerome P. McHugh, et al.;  
Rio Arriba County Cause No. RA 85-373(C)

Dear Ms. Romero:

Enclosed for filing are the original and one copy each of  
the following:

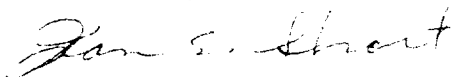
Certificate of Service (of Answers to  
Plaintiffs' First Set of Interrogatories);

and

Certificate of Service (of Response by  
Defendant McHugh to Plaintiffs' First  
Request for Production).

Also enclosed is a self-addressed, stamped envelope in  
which to return conformed copies. Thank you for your  
assistance.

Sincerely,



Jan E. Short

Secretary to J. Douglas Foster

Enclosures

cc: James Bruce, Esquire (w/enc.)  
Rex D. Throckmorton, Esquire (w/enc.)  
Jeff Taylor, Esquire (w/enc.)

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI  
OIL AND GAS, INC., and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

CERTIFICATE OF SERVICE

Defendant, Jerome P. McHugh, by and through his  
counsel of record, Modrall, Sperling, Roehl, Harris & Sisk, P.A.,  
hereby certify that two copies of Answers to Plaintiffs' First  
Set of Interrogatories to Defendant Jerome P. McHugh were  
served by mailing on counsel for Plaintiffs, James Bruce,  
Esquire, of Hinkle, Cox, Eaton, Coffield & Hensley, on this  
4th day of June, 1986.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By

  
J. DOUGLAS FOSTER

Attorneys for Defendant McHugh  
Post Office Box 2168  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a  
copy of this Certificate of  
Service was mailed to all  
counsel of record this  
4th day of June, 1986.

By JEF

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

v.

No. RA 85-373(C)

JEROME P. MCHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI  
OIL AND GAS, INC., and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

ANSWERS TO  
PLAINTIFFS' FIRST SET OF INTERROGATORIES  
TO DEFENDANT JEROME P. MCHUGH

TO: Jerome P. McHugh and  
His Attorney of Record,  
J. Douglas Foster, Esq.  
Modrall, Sperling, Roehl,  
Harris & Sisk  
Post Office Box 2168  
Albuquerque, New Mexico 87103

Pursuant to Rules 26 and 33 of the New Mexico Rules of Civil Procedure, plaintiffs Floyd E. Edwards and Emma B. Edwards (plaintiffs), request that defendant Jerome P. McHugh file a timely response to this First Set of Interrogatories.

I. Definitions.

As used in this Set of Interrogatories the following terms mean:

A. "You" or "Defendant" means Jerome P. McHugh, and any other persons who have taken any action on your behalf.

B. "Person" or "persons" means both natural persons and sole proprietorships, limited partnerships, general partnerships, corporations, joint ventures, and any other business organization.

C. "State all facts" means to set forth in writing in detail every fact, opinion, assumption, belief, hypothesis, and theory concerning or relating to the matter inquired about in the Interrogatory, whether such matters are of your own observation and actual knowledge, or are matters of which you have become aware through some other means or through some other person. Furthermore, it means to set forth in writing in detail how and when you came to observe or have actual knowledge of the matter, or how and when you became aware of the matter if through some other means or person. It also means to identify all such persons through whom you became aware of the matters.

D. When used with reference to natural persons the word "identify" or "identity" or the phrase "give the identity of" means to state his or her full name, social security number, present or last known address, present or last known employer, present or last known telephone number, and the capacity in which he or she has been affiliated with you.

E. When used with reference to a document, the word "identify" or "identity" or the phrase "give the identity of" means to state the type of document to which the Interrogatory is addressed (i.e., correspondence, memoranda, notes, etc.); its title, or other means of identification; its author's identity; its date; the identity of all recipients of the documents

(whether the document is addressed to such recipient or merely copies to such recipient); all dates and all places of recording or filing with any public agency; the present location and identity of the custodian of the original documents; the present location and identity of all the persons having a copy of such document; and whether the original or a copy of the document is presently in your possession or control, and if not, what disposition was made of it.

F. "Communications" means all written, oral, telephonic, wire, or visual and audio transmissions of information.

G. "Document" or "documents" means all matters within the scope of the discovery rules of the New Mexico Rules of Civil Procedure, whether complete, incomplete, draft or final form, including, but not limited to, all publications, correspondence, memoranda, notes, notations, minutes, calendars, appointment books and appointment calendars, work papers, instructions, agreements, contracts, all matters filed of record with any court or public agency, affidavits, notices, certificates, maps, logs of any type, including logs of equipment usage, charts, sketches, drawings, graphs, surveys, statistics, computer information, ledgers, receipts, bills, checks, checkbooks, checkstubs, negotiable and non-negotiable instruments, payrolls, pay records, employment records, timesheets, time records, activity records and reports, accounting records, photographs, transparencies, motion pictures, draft, proposed or final contracts, proposals, offers, bids, agreements of any kind, and scientific or engineering data or analysis of any kind.

H. "All documents pertinent to" an Interrogatory means all documents which evidence, relate to, or substantiate the information requested in the Interrogatory and/or your answer thereto, to which the request relates, and it includes, but is not limited to all documents which you may or will rely on at trial which deal with the subject matter of the Interrogatory and/or your answer to such Interrogatory.

II. Instructions.

A. If you maintain that any document referred to or relied upon in your answers to Interrogatories has been lost, misplaced, or destroyed, set forth the contents of the document or a description of the document, the location of any copies of the document, the date of such loss or destruction, and if the document was destroyed, the name of the person who ordered or authorized that destruction.

B. These Interrogatories are deemed to be continuing in nature in accordance with Rule 26(e) of the New Mexico Rules of Civil Procedure so that to the extent you receive additional information relating to these Interrogatories, you are directed to immediately supplement your answers and forward the same to counsel for plaintiffs.

C. Wherever an Interrogatory calls for the identity of a document or non-written communication claimed by the answering party to be privileged, include in the statement the identity of such document or non-written communication, the fact of such claim of privilege and the basis for the assertion of such claim.

D. Where an individual Interrogatory calls for an answer which involves more than one part, each part of the answer should be clearly set out so that it is understandable.

E. In the event the space provided is not sufficient for your answer to any of these interrogatories, attach a separate sheet of paper setting forth the question followed by the additional answering information.

Defendant objects to the "Definitions" and "Instructions" to the extent that they seek to impose requirements beyond those authorized by Rule 26 of the New Mexico Rules of Civil Procedure. Defendant further objects to the "Definitions" and "Instructions" because they constitute subparts to the interrogatories which result in the interrogatories being in excess of the number permitted by local rule.



III. INTERROGATORIES.

INTERROGATORY NO. 1. Please state the identity of: (1) the person or persons answering these Interrogatories; (2) all persons providing any information, including documents, used to answer the Interrogatories; and (3) all persons who reviewed any documents in connection with the Interrogatories.

ANSWER: Jerome P. McHugh  
Kent C. Craig  
Gary Johnson  
Rhonda Von Wald  
John Roe  
Counsel for Jerome P. McHugh

INTERROGATORY NO. 2. Please identify all assignments by Kenai Oil and Gas, Inc. to you of the mineral leases described in plaintiffs' complaint as Lease Nos. 1, 2, and 3. Include in your answer the date of the assignments, recording data, the consideration paid for the assignment, and the nature and extent of any and all interests in the mineral lease excepted, reserved or held by Kenai and any other parties, including, without limitation, Joseph R. Mazzola and Don Evans.

ANSWER:

<u>Lease(s)</u>	<u>Assignor</u>	<u>Assignee</u>	<u>Date</u>	<u>Book/Page</u>	<u>Interest Assigned</u>
1, 2, 3	Kenai Oil and Gas, Inc.	Don Evans	5/20/80	89/789	2% override
1, 2, 3	Kenai Oil and Gas, Inc.	Jerome P. McHugh	6/04/80	90/121	Undivided 50% leasehold interest, subject to 2% overriding royalty interest
3	Kenai Oil and Gas Inc.	Jerome P. McHugh	9/22/83	100/912	Remainder of leasehold interest as to W/2SW/4 and SE/4SW/4, reserving 6.25% override
1	Kenai Oil and Gas Inc.	Jerome P. McHugh	1/23/84	102/260	Remainder of leasehold interest from surface to depth of 8,081 feet as measured by E.T. #1 well, as to N/2NW/4, reserving 6.25% override
2	Kenai Oil and Gas	Jerome P. McHugh	2/14/85	110/882	Remainder of leasehold interest from surface to depth of 8,129 ft. as measured by Full Sail #1 well, reserving 6.25% override

Response to Interrogatory No. 2 (continued):

1, 2, 3 Kenai Oil Joseph R. 7/6/81 93/622 l%override  
Mazzola

The amount of any consideration paid in excess of the consideration recited in the assignments into McHugh is proprietary information and is not relevant to the issues raised in this suit. McHugh has no knowledge of the consideration paid by Evans or Mazzola.

Copies of the above-described assignments are furnished with this response and designated as Items 2-1 through 2-6.

INTERROGATORY NO. 3. Please identify all documents by which interests in the leases identified in plaintiff's complaint as Lease Nos. 1, 2, and 3 have been created or conveyed by you. Include in your answer the grantee of the documents, date, recording data, and consideration paid.

ANSWER:

<u>Lease(s)</u>	<u>Assignor</u>	<u>Assignee</u>	<u>Date</u>	<u>Book/Page</u>	<u>Interest Assigned</u>
1, 2, 3	Jerome P. McHugh	Dugan Production Company	03/17/83	100/710	Undivided 12.5%
1	Jerome P. McHugh	Kindermac Partners	10/15/82	111/857-894	See Item 3-2
2	Jerome P. McHugh	Kindermac Partners	10/15/82	111/857-894	See Item 3-3
3	Jerome P. McHugh	Kindermac Partners	10/15/82	111/857-894	See Item 3-4

The above-described assignments into Kindermac Partners were made on April 23, 1986 to be effective October 15, 1982. Kindermac Partners holds its interest for the benefit of McHugh Lindrith 1983 Ltd., a Colorado limited partnership of which Kindermac Partners is the general partner. Jerome P. McHugh is agent and attorney-in-fact for Kindermac Partners.

The remaining interest is held by McHugh for the benefit of Janet J. Hewes, Eldridge R. Johnson and George F. Johnson.

A copy of the above-described assignments are furnished with this response and designated as Items 3-1 through 3-4.

The amount of any consideration paid in excess of the consideration recited in these assignments is proprietary information and is not relevant to the issues raised in this suit.

INTERROGATORY NO. 4. Please describe in detail the drilling history of the E. T. #1 Well, including, without limitation, the date drilling operations began and ended, the name and present address of the drilling contractor, the depth at which drilling operations ended, the depths and geologic formations from which production of hydrocarbons was obtained, and the depth and geologic formation at which production is presently obtained.

ANSWER:

The E.T. #1 Well was spudded on April 25, 1983 and total depth of 8,081 feet was reached on May 20, 1983. This well is completed in, and produces from, both the Mancos zone and the Dakota zone. More detailed information with respect to the drilling history of the E.T. #1 Well is contained in the documents furnished in response to Interrogatory No. 5. The drilling contractor was Four Corners Drilling Company, P. O. Box 1067, Farmington, New Mexico 87499.

INTERROGATORY NO. 5. Please identify all documents submitted by you to the New Mexico Oil Conservation Division in connection with the drilling of the E. T. #1 Well.

ANSWER:

The following documents were submitted to the New Mexico Oil Conservation Commission in connection with the drilling of the E.T. #1 Well:

1. Form C-102 - Survey Plat and Staking Notice
2. Application for Permit to Drill - C-101
3. Sundry Notice dated 5/24/83 - C-103
4. Sundry Notice dated 9/1/83 - C-103
5. Order of Commission on Commingling with Exhibits Case No. 7967, Order No. R-7366
6. Requests for Allowable and Authorization to Transport Oil and Natural Gas From C-104 dated 10/12/83 (Gallup and Dakota)
7. Gas-Oil Ratio Tests - C-116
8. Notification of Pipeline Connection
9. Supplements to the Oil Proration Schedule
10. Well Completion Reports - C-105
11. Sundry Notice dated 4/26/83 - C-103
12. Form C-102 dated 8/31/83

Copies of the above-described documents are furnished with this response and designated as Items 5-1 through 5-12.

INTERROGATORY NO. 6. Please describe in detail the nature and extent of hydrocarbon production obtained from the E. T. #1 Well. Include in your answer an accounting of the production from the well monthly, or by other appropriate accounting period, from the time drilling operations ended up to and including the present.

ANSWER:

<u>Year</u>	<u>Zone</u>	<u>Type</u>	<u>Quantity</u>
1983	Dakota	Oil	457 Bbls
	Dakota	Gas	0 Mcf
	Mancos	Oil	2,400 Bbls
	Mancos	Gas	0 Mcf
1984	Dakota	Oil	4,859 Bbls
	Dakota	Gas	556 Mcf
	Mancos	Oil	25,574 Bbls
	Mancos	Gas	8,573 Mcf
1985	Dakota	Oil	4,555 Bbls
	Dakota	Gas	710 Mcf
	Mancos	Oil	23,915 Bbls
	Mancos	Gas	11,072 Mcf
1986 (through April)	Dakota	Oil	3,356 Bbls
	Dakota	Gas	686 Mcf
	Mancos	Oil	17,621 Bbls
	Mancos	Gas	10,769 Mcf

INTERROGATORY NO. 7. (a) Please identify all persons who are entitled to mineral royalties, overriding royalties and payments out of production of any kind from the E.T. #1 Well. Include in your answer the type of royalty or other interest to which the party is entitled, and an accounting of the amount of all royalties, etc., paid since the E. T. #1 Well began production.

(b) Please identify which of said royalty interests, overriding royalty interests, and payments out of production derive from an interest in Lease Nos. 1, 2, and/or 3.

ANSWER:

(a) The division orders furnished with this response and designated as Items 7-1 and 7-2 set forth the name and interest of each royalty owner with respect to the E.T, #1 Well. The type of interest held by each party is also set forth in the division orders. Item 7-1 is the division order prepared prior to pooling of Lease No. 1 with respect to the Mancos zone (one for Gallup and one for Dakota). Item 7-2 reflects pooling of the Mancos zone.

Proceeds of production from the E.T. #1 Well from the date of first production through April 1986 total \$2,071,294.55. Of this amount, \$295,609.87 is attributable to production prior to March 1, 1984 and \$1,775,684,68 is attributable to production subsequent to March 1, 1984.

(b) Plaintiffs' lessor royalty interest derives from Lease No. 1. The overriding royalty interests of Don Evans and Joseph R. Mazzola derive, in whole or in part, from Lease No. 1.



INTERROGATORY NO. 8. Please describe in detail your reasons for the application made to the New Mexico Oil Conservation Commission to increase spacing in the Mancos formation, which application was designated by the Commission as Case No. 7980.

ANSWER:

The Mancos formation in the Gavilan-Mancos Pool is a fractured reservoir with low porosity and with a matrix permeability characteristic of the West Puerto-Chiquito-Mancos Pool being produced immediately to the east. The West Puerto-Chiquito-Mancos Pool is spaced on 640 acres, but the gravity drainage in the Gavilan-Mancos Pool is not as effective as in the West Puerto-Chiquito-Mancos Pool. The porosity, permeability and gravity drainage of the area indicate that one well should be able to drain 320 acres effectively and efficiently. Development on the basis of 320 acres avoids waste, unnecessary wells and the possibility of reduced recovery.

The Gavilan-Mancos Pool is bounded on the east by the West Puerto-Chiquito-Mancos Pool, developed on the basis of 640 acres, and is bounded on the west by the Ojitos-Gallup Pool (Mancos production), developed on the basis of 160 acres. Development of the Gavilan-Mancos Pool on the basis of 320 acres is indicated as a natural transition between these pools.

INTERROGATORY NO. 9. Please identify each document filed by you with the Oil Conservation Commission or generated by you in Case No. 7980. Include in your answer the date of each document, a description of each document, and the name of the person who prepared the document.

ANSWER:

McHugh does not have in its possession copies of all the documents filed with the Commission in Case No. 7980. A complete file containing those documents should be available at the offices of the Commission. With respect to the documents still in McHugh's possession, he has only one copy of such documents, and they are not in a format that can be easily reproduced. Those original documents are in the possession of counsel for McHugh and can be reviewed at his office if Plaintiffs so desire.

No other documents were generated by McHugh specifically for Case No. 7980. However, files containing drilling reports, completion reports and other information on approximately 44 wells drilled in or near the Gavilan-Mancos Pool are in the possession of Dugan Production Company. Although the documents contained in these files were not generated for Case No. 7980 or filed with the Commission in that case, they were taken to the proceedings so that they could be consulted or filed if necessary. These documents are too numerous to copy and submit with this response, but are available for inspection at the offices of Dugan Production Company, Farmington, New Mexico.

INTERROGATORY NO. 10. Please state with particularity all of your reasons for not notifying the plaintiffs of the pendency of Case No. 7980 by personal service or service by mail.

ANSWER:

Notice of spacing hearings is given by, and in the name of, the Commission. There is no requirement that additional or duplicate notice be given by an applicant to royalty owners.

Plaintiffs' lands were leased under Leases 1, 2 and 3 at the time notice of Case No. 7980 was given.

INTERROGATORY NO. 11. Please identify when and in what manner the royalty payments on the E. T. #1 Well were reduced to reflect the change in spacing in the Mancos formation from 40 to 320 acres.

ANSWER:

Under Lease No. 1, Plaintiffs' royalty is the percentage resulting from the following formula:

Royalty percentage x lessor's percentage of mineral estate in the Lease tract x percentage of production allocated to Lease tract under pooling.

Prior to Order No. R-7407 spacing was 40 acres with respect to the Mancos and 320 acres with respect to the Dakota. Lease No. 1 covered all of the oil and gas mineral estate in the 40 acre tract comprising the spacing unit for the Mancos. Consequently pooling was not necessary with respect to the Mancos and all E.T. production from the Mancos was allocated to the Lease. The royalty formula therefore resulted in the following percentage:

<u>Royalty %</u>		<u>% of Mineral Estate in Tract</u>		<u>Tract Participation</u>	
14.5%	x	100%	x	100%	= 14.5%

Effective March 1, 1984, an 80 acre tract covered by Lease No. 1 was pooled into a 320 acre unit for Mancos production from the E.T. #1 Well. Lease No. 1 covers all of the oil and gas mineral estate in this 80 acre tract. The royalty formula therefore results in the following percentage for both the Dakota and the Mancos:

<u>Royalty %</u>		<u>% of Mineral Estate in Tract</u>		<u>Tract Participation</u>	
14.5%	x	100%	x	80/320	= 3.625%

INTERROGATORY NO. 12. Please identify all royalty payments from production from the E. T. #1 Well which were made before the effective date of Order No. R-7407. Include in your answer the name of all persons or business associations who received royalties under the old spacing formula, the amount of royalty paid, the dates of all royalty payments, and the mathematical basis used for calculating the amount of royalty payment.

ANSWER:

The division order furnished in response to Interrogatory No. 7 and designated as Item 7-2 sets forth the division of interest for the E.T. #1 Well both before and after the N/2 of Section 28 was pooled with respect to Mancos production.

Total proceeds from the E.T. #1 Well prior to pooling equal \$295,609.87. Total proceeds from the E.T. #1 Well after pooling and through April 1986 equal \$1,775,684.68. A royalty owner's payments before and after pooling can be calculated by multiplying the total proceeds for the relevant period by the party's interest in such proceeds, as set forth in the division order, for the corresponding period.

Proceeds from production during a calendar month are distributed at the end of the following calendar month (i.e., proceeds from January production are distributed at the end of February).

Royalty payments have been calculated in accordance with the formula described in response to Interrogatory No. 11.

INTERROGATORY NO. 13. Please identify all royalty payments from production of the E. T. #1 Well which were made after the effective date of OCD Order No. R-7407. Include in your answer the name of all persons or business associations who received royalties under the new spacing formula, the amount of royalty paid, the dates of all royalty payments, and the mathematical basis used for calculating the amount of the royalty payment.

ANSWER:

The division order furnished in response to Interrogatory No. 7 and designated as Item 7-2 sets forth the division of interest for the E.T. #1 Well both before and after the N/2 of Section 28 was pooled with respect to Mancos production.

Total proceeds from the E.T. #1 Well prior to pooling equal \$295,609.87. Total proceeds from the E.T. #1 Well after pooling and through April 1986 equal \$1,775,684.68. A royalty owner's payments before and after pooling can be calculated by multiplying the total proceeds for the relevant period by the party's interest in such proceeds, as set forth in the division order, for the corresponding period.

Proceeds from production during a calendar month are distributed at the end of the following calendar month (i.e., proceeds from January production are distributed at the end of February).

Royalty payments have been calculated in accordance with the formula described in response to Interrogatory No. 11.

INTERROGATORY NO. 14. Please describe in detail the drilling history of the Full Sail #1 Well, including, without limitation, the date drilling operations began and ended, the name and present address of the drilling contractor, the depth at which drilling operations ended, the depths and geologic formations from which production of hydrocarbons was obtained, and the depth and geologic formations from which production is presently obtained.

ANSWER:

The Full Sail #1 Well was spudded on April 11, 1984 and total depth of 8,129 feet was reached on April 24, 1984. This well is completed in and produces from the Dakota zone. The drilling contractor was Four Corners Drilling Company, P. O. Box 1067, Farmington, New Mexico. More detailed information relating to the drilling history of the Full Sail #1 Well is contained in the documents furnished with this response and designated as Item 14 and the documents furnished in response to Interrogatory No. 15.

INTERROGATORY NO. 15. Please identify all documents submitted by you to the New Mexico Oil Conservation Division in connection with the drilling of the Full Sail #1 Well.

ANSWER:

The following documents were filed with the Commission in connection with the drilling of the Full Sail #1 Well:

1. Form C-102-Survey Plat and staking notice
2. Form C-104-Requests for Allowable and Authorization to Transport Oil and Natural Gas
3. Supplements to the Oil Proration Schedule (2)
4. Form 23-119-Notice of Gas Connection
5. Form C-116-Gas-Oil Ratio Tests (3)

Copies of the above-described documents are furnished with this response and designated Items 15-1 through 15-5. Defendant believes additional documents were filed with the Commission in connection with the Full Sail #1 Well, in particular, it is customary to file an application for Permit to Drill (C-101) and a Completion Report (C-105). Items 15-1 through 15-5 represent all of the relevant documents in Defendant's possession, but a complete file should be available at the offices of the Commission.



INTERROGATORY NO. 16. Please describe in detail the nature and extent of hydrocarbon production obtained from the Full Sail #1 Well. Include in your answer an accounting of the production from the Well monthly, or by other appropriate accounting period, from the time drilling operations ended up to and including the present.

ANSWER:

Production from the Full Sail #1 Well

<u>Year</u>	<u>Zone</u>	<u>Type</u>	<u>Quantity</u>
1984	Mancos	Oil	16,006 Bbls
	Mancos	Gas	4,004 Mcf
1985	Mancos	Oil	65,793 Bbls
	Mancos	Gas	49,176 Mcf
1986	Mancos	Oil	15,426 Bbls
(Through April)	Mancos	Gas	22,189 Mcf

INTERROGATORY NO. 17. Please describe in detail the drilling history of the Janet #2 Well, including, without limitation, the date drilling operations began and ended, the name and present address of the drilling contractor, the depth at which drilling operations ended, the depths and geologic formation from which production of hydrocarbons was obtained, and the depths and geologic formation from which production is presently obtained.

ANSWER:

The Janet #2 Well was spudded on March 31, 1983 and total depth of 8,062 feet was reached on April 25, 1983. This well is completed in, and produces from, both the Mancos and Dakota zones. More detailed information with respect to the drilling history of the Janet #2 Well is contained in the documents furnished with this response and designated as Item 17, and the documents furnished in response to Interrogatory No. 18. The drilling contractor was Four Corners Drilling Company, P. O. Box 1067, Farmington, New Mexico 87499.

INTERROGATORY NO. 18. Please identify all documents submitted by you to the New Mexico Oil Conservation Division in connection with the drilling of the Janet #2 Well.

ANSWER:

The following documents were filed with the Commission in connection with the drilling of the Janet #2 Well:

1. Form C-102-Survey Plat and staking notice (3)
2. Form C-101-Application for Permit to Drill
3. Form C-103-Sundry Notices dated 4-4-83, 4-8-83, 4-26-83, 5-9-83, 5-10-83, 8-31-83, 9-2-83 and 9-15-83
4. Commingling Order, Case No. 7896, Order No. R-7312
5. C-105-Completion Reports (3)
6. C-104-Requests for Allowable and Authorization to Transport Oil and Natural Gas (2)
7. C-116-Gas-Oil Rates Tests (14)
8. Form 23-119-Notice of Gas Connection
9. Form C-122-Well Delivery Test Report (2)
10. Supplements to the Oil Proration Schedule (3)
11. Notification of Fire, Breaks, Spills, Leaks, and Blowouts

Copies of the above-described documents are furnished with this response and designated Items 18-1 through 18-11.

INTERROGATORY NO. 19. Please describe in detail the nature and extent of hydrocarbon production obtained from the Janet #2 Well. Include in your answer an accounting of the production from the Well monthly, or by other appropriate accounting period, from the time drilling operations ended up to and including the present.

ANSWER:

Production from the Janet #2 Well

<u>Year</u>	<u>Zone</u>	<u>Type</u>	<u>Quantity</u>
1983	Dakota	Oil	1,180 Bbls
	Dakota	Gas	188 Mcf
	Mancos	Oil	3,542 Bbls
	Mancos	Gas	1,700 Mcf
1984	Dakota	Oil	8,115 Bbls
	Dakota	Gas	1,647 Mcf
	Mancos	Oil	24,346 Bbls
	Mancos	Gas	14,764 Mcf
1985	Dakota	Oil	8,009 Bbls
	Dakota	Gas	2,431 Mcf
	Mancos	Oil	24,030 Bbls
	Mancos	Gas	21,849 Mcf
1986 (through April)	Dakota	Oil	8,271 Bbls
	Dakota	Gas	3,143 Mcf
	Mancos	Oil	24,811 Bbls
	Mancos	Gas	28,290 Mcf

INTERROGATORY NO. 20. Please describe in detail the location of both the Full Sail #1 Well and the Janet #2 Well, and state whether either well is located on property covered by either Lease No. 2 or Lease No. 3

ANSWER:

The Full Sail #1 Well is located 1,730 feet from the east line and 980 feet from the south line of Section 29, Township 25 North, Range 2 West.

The Janet #2 Well is located 790 feet from the east line and 1,850 feet from the south line of Section 21, Township 25 North, Range 2 West.

Because the Full Sail #1 is physically located on lands pooled with lands covered by Lease 2, it is deemed under the terms of Lease 2 to be located on Lease 2 and producing the allocated share of oil and gas from Lease 2.

Because the Janet #2 Well is physically located on lands pooled with lands covered by Lease 3, it is deemed under the terms of Lease 3 to be located on Lease 3 and producing the allocated share of oil and gas from Lease 3.

INTERROGATORY NO. 21. (a) Please identify all persons who are entitled to mineral royalties, overriding royalties, and payments out of production of any kind on both the Full Sail #1 and the Janet #2 Wells. Include in your answer the type of royalty or other interest to which the party is entitled, and an accounting of the amount of all royalties, etc., paid since the Full Sail #1 and Janet #2 Wells began production.

(b) Please identify which of said royalty and overriding royalty interests, or payments out of production, derived from an interest in Lease Nos. 1, 2, and/or 3.

ANSWER:

(a) The division orders furnished with this response and designated as Items 21-1 through 21-3 set forth the name and interest of each royalty owner with respect to the Full Sail #1 Well (21-3) and the Janet #2 Well (21-1 and 21-2). The type of interest held by each party is all set forth in the division order.

Proceeds of production from the Full Sail #1 Well through April 1986 total \$2,531,426.67 (all after 3-1-84). Proceeds of production from the Janet #2 Well through April 1986 total \$2,651,098.13 (\$324,114.54 before 3-1-84 and \$2,326,983.59 after 3-1-84).

(b) With respect to the Full Sail #1 Well, Plaintiffs' royalty derives from Lease 2. The overriding royalty interests of Don Evans, Joseph R. Mazzola, Kenai Oil and Gas Inc. and Kenai Partners Drilling Program-1979 derive, in whole or in part, from Lease 2.

With respect to the Janet #2 Well, Plaintiffs' royalty derives from Lease 3. The overriding royalty interests of Don Evans, Joseph R. Mazzola and Kenai Oil and Gas Inc. derive, in whole or in part, from Lease 3.

INTERROGATORY NO. 22. Please state all facts that support the assertion made in your Answer that Lease No. 2 and Lease No. 3 have not expired by their own terms.

ANSWER:

With respect to each of Leases 2 and 3, drilling operations were commenced on lands pooled with lands covered by the Lease prior to expiration of the Lease's primary term.

INTERROGATORY NO. 23. Please state all facts that support the assertion made in your Answer that the plaintiffs have failed to state a claim upon which relief can be granted.

ANSWER:

Discovery has not been concluded. Consequently, the following facts are based on belief and information currently known to McHugh. If additional facts responsive to this Interrogatory No. 23 become known, this response will be supplemented accordingly.

At the time Case No. 7980 was heard and notice given, Plaintiffs' lands were leased under Leases 1, 2 and 3.

The proceedings in Case No. 7980 were not irregular.

The lessee's right to pool was exercised with respect to each of Leases 1, 2 and 3.



INTERROGATORY NO. 24. Please state all facts that support the assertion made in your Answer that the plaintiffs' claims are barred by estoppel and waiver.

ANSWER:

Discovery has not been concluded. Consequently, the following facts are based on belief and information currently known to McHugh. If additional facts responsive to this Interrogatory No. 23 become known, this response will be supplemented accordingly.

Plaintiffs have not applied to the OCC for a change in spacing.

At the time Case No. 7980 was heard and notice was given, Plaintiffs' lands were leased under Lease 1, 2 and 3.

INTERROGATORY NO. 25. Please state all facts that support the assertion made in your Answer that the plaintiffs have failed to join all parties under Rule 19 of the New Mexico Rules of Civil Procedure, and identify those parties.

ANSWER:

Discovery has not been concluded. Consequently, the following facts are based on belief and information currently known to McHugh. If additional facts responsive to this Interrogatory No. 25 become known, this response will be supplemented accordingly.

Plaintiffs claim that Leases 1, 2 and 3 were not validly pooled.

Plaintiffs claim that they are not bound by Order No. R-7407.

Plaintiffs claim that Leases 2 and 3 have expired and Lease 1 should be cancelled.

All parties identified on the division orders for the E.T. #1, the Janet #2 and the Full Sail #1 Wells should be joined.

As to the Mancos zone, all parties having the right to produce oil and gas from lands adjacent to the lands covered by Leases 1, 2 and 3 should be joined.

As to the Mancos zone, all parties having the right to produce oil and gas from lands included within the Gavilan-Mancos Pool should be joined if such lands are or could be included in a 320 acre spacing unit established under Order No. R-7407 that would encompass lands in which Plaintiffs claim operating rights.

INTERROGATORY NO. 26. Please state all facts that support the assertion made in your Answer that the plaintiffs have failed to exhaust their administrative remedies.

ANSWER:

The Plaintiffs could have but failed to seek a rehearing or an original hearing before the New Mexico Oil Conservation Commission.

INTERROGATORY NO. 27. Please state all facts that support the assertion made in your Answer that the New Mexico OCD has primary jurisdiction of this cause.

ANSWER:

The New Mexico Oil Conservation Commission has statutory jurisdiction over oil and gas well spacing and notice to be provided in connection with Commission hearings.

INTERROGATORY NO. 28. Please identify each person whom you may call as an expert witness at trial and state the subject matter on which the expert is expected to testify, the substance of the facts and opinions to which the expert is expected to testify, and a summary of the grounds for each opinion.

ANSWER:

Defendant has not made a decision as to whether to call an expert witness at trial. When Defendant makes that decision, the answer to this interrogatory will be supplemented.

INTERROGATORY NO. 29. Please identify each person whom you may call as a witness at trial and describe in detail the nature and substance of his or her testimony.

ANSWER:

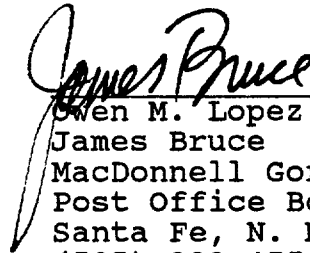
Defendant has not made a decision as to what witnesses he will or may call at trial. When such a decision has been made Defendant will supplement this interrogatory.

INTERROGATORY NO. 30. Please identify and describe in detail the contents of each exhibit that you may use in the trial and state the source of the exhibit, who prepared it, the date it was prepared and a detailed summary of its contents.

ANSWER:

Defendant has not made a decision as to what exhibits it will or may introduce at trial. When such a decision is made Defendant will supplement the answer to this interrogatory.

HINKLE, COX, EATON, COFFIELD  
& HENSLEY

A handwritten signature in cursive script that reads "James Bruce". The signature is written over a horizontal line that extends to the right.

Owen M. Lopez  
James Bruce  
MacDonnell Gordon  
Post Office Box 2068  
Santa Fe, N. M. 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs



VERIFICATION

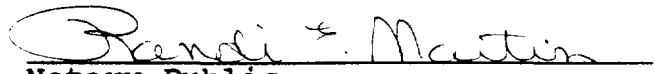
STATE OF COLORADO )  
 ) ss.  
COUNTY OF ARAPAHOE )

Jerome P. McHugh, being first duly sworn, states that he is the Defendant and that he has read the foregoing Answers to Interrogatories and knows the contents thereof, and that the statements contained therein are true and correct.

  
Jerome P. McHugh

SUBSCRIBED AND SWORN TO before me this 3rd day of June, 1986, by Jerome P. McHugh.

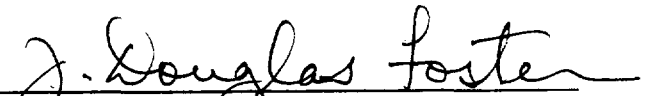
(S E A L)

  
Notary Public  
Denver, CO 80222

My commission expires: September 26, 1986.

HOLME, ROBERTS & OWEN  
Marla Williams, Esquire  
1700 Broadway  
Denver, CO 80290

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By   
J. DOUGLAS FOSTER  
Attorneys for Defendant McHugh  
Post Office Box 2168  
Albuquerque, New Mexico 87103  
(505) 848-1800

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, JOSEPH R.  
MAZZOLA, DON EVANS, KENAI  
OIL AND GAS, INC., and the  
NEW MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

CERTIFICATE OF SERVICE

Defendant, Jerome P. McHugh, by and through his  
counsel of record, Modrall, Sperling, Roehl, Harris & Sisk, P.A.,  
hereby certify that a copy of Response by Defendant McHugh to  
Plaintiffs' First Request for Production was served by mailing  
on counsel for Plaintiffs, James Bruce, Esquire, of Hinkle, Cox,  
Eaton, Coffield & Hensley, on this 4th day of June, 1986.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By J. Douglas Foster  
J. DOUGLAS FOSTER  
Attorneys for Defendant McHugh  
Post Office Box 2168  
Albuquerque, New Mexico 87103  
(505) 848-1800

WE HEREBY CERTIFY that a true and correct copy of this Certificate of Service was mailed to all counsel of record on this 4th day of June, 1986.

By JDF

FIRST JUDICIAL DISTRICT

COUNTY OF RIO ARRIBA

STATE OF NEW MEXICO

FLOYD E. EDWARDS and EMMA B.  
EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. McHUGH; JOSEPH R.  
MAZZOLA; DON EVANS; and  
KENAI OIL AND GAS, INC.,

Defendants.

RESPONSE BY DEFENDANT McHUGH TO  
PLAINTIFFS' FIRST REQUEST FOR PRODUCTION

Defendant, Jerome P. McHugh, makes the following response to the Plaintiffs' First Request for Production of Documents:

1. The documents identified in Defendant's answers to Plaintiffs' First Set of Interrogatories are attached thereto, with the exception of certain voluminous files identified in those answers to interrogatories which are available for inspection and copying by Plaintiffs at a time mutually agreeable to the parties.


2. Other than the letters attached to Plaintiffs' Complaint, all correspondence between Plaintiffs and Defendant McHugh is attached hereto.

3. Defendant objects to the production of title opinions concerning the Leases. Such title opinions are

proprietary in nature and constitute protected attorney-client communications.

4. Defendant objects to the production of title opinions described in this Request. Such title opinions are proprietary in nature and constitute protected attorney-client communications.

MODRALL, SPERLING, ROEHL, HARRIS  
& SISK, P.A.

By   
J. DOUGLAS FOSTER  
Attorneys for Defendant McHugh  
Post Office Box 2168  
Suite 1000, Sunwest Building  
500 Fourth Street, NW  
Albuquerque, New Mexico 87103  
Telephone: (505) 848-1800

IN THE DISTRICT COURT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

NO. RA 85-373 (C)

JEROME P. MCHUGH,  
JOSEPH R. MAZZOLA, DON  
EVANS, KENAI OIL AND  
GAS INC., and the NEW  
MEXICO OIL CONSERVATION  
COMMISSION,

Defendants.

MOTION TO AMEND COMPLAINT

Plaintiffs move to amend their Complaint, pursuant to Rule 15, N.M.R. Civ. P., and as reasons therefor, state:

1. Plaintiffs filed their Complaint on December 4, 1985. All defendants subsequently entered an appearance or answered the Complaint.

2. Through discovery, plaintiffs learned that:

(a) There are two additional interest owners in the subject leases; and

(b) There is another spacing order of the Oil Conservation Commission affecting plaintiffs' property which plaintiffs object to.

3. As a result, in order to get all parties and issues before the Court, an amendment of the Complaint is necessary. A

copy of the amended complaint (without exhibits) is attached hereto as Exhibit No. 1.

4. All parties have consented to this motion.

WHEREFORE, plaintiffs pray that the Court enter its Order allowing the Complaint to be amended.

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

By



Owen M. Lopez

James Bruce

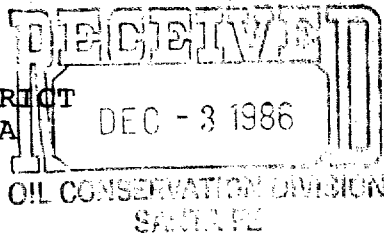
Post Office Box 2068

Santa Fe, New Mexico 87504-2068

(505) 982-4554

Attorneys for Plaintiffs

FIRST JUDICIAL DISTRICT  
COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO



ENDORSED  
FILED IN MY OFFICE THIS

DEC 02 1986

IN THE MATTER OF THE APPEAL  
TO THE DISTRICT COURT FOR  
THE COUNTY OF RIO ARRIBA  
STATE OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

THE APPEAL OF OIL CONSERVATION  
COMMISSION ORDER R-7407-D  
AMENDING THE SPECIAL RULES  
AND REGULATIONS OF THE  
GAVILAN MANCOS OIL POOL.

RA 86-2371 (C)

JEROME P. MCHUGH & ASSOCIATES  
MOTION TO STRIKE PETITION FOR REVIEW,  
OR IN THE ALTERNATIVE, TO DISMISS

COMES NOW, Jerome P. McHugh & Associates (hereinafter "McHugh") and moves to strike in its entirety the Petition for Review filed by Mallon Oil Company and Mesa Grande Resources, Inc. (hereinafter "Petitioners"), or, in the alternative, to dismiss the Petition because Petitioners have failed to exhaust their administrative remedies. This motion is made pursuant to Rule 12, N.M.R. Civ. P., 1978.

For cause, McHugh states that:

1. Petitioners have failed to comply with Rules 8(a) and (e), N.M.R. Civ. P., 1978;
2. McHugh is unable as a result of this non-compliance to formulate a meaningful response to the Petition for Review;



3. Petitioners have failed to exhaust their administrative remedies.

THEREFORE, for the reasons stated herein and as set forth more fully in the accompanying Memorandum, McHugh's Motion to Strike Petition for Review or, in the alternative, to Dismiss should be granted.

Respectfully submitted,



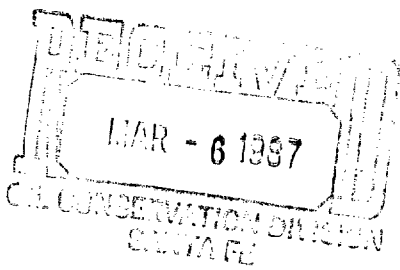
W. Thomas Kellahin  
Kellahin, Kellahin & Aubrey  
Post Office Box 2265  
Santa Fe, New Mexico 87501  
Telephone: (505) 982-4285

CERTIFICATE OF MAILING

I hereby certify that I caused to be mailed a true and correct copy of the foregoing pleading to Robert G. Stovall, Esq., Dugan Production Company, Post Office Box 208, Farmington, New Mexico 87499; Ernest L. Padilla, Esq., Padilla & Snyder, Post Office Box 2523, Santa Fe, New Mexico 87501; Jeff Taylor, Esq., Oil Conservation Division, Post Office Box 2088, Santa Fe, New Mexico 87504; William F. Carr, Esq., Campbell & Black, P.A., Post Office Box 2208, Santa Fe, New Mexico 87504; Kent Lund, Esq., Amoco Production Company, Post Office Box 800, Denver, Colorado 80201; Robert D. Buettner, Esq., Koch Exploration Company, Post Office Box 2256, Wichita, Kansas 67201; Paul Cooter, Esq., Rodey, Dickason, Sloan, Akin & Robb, P.A., Post Office Box 1357, Santa Fe, New Mexico 87504 and Owen M. Lopez, Esq., Hinkle, Cox, Eaton, Coffield & Hensley, Post Office Box 2068, Santa Fe, New Mexico 87504, on this 2 day of December, 1986.



W. Thomas Kellahin



FIRST JUDICIAL DISTRICT COURT  
COUNTY OF SANTA FE  
STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, et al.,

Defendants.

ANSWER OF PLAINTIFFS  
TO COUNTERCLAIM OF  
JEROME P. MCHUGH

Plaintiffs, for their Answer to the Counterclaim of defendant Jerome P. McHugh ("McHugh"), state:

1. Plaintiffs admit the first sentence of paragraph 48 of the Counterclaim. Plaintiffs deny the second sentence of paragraph 48 of the Counterclaim. Plaintiffs affirmatively state that they committed no procedural errors; instead, the federal court misapprehended the applicable law. Rather than pursue a lengthy appeals process in federal court, plaintiffs pursued their option of filing suit in this Court.

2. Plaintiffs deny paragraph 49 and 50.

FIRST DEFENSE

3. McHugh has not prevailed upon the merits of his claim and thus is not entitled to attorneys fees for the federal court action or for this action.

SECOND DEFENSE

4. Any entitlement of McHugh to attorneys fees regarding the federal court action should have been raised in federal court. Since it was not, McHugh waived his rights.

THIRD DEFENSE

5. McHugh has failed to state a claim upon which relief may be granted.

WHEREFORE, Plaintiffs pray for an order dismissing the Counterclaim of McHugh, awarding them their costs, and for such further relief as the Court deems proper.

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

By James Bruce  
James Bruce  
Thomas M. Hnasko  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Plaintiffs

Certificate of Service

We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 4th day of March, 1987.

James Bruce  
Hinkle, Cox, Eaton, Coffield & Hensley  
P.O. Box 2068  
Santa Fe, NM 87504-2068

FIRST JUDICIAL DISTRICT COURT

COUNTY OF SANTA FE

STATE OF NEW MEXICO

FLOYD E. EDWARDS and wife,  
EMMA B. EDWARDS,

Plaintiffs,

vs.

No. RA 85-373(C)

JEROME P. MCHUGH, et al.,

Defendants.

ANSWER OF PLAINTIFFS  
TO COUNTERCLAIM OF  
KENAI OIL AND GAS, INC.  
AND JOSEPH R. MAZZOLA

Plaintiffs, for their Answer to the Counterclaim of defendants Kenai Oil and Gas, Inc. and Joseph R. Mazzola, state:

Plaintiffs restate the answer set forth in their original Answer to Counterclaim of said defendants, filed with this Court on March 5, 1986, and incorporate the same herein.

WHEREFORE, Plaintiffs pray for an order dismissing the Counterclaim of Kenai Oil and Gas, Inc. and Joseph R. Mazzola, awarding them their costs, and for such further relief as the Court deems proper.

HINKLE, COX, EATON,  
COFFIELD & HENSLEY

Certificate of Service

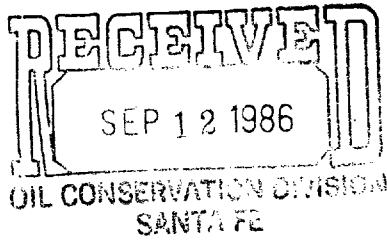
We hereby certify that we have mailed a true and correct copy of the foregoing pleading to all opposing counsel of record this 4th day of March, 1987.

James Bruce  
Hinkle, Cox, Eaton, Coffield & Hensley  
P.O. Box 2068  
Santa Fe, NM 87504-2068

By

James Bruce  
James Bruce  
Thomas M. Hnasko  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554  
Attorneys for Plaintiffs

# Mobil Producing Texas & New Mexico Inc.



P.O. BOX 633  
MIDLAND, TEXAS 79702

MIDLAND DIVISION

September 5, 1986

*Case 8946*

Mesa Grande Resources, Inc.  
1200 Philtower Building  
Tulsa, Oklahoma 74103

*Gavilan file  
Case Bfl*

Attention: Kathy Michael

GAVILAN POOL STUDY COMMITTEE  
RIO ARRIBA COUNTY, NEW MEXICO

Gentlemen:

MPTM wishes to participate in the independent reservoir study of the Gavilan Pool as indicated by the attached executed copy of your letter agreement of July 24, 1986. We understand costs will be allocated on an acreage basis within the study area to those electing to participate.

MPTM would also like to be represented on the interviewing committee for the selection of the engineering consultant firm who will conduct the study.

If there are any questions, please call R. E. Dejmal at 915/688-2104, or write me at the letterhead address.

Yours very truly,

A handwritten signature in cursive script that reads "G. S. Smith".

G. S. Smith  
Joint Interest Manager

RED/sp  
Attachment

cc: Lindrith B WIO's  
L. Farrar  
L. Zambrano

**MESA GRANDE RESOURCES, INC.**

1200 PHILTOWER BUILDING

TULSA, OKLAHOMA 74103

(918) 587-8494

July 24, 1986

To All Working Interest Owners

Re: Gavilan Pools Study Committee  
Rio Arriba County, New Mexico

Ladies and Gentlemen:

On July 15, 1986, a meeting of concerned Gavilan Area operators and working interest owners was held to ascertain the opinions of the group concerning the need for an independent reservoir study. The meeting was well attended with nineteen people representing four area operators, seven non-operators (almost 42% of the study area) and Mobil, which operates in an adjoining pool.

The consensus of this group was that the reservoir study should be conducted by an independent reservoir consulting firm, and enough financial support for this view was obtained to proceed with the project.

Therefore, we are contacting all of the working interest owners and operators in the Gavilan Pool, as well as several operators of adjoining properties who have expressed interest, to offer them an opportunity to participate in the cost of the independent study. Costs will be allocated on an acreage basis among those electing to contribute and the results of the study will be furnished to all participants.

Please indicate your desire to participate in the independent reservoir study by signing in the space provided below and returning one copy of this letter to the undersigned at your earliest convenience. We are under some time constraints in completing the study, and your immediate attention to this matter will be appreciated.

We are ready to begin interviewing reservoir engineering firms and select one to conduct our study. If you are participating in the study and wish to have a representative on the interviewing committee, please let us know as soon as possible.

Very truly yours,

*Kathy Michael*

Kathy Michael

Landman

KM:dw

Enclosure

We wish to participate in the cost of the independent reservoir study.

Accepted and Agreed to this 5<sup>th</sup> day  
of September, 1986.

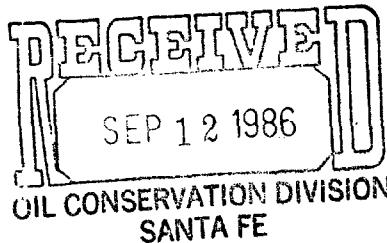
By: *B.S. Smith*

Company: MOBIL PRODUCING  
TEXAS & NEW MEXICO INC.

# Mobil Producing Texas & New Mexico Inc.

September 5, 1986

Jerome P. McHugh & Associates  
650 South Cherry, Suite 1225  
Denver, Colorado 80222



P.O. BOX 633  
MIDLAND, TEXAS 79702  
MIDLAND DIVISION

Attention: Mr. Richard K. Ellis

GAVILAN MANCOS TECHNICAL  
STUDY COMMITTEE  
RIO ARriba COUNTY, NEW MEXICO

Gentlemen:

As an operator in the vicinity of the Gavilan Mancos Pool, MPTM is interested in the proper characterization of the reservoir and its prudent operation; however, we have not been an active participant in the day-to-day workings of the Technical Committee because of the peripheral position of our wells and their inclusion in the Lindrith B Unit.

MPTM now wishes to take a more active role in the Gavilan Mancos Technical Study Committee. We believe Mobil has technical expertise which will benefit the study effort.

We are requesting to be kept informed of the time and location of any future meetings of the full Gavilan Mancos Technical Study Committee as well as the geological and engineering subcommittees so Mobil may be represented at these meetings.

Yours very truly,

A handwritten signature in cursive script that reads "G. S. Smith".

G. S. Smith  
Joint Interest Manager

RED/sp  
Attachment

cc: Attached List

Amoco Production Company  
1670 Broadway  
P. O. Box 800  
Denver, Colorado 80201  
Attention: Richard Bottjer

Robert L. Bayless  
P. O. Box 168  
Farmington, New Mexico 87499

Conoco Inc.  
P. O. Box 460  
726 East Michigan  
Hobbs, New Mexico 88240  
Attention: Donald W. Johnson

Dugan Production Corp.  
P. O. Box 208  
Farmington, New Mexico 87499  
Attention: Robert G. Stovall

W. Perry Pearce  
Montgomery and Andrews,  
Attorneys at Law  
P. O. Box 2307  
Santa Fe, New Mexico 87504

Koch Exploration  
P. O. Box 2256  
Wichita, Kansas 67201  
Attention: Carl Pomeroy

Meridian Oil Inc.  
P. O. Box 4289  
Farmington, New Mexico 87499-4289  
Attention: Land Department

Mesa Grande Resources, Inc.  
1200 Philtower Building  
Tulsa, Oklahoma 74103  
Attention: Gregory Phillips

Tenneco Oil Company  
P. O. Box 3249  
Englewood, Colorado 80155  
Attention: George Calstrom

U. S. Department of the Interior  
Bureau of Land Management  
P. O. Box 6770  
Albuquerque, New Mexico 87197  
Attention: Gary Stephens

ARCO Oil and Gas Company  
Permian District  
P. O. Box 1610  
Midland, Texas 79702  
Attention: T. S. McCorkle

Chevron U.S.A.  
P. O. Box 599  
Denver, Colorado 80201  
Attention: Randy Hagood

R. L. Stamets, Director  
New Mexico Oil & Gas Conservation Div.  
P. O. Box 2088  
Santa Fe, New Mexico 87504

Hooper, Kimball and Williams, Inc.  
P. O. Box 520970  
Tulsa, Oklahoma 74152  
Attention: George Owens

Kenai Oil and Gas Inc.  
One Barclay Plaza  
1675 Larimer Street, Suite 500  
Denver, Colorado 80202  
Attention: Joseph R. Mazzola

Mallon Oil Company  
1616 Glenarm Place, Suite 2850  
Denver, Colorado 80202  
Attention: Kevin Fitzgerald

Merrion Oil and Gas Corp.  
P. O. Box 840  
Farmington, New Mexico 87499  
Attention: Steve Dunn

Reading & Bates Petroleum Company  
3200 Mid-Continent Tower  
Tulsa, Oklahoma 74103  
Attention: Eric Koelling

Benson-Montin-Greer Drilling Corp.  
221 Petroleum Center Building  
Farmington, New Mexico 87401

Kodiak Petroleum Inc.  
American Penn Energy, Inc.  
5700 S. Quebec, #320  
Englewood, Colorado 80111



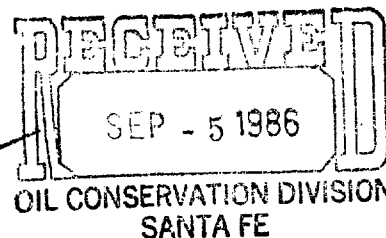
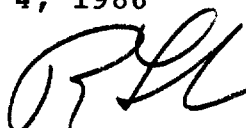
W. Thomas Kellahin  
Karen Aubrey

Jason Kellahin  
Of Counsel

KELLAHIN and KELLAHIN  
*Attorneys at Law*  
El Patio - 117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

Telephone 982-4285  
Area Code 505

September 4, 1986



Mr. Richard L. Stamets  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504

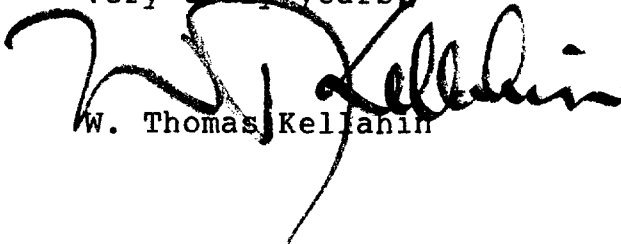
"Hand Delivered"

Re: Application of Jerome P. McHugh  
and Associates for an Amendment  
to the Special Rules of the  
Gavilan Mancos Oil Pool  
Case No. 8946

Dear Mr. Stamets:

In accordance with your directions at the conclusion  
of the referenced hearing on August 27, 1986, please find  
enclosed a proposed order of the Commission for entry in  
this case.

Very truly yours,



W. Thomas Kellahin

WTK:ca  
Enc.

cc: Jerome P. McHugh & Associates  
Attn: Dick Ellis  
650 South Cherry, Suite 1225  
Denver, Colorado 80222

Dugan Production Corporation  
Attn: John Roe  
709 Bloomfield Road  
Farmington, New Mexico 87401

Benson-Montin-Greer Drilling  
Attn: Mr. Al Greer  
221 Petroleum Center Building  
Farmington, New Mexico 87401

KELLAHIN and KELLAHIN

Mr. Richard L. Stamets  
September 4, 1986  
Page 2

cc: Robert G. Stovall, Esq.  
Dugan Production Company  
P. O. Box 208  
Farmington, New Mexico 87499

Earnest L. Padilla, Esq.  
Padilla & Snyder  
P. O. Box 2523  
Santa Fe, New Mexico 87404

Owen M. Lopez, Esq.  
Hinkle, Cox, Eaton, Coffield  
& Hensley  
P. O. Box 2068  
Santa Fe, New Mexico 87504

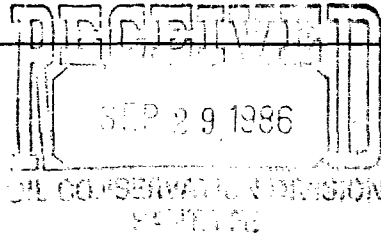
W. Perry Pearce, Esq.  
Montgomery & Andrews  
P. O. Box 2307  
Santa Fe, New Mexico 87504

William F. Carr, Esq.  
Campbell & Black  
P. O. Box 2208  
Santa Fe, New Mexico 87504

Kent Lund, Esq.  
Amoco Production Company  
P. O. Box 800  
Denver, Colorado 80201

Robert D. Buettner, Esq.  
Koch Exploration Company  
P. O. Box 2256  
Wichita, Kansas 67201

Paul Cooter, Esq.  
Rodey, Dickason, Sloan,  
Akin & Robb, P.A.  
P. O. Box 1357  
Santa Fe, New Mexico 87504



*Case Like*

September 24, 1986

To: Gavilan Working Interest Owners

Re: Gavilan Working Interest  
Owners' Meeting  
Thursday, October 2, 1986

Ladies and Gentlemen:

As an addendum to the meeting call letter of September 19, and due to scheduling conflicts, we are changing the location of the Working Interest Owners' Meeting on Thursday, October 2 to the Cherry Creek Inn, 600 So. Colorado Blvd., Denver (SE corner of intersection between Colorado Blvd. and Cherry Creek Drive South - approximately 2 miles north of I-25 and Colorado Blvd. exit). The meeting is still scheduled to begin at 9:00 a.m., and free parking is available in the hotel lot.

We apologize for any inconvenience.

Very Truly Yours,

*Richard K. Ellis*

Richard K. Ellis

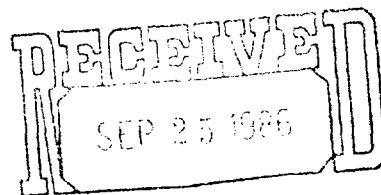
RE/rm

cc: NMOCD  
BLM  
Technical Subcommittee Members

*Mesa Grande, Ltd.*

---

1305 PHILTOWER BUILDING  
TULSA, OKLAHOMA 74103



September 19, 1986

To: Gavilan Pool Working Interest Owners

A Gavilan Pool working interest owners meeting has been scheduled on October 2, 1986 at 9:00 a.m. at the Petroleum Club located at 3800 Anaconda Tower, 555 17th Street, Denver Colorado. The preliminary agenda is as follows:

- 1) Review and discussion of recent NMOCD hearings and resultant Order No. R-7407-D concerning the reduction of allowables and limiting GOR's in the Gavilan-Mancos Oil Pool.
- 2) Engineering and Geological Sub-Committee progress reports including; a) Review of Mallon's Davis Federal 3-15 cores that were recently obtained, and b) timing and objectives of future work.
- 3) Proposed re-structuring and changes in format for the Gavilan Pool Technical Study Committee including Engineering, Geological and Land Sub-committees.
- 4) Review of independent engineering study efforts including goals and objectives and cost sharing.
- 5) Discussion of Voting Procedures (concerning non-equity items only).


Page -2-  
Working Interest Owners  
September 19, 1986

In regard to the independent engineering study, enclosed is a base map depicting the proposed Gavilan Pool study area which comprises approximately 40,000 acres. It has been proposed that the costs of an independent engineering study be allocated on an acreage basis for those participating in the study efforts. Please be prepared to commit to or decline participation in the independent study at the October 2 meeting. Also, please be prepared to verify your net acreage ownership within the proposed Gavilan Pool Study area as outlined on the enclosed map.

We encourage each of you to attend what we consider a very important meeting. Those wanting to work at the sub-committee level should also plan to meet again the following day, October 3, 1986.

Very truly yours,

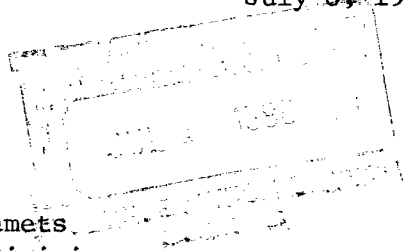
For JDR .....  
Richard K. Ellis  
Jerome P. McHugh & Associates  
(303)321-2111

 .....  
L. Sweet  
Mesa Grande, Ltd.  
(918)584-3802

# BRECK OPERATING CORP.

P. O. BOX 911  
BRECKENRIDGE, TEXAS 76024-0911

July 8, 1986



Mr. Richard L. Stamets  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504

*Case 8946*

RE: Letter of June 30, 1986 from  
W. Thomas Kellahin to Mr. Richard L.  
Stamets; Jerome P. McHugh, Special  
GOR-Allowable, Gavilan Mancos Oil  
Pool

Dear Mr. Stamets:

Breck Operating Corp. assists Ibex Partnership and PC, Ltd. (interested parties in the above-referenced matter) in the management of their respective interests in various properties. We are writing this letter to advise you that Ibex Partnership and PC, Ltd. have no objection to the subject application of Jerome P. McHugh.

Thank you for your time and attention.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Duffy", written over a horizontal line.

Stephen W. Duffy  
General Counsel

SWD/at

cc: Mr. W. Thomas Kellahin  
KELLAHIN & KELLAHIN  
El Patio - 117 N. Guadalupe  
P. O. Box 2265  
Santa Fe, New Mexico 87504-2265

# **AMERICAN PENN ENERGY, INC.**

1675 Larimer Street Suite 800 Denver, Colorado 80202

(303) 820-2222

August 26, 1986

RECEIVED

New Mexico Oil & Gas Conservation Commission  
Attn: Mr. R. L. Stamets, Chairman  
P. O. Box 2088  
Santa Fe, NM 87501-2088

AUG 27 1986

OIL CONSERVATION DIVISION

RE: Gavilan Mancos Temporary Allowable Hearing

Dear Mr. Stamets:

American Penn Energy is a working interest owner in certain wells operated by Mallon Oil Company, and is therefore an interested party. We have had the opportunity to review the analysis prepared by Mr. G. Hueni of Bergeson & Associates, and wish to endorse the conclusions and recommendations made.

It is unfortunate that certain offset owners have created a costly and distracting tempest in a teapot in a premature effort to enhance their position in a possible secondary recovery unit, and in a hope to recharge their area from offset lands.

Based on the data and analyses presented by Bergeson & Associates, our review of the Mallon wells, and certain Canada Ojitas Unit submissions, American Penn is of the opinion:

A. Regarding the Canada Ojitas Unit

The benefits and necessity of gas injection in the Canada Ojitas Unit have not been demonstrated. Interference tests were used to determine oil-in-place. These oil-in-place values were then used with initial performance data to determine a low ultimate recovery, and an apparent need for the Commission to act to prevent waste. This picture is not proven and is likely incorrect.

B. Regarding interference testing in the Gavilan Mancos pool, and in the Canada Ojitas Unit

The attempt to use interference testing in the Ojitas Unit was laudable. However, the undersigned believes, as a result of both his personal experience with poor results, and a review of enhancements to interference technology (published after these tests were done) that:

1. virtually all real-world differences from the mathematical model assumptions will cause the oil-in-place to be overstated. These real-world problems include:

- a. linear fracture flow exaggerating the calculated "matrix" transmissibility;
  - b. fracture transmissibility masquerading as "matrix" transmissibility in the interference tests;
  - c. the presence of gas in fractures exaggerating both transmissibility and compressibility products;
  - d. wellbore storage effects;
  - e. areally oriented permeability differences, and;
  - f. possible abnormally high rock compressibility due to fractures and fracture closure with depletion.
2. Even if the more recent technical advances are ignored, the interference permeability footages calculated and submitted originally for the Canada Ojitas Unit were nonsensical. Actual observed well productivities when used in single well flow models based on the identical mathematical assumptions used in the interference calculations were significantly less. This unexplained failure to match should have raised a warning flag even at the time of the original submissions.
- B. Whether solution gas drive and induced gas cap drive primary recovery losses are significant over other recovery mechanisms has not been adequately addressed.

The losses on primary recovery due to gas production in the Gavilan Mancos pool will result from:

1. shrinkage of oil left in the formation and fractures;
2. viscosity increases in oil with the gas removed;
3. reduced system compressibility.

In addition to the above factors, ultimate recovery is determined by:

1. economic producing rate limits which include interactions with oil and gas revenues in excess of operating costs;
2. necessary drawdown magnitudes in the formation required to maintain economic rates;
3. well density;



4. residual oil in matrix and fractures, and how much in each system.

The above shrinkage and viscosity change losses in the Mancos oil are relatively small compared to other heavier oils without gas (such as the Boulder Mancos oil), and gassier oils that have much more shrinkage and viscosity increases. American Penn Energy believes that it has not been demonstrated that even limiting gas withdrawals to the solution GOR values proposed by Bergeson is necessary. However, such a GOR limit is a simple, and cautious temporary allowable formula that is suitable until further pool studies can be completed.

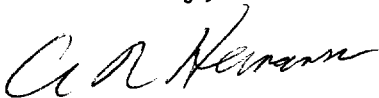
D. That certain exhibits have been presented that may be misleading at first glance.

Examples include:

- a. selection of only part of the data of a certain type;
- b. manipulation of scales on plots to magnify apparent changes that in full scale terms are insignificant;
- c. plots that should be plotted against other variables;
- d. failure to address anomalies in the data.

Thank you for your attention to this submittal.

Yours truly,



Al Hermanson (P.E.)  
Vice President, Production

AH:ds

# EMERY WORLDWIDE

UNITED STATES/CANADA

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**FORM OF PAYMENT \***

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Bill to Shipper  GBL  
 Bill to Consignee  Cash

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SPECIAL SERVICES  
 Same Day  9 AM  Day 2   
 Saturday Delivery  Other

Shipper's Account Number <b>KY-0S01675</b>	Date <b>8-26-86</b>	Origin Airport <b>DEN</b>	Shipment Number <b>78741</b>	Destination Airport	Gateway
From: Your Name <b>AL HERMANSON</b>	Phone <b>303-820-2222</b>	Collect Shipper's Charges On Delivery	To: Consignee's Name <b>R.L. STAMETS</b>	Phone <b>505-827-5800</b>	
Company Name <b>AMERICAN PENN ENERGY STE 800</b>		C.O.D.	Company Name <b>NM OIL &amp; GAS CONSERVATION COMM.</b>		
Address <b>1675 LARIMER</b>		<input type="checkbox"/> Company Check Payable To Shipper Acceptable	Address <b>310 OLD SANTA FE TRAIL - Room 206</b>		
City <b>DENVER</b>	State <b>CO</b>		City <b>SANTA FE, NM</b>	State	Country <b>USA</b>
Shipper's Reference No.	Zip Code (Required) <b>80202</b>	Commodity Code	Consignee's Ref. No.	Zip Code (Required) <b>87504</b>	

No. Pieces	Description and Marks	Commodity Code	Weight	Package Dimensions			
				PCS.	L	W	H
1	CORRESPONDENCE	EL	5.02				

SPECIAL INSTRUCTIONS:  GOVT.

Declared Value \$	Customs Value \$	Insurance \$	International Charges
Emery's liability shall be limited to \$10.00 per pound or \$22.00 per kilogram of cargo damaged or lost unless, at the time of tender, the shipper makes a declaration in excess of the above amount.			At Origin _____
INTERNATIONAL & CANADIAN SHIPMENTS ONLY			Base Charge _____
			At Destination _____
			Other _____
			<b>TOTAL</b>

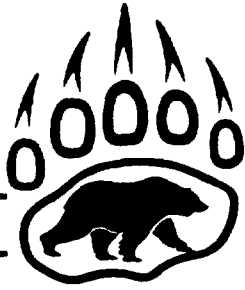
This non-negotiable air way bill is subject to the Terms and Conditions set forth on the reverse side of this copy. Emery shall not be liable for special, incidental, or consequential damages and disclaims all warranties, expressed or implied, with respect to carriage of this shipment. Unless a higher value is declared and an additional charge paid, the liability of Emery for this shipment is limited to an amount set forth in the Emery Service Guide in effect on the date of shipment, or \$10 per pound, whichever is higher.

Subject to terms and Shipper's conditions on reverse Signature: *x R. Sandberg*

Bill To: Address Below  Paying For  Shipper  Consignee  Third Party

Goods Received At:

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Time <b>17:45</b>	Date <b>8/26/86</b>	No. Shipments This Stop <b>1</b>			
By <b>MJR</b>	Advance Override	AO- AD-			



**KODIAK**

**PETROLEUM, INC.**

August 26, 1986

Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87501-2088

RE: Case No. 8946  
Gavilan-Mancos Oil Pool  
Rio Arriba County, New Mexico

Gentlemen:

Kodiak Petroleum, Inc. is a working interest and royalty interest owner in all of the Mallon Oil Company wells in the Gavilan Field area, Rio Arriba Co., New Mexico. Kodiak wishes to inform the Oil Conservation Division that it opposes the application of Jerome P. McHugh & Associates. Kodiak is most interested in realizing the greatest ultimate recovery from the Gavilan Field, and thus has conducted its own independent studies and participated in third party outside engineering studies. We hereby wish to state that we support the position of Mallon Oil and Mesa Grande.

Members of Kodiak Petroleum's geological staff and I have worked the Mancos play in the San Juan Basin for many years. I originally worked the play for Koch Exploration Company in the mid-1970's, and Kodiak is responsible for Mallon Oil's entry into the play.

Kodiak maintains the following opinions on the geology of the Gavilan area:

1. The Mancos reservoir is a fractured reservoir with significant matrix contribution.
2. The matrix within the Mancos consists of very fine to fine-grained sandstones and siltstones. This facies has low porosity and permeability, but does contain significant amounts of oil and gas reserves. The tight sandstones and siltstones are competent and thus tend to fracture when exposed to tectonic forces.
3. Kodiak recognizes at least two periods of structural movement:
  - a. Pre-Laramide paleostructure
  - b. Laramide

Oil Conservation Division  
August 26, 1986  
Case No. 8946

4. The Pre-Laramide paleostructures are small local features which have been reactivated throughout geologic time. These areas are characterized by better reservoir development in the Dakota, Mancos and Mesaverde formations.

The Mancos was influenced by several episodes of post-Mancos uplift, which created local areas of intense fracturing. Wells drilled in such areas are typically high-volume wells which should have unusually high cumulative recoveries. We feel that some of the Mallon wells in Sections 1 and 2, T25N, R2W, are in such an area.

5. Laramide structuring created the broad regional structure that is Gavilan Dome. Laramide folding also caused the competent sandstones, siltstones and shales of the Mancos to fracture. The fracture intensity of Laramide folding appears to be less intense, therefore, wells drilled in areas of only Laramide folding tend to be poorer.
6. The Mancos reservoir is very heterogeneous due to lithologic variations and due to widely varying degrees of fracturing (Pre-Laramide or Laramide).
7. The Gavilan area is separated from the Puerto Chiquito area by a regional north-south trending syncline. The Mancos formation within the syncline is in compression, therefore, any fractures are essentially closed. Any wells within the syncline will probably be tight and not commercial.

Kodiak Petroleum has participated with Mallon-Mesa Grande in retaining Mr. Greg Hueni with Jerry R. Bergeson & Associates, Inc. to conduct an independent engineering study of the Gavilan Mancos Field. Kodiak is in complete agreement with the findings of Mr. Hueni, and we feel his engineering conclusions are in close agreement with the geology of this field.

#### CONCLUSIONS

1. Because of the very heterogeneous nature of the reservoir, equity determination in the Gavilan area can not be determined unless the field is developed on at least 320-acre spacing.
2. Large units with undeveloped acreage will violate the correlative rights of working interest and royalty interest owners with developed acreage as they will be forced to share their production with owners of tracts which may not contain any commercial oil reserves.
3. Oil withdrawal at rates of up to 702 BOPD per 320-acre spacing will do no harm to the reservoir.

Oil Conservation Division  
August 26, 1986  
Case No. 8946

4. Imposition of a 200 BOPD allowable will distort equity by restricting oil production from high volume wells, and a 1000 GOR limitation factor will allow the withdrawal of excess amounts of gas.
5. Leave the current oil allowable where it is at 702 BOPD per 320 acres, and lower the GOR limitation factor to 646 SCF/STB.

Sincerely yours,

KODIAK PETROLEUM, INC.



Kent A. Johnson  
President

KAJ/kar

## MERRION OIL &amp; GAS CORPORATION

610 REILLY AVE. • P. O. BOX 840  
FARMINGTON, NEW MEXICO 87499

HAND DELIVERED

August 26, 1986

New Mexico Oil Conservation Division  
Post Office Box 2088  
Santa Fe, New Mexico 87504-2088

Attention: Mr. R. L. Stamets  
Director

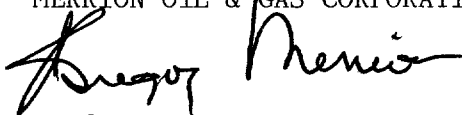
Re: Gavilan Field Rules

Gentlemen:

Merrion Oil & Gas Corporation is the operator of three wells in or near the Gavilan Field. We have been unable to secure a gas market for the casinghead gas from these wells and hence have been restricted to 30 mcf/day allowable and the associated oil that would come with that 30 mcf/day. Due to the highly competitive nature of the Gavilan Field, we feel that the Oil Conservation Division should enforce the Common Purchaser Statute and require the gas purchasers to take gas from all wells in the field - or in the alternative, should set a maximum gas allowable for all wells in the Gavilan Field at 30 mcf/day which would put all wells on an equal footing to compete for the reserves in the reservoir.

Yours very truly,

MERRION OIL & GAS CORPORATION



J. Gregory Merrion  
President

JGM/clm

# Well Pressure Behavior of a Naturally Fractured Reservoir

Tatiana D. Streltsova, SPE, Exxon Production Research Co.

## Abstract

The pressure response pattern of a naturally fractured reservoir is considered under the assumption allowing matrix-to-fracture crossflow to result from a diffusion mechanism of fluid transfer through the matrix. The transitional pressure during time-variant crossflow is shown to develop on a semilog plot a linear segment with a slope equal to one-half that of the early- and late-time pressure segments. For a single well, this allows use of a conventional Horner-type analysis.

## Introduction

A naturally fractured formation is generally represented by a tight matrix rock broken up by fractures of secondary origin. The fractures are assumed continuous throughout the formation and to represent the paths of principal permeability. The high diffusivity of a fracture results in a rapid response along the fracture to any pressure change such as that caused by well production. The rock matrix, having a lower permeability but a relatively higher primary porosity, has a "delayed" response to pressure changes that occur in the surrounding fractures. Such nonconcurrent responses cause pressure depletion of the fracture relative to the matrix, which in turn induces matrix-to-fracture crossflow. This period of transient crossflow takes place immediately after the fracture pressure response and before the matrix and the fracture pressures equilibrate, after which the formation acts as a uniform medium with composite properties.

The effect of assumptions made on the nature of matrix and fracture interaction is manifested during this transitional period of matrix-to-fracture fluid transfer. The flux of fluid released by the matrix depends on the matrix size, porosity, permeability, and the matrix/fracture pressure difference. At the matrix/fracture interface,

the matrix flux contribution to fracture flow may be assumed proportional to either the pressure difference between matrix and fracture or to the averaged pressure gradient throughout the matrix block. The former assumption, introduced in fractured reservoir description by Barenblatt and Zheltov<sup>1</sup> and Barenblatt *et al.*<sup>2</sup> and employed by Warren and Root,<sup>3</sup> has an advantage of simplifying the mathematical analysis of the flow problem and a disadvantage of not correctly representing either the mechanism of pressure readjustment between matrix and fracture by time-variant crossflow or the formation pressure response during the transitional time. According to this assumption, the matrix flux is independent of spatial position, which can be true only when pressure is linearly distributed in space—i.e., at a state of pressure equilibrium or at a pseudosteady-state time. This assumption, therefore, is often referred to as a "pseudosteady-state" or "lumped-parameter" flux assumption. It neglects the matrix storage capacitance by allowing an instantaneous pressure drop throughout the matrix as soon as fracture depletion occurs. The pressure response of a medium subject to this assumption has a characteristic S-shape transitional curve with an inflection point. The curve connects the initial pressure segment (the early-time fracture response) to the final pressure segment, representative of the late-time pseudosteady-state flow of an equivalent uniform medium that has fracture permeability and composite (the sum of fracture and matrix) storage.

By contrast, the averaged gradient assumption on matrix-to-fracture crossflow, while somewhat complicating a mathematical analysis of the problem, has an advantage of more correctly describing the pressure equilibration process that occurs during the transitional period. Matrix fluxes arising from fluid expansion forces are subject to Darcy flow and, thus, to diffusivity-type flow constraints. As such, they are proportional to pressure gradients which, in general, are not constant but

The slightly concaved downward segment can easily be interpreted as a straight line subject to Horner analysis. The slope of this pseudotransitional curve is less than that of the fracture response early-time segment because fracture replenishment modifying the slope has started, but greater than the half slope of the characteristic transitional segment, which had not been developed on the drawdown. For this situation, a conventional Horner analysis applied to the apparent straight line that extrapolates to the initial pressure will overestimate the effective formation permeability by a factor of 1.5 to 2 (see Ref. 17). Consequently, the permeability of 1.140 md determined by the analysis shown in Fig. 8, which uses the extrapolated-to-initial-pressure segment, is overestimated and should fall in a range 570 to 760 md.

Fig. 9 shows another example of buildup data from tests in the same field that gave all the previous examples (Figs. 5 through 8). These buildup data are recorded after a longer production period,  $t_h = 100$  hours. Shut-in time at intersection point,  $\Delta t_x = 33.3$  hours, along with the core matrix diffusivity used previously,  $(k/\phi c \mu)_m = 6.950 \text{ md} \cdot \text{psi}/\text{cp}$ , gives the matrix size dimension of 10 ft. The increased fracture spacing obtained for this well agrees with the fracture density change observed throughout the field.

### Pressure Pattern for Interference-Test Analysis

Dimensionless pressure-drawdown values,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ , in customary units), calculated from Eq. 24 for various  $r_D$  and  $4t_D$  values, are plotted in logarithmic coordinates in Figs. 10 and 11 for the ratio of matrix/fracture storages,  $S_m/S_f$ , equal to 10 to 100, respectively. The dependence of pressure responses on the  $S_m/S_f$  ratio is obvious from these figures. The  $r_D$ -type curves are positioned between two limiting  $Ei$ -curves, the left being the  $Ei$ -curve associated with the fracture parameters,  $-Ei(-r^2/4\eta t)$ , and the right being the  $Ei$ -curve that is based on cumulative storage equal to the sum of the matrix block and fracture storages,  $-Ei(-r^2/4\eta^* t)$ . As such, the  $r_D$  curves are "compressed" when the ratio of storage decreases, or "expanded" when the ratio of storage increases. The time each  $r_D$  curve deviates from the initial  $Ei$ -curve, and, consequently, its shape, are thus both dependent on the storage capacity ratio,  $S_m/S_f$ . In order then to match interference-test pressure data to the appropriate  $r_D$  curve uniquely, one should have an independent estimate of the matrix/fracture storage ratio,  $S_m/S_f$ . Such an estimate can be made from interference data if the initial- and the late-time pressure segments (two limiting  $Ei$ -type curves) are present. If the test duration does not allow development of the late-time pressure curve, the estimate of  $S_m/S_f$  can be made from results of single-well tests.

If, however, the test time is relatively short, which is often the case, an approximation to the solution (Eq. 24) can be applied. For small values of time (or large  $r$  values), the pressure distribution may be found as<sup>18</sup>

$$\Delta p = \frac{q}{4\pi T} \int_{1/4t_D}^{\infty} \frac{e^{-x}}{x} \operatorname{erfc} \frac{\sqrt{B1/4t_D}}{\sqrt{x(x-1/4t_D)}} dx,$$

where

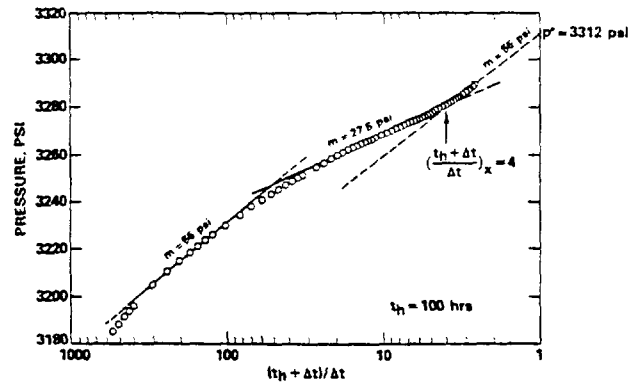


Fig. 9—Long flow pressure buildup.

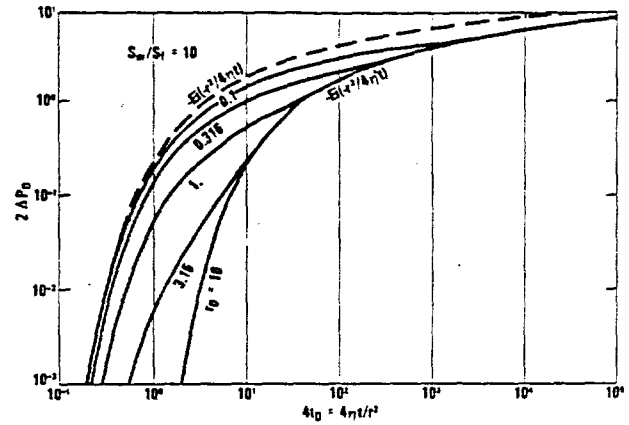


Fig. 10—Dimensionless fracture drawdown,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ ), plotted in logarithmic coordinates for  $S_m/S_f = 10$  (Eq. 24).

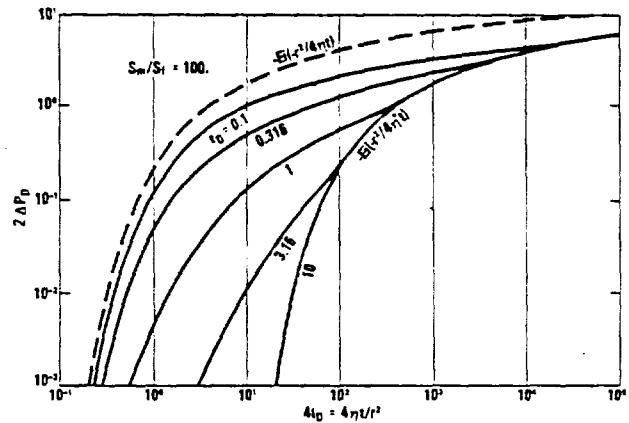


Fig. 11—Dimensionless fracture drawdown,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ ), plotted in logarithmic coordinates for  $S_m/S_f = 100$  (Eq. 24).



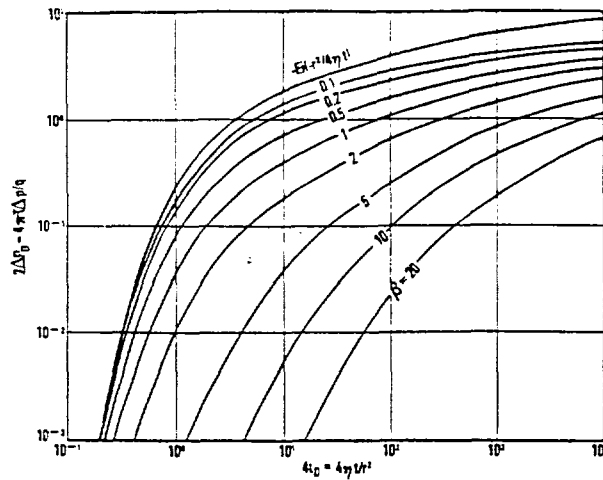


Fig. 12—Dimensionless fracture drawdown,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ ), plotted for various  $\beta$  and  $4t_D$  values from early-time approximation (Eq. 31).

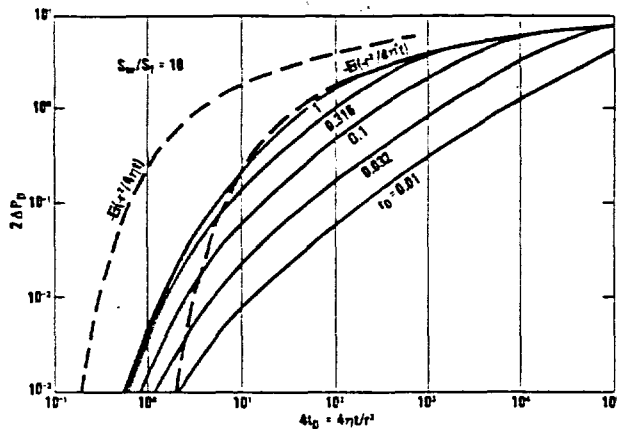


Fig. 13—Dimensionless matrix block drawdown,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ ), calculated for  $S_m/S_f = 10$  (Eq. 25).

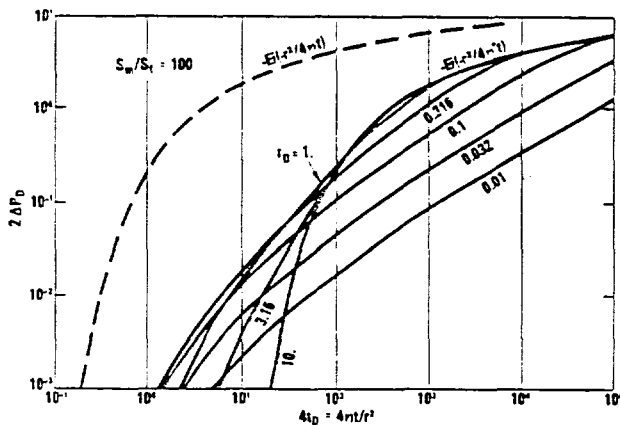


Fig. 14—Dimensionless matrix block drawdown,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ ), calculated for  $S_m/S_f = 100$  (Eq. 25).

$$\beta = 0.25 \frac{r}{H} \frac{(k\phi c)_m}{(k\phi c)_f}$$

$$= 0.25 r_D \sqrt{\phi_m c_m / \phi_f c_f} \dots \dots \dots (32)$$

The storage ratio, thus, appears explicitly in Eq. 31 through the parameter  $\beta$ .

Dimensionless pressure-drawdown values,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ , in customary units) for various  $\beta$  and  $4t_D$  values are shown in Fig. 12. The parameter  $\beta$ , which according to Eq. 32 depends on both the fracture/matrix permeability ratio and the matrix/fracture storage ratio, is a characteristic of the matrix block's influence on the overall pressure response. The greater the matrix block's contributions (the greater the  $\beta$  value), the smaller is the pressure drawdown of the fracture. This is shown by the greater deviation of the  $\beta$  curve from the limiting  $Ei$ -curve,  $-Ei(-r^2/4\eta t)$ , which is associated with just the fracture flow parameters. Therefore, if one uses a conventional analysis based on the  $Ei$ -curve, which does not take into account the pressure support offered by matrix blocks on drawdown measurements, then the calculated formation permeability will be overestimated.

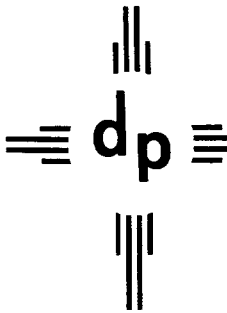
The shape of the  $\beta$ -type curves is not as sensitive to the ratio of storages, especially at early time, as is the shape of the  $r_D$  curves. Therefore, the application of the  $\beta$  curves to matching field data can be made. An estimate of the ratio of storages, however, is still required if one wants to determine the ratio of permeabilities,  $k/k_m$ , from a given  $\beta$  value and an assumed matrix block size,  $H$ .

### Matrix Block Pressure Behavior

If a well is completed in a matrix block so that its perforated part is not intersected by a fracture, the buildup pattern of such a well will be different from that discussed previously.

The matrix block average pressure distribution,  $\Delta \bar{p}_m$ , in Laplace space is given by Eq. 25. Dimensionless pressure drawdown values,  $2\Delta p_D = 4\pi T\Delta p/q$  ( $2\Delta p_D = \Delta p T/70.6q$ , in customary units), calculated from Eq. 25 with the Stehfest<sup>13</sup> numerical Laplace transform inversion method, are shown plotted to Figs. 13 and 14 for ratios of storages,  $S_m/S_f$ , equal to 10 and 100, respectively. As one can see, the type curves, plotted in logarithmic coordinates, have a characteristic half slope. The time when this half-slope is reached is a weak function of the ratio of matrix and fracture storages. The greater the storage capacity of matrix relative to fracture, the earlier is the time at which one observes a half-slope in buildup data. When, however, the matrix storage is comparable to that of the fracture, the initial pressure changes are rapid, and the shapes of buildup curves approach that of the  $Ei$ -curve for fracture flow.

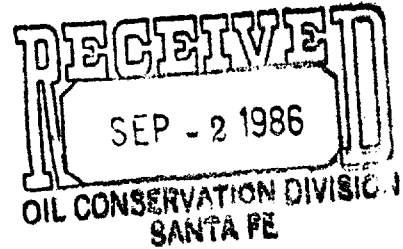
The matrix-type response for the pressure averaged throughout the matrix block (Figs. 13 and 14) has an entirely different buildup pattern compared with that of the fracture (Figs. 5 and 6) yet such diversity is characteristic of a naturally fractured reservoir. The half-slope pattern cannot be matched at all to the conventional  $Ei$ -curve. The physical reason for such a half-slope lies



dugan production corp.

---

August 28, 1986



Mr. Richard Stamets  
New Mexico Oil Conservation Division  
P.O. Box 2088  
Santa Fe, NM 87504-2088

*mailed 9/3/86*

Dear Mr. Stamets:

If possible, I would appreciate receiving copies of any and all letters submitted to the Commission regarding Jerome P. McHugh's application for an allowable reduction in the Gavilan Mancos Oil Pool (NMOCD Case #8946) from operators or interested parties. The letters of specific interest are from Amoco, American Penn, Inc., Kodiak Petroleum, Inc. and Merrion Oil & Gas.

My reason for requesting these letters is simply to complete our records regarding this case, and appreciate your help in this matter.

Sincerely,

*John D. Roe*

John D. Roe  
Petroleum Engineer

JDR/cg

Jason Kellahin  
W. Thomas Kellahin  
Karen Aubrey

KELLAHIN and KELLAHIN  
Attorneys at Law  
El Patio - 117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

Telephone 982-4285  
Area Code 505

June 30, 1986

RECEIVED

JUL 1 1986

OIL CONSERVATION DIVISION

Mr. Richard L. Stamets  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504

"Hand Delivered"

Re: Jerome P. McHugh  
Special GOR-Allowable  
Gavilan Mancos Oil Pool

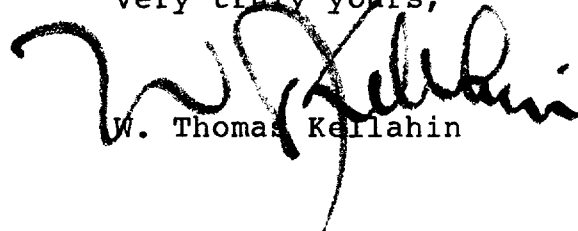
Case 8946

Dear Mr. Stamets:

On behalf of Jerome P. McHugh, please find enclosed our application to establish a temporary Gas-Oil Ratio Limitation and a Production Allowable Limitation for the Gavilan Mancos Oil Pool. We would appreciate you setting this for a hearing on July 23, 1986.

By copy of this letter, including the application, we are notifying all operators and unleased mineral owners within the pool boundaries and all operators of wells within one mile of the pool of this application. Such interested parties are further advised that they may appear at the hearing to be held in Santa Fe, New Mexico, on July 23, 1986, and present testimony in support or in opposition to this application. If they desire more information about their rights in this matter they may contact the undersigned or the Division's attorney.

Very truly yours,

  
W. Thomas Kellahin

WTK:ca  
Enc.

STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY AND MINERALS  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION  
OF JEROME P. MCHUGH AND ASSOCIATES  
FOR AN AMENDMENT TO THE SPECIAL  
RULES AND REGULATIONS OF THE  
GAVILAN MANCOS OIL POOL TO  
ESTABLISH TEMPORARY SPECIAL PRODUCTION  
ALLOWABLE LIMITATIONS AND GAS-OIL  
RATIO LIMITATIONS FOR THE GAVILAN  
OIL POOL, RIO ARRIBA COUNTY,  
NEW MEXICO.

RECEIVED  
JUL 1 1986  
OIL CONSERVATION DIVISION

CASE: 8946

APPLICATION OF JEROME P. MCHUGH

Comes now JEROME P. MCHUGH AND ASSOCIATES, by and through their attorneys, Kellahin & Kellahin, and applies to the New Mexico Oil Conservation Division for the establishment of a Temporary Gas-Oil Ratio limitation of not more than 1,000 cubic feet of gas for each barrel of oil produced AND an allowable or not more than 200 barrels of oil per day per 320 acre spacing and proration unit for the Gavilan Mancos Oil Pool, Rio Arriba County, New Mexico, OR IN THE ALTERNATIVE a similar production limitation formula that will preserve reservoir energy and prevent waste, and in support thereof would show:

1. Applicant is an operator in the Gavilan Mancos Oil Pool, Rio Arriba County, New Mexico.

2. At the request of the applicant, the Oil Conservation Division entered Division Order R-7407

creating and adopting temporary operating rules for the Gavilan-Mancos Oil Pool, Rio Arriba County, New Mexico.

3. The current producing wells in the Gavilan-Mancos Oil Pool are allowed to produce at a 2000 to 1 gas-oil ratio established by Statewide Rule 506, and are further authorized to produce at a maximum daily allowable rate of 772 barrels a day, as authorized by statewide Rule 505.

4. Currently available geologic and engineering data demonstrates that the statewide GOR and allowables applied to the Gavilan-Mancos Oil Pool are resulting in the inefficient use of the reservoir energy and are causing waste to occur.

5. That the reservoir characteristics of the subject pool justify the establishment of a temporary gas-oil limitation of 1,000 cubic feet of gas per barrel of oil and a production limitation on allowables of not more than 200 barrels of oil per day per 320 acre spacing unit.

6. That applicant believes that a Gas Oil Ratio of not more than 1,000 and a daily allowable of not more than 200 barrels a day per well is necessary in order to prevent waste, increase ultimate oil recovery, and to preserve reservoir energy.


7. That in order to prevent waste and protect correlative rights immediate action needs to be taken to

reduce the GOR and the production rates on pool wells for a period of not less than 90 days.

8. In accordance with Division Order R-8054 applicant has notified, by regular mail, all operators of wells and each unleased mineral owner within the existing pool boundaries and all operators of wells within one mile of such boundary, all as set forth on Exhibit A attached hereto.

WHEREFORE, applicant requests that the Division set this matter for hearing and that after notice and hearing the Division establish a temporary special 1,000 to 1 GOR and a maximum allowable of 200 barrels of oil per day per 320 acre spacing unit, for the Gavilan Mancos Oil Pool, OR IN THE ALTERNATIVE, a similar production limitation formula that will preserve reservoir energy and prevent waste.

Kellahin & Kellahin

By 

W. Thomas Kellahin  
P. O. Box 2265  
Santa Fe, NM 87501

(505) 982-4285

EXHIBIT A

GAVILAN WORKING INTEREST OWNERS  
ADDRESSEE LIST

Amoco Production Company  
1670 Broadway  
P. O. Box 800  
Denver, Colorado 80201  
Attention: Richard Bottjer

ARCO Oil and Gas Company  
Permian District  
P. O. Box 1610  
Midland, Texas 79702  
Attention: T. S. McCorkle

Arriba Co., Ltd.  
P. O. Box 35304  
Tulsa, Oklahoma 74153  
Attention: G. L. Morris

Robert L. Bayless  
P. O. Box 168  
Farmington, New Mexico 87499

Chevron U.S.A.  
P. O. Box 599  
Denver, Colorado 80201  
Attention: Randy Hagood

Warren Clark Trust  
Mabel Reed, Trustee  
P. O. Box 1846  
Austin, Texas 78767

Testamentary Trust under the  
Will of Warren Clark  
Mabel Reed and H. M. Reed, Trustees  
P. O. Box 1846  
Austin, Texas 78767

Carolyn Clark Oatman  
P. O. Box 1846  
Austin, Texas 78767

Conoco Inc.  
P. O. Box 460  
726 East Michigan  
Hobbs, New Mexico 88240  
Attention: Donald W. Johnson

Crestone Energy Corporation  
718 17th Street, Suite 520  
Denver, Colorado 80202  
Attention: Randall C. Thompson

Mr. Jerry K. Debolt  
272 Church Center Road  
McMurray, Pennsylvania 15317

Dugan Production Corp.  
P. O. Box 208  
Farmington, New Mexico 87499  
Attention: Robert G. Stovall

Mr. Steve S. Dunn  
3100 Western  
Farmington, New Mexico 87401

Mr. Ralph Gilliland  
7420 Caruth  
Dallas, Texas 75225

Mrs. Ardis North Hamilton  
141 East South Street  
Worthington, Ohio 43085

Rear Admiral Thomas J. Hamilton  
7580 Caminito Avola  
La Jolla, California 92037

Ms. Janet J. Hewes  
c/o The Johnson Offices  
90 Cricket Avenue  
Ardmore, Pennsylvania 19003

A. G. Hill, Oil Producer  
5000 Thanksgiving Tower  
Dallas, Texas 75201  
Attention: Philip Garner

Hooper, Kimball and Williams, Inc.  
P. O. Box 520970  
Tulsa, Oklahoma 74152  
Attention: George Owens

EXHIBIT A

Gavilan Working Interest Owners  
Addressee Listing  
Page Two

Ibex Partnership  
P. O. Box 911  
Breckenridge, Texas 76024

Mr. Eldridge R. Johnson  
c/o The Johnson Offices  
90 Cricket Avenue  
Ardmore, Pennsylvania 19003

Mr. George F. Johnson  
c/o The Johnson Offices  
90 Cricket Avenue  
Ardmore, Pennsylvania 19003

Kenai Oil and Gas Inc.  
One Barclay Plaza  
1675 Larimer Street, Suite 500  
Denver, Colorado 80202  
Attention: Joseph R. Mazzola

Kindermac Partners  
650 South Cherry Street, Suite 1225  
Denver, Colorado 80222

Koch Exploration  
P. O. Box 2256  
Wichita, Kansas 67201  
Attention: Carl Pomeroy

Mallon Oil Company  
1616 Glenarm Place, Suite 2850  
Denver, Colorado 80202  
Attention: Kevin Fitzgerald

Jerome P. McHugh  
650 South Cherry Street, Suite 1225  
Denver, Colorado 80222

McHugh Lindrith 1982 Ltd. Partnership  
650 South Cherry Street, Suite 1225  
Denver, Colorado 80222

McHugh Lindrith 1983 Ltd. Partnership  
650 South Cherry Street, Suite 1225  
Denver, Colorado 80222

Mr. Horace F. McKay, Jr.  
P. O. Box 14738  
Albuquerque, New Mexico 87191

Meridian Oil Inc.  
P. O. Box 4289  
Farmington, New Mexico 87499-4289  
Attention: Land Department

Mr. J. Gregory Merrion  
P. O. Box 840  
Farmington, New Mexico 87499

Merrion Oil and Gas Corp.  
P. O. Box 840  
Farmington, New Mexico 87499  
Attention: Steve Dunn

Mesa Grande, Ltd.  
1305 Philtower Building  
Tulsa, Oklahoma 74103  
Attention: Larry Sweet

Mesa Grande Resources, Inc.  
1200 Philtower Building  
Tulsa, Oklahoma 74103  
Attention: Gregory Phillips

Mrs. Anne K. Milinovich  
64 Sycamore Street  
Waynesburg, Pennsylvania 15370

Mobil Producing Texas & New Mexico  
P. O. Box 633  
Midland, Texas 79702  
Attention: John Faulhaber

Mountain States Natural Gas Corp.  
P. O. Box 35426  
Tulsa, Oklahoma 74543  
Attention: Jack Blair

PC, Ltd.  
P. O. Box 911  
Breckenridge, Texas 76024



EXHIBIT A

Gavilan Working Interest Owners  
Addressee Listing  
Page Three

Mr. Paul J. Puglia  
294 West Wayne Street  
Waynesburg, Pennsylvania 15370

W. E. Lang  
P. O. Box 1067  
Farmington, New Mexico 87499

Reading & Bates Petroleum Company  
3200 Mid-Continent Tower  
Tulsa, Oklahoma 74103  
Attention: Eric Koelling

Southern Union Exploration Company  
Texas Federal Building  
Suite 400  
1217 Main Street  
Dallas, Texas 75202

Tenneco Oil Company  
P. O. Box 3249  
Englewood, Colorado 80155  
Attention: George Calstrom

Texaco Oils Inc.  
P. O. Box 2100  
Denver, Colorado 80201  
Attention: Bill Smallwood

True Oil Company  
P. O. Drawer 2360  
Casper, Wyoming 82602  
Attention: Tom Walker

Duer Wagner, Jr.  
2906 Texas American Bank Building  
Fort Worth, Texas 76102

Duer Wagner, III  
2906 Texas American Bank Building  
Fort Worth, Texas 76102

Mr. Hunt Walker  
P. O. Box 2409  
Denver, Colorado 80201-2409

Bob Andes  
P. O. Box 1067  
Farmington, New Mexico 87499

EXHIBIT A

Dunn-Mar Oil and Gas Company  
27 S. College St.  
Washington, Pennsylvania 15301

Northwest Pipeline Corp.  
295 Chipeta Way  
Salt Lake City, Utah 84108

Michael W. Murphy  
200 N. Jefferson, Suite 500  
El Dorado, Arkansas 71730

R. K. O'Connell  
P. O. Box 2003  
Casper, Wyoming 82602

Union Texas Petroleum Corp.  
14001 E. Iliff Ave., Suite 500  
Aurora, Colorado 80014

Benson-Montin-Greer Drilling Corp.  
221 Petroleum Center Building  
Farmington, New Mexico 87401

U. S. Department of the Interior  
Bureau of Land Management  
P. O. Box 6770  
Albuquerque, New Mexico 87197  
Attention: Gary Stephens

Schalk Development Co.  
P. O. Box 25825  
Albuquerque, New Mexico 87125

Edith H. Payne  
1018 Idlewilde Lane S.E.  
Albuquerque, New Mexico 87191

Kodiak Petroleum, Inc.  
American Penn Energy, Inc.  
5700 S. Quebec, #320  
Englewood, Colorado 80111

Allison Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

David Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Betsey Stone  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Daniel Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Priscilla B. Guest  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Helmerich & Payne, Inc.  
1579 E. 21st St.  
Tulsa, Oklahoma 74114

Forest Oil Corporation  
700 Colorado Federal Building  
821 - 17th Street  
Denver, Colorado 80202

Peter J. McMahon and Grace F. McMahon,  
Trustees under Trust Agreement dated  
December 1, 1981  
320 S. Boston Ave., Suite 1605  
Tulsa, Oklahoma 74103

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS  
GOVERNOR

June 10, 1987

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

Mr. Thomas Kellahin  
Kellahin, Kellahin & Aubrey  
Attorneys at Law  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

Re: CASE NO. 7980, 8946, 9113, and 9114  
ORDER NO. R-7407-E

Applicant:  
OCD, Benson-Montin-Greer Drilling  
Corporation, Mesa Grande Resources,  
Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Sincerely,

FLORENE DAVIDSON  
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD     x      
Artesia OCD     x      
Aztec OCD     x    

Other William F. Carr, W. Perry Pearce, Owen Lopez, Kent Lund,  
Nicholas P. Gentry, Robert Buettner, Ernest L. Padilla, Alan Tubb,  
Robert Stovall, Paul Kelly, William O. Jordan, Mark Adams

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS  
GOVERNOR

July 9, 1987

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

William O. Jordan, Esq.  
28 Old Arroyo Chamiso  
Santa Fe, New Mexico 87505

Re: Case Nos. 7980, 8946,  
9113, 9114, and 8950

Dear Mr. Jordan:

We are in receipt of your Application for Rehearing filed in this matter on July 9, 1987. NMSA 70-2-25(A) 1978 requires that Applications for Rehearing be filed within twenty days of the entry of the order. Because the order in the referenced cases was entered on June 8, 1987, your Application for Rehearing was not timely filed and is therefore rejected.

If you have any questions, please contact either myself or Jeff Taylor at 827-5800.

Sincerely,

A handwritten signature in cursive script, appearing to read "William J. Lemay".

WILLIAM J. LEMAY  
Director

WJL/fd

HAROLD M. HANSEN

Bill LeMay - FYI

RECEIVED  
OFFICE OF THE GOVERNOR  
327 Thoma Street  
Reno, Nevada 89502  
Jun 23 9 33 AM '87  
(702) 322-5474

June 19, 1987

Governor Garrey Carruthers  
State of New Mexico  
Office of the Governor  
Mansion Road  
Santa Fe, NM 87901

Governor Carruthers:

I was advised to send you a copy of the letter I am sending to the members of the Oil Conservation Commission today.

The letter treats the continuing one-sided, politically favored rulings against our interests in the Gavilan Dome-Mancos Field in Rio Arriba County, New Mexico. We had hoped this abuse would stop with the selection of new commissioners but it has not. I attended the March 30 - April 4, 1987, hearings and the arguments, evidence and field models presented by the experts favoring our side was overwhelming. Perhaps a little data overkill. The opposition used distorted formulas to develop unsupported conclusions. The Commission and their staff overlooked this, even though the error in the formulas was repeatedly pointed out during testimony and cross examination. The ruling was decidedly adverse to our side, Mesa Grande, Mallon, Mobile, et al.

The result is like "systematic looting" of interests and values by the New Mexico Oil Conservation Commission. The operating conditions created by the Commission makes it almost impossible to make a decent economic return on investment in the area. What has happened is that values are depressed creating a situation where the large, more politically favored interests, are buying up reserves and interests at discounted values. The condition of the industry is tough enough without having the Commission regulate out fair competition by continuing to make exceptions for these interests.

I have no intention of losing my interests to Sun Oil, which is now actively trying to buy interests and reserves at discounted values reflecting the rulings made by the New Mexico Conservation Commission.

Page 2  
June 19, 1987

The State of New Mexico has an opportunity to correct the situation around October 1, 1987, by having the Commission honestly evaluate the pressure testing on wells in the area that begins July 1, 1987. If a fair procedure is adopted, then adjustments can be made in October with regards to gas/oil ratios, allowables and spacings.

If the testing proves us wrong or points that more time is needed, we can accept this, but not another politically slanted decision where data is misrepresented and the same injustices continued.

Your very truly,



Harold M. Hansen

Enclosure

HMH:da

# HAROLD M. HANSEN

---

*327 Thoma Street  
Reno, Nevada 89502  
(702) 322-5474*

June 19, 1987

Mr. William J. Lemay  
Chairman and Secretary  
Energy and Minerals Department  
Oil Conservation Division  
P.O. Box 2088  
State Land Office Building  
Santa Fe, New Mexico 87504

Dear Mr. Lemay:

On March 30 through April 3, 1987, I attended the New Mexico Oil Conservation Commission hearings covering: Boundaries between the Puerto Chiquito and Gavilan Dome fields; possible respacing from 320 to 640 acres and the changing of oil allowables based on limiting gas/oil ratios.

I was not impartial, having been active in the field since 1977 with shallow gas wells and deeper Gallup-Dakota from 1980. To say the group I represent has been wounded economically from past adverse rulings is to put it mildly. Without doubt, these rulings have been politically flavored and continued exception made from known standards obviously unjust.

The testimony presented by Alan Emmendorfer of Mesa Grande Resources, Greg Hueni of Jerry R. Bergeson and Associates and John Faulhaver of Mobil Oil was what one would hope to expect in such a hearing where huge economic interests were at stake. To say the oppositions' arguments were outclassed is an understatement. The disturbing side of this hearing was what weight politics would play in the outcome. Something very much to consider from past history. I did not attend the September, 1986, hearings when I was told, basically, the same material (without some of the new evidence and probably not as refined) was presented over a weeks period and within fifteen minutes, an adverse ruling was given to the Mesa Grande, Mallon, Koch, Mobil, et al., interests.

With new Commissioners and a new presentation of the material (with added evidence and refinement) the substance of the material at these latest hearings would have made anyone confident about the outcome. It was therefore one damn big shock when the rulings came out decidedly one-sided in favor of the Greer, McHugh, Dugan and Sun interests.

The disturbing part of this was that in testimony and cross examination it was clearly pointed out that the opposition was using a slanted interval from pressure build up tests. By omitting the first hours in the test date, you get highly distorted permeability-drainage factors which result in erroneous field depletion conclusions which reflect on respacings from 320 to 640 acres.

Why the Commission and their advising staff did not pick this distortion up, I don't know, but to give 640 acres spacings and decreased allowables to those giving misleading testimony is particularly galling, but, again, reflective of the political nature of the Gavilan Dome - Mancos field.

From what could be considered the reliable data supported evidence given, this is a complex reservoir, not rate sensitive, with primary (macro-fractures) and secondary (micro-fractures - intergranular matrix) porosities. The initial recoverable reserves are obtained from the larger macro-fractures and the remaining reserves from the micro-fractures and matrix porosities "kick in" once these pressures are drawn down. In order to get full economic benefit from the reservoir, the gas must be removed at a decent rate to bring down the pressures and tap the secondary porosity reservoir. Granted, drainage and decreased pressures are factors as they are in any field, but as in any field when gas is drawn down, this is the producing mechanism that delivers the hydrocarbons.

And I am again a suspicious soul. Why did McHugh, Dugan and Greer even bother to contest the hearings since they just sold out all or part of their interest in the area to Sun. Sun is actively trying to buy more interest in the area at discounted values. A form of adverse possession sanctioned by the Commission via their rulings. Now in a few years Sun will request respacing to 320 or 160 acres with increased allowables and get it with their political wallop. Who suffers then from these recent rulings? What a way to buy reserves!

Today's market for gas and oil has been bad enough without changing the rules on spacings and allowables. Especially, when the rulings are in disregard of the facts presented and overlook distorted evidence.

There is a common perception held by land, mineral right owners and operators in the Gavilan Dome area that New Mexico's Oil Conservation Commission has politically favored certain interests. Based on recent history in the area, that certainly seems the case. Over the past five years in



the Gavilan Dome-Mancos field area (and perhaps 15-20 years in adjacent areas) exceptions to standard spacings and allowables favoring certain interests have caused tremendous economic hardships to other interests.

To summarize briefly the obvious exceptions to State spacings and allowables some of these rulings were:

1. 1983 - Change from 160 acres to 320 acres. This rule applied retroactively to some wells just drilled and short term leases that had expired were allocated back to the interests that had not acted on them without compensation to the mineral right owner. Those that had interest on those wells drilled on 160 acres had to split their revenue interest. That was an unprecedented beauty of a ruling and set the standard for such future actions. The question arises that if the well was a dry hole, would the same retroactive terms still apply?

2. September, 1986 - Deliverability cut back from GOR of 2000/1 to 600/1. Unrealistic, to say the least, as there is no way to achieve any reasonable oil production for many of the wells in the field with such a low GOR that is so far off from the State standard. New wells brought on stream were similarly affected and could not clean up properly the masking effects created by drilling fields in the fractured Gallup-Mancos formations.

What is especially galling is that the Commission ruled in less than fifteen minutes following a week's testimony. This was probably the Commission's "high" in political arrogance and favoritism. The result was severe economic restraints for those trying to operate in a fair manner using normal State standards.

3. March 30 - April 4, 1987. The evidence presented by Hueni of Bergeson & Associates, Emmendorfer of Mesa Grande Resources and Mobil Oil really overwhelmed the Greer, Sun, Roe, Ellis presentations not only in sophistication, thoroughness, and field models but also in data consistency. The continuing point remains in why the oppositions' flawed arguments based on distorted pressure buildup curves were not picked up by the Commission and their staff. This error was pointed out several times and made obvious during the cross examinations.

The ruling favoring Greer, McHugh, Dugan and Sun was ill deserved unless the Commission is working on some ethical standards that are different from what normal reasonable men consider. So we have a system that rewards distortion and penalizes thorough sound arguments.

The resultant increase in spacings and decrease in allowables creates more economic hardships. If it wasn't so damn obvious, it might be a little more acceptable.

Of course, the Commissioner who headed the September 1986 hearing and gave the fifteen minute decision was at this hearing advising Mr. Greer. This certainly can only be construed to be a conflict of interest not, I hope, in the spirit of what the Commission represents.

The new Commissioners have an opportunity to remedy the past situations and create a workable climate in the future. No one can ask any more than basic fairness on how things are considered. I hope we have not passed the point where such changes could be made. Where we are now, I see certain avenues:

1. TESTING - With testing procedures to begin July 1, 1987, there is a chance, if pressure testing on all the wells is consistent, well monitored and fairly evaluated. We wouldn't want another "interpretative data" situation with Greer-like formulas and a staff that cannot recognize it.

2. 640 ACRE SPACINGS AND 600/1 GOR - In most of the locations in the field, this is too restrictive on allowables and a primary consideration must be met. There must be adequate economic return and this rule needs flexibility.

The point may be redundant but the fact that SUN is actively buying discount acreage in the area is reflective of the ruling and how it is interpreted back to the Commission.

320 Acres with adequate allowables (1500/1 - 400BOPD) seems more practical if we are trying to permit an adequate return: otherwise it allows unfair take overs by larger entities like SUN to the detriment of smaller operators with inadequate cash reserves and staying power unless this is, of course, the purpose.

3. DRAINAGE PRESSURES - This correlates with everything above and the data presented in the hearing. The Reservoir Modeling, based on hard data, not just

picking numbers, reproduced the production history of the field. The conclusion on this was with higher gas allowables the difference in fluid recovery is negligible and it is a normal occurrence in fields to have pressure declines. In the case of this field it indeed might enhance recovery as the secondary porosity system "kicks in."

4. NEW WELLS - Some consideration should be given to new wells coming on stream. If these are held to the restrictive allowables, then the "masking effect" created by drilling fluids inhibiting the fractured formations may permanently damage the productive capacity both present and future.

This letter, I hope, is made a matter of record on how the Commission is perceived in their regulation of the Gavilan Dome-Mancos Field. It has managed to alienate any of those trying to get a just, fair position in the area. There is no credibility in an institution that pays no heed to fairness and past history reflects much political favoritism. Most of us have no desire to resort to other legal avenues but there seems to be little choice unless matters change.

Yours very truly,

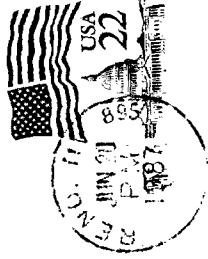
*Harold M. Hansen*

Harold M. Hansen

cc: William A. Humphries, Member  
Erling A. Brostuen, Member  
Commissioners, New Mexico Oil Conservation Commission  
Garrey Carruthers, Governor of New Mexico  
State of New Mexico - Attorney General's Office  
E. Alex Phillips - Mesa Grande Resource  
George Mallon - Mallon Oil Company  
Peter Chase Neumann, Esq.

HMH:da

327 Thoma Street  
Reno, Nevada 89502



Governor Garrey Carruthers  
State of New Mexico  
Office of the Governor  
Mansion Road  
Santa Fe, NM 87901

*Mr. Greer*

# MALLON OIL COMPANY

1099 18th Street, Suite 2750, Denver, Colorado #0202  
(303) 293-2333

June 24, 1987

State of New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, NM 87410

Attn: Frank Chavez

Dear Frank:

As I conveyed yesterday in the Operator's meeting and to you and Ernie Bush on the telephone this morning, I am extremely concerned by the lack of cooperation from Al Greer in his refusal to take a static pressure in a well completed in only the "C" zone below the gas-oil contact. The tone of the meeting yesterday was left without requiring any such measurement because it would require pulling tubing and would be costly to the unit.

It is important to record such a pressure and I have summarized a number of facts relating to the matter. I hope you will consider these in your discussions with the Santa Fe office.

1. Gavilan is supplying eleven wells in which pressures will be recorded for the test while the Canada Ojitos Unit has made available only three wells. The cost to the Gavilan operators will be significantly higher than to the Unit even if the Unit were required to pull downhole equipment from one or two of its wells. This is unfair to Gavilan simply by virtue that the "Canada Ojitos Unit" contains considerably more acreage than Gavilan.
2. In the hearings and in a number of meetings, Mr. Greer has stated that excessive rates in Gavilan are affecting his pressure maintenance project. A pressure in a "C" zone well below the gas-oil contact is imperative if only to determine whether the "C" zone in Canada Ojitos is affected by a change in withdrawal rates from Gavilan.
3. The only two wells in Canada Ojitos which are planned for testing are completed in the "A", "B", and "C" zones. These wells have been shown as producing primarily from the "A" and "B" and any recorded pressure for these wells will be dominated by the "A" and "B" zone pressure. The possibility exists for crossflow between zones in the reservoirs especially if the "C" zone pressure is significantly below the "A" and "B" zone pressures. Again, rate sensitivity is an issue in just such a case where this situation exists and production rates are cutback. Production from the "A" and "B" reservoirs could presently be producing into the "C" reservoir. Attached is a schematic showing such an example.

Frank Chavez  
June 24, 1987  
Page 2 of 2

4. Testing a "C" zone well above the gas-oil contact does not allow one to make an estimate of the pressure in downdip wells. This could only be done in a situation where the "oil level" in the reservoir is precisely known and even in such a case the calculation would not have the sensitivity necessary for the test we are undertaking.

The test proposed by the commission presents a unique opportunity to gather data for these reservoirs. This is likely to be the only three times that the entire reservoir will be shut in. We should take advantage of this opportunity and collect as much data as necessary. Mallon Oil Company has offered to spend a great deal of money to collect even more data than the test requires. It will be necessary for Mallon to pull downhole equipment and we have volunteered to provide two wells for this test. Please review the above information and call if you have any questions.

Sincerely

MALLON OIL COMPANY



Kevin M. Fitzgerald  
Vice President Engineering

KMF:sb

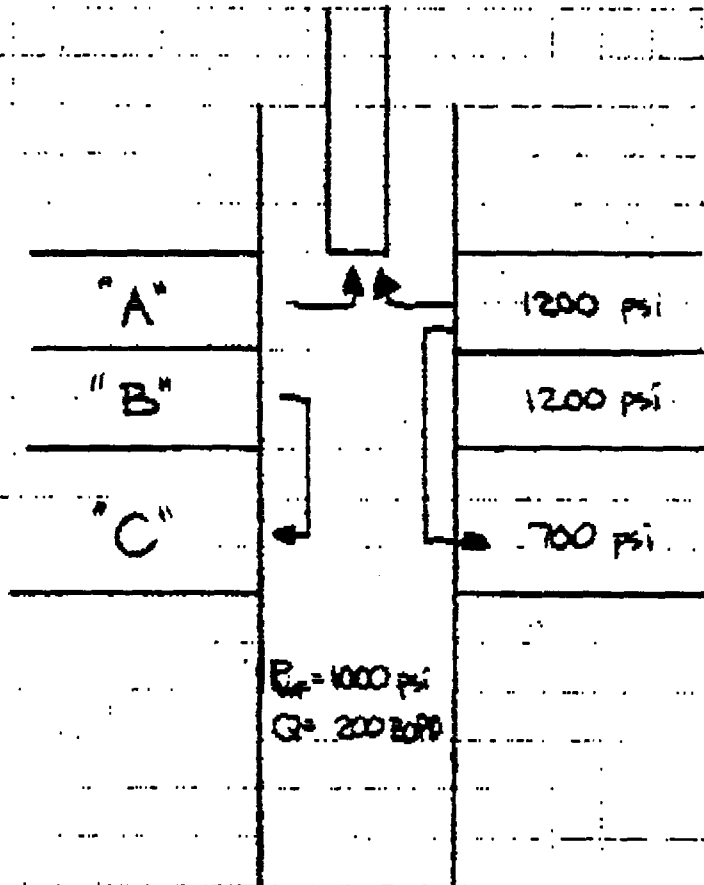
cc: Vic Lyons  
Bill Latta  
Erling Brostuen  
William Humphries  
Frank Douglas

SUBJECT GAVILAN & CANADA OILS PRESSURE TESTING.

DATE 6/24/51

BY KME

SCHEMATIC OF WELL BORE SHOWING CROSS FLOW



IN THE ABOVE EXAMPLE A WELL IS FLOWING 200 BOPD FROM THE A AND B ZONES WHILE THE BOTTOM HOLE FLOWING PRESSURE IS DRAWN DOWN TO 1000 PSI. THE C ZONE, BEING LOWER PRESSURE, WILL NOT PRODUCE AND IN FACT WILL BE "DRINKING" FLUID AND TAKE RESERVES FROM THE A & B ZONES. PRODUCTIVITY TESTS IN GAVILAN AND CANADA OILS HAVE SHOWN THAT IT IS POSSIBLE FOR THESE CONDITIONS TO EXIST IN A NUMBER OF THE HIGHER PRODUCTIVITY WELLS.

# Mesa Grande Ltd.

---

1307 PHILTOWER BUILDING

TULSA, OKLAHOMA 74103

(918) 584-3802

June 30, 1987

TO: MESSA GRANDE, LTD. PARTNERS  
FROM: L. SWEET  
RE: REVIEW OF ORDER #R-7407-E  
Case Nos. 7980, 8946, 9113 & 9114

-----

Attached is Mesa Grande, Ltd.'s review of the above captioned order and our assessment thereof. You have by previous correspondence, a copy of the order.

Application for Rehearing was filed Monday, June 29, with the New Mexico Oil & Gas Conservation Commission, which will be forwarded to you under separate correspondence.

Please feel free to call if you have any questions or comments in regard to this matter.

  
\_\_\_\_\_  
L. Sweet

LDS/ds

Attachments

cc: George Mallon ✓



REVIEW OF ORDER NO. R-7407-E  
AND MESA GRANDE, LTD.'S  
ASSESSMENT THEREOF:

.....

FINDING #6: "The evidence shows that there is limited pressure communication between the two designated pools, and that there are two weakly connected areas separated by some restriction at or near the boundary of the two designated pools."

We agree with this finding to the extent that the initial reservoir pressure in the Gavilan Mancos Oil Pool suggested (but did not prove) that some depletion in Gavilan may have occurred in the period between 1962 when West Puerto Chiquito was discovered and the early 1980's when Gavilan was discovered. Approximately 70 psi depletion may have occurred at Gavilan as a result of approximately 20 years of production from West Puerto Chiquito.

However, the current boundary between the two designated pools is a "boundary of convenience" separating Range 1 and 2 West. The true geologic pool boundary probably lies within the synclinal trough separating the two pools.

FINDING #7: "The evidence shows there are three principal productive zones in the Mancos formation in both presently designated pools, designated A, B, and C listed from top to bottom and that, while all three zones are productive in both designated pools, West Puerto Chiquito produces primarily from the C zone and Gavilan produces chiefly from the A and B zones".

We agree with this finding. This finding further supports that the Gavilan Mancos and West Puerto Chiquito Mancos Oil Pools produce from two separate sources of supply and therefore, should be treated separately.

FINDING #8: "It is clear from the evidence that there is natural fracture communication between zones A and B but that natural fracture communication is minor or non-existent between zones B and C."

We agree with this finding.

FINDING #9: "The reservoir consists of fractures ranging from major channels of high transmissibility to micro-fractures of negligible transmissibility, and possibly, some intergranular porosity that must feed into the fracture system in order for oil therein to be recovered."

The semantics of this order are unclear. For clarification, the evidence shows that the Gavilan-Mancos Oil Pool consists of a high capacity fracture system containing approximately 10 percent of the oil-in-place and a low permeability fracture, microfracture, matrix system containing 90 percent of the oil-in-place. The fractures allow for effective vertical segregation of the gas and oil although the matrix produces by solution gas drive. The matrix produces its oil and gas hydrocarbons into the high capacity fracture system which acts as the primary conduit for flow into the wellbore.

FINDING #10: "The productive capacity of an individual well depends upon the degree of success in communicating the wellbore with the major fracture system."

In a general sense, the above statement is correct. However, there are tremendous permeability and rock variabilities within the reservoir (as evidenced by 400 md-ft. average reservoir transmissibility at Gavilan versus 10,000 md-ft. transmissibility which has been suggested to be representative of West Puerto Chiquito). These variabilities tremendously affect the productive capacity of each individual well. Additionally, there are areas of high fracture intensity and areas of low fracture intensity. "The major fracture system" as used in the finding is a misnomer.

FINDING #11: "Interference tests indicate: 1) a high degree of communication between certain wells, 2) the ability of certain wells to economically and efficiently drain a large area of at least 640 acres; and 3) the probability exists that the better wells recover oil from adjacent tracts and even more distant tracts if such tracts have wells which were less successful in connecting with the major fracture system."

We agree with Items 1 and 2 of the above finding, however, regarding Item 3, we believe that ultimate individual well recoveries are approximately proportional to capacity producing rates. Again, it should be noted that 90% of the oil is contained in the matrix and the ability of the matrix to produce into the higher capacity fracture systems depends greatly on its proximity to the higher capacity fractures. In addition, there was no proof that better wells recover oil from all adjacent tracts, although you might expect that the "probability exists" that this might be the case.

FINDING #12: "There is conflicting testimony as to whether the reservoir is rate-sensitive and the Commission should act to order the operators in West Puerto Chiquito and Gavilan-Mancos pools to collect additional data during 90-day periods of increased and decreased allowables and limiting gas-oil ratios."

While testimony regarding rate sensitivity was conflicting, the only model study which matched actual field performance was the detailed model work performed by Jerry R. Bergeson & Associates, Inc. The "conflicting" model and testimony as presented by Sun Exploration and Production Company were not based upon actual Gavilan-Mancos Oil Pool parameters, nor were they reflective of actual field performance. As a result, the only reliable evidence as presented by Jerry R. Bergeson & Associates, Inc. establishes that the reservoir is not rate-sensitive.

FINDING #13: "Two very sophisticated model studies conducted by highly skilled technicians with data input from competent reservoir engineers produced diametrically opposed results so that estimates of original oil in place, recovery efficiency and ultimate recoverable oil are very different and therefore are in a wide range of values."

Again, the only model work that actually matched field performance while honoring all the available data, was prepared by Jerry R. Bergeson & Associates, Inc. The Sun model was totally unrealistic to field conditions, and in our opinion, the results derived therefrom should be discarded.

FINDING #14: "There was agreement that pressure maintenance would enhance recovery from the reservoir and that a unit would be required to implement such a program in the Gavilan-Mancos Pool."

The parties are not in agreement as to the type of pressure maintenance project needed for the Gavilan-Mancos Oil Pool. Additionally, the formation of a unit was totally beyond the scope of the hearing.

FINDING #15: "Estimates of the amount of time required to deplete the Gavilan pool at current producing rates varied from 33 months to approximately five years from hearing date."

The pool depletion period estimates range from 33 months to approximately 9 years (not 5 years) for primary production operations.

FINDING #16: "Many wells are shut in or are severely curtailed by OCD limits on permissible gas venting because of lack of pipeline connections and have been so shut in or curtailed for many months, during which time reservoir pressure has been shown by pressure surveys to be declining at 1 psi per day or more, indicating severe drainage conditions."

The issue of pipeline connections was beyond the scope of the hearing. In addition, a reservoir cannot be produced without drainage, therefore, the term "severe" drainage (which probably implies reservoir damage to some individuals) is incorrect so long as reservoir drainage does not result in reservoir damage.

FINDING #17: "No party requested making the temporary rules permanent, although certain royalty (not unleased minerals) owners requested a return to 40-acre spacing, without presenting supporting evidence."

We agree with this finding.

FINDING #18: "Proration units comprised of 640 acres with the option to drill a second well would permit wider spacing and also provide flexibility."

We agree with this finding.

FINDING #19: "Recognizing that the two designated pools constitute two weakly connected areas with different geologic and operating conditions, the administration of the two areas will be simplified by maintaining two separate pools."

We totally agree with this finding. Twenty years of production from West Puerto Chiquito with minimal pressure drop at Gavilan certainly demonstrates that these are two separate and distinct pools with different geologic conditions. As the Commission recognized, the evidence showed there are three principal productive zones in the Mancos formation in both presently designated pools with the West Puerto Chiquito Pool producing primarily from the lower interval (C zone) and the Gavilan-Mancos Pool producing primarily from the upper two intervals (A and B zones). In addition, the reservoir mechanics governing production from these two distinct pools are separate and distinct. The high capacity fractures in the Gavilan-Mancos Pool allow for effective vertical segregation of the gas and oil, while the matrix produces by solution gas drive. The production from the West Puerto Chiquito occurs primarily through gravity drainage supplemented by crestal gas cap injection. There is no question that the areas are operated and perform differently.

FINDING #20: "A ninety day period commencing July 1, 1987, should be given for the connection for casinghead gas sale from now-unconnected wells in the Gavilan pool, after which allowables should be reduced in that pool until said wells are connected."

Connection of wells for casinghead gas sales was beyond the scope of the hearing. Certainly pool allowables should not be restricted due to the inability of an operator to secure a pipeline connection.

FINDING #21: "To provide continuity of operation and to prevent waste by the drilling of unnecessary wells, the temporary spacing rules promulgated by Order R-7407 should remain in effect until superceded by this Order."

We agree with this finding.

FINDING #22: "Rules for 640-acre spacing units with the option for a second well on each unit should be adopted together with a provision that units existing at the date of this order should be continued in effect."

We agree with this finding.

## EXHIBIT A

GAVILAN WORKING INTEREST OWNERS  
ADDRESSEE LIST

Amoco Production Company  
1670 Broadway  
P. O. Box 800  
Denver, Colorado 80201  
Attention: Richard Bottjer

ARCO Oil and Gas Company  
Permian District  
P. O. Box 1610  
Midland, Texas 79702  
Attention: T. S. McCorkle

Arriba Co., Ltd.  
P. O. Box 35304  
Tulsa, Oklahoma 74153  
Attention: G. L. Morris

Robert L. Bayless  
P. O. Box 168  
Farmington, New Mexico 87499

Chevron U.S.A.  
P. O. Box 599  
Denver, Colorado 80201  
Attention: Randy Hagood

Warren Clark Trust  
Mabel Reed, Trustee  
P. O. Box 1846  
Austin, Texas 78767

Testamentary Trust under the  
Will of Warren Clark  
Mabel Reed and H. M. Reed, Trustees  
P. O. Box 1846  
Austin, Texas 78767

Carolyn Clark Oatman  
P. O. Box 1846  
Austin, Texas 78767

Conoco Inc.  
P. O. Box 460  
726 East Michigan  
Hobbs, New Mexico 88240  
Attention: Donald W. Johnson

Crestone Energy Corporation  
718 17th Street, Suite 520  
Denver, Colorado 80202  
Attention: Randall C. Thompson

Mr. Jerry K. Debolt  
272 Church Center Road  
McMurray, Pennsylvania 15317

Dugan Production Corp.  
P. O. Box 208  
Farmington, New Mexico 87499  
Attention: Robert G. Stovall

Mr. Steve S. Dunn  
3100 Western  
Farmington, New Mexico 87401

Mr. Ralph Gilliland  
7420 Caruth  
Dallas, Texas 75225

Mrs. Ardis North Hamilton  
141 East South Street  
Worthington, Ohio 43085

Rear Admiral Thomas J. Hamilton  
7580 Caminito Avola  
La Jolla, California 92037

Ms. Janet J. Hewes  
c/o The Johnson Offices  
90 Cricket Avenue  
Ardmore, Pennsylvania 19003

A. G. Hill, Oil Producer  
5000 Thanksgiving Tower  
Dallas, Texas 75201  
Attention: Philip Garner

Hooper, Kimball and Williams, Inc.  
P. O. Box 520970  
Tulsa, Oklahoma 74152  
Attention: George Owens

## EXHIBIT A

Gavilan Working Interest Owners  
 Addressee Listing  
 Page Two

Ibex Partnership  
 P. O. Box 911  
 Breckenridge, Texas 76024

Mr. Eldridge R. Johnson  
 c/o The Johnson Offices  
 90 Cricket Avenue  
 Ardmore, Pennsylvania 19003

Mr. George F. Johnson  
 c/o The Johnson Offices  
 90 Cricket Avenue  
 Ardmore, Pennsylvania 19003

Kenai Oil and Gas Inc.  
 One Barclay Plaza  
 1675 Larimer Street, Suite 500  
 Denver, Colorado 80202  
 Attention: Joseph R. Mazzola

Kindermac Partners  
 650 South Cherry Street, Suite 1225  
 Denver, Colorado 80222

Koch Exploration  
 P. O. Box 2256  
 Wichita, Kansas 67201  
 Attention: Carl Pomeroy

Mallon Oil Company  
 1616 Glenarm Place, Suite 2850  
 Denver, Colorado 80202  
 Attention: Kevin Fitzgerald

Jerome P. McHugh  
 650 South Cherry Street, Suite 1225  
 Denver, Colorado 80222

McHugh Lindrith 1982 Ltd. Partnership  
 650 South Cherry Street, Suite 1225  
 Denver, Colorado 80222

McHugh Lindrith 1983 Ltd. Partnership  
 650 South Cherry Street, Suite 1225  
 Denver, Colorado 80222

Mr. Horace F. McKay, Jr.  
 P. O. Box 14738  
 Albuquerque, New Mexico 87191

Meridian Oil Inc.  
 P. O. Box 4289  
 Farmington, New Mexico 87499-4289  
 Attention: Land Department

Mr. J. Gregory Merrion  
 P. O. Box 840  
 Farmington, New Mexico 87499

Merrion Oil and Gas Corp.  
 P. O. Box 840  
 Farmington, New Mexico 87499  
 Attention: Steve Dunn

Mesa Grande, Ltd.  
 1305 Philtower Building  
 Tulsa, Oklahoma 74103  
 Attention: Larry Sweet

Mesa Grande Resources, Inc.  
 1200 Philtower Building  
 Tulsa, Oklahoma 74103  
 Attention: Gregory Phillips

Mrs. Anne K. Milinovich  
 64 Sycamore Street  
 Waynesburg, Pennsylvania 15370

Mobil Producing Texas & New Mexico  
 P. O. Box 633  
 Midland, Texas 79702  
 Attention: John Faulhaber

Mountain States Natural Gas Corp.  
 P. O. Box 35426  
 Tulsa, Oklahoma 74543  
 Attention: Jack Blair

PC, Ltd.  
 P. O. Box 911  
 Breckenridge, Texas 76024

EXHIBIT A

Gavilan Working Interest Owners  
Addressee Listing  
Page Three

Mr. Paul J. Puglia  
294 West Wayne Street  
Waynesburg, Pennsylvania 15370

W. E. Lang  
P. O. Box 1067  
Farmington, New Mexico 87499

Reading & Bates Petroleum Company  
3200 Mid-Continent Tower  
Tulsa, Oklahoma 74103  
Attention: Eric Koelling

Southern Union Exploration Company  
Texas Federal Building  
Suite 400  
1217 Main Street  
Dallas, Texas 75202

Tenneco Oil Company  
P. O. Box 3249  
Englewood, Colorado 80155  
Attention: George Calstrom

Texaco Oils Inc.  
P. O. Box 2100  
Denver, Colorado 80201  
Attention: Bill Smallwood

True Oil Company  
P. O. Drawer 2360  
Casper, Wyoming 82602  
Attention: Tom Walker

Duer Wagner, Jr.  
2906 Texas American Bank Building  
Fort Worth, Texas 76102

Duer Wagner, III  
2906 Texas American Bank Building  
Fort Worth, Texas 76102

Mr. Hunt Walker  
P. O. Box 2409  
Denver, Colorado 80201-2409

Bob Andes  
P. O. Box 1067  
Farmington, New Mexico 87499



Dunn-Mar Oil and Gas Company  
27 S. College St.  
Washington, Pennsylvania 15301

Northwest Pipeline Corp.  
295 Chipeta Way  
Salt Lake City, Utah 84108

Michael W. Murphy  
200 N. Jefferson, Suite 500  
El Dorado, Arkansas 71730

R. K. O'Connell  
P. O. Box 2003  
Casper, Wyoming 82602

Union Texas Petroleum Corp.  
14001 E. Iliff Ave., Suite 500  
Aurora, Colorado 80014

Benson-Montin-Greer Drilling Corp.  
221 Petroleum Center Building  
Farmington, New Mexico 87401

U. S. Department of the Interior  
Bureau of Land Management

P. O. BOX 6779

David Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Betsey Stone  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Daniel Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Priscilla B. Guest  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Helmerich & Payne, Inc.  
1579 E. 21st St.  
Tulsa, Oklahoma 74114

Forest Oil Corporation  
700 Colorado Federal Building  
821 - 17th Street



EXHIBIT A

Dunn-Mar Oil and Gas Company  
27 S. College St.  
Washington, Pennsylvania 15301

Northwest Pipeline Corp.  
295 Chipeta Way  
Salt Lake City, Utah 84108

Michael W. Murphy  
200 N. Jefferson, Suite 500  
El Dorado, Arkansas 71730

R. K. O'Connell  
P. O. Box 2003  
Casper, Wyoming 82602

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14001 E. Iliff Ave., Suite 500  
Aurora, Colorado 80014

Benson-Montin-Greer Drilling Corp.  
221 Petroleum Center Building  
Farmington, New Mexico 87401

U. S. Department of the Interior  
Bureau of Land Management  
P. O. Box 6770  
Albuquerque, New Mexico 87197  
Attention: Gary Stephens

David Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

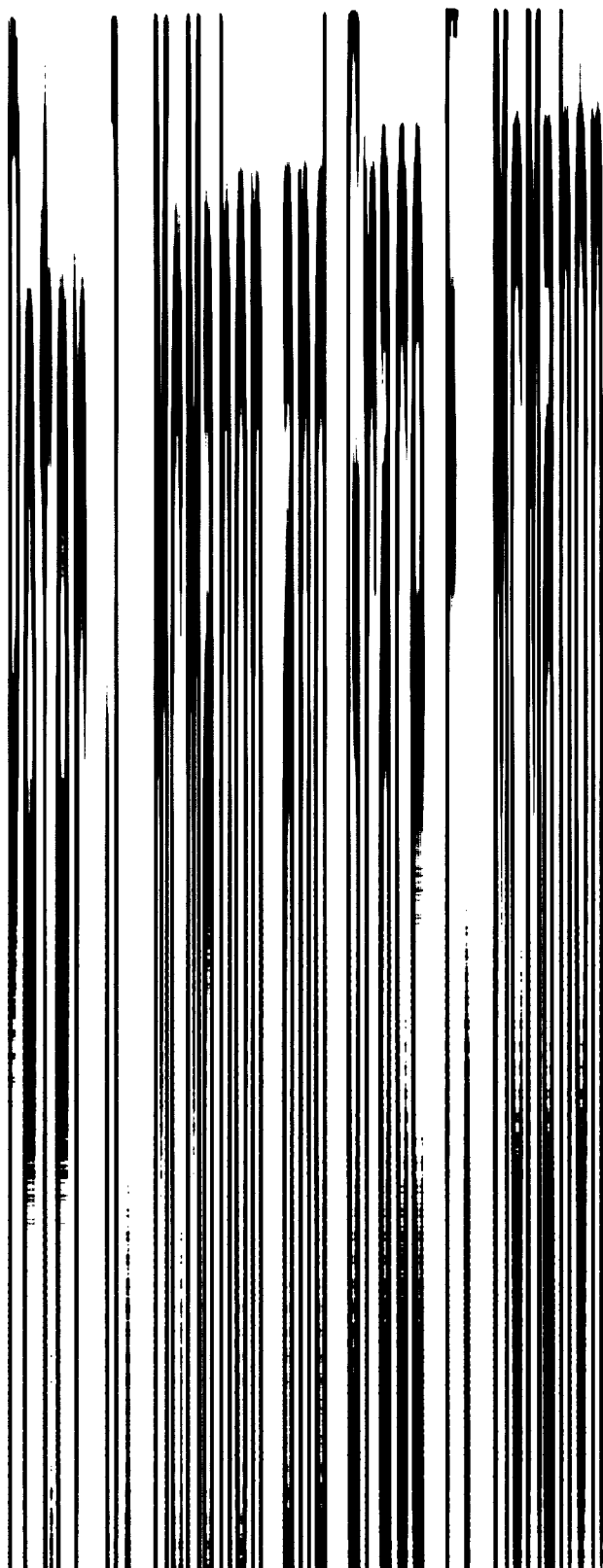
Betsey Stone  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Daniel Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Priscilla B. Guest  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Helmerich & Payne, Inc.  
1579 E. 21st St.  
Tulsa, Oklahoma 74114

Forest Oil Corporation  
700 Colorado Federal Building  
821 - 17th Street  
Denver, Colorado 80202



Dunn-Mar Oil and Gas Company  
27 S. College St.  
Washington, Pennsylvania 15301

Northwest Pipeline Corp.  
295 Chipeta Way  
Salt Lake City, Utah 84108

Michael W. Murphy  
200 N. Jefferson, Suite 500  
El Dorado, Arkansas 71730

R. K. O'Connell  
P. O. Box 2003  
Casper, Wyoming 82602

Union Texas Petroleum Corp.  
14001 E. Iliff Ave., Suite 500  
Aurora, Colorado 80014

Benson-Montin-Greer Drilling Corp.  
221 Petroleum Center Building  
Farmington, New Mexico 87401

U. S. Department of the Interior  
Bureau of Land Management  
P. O. Box 6770

David Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Betsey Stone  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Daniel Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Priscilla B. Guest  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Helmerich & Payne, Inc.  
1579 E. 21st St.  
Tulsa, Oklahoma 74114

Forest Oil Corporation  
700 Colorado Federal Building  
821 - 17th Street

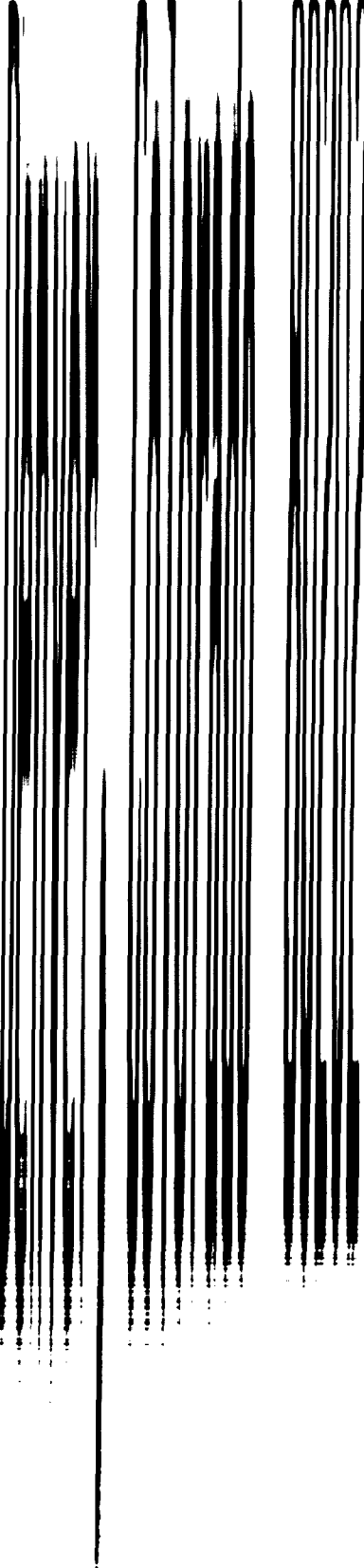
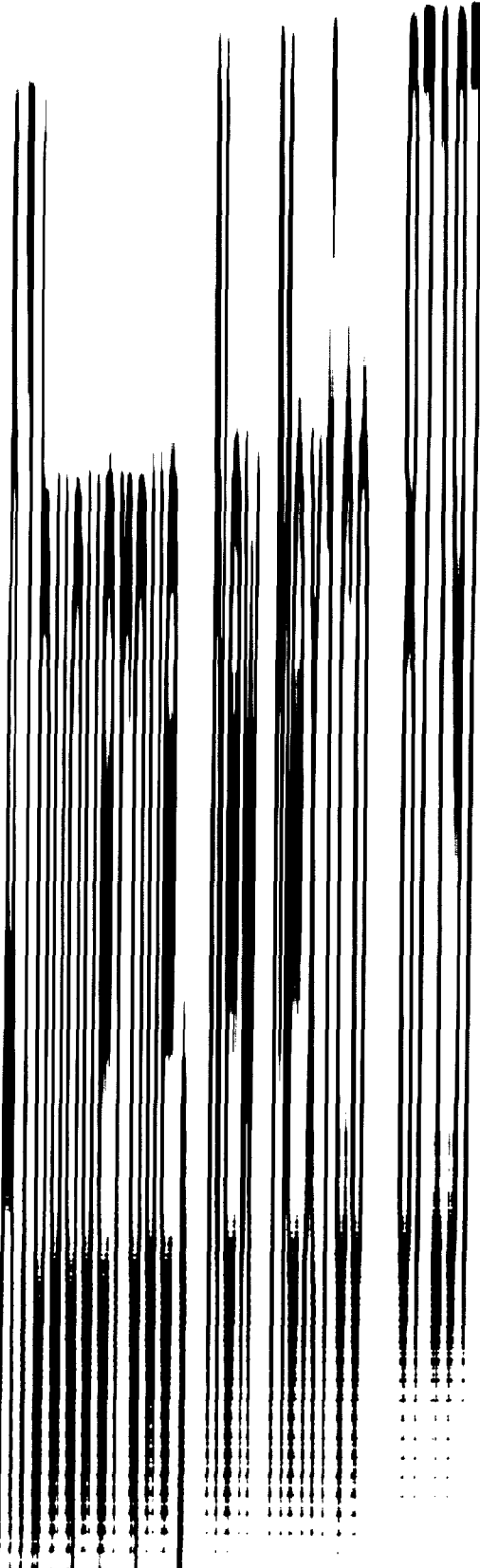


EXHIBIT A

Dunn-Mar Oil and Gas Company  
27 S. College St.  
Washington, Pennsylvania 15301

Northwest Pipeline Corp.  
295 Chipeta Way  
Salt Lake City, Utah 84108

Michael W. Murphy  
200 N. Jefferson, Suite 500  
El Dorado, Arkansas 71730

R. K. O'Connell  
P. O. Box 2003  
Casper, Wyoming 82602

Union Texas Petroleum Corp.  
14001 E. Iliff Ave., Suite 500  
Aurora, Colorado 80014

Benson-Montin-Greer Drilling Corp.  
221 Petroleum Center Building  
Farmington, New Mexico 87401

U. S. Department of the Interior  
Bureau of Land Management  
P. O. Box 6770  
Albuquerque, New Mexico 87197  
Attention: Gary Stephens

Schalk Development Co.  
P. O. Box 25825  
Albuquerque, New Mexico 87125

Edith H. Payne  
1018 Idlewilde Lane S.E.  
Albuquerque, New Mexico 87191

Kodiak Petroleum, Inc.  
American Penn Energy, Inc.  
5700 S. Quebec, #320  
Englewood, Colorado 80111

Allison Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

David Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Betsey Stone  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Daniel Beach  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Priscilla B. Guest  
c/o William A. Martin  
430 Mayo Building  
Tulsa, Oklahoma 74103

Helmerich & Payne, Inc.  
1579 E. 21st St.  
Tulsa, Oklahoma 74114

Forest Oil Corporation  
700 Colorado Federal Building  
821 - 17th Street  
Denver, Colorado 80202

Peter J. McMahon and Grace F. McMahon,  
Trustees under Trust Agreement dated  
December 1, 1981  
320 S. Boston Ave., Suite 1605  
Tulsa, Oklahoma 74103

HINKLE, COX, EATON, COFFIELD & HENSLEY

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

1700 TEXAS AMERICAN BANK BUILDING  
POST OFFICE BOX 12118  
AMARILLO, TEXAS 79101  
(806) 372-5569

700 UNITED BANK PLAZA  
POST OFFICE BOX 10  
ROSWELL, NEW MEXICO 88201  
(505) 622-6510

LEWIS C. COX  
PAUL W. EATON  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.  
OWEN M. LOPEZ  
DOUGLAS L. LUNSFORD  
T. CALDER EZZELL, JR.  
WILLIAM B. BURFORD\*  
RICHARD E. OLSON  
RICHARD A. SIMMS  
RICHARD R. WILFONG\*  
STEVEN D. ARNOLD  
JAMES J. WECHSLER  
NANCY S. CUSACK  
JEFFREY L. FORNACIARI  
JEFFREY D. HEWETT\*  
JAMES BRUCE

JERRY F. SHACKELFORD\*  
JEFFREY W. HELLBERG\*  
ALBERT L. PITTS  
FRED W. SCHWENDIMANN  
THOMAS D. HAINES, JR.  
THOMAS M. HNASKO  
MICHAEL F. MILLERICK  
FRANKLIN H. MCCALLUM\*  
ALLEN G. HARVEY  
GREGORY J. NIBERT  
JUDY K. MOORE\*  
DAVID T. MARKETTE\*  
JAMES R. MCADAMS\*  
JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM R. JOHNSON\*  
CHRISTOPHER S. RAY

October 1, 1986

OF COUNSEL  
ROY C. SNODGRASS, JR.  
O. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT  
CLARENCE E. HINKLE (1904-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)  
\*NOT LICENSED IN NEW MEXICO

HAND DELIVERED  
*Discussed with Kelley  
No action  
RRL  
10/10/86*

RECEIVED  
OCT 1 1986  
OIL CONSERVATION DIVISION

Richard L. Stamets, Director  
New Mexico Oil Conservation Division  
State Land Office Building  
310 Old Santa Fe Trail  
Santa Fe, New Mexico 87501

Re: Oil Conservation Commission Case No. 8946

Dear Dick:

Enclosed please find the Application for Rehearing in the above-referenced matter filed on behalf of Mesa Grande Resources, Inc. This application is submitted pursuant to Section 70-2-25 and is in supplementation of the previously submitted application for rehearing.

Thank you for your consideration of this matter.

Sincerely,

*Owen M. Lopez*  
Owen M. Lopez

OML/mg  
Enclosure  
cc: Larry Suite  
Greg Phillips

OIL CONSERVATION COMMISSION  
ENERGY AND MINERALS DEPARTMENT  
STATE OF NEW MEXICO

RECEIVED

OCT 1 1986

OIL CONSERVATION DIVISION

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

APPLICATION OF JEROME P. McHUGH  
AND ASSOCIATES FOR AN AMENDMENT  
TO THE SPECIAL RULES AND REGULATIONS  
OF THE GAVILAN-MANCOS OIL POOL

Case No. 8946

APPLICATION FOR REHEARING

COME NOW MALLON OIL COMPANY and MESA GRANDE RESOURCES, INC.  
and pursuant to Section 70-2-25 NMSA 1978, apply to the Oil  
Conservation Commission of New Mexico for Rehearing of the  
above-captioned matter, and in support thereof applicants state:

FACTUAL BACKGROUND:

The Oil Conservation Commission, hereinafter Commission,  
held a hearing on the Application of Jerome P. McHugh and  
Associates on August 7, 8, 21, 22 and 27, 1986. The Application  
sought the imposition of reduced oil allowables and reduced  
limiting gas-oil ratios for the Gavilan-Mancos Oil Pool (Gavilan  
Pool), Rio Arriba County, New Mexico. This pool was created by  
the Commission Order R-7407 entered on December 20, 1983. This  
same order adopted special pool rules for the Gavilan Pool.

The Application of Jerome P. McHugh and Associates (Applicant), was opposed by Mallon Oil Company ("Mallon") and Mesa Grande Resources, Inc. ("Mesa Grande") and by several other interested parties. Both Mallon and Mesa Grande are interest owners in and operators of wells in the Gavilan Pool.

On September 11, 1986, the Commission entered Order R-7407-D which reduced the oil allowables and reduced the limiting gas-oil ratios for the Gavilan Pool. Applicants for Rehearing, Mallon and Mesa Grande are affected by this Order.

Pursuant to Section 70-2-25 NMSA 1978, Mallon and Mesa Grande within twenty (20) days of the entry of Order R-7407-D filed this Application for Rehearing.

POINT I: REHEARING SHOULD BE GRANTED  
BECAUSE THE COMMISSION FAILED  
TO MAKE "BASIC CONCLUSIONS OF  
FACT"

Order R-7407-D fails to comply with applicable statutory and judicial mandates. In Continental Oil Co. v. Oil Conservation Commission, 70 N.M. 310, 373 P.2d 809 (1962) the New Mexico Supreme Court in a case dealing with a natural gas pool discussed the basic conclusions of fact that the Commission is required to find prior to changing a proration formula. The requirements are that the Commission find, as far as it is practical to do so:

- (1) the amount of recoverable reserves under each producer's tract;

- (2) the total amount of recoverable reserves in the pool;
- (3) the proportionate relationship of (1) and (2); and
- (4) what portion of the reserves can be recovered without waste.

A review of Order R-7407-D shows that the Commission failed to make any of these required findings and did not discuss any of these necessary elements. The record in this matter is clear, Dugan Exhibit # 1, that the changes adopted by the Commission constitute a change in the proration formula since these changes alter the relative proportion of production between operators in the Gavilan Pool and deviate from statewide rules. Order R-7407-D is therefore contrary to law and arbitrary and capricious.

**POINT II: REHEARING SHOULD BE GRANTED  
BECAUSE THE ORDER IMPAIRS THE  
CORRELATIVE RIGHTS OF INTEREST  
OWNERS IN THE POOL**

---

A. Order R-7407-D finds, Paragraph (12)(n), that a reduction in the allowable oil production rate and lower gas-oil ratio will afford an opportunity to recover more hydrocarbons because of gravity drainage. The gravity drainage claimed by Albert Greer, based solely on information from the West Puerto Chiquito-Mancos Oil Pool is based upon the angle of dip of the formation in said pool. This theory presupposes that for there to be more oil recovered from the pool, one proration must be



down-dip from another proration unit and must recover the oil from the up-dip unit. If the Commission's finding that gravity drainage will occur if production rates are slowed is correct, the correlative rights of the owners of up-dip proration units will be impaired as the reserves underlying their tracts are allowed to migrate to other proration units.

As a result, not only does the Commission's Order fail to protect the correlative rights of interest owners in the pool as is required by statutory and case law, but the Commission's Order actually acts to destroy those rights by preventing operators of up-dip proration units from recovering the reserves underlying their tracts prior to those reserves migrating to down-dip tracts. In the absence of unitization, any act by the Commission which favors gravity drainage is arbitrary and capricious and contrary to law.

B. Applying the Commission's amended gas-oil ratios and amended production allowables to the wells in the Gavilan Pool establishes that the applicant is benefitted by this order even more than requested in its application. The percentage of pool production allocated to various operators in this pool prior to these cases under the applicant's proposal and under the Commission's order are as follows:

PERCENT OF TOTAL STUDY AREA OIL PRODUCTION

<u>Operator</u>	<u>6/86(1)</u>	<u>Applicant's Proposal(1)</u>	<u>Koch Proposal 702/588 (1)</u>	<u>Order of 400/600 (2)</u>
Amoco	0.3	0.6	0.4	0.5
Dugan	2.5	4.2	2.9	3.6
Mallon	19.5	14.2	16.3	13.6
McHugh	39.7	37.5	41.7	41.6
Meridian	9.9	13.0	10.9	11.7
Merrion	0.4	0.6	0.4	0.5
Mesa Grande	10.7	13.2	10.9	11.8
Mobil	4.2	5.8	4.9	5.7
Reading & Bates	1.1	1.8	1.3	1.6
BMG	<u>11.8</u>	<u>9.1</u>	<u>9.9</u>	<u>9.5</u>
TOTALS	100.1	100.0	100.0	100.1

(1) Data taken from Dugan Production Company Exhibit No. 3 to the hearing of this matter.

(2) Calculated from data available in record.

This data clearly shows that the effect of the Commission's Order is to penalize certain interest owner's production in the Gavilan Pool much more severely than others, and even more than the applicant requested. It is also undisputable that the most equitable and balanced treatment of production curtailment in the Gavilan Pool was that proposed by Koch Production Company which was supported by Mallon and Mesa Grande.

For these reasons, Order R-7407-D violates the correlative rights of certain interest owners in the Gavilan Pool and is therefore contrary to law and is arbitrary and capricious.

C. Order R-7407-D also impairs the correlative rights of owners in the Gavilan Pool by allowing wells in the western section of the adjoining West Puerto Chiquito-Mancos Pool to receive credit for gas injection and produce at higher allowable rates than wells in the Gavilan Pool. Some of these wells were relied upon by the applicant to demonstrate the direct and high degree of communication between wells in the Gavilan Pool. The evidence submitted by all parties isolated these western wells from the other wells lying to the east in the West Puerto Chiquito-Mancos Oil Pool. Consequently, there is no justification for treating more favorably these western wells in the West Puerto Chiquito-Mancos Pool.

For this reason Order R-7406-D violates the correlative rights of interest owners in the Gavilan Pool, and is thereby contrary to law and is arbitrary and capricious.

POINT III. REHEARING SHOULD BE GRANTED  
BECAUSE THE ORDER FAILS TO  
CONTAIN SUFFICIENT FINDINGS

Finding 12(b) of the Order states that the Gavilan Pool is primarily a solution-gas drive reservoir with potential for substantial additional ultimate oil recovery by gravity drainage. Testimony in this case is uniformly in agreement that increasing gas-oil ratios are to be expected in solution gas drive

reservoirs and in fact John Roe found that the pressure decline curves and gas-oil ratio curves closely conform to the expected curve shown in Dugan Exhibit 2.

In Fasken v. Oil Conservation Commission, 87 N.M. 292, 532 P. 2d 588 (1975) the New Mexico Supreme Court stated that two levels of findings were necessary in Commission orders. First, those orders must contain "ultimate findings" such as that the order operates to prevent waste or protect correlative rights. Secondly, the order must contain sufficient findings to "disclose the reasoning of the Commission".

The findings of Order R-7407-D fail to set forth the reasoning of the Commission which allows it to ignore the primary production mechanism in favor of the confiscatory mechanism of drainage or some other unspecified production mechanisms.

For this reason Order R-7407-D is contrary to law and is arbitrary and capricious.

POINT IV. REHEARING SHOULD BE GRANTED BECAUSE  
ORDER 7407-D IS CONTRARY TO LAW

Paragraph (11) of Order R-7407-D finds that the working interest owners in the Gavilan Pool are not in agreement on any method of operation of the pool other than that previously adopted by the Commission Order R-7407. During the presentation of testimony in support of the applicant's case, it became clear that the applicant brought this case with the intent of forcing other operators to agree to the unitization of the Gavilan Pool.

In fact, the applicant threatened that if its application did not force the desired unitization, the applicant intended to apply for even more restrictive allowables in the future.

Consequently, it is clear that the applicant seeks to have the Commission do indirectly what the New Mexico Oil and Gas Act does not authorize it to do directly. The Oil and Gas Act does not authorize statutory unitization for primary recovery of oil and gas reserves. However, Order R-7407-D essentially operates to coerce operators to unitize involuntarily and is without statutory authority.

Order R-7407-D is therefore contrary to law and is arbitrary and capricious.

POINT V. REHEARING SHOULD BE GRANTED  
BECAUSE ORDER R-7407-D IS NOT  
SUPPORTED BY SUBSTANTIAL EVIDENCE,  
IS ARBITRARY AND CAPRICIOUS AND IS  
CONTRARY TO LAW

The following findings made by the Commission Order R-7407-D are not supported by substantial evidence contained in the record as a whole.

1. Finding (11)
2. Finding (12)
3. Finding (13)
4. Finding (14)
5. Finding (15)

In the absence of such substantial evidence the Order is arbitrary and capricious and is contrary to law.

POINT VI. REHEARING SHOULD BE GRANTED  
BECAUSE ORDER R-7407-D IS  
CONTRARY TO THE PUBLIC INTEREST

Order R-7407-D is contrary to the public interest for the following reasons:

A. Order R-7407-D discriminates in favor of in-state New Mexico operators and against out-of-state operators, including Mallon and Mesa Grande.

B. The undisputed evidence (Koch Exploration Company's Exhibits 7, 8 and 9) demonstrates that the result of Order R-7407-D is contrary to the economic interests of the State of New Mexico. Although the issue before the Commission was loss of reservoir energy, it is clear that the resultant loss of income to the State of New Mexico through loss of severance taxes and royalty income, not to mention the loss of income to interest owners in the Gavilan Pool, far exceeds the cost of gas required to maintain the Gavilan Pool's present reservoir energy. Consequently, there is no economic justification for the order.

Therefore, Order R-7407-D violates the correlative rights of interest owners in the Gavilan Pool, is contrary to law and is arbitrary and capricious.

POINT VII. REHEARING SHOULD BE GRANTED  
BECAUSE MALLON AND MESA  
GRANDE HAVE BEEN DENIED DUE  
PROCESS OF LAW AND A FULL AND  
FAIR HEARING

At the close of the hearing of this matter on August 27, 1986, the Chairman of the Commission requested applicant's

counsel to provide him with a draft order in this matter. Subsequent to that time, Mallon and Mesa Grande have received from counsel for applicant a copy of the proposed draft order which was submitted to the Commission for its consideration. Mallon and McHugh are unaware of what further steps have been taken with regard to the drafting and preparation of the final order entered in this matter.

In Morgan v. United States, 304 U.S. 1, 58 S.Ct. 773 (1938) the United States Supreme Court considered the propriety of communications being received in administrative proceedings from only one party to that proceeding. The Court states:

If in an equity cause, a special master or the trial judge permitted the plaintiff's attorney to formulate the findings upon the evidence, conferred ex parte with the plaintiff's attorney regarding them, and then adopted his proposal without affording an opportunity to his opponent to know their contents and present objections, there would be no hesitation in setting aside the report or decree as having been made without a fair hearing. The requirements of fairness are not exhausted in the taking or consideration of evidence, but extend to the concluding parts of the procedure as well as to the beginning and intermediate steps.

58 S.Ct. at 777.

In this case, the Commission specifically requested proposed findings and conclusions from only one party to this proceeding and applicants Mallon and Mesa Grande have therefore been denied

their rights to due process of law and their rights to a full and fair hearing of this matter.

WHEREFORE, Mallon Oil Company and Mesa Grande Resources, Inc. request that the Commission grant a Rehearing in this case and that after such Rehearing, the Commission vacate and set aside its Order R-7407-D.

Respectfully submitted,

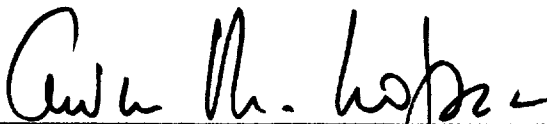
MONTGOMERY & ANDREWS, P.A.



W. Perry Pearce  
Post Office Box 2307  
Santa Fe, New Mexico 87504-2307  
(505) 982-3873

Counsel for Mallon Oil Company

and



Owen M. Lopez  
Hinkle, Cox, Eaton, Coffield  
& Hensley  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068

Counsel for Mesa Grande Resources,  
Inc.



CERTIFICATE OF SERVICE

I hereby certify that I caused to be mailed a true and correct copy of the foregoing Application for Rehearing to the following individuals on this 1st day of October, 1986:

W. Thomas Kellahin, Esquire  
Kellahin & Kellahin  
Post Office Box 2265  
Santa Fe, New Mexico 87501

William F. Carr, Esquire  
Campbell & Black, P.A.  
Post Office Box 2208  
Santa Fe, New Mexico 87501

Robert G. Stovall, Esquire  
Dugan Production Company  
Post Office Box 208  
Farmington, New Mexico 87499

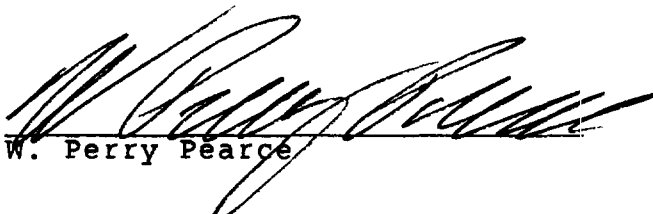
Kent Lund, Esquire  
Amoco Production Company  
Post Office Box 800  
Denver, Colorado 80201

Ernest L. Padilla, Esquire  
Padilla & Snyder  
Post Office Box 2523  
Santa Fe, New Mexico 87501

Robert D. Buettner, Esquire  
Koch Exploration Company  
Post Office Box 2256  
Wichita, Kansas 67201

Owen M. Lopez, Esquire  
Hinkle, Cox, Eaton, Coffield  
& Hensley  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068

Paul Cooter, Esquire  
Rodey, Dickason, Sloan,  
Akin & Robb, P.A.  
Post Office Box 1357  
Santa Fe, New Mexico 87504

  
W. Perry Pearce

Jason Kellahin  
W. Thomas Kellahin  
Karen Aubrey

KELLAHIN and KELLAHIN  
*Attorneys at Law*  
El Patio - 117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

Telephone 982-4285  
Area Code 505

July 14, 1986

RECEIVED

JUL 17 1986

OIL CONSERVATION DIVISION

Mr. Richard L. Stamets  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504

"Hand Delivered"

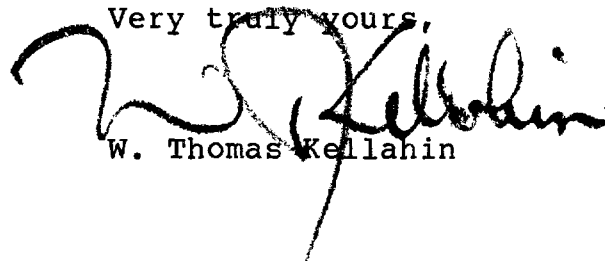
Re: Jerome P. McHugh & Associates  
Application for Amendment to the  
Special Rules and Regulations of the  
Gavilan-Mancos Oil Pool  
NMOCD Case 8946

Dear Mr. Stamets:

This letter will confirm the Division's approval of our request on behalf of Jerome P. McHugh to have the July 23, 1986 hearing of the referenced case continued and reset before the Commission at a hearing to be held in Santa Fe, New Mexico on August 7, 1986.

We are sending a copy of this letter to the addressees shown on the attached list as notification to all operators and working interest owners that may be affected by this hearing of the rescheduling of this case.

Very truly yours,



W. Thomas Kellahin

WTK:ca

cc: Jerome P. McHugh & Associates  
Suite 1225, 650 South Cherry  
Denver, Colorado 80222

William F. Carr, Esq.  
Campbell & Black  
P. O. Box 2208  
Santa Fe, New Mexico 87504

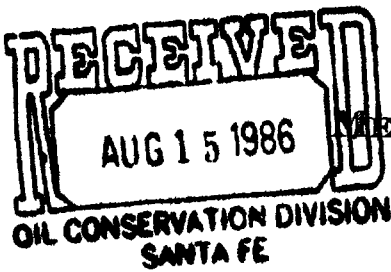
KELLAHIN and KELLAHIN

Mr. Richard L. Stamets  
July 14, 1986  
Page 2

cc: W. Perry Pearce, Esq.  
Montgomery & Andrews  
P. O. Box 2307  
Santa Fe, New Mexico 87504

Owen Lopez, Esq.  
P. O. Drawer 2068  
Santa Fe, New Mexico 87504

Attached Mailing List



**MESA GRANDE RESOURCES, INC.**

**1200 PHILTOWER BUILDING  
TULSA, OKLAHOMA 74103  
(918) 587-8494**

*Case File  
8946*

August 12, 1986

To: Working Interest Owners and/or Gavilan Operators  
Re: Gavilan Mancos Geological Technical Meeting

Gentlemen:

Mallon Oil Company, at the request of the Technical Committees, is coring their well, the Davis Federal 3-15 (Sec.3-T25N-R2W). Sixty foot cores will be drilled from a datum of +392 down to +32. The top of the A zone was mapped at +380.

It has been decided that the Geological Subcommittee will meet to jointly generate a core description for the Study Committee and make recommendations for any core analysis work to be done. In order to effectively evaluate the core the wireline logs should be available.

The core will be held at the Core Labs office in Farmington, New Mexico. The next Geological Subcommittee Meeting will be held in Farmington on or about September 3, assuming no problems with the well. Plan to meet at Core Labs at 8:30 AM to describe the core and recommend a testing program. Any further discussions needed by the Geological Subcommittee can be handled that day at some other meeting place in Farmington.

Please contact me regarding any questions concerning the core description.

Alan P. Emmendorfer  
Geologist

copies:

Working Interest Owners  
Geological & Engineering Technical Committee Members  
NMOCD  
BLM

# GAVILAN OPERATORS MEETING 6-26-86

E- ENGINEER  
G- GEOLOGIST  
L- LANDMAN

NAME	COMPANY	ADDRESS	FUNCTION
DICK ULLMICH	Meridian Oil	Box 4289 Farmington NM 87499	E
JOHN BIRCHER	"	" " "	"
VAN L. GOEBEL	"	" " "	L
George M. Carlstrom	Tenneco	Box 3249, Englewood, Co. 80122	G
IRGIL L. STABS	B.M.G	221 Pet. CENTER BLDG FARMINGTON 87401	
AL GREER	"	" " "	"
Joe Hale	Dun Wagon	1420 cont. Plaza Ft. Worth TX	7515
Dun Wagner III	"	" " "	"
Rick Luce	Koch Expl.		E
Carl Pomeroy	Koch Expl.	PO Box 2256 Wichita KN 67201	
K.C. Bowman	Ref. Mesa Grande, Ltd	PO Box 3248 Idaho Springs, Co 80452	
Mark Gilbert	Texaco	4601 DTC Blvd, Denver, CO	
John Ollie	Meridian	BOX 4289, FNM, NM 87499	E
David Blandford	Mesa Grande Resources	P.O. Box 274 Farmington 87499	
JOS. R. MAZZOLA	KENAI Oil & Gas, Inc	1675 Larimer Denver Co. 80202	
Art Fagnelias	Dugan Prod.	P.O. 208 Farmington, NM, 87401	
KEVIN A. MCCORD	KIM PRODUCTIONS	P.O. BOX 2406 FARMINGTON, NM 87401	E
GREG MERRION	MERRION OIL & GAS	P.O. BOX 840 FARMINGTON, NM	E
STEVEN S. DUNN	MERRION OIL & GAS	P.O. BOX 840 FARMINGTON, NM	E
Larry Sweet	Mesa Grande, Ltd.	1305 Philhower Bld. Tulsa, Oklahoma	
Gary Johnson	McHugh	Denver	E
DICK ELLIS	"	"	G
Alan Emmendorfer	Mesa Grande Resources, Inc	1200 Philhower Tulsa OK	E
Greg Owens	Hooper Kimball & Williams	P.O. Box 520790 Tulsa, OK 74152	E/G/L
John Roe	Dugan Prod. Corp	PO BOX 208 FARMINGTON NM 87499	E
Kevin Fitzgerald	Mallon Oil Company	2850 Security Life Bldg Denver, Co 80202	E
Richard Fralby	MERIDIAN OIL	Farmington	Res. Eng.
Hunt Walker	Ind-	Denver	Landman
STEVE STRUNA	Tenneco Oil	PO Box 3249 Englewood	E



**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,

A handwritten signature in cursive script, appearing to read "Kent J. Lund".

Kent J. Lund

KJL:meb

cc: Mr. C. Alan Wood  
W. Perry Pearce, Esq.  
Counsel of Record (to be hand-delivered by  
Mr. Pearce on Aug. 27, 1986)

HINKLE, COX, EATON, COFFIELD & HENSLEY

ATTORNEYS AT LAW

218 MONTEZUMA

POST OFFICE BOX 2068

SANTA FE, NEW MEXICO 87504-2068

(505) 982-4554

200 CENTURY PLAZA  
POST OFFICE BOX 3580  
MIDLAND, TEXAS 79702  
(915) 683-4691

1700 TEXAS AMERICAN BANK BUILDING  
POST OFFICE BOX 12118  
AMARILLO, TEXAS 79101  
(806) 372-5569

700 UNITED BANK PLAZA  
POST OFFICE BOX 10  
ROSWELL, NEW MEXICO 88201  
(505) 622-6510

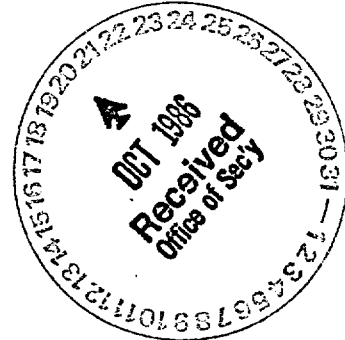
LEWIS C. COX  
PAUL W. EATON  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY JR  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY JR  
OWEN M. LOPEZ  
DOUGLAS L. LUNSFORD  
T. CALDER EZZELL, JR.  
WILLIAM B. BURFORD\*  
RICHARD E. OLSON  
RICHARD A. SIMMS  
RICHARD R. WILFONG\*  
STEVEN D. ARNOLD  
JAMES J. WECHSLER  
NANCY S. CUSACK  
JEFFREY L. FORNACIARI  
JEFFREY D. HEWETT\*  
JAMES BRUCE

JERRY F. SHACKELFORD\*  
JEFFREY W. HELLBERG\*  
ALBERT L. PITTS  
FRED W. SCHWENDIMANN  
THOMAS D. HAINES, JR.  
THOMAS M. HNASKO  
MICHAEL F. MILLERICK  
FRANKLIN H. MCCALLUM\*  
ALLEN G. HARVEY  
GREGORY J. NIBERT  
JUDY K. MOORE\*  
DAVID T. MARKETTE\*  
JAMES R. MCADAMS\*  
JAMES M. HUDSON  
MACDONNELL GORDON  
REBECCA J. NICHOLS  
PAUL R. NEWTON  
WILLIAM R. JOHNSON\*  
CHRISTOPHER S. RAY

October 20, 1986

HAND DELIVERED

*Case File*



OF COUNSEL  
ROY C. SNOODGRASS, JR.  
O. M. CALHOUN  
MACK EASLEY  
JOE W. WOOD  
STEPHEN L. ELLIOTT

CLARENCE E. HINKLE (1901-1985)  
W. E. BONDURANT, JR. (1913-1973)  
ROBERT A. STONE (1905-1981)

\*NOT LICENSED IN NEW MEXICO

Mr. Paul Biderman  
Secretary  
Energy & Minerals Department  
525 Camino de Los Marquez  
Santa Fe, New Mexico 87501

Dear Paul:

Enclosed is a Notice of Appeal on behalf of Mallon Oil Company and Mesa Grande Resources, Inc. which is self-explanatory. We filed our Motion for Rehearing on October 1, 1986 from the Oil Conservation Commission's Order R-7407-D and it is deemed denied since the Commission failed to act within 10 days of the filing of the Motion.

According to Section 70-2-76 N.M.S.A. 1978, we are permitted an appeal to the Secretary of Energy and Minerals Department if the Order contravenes the public interest. The hearing before the Secretary is to be held within 20 days of the denial of the rehearing. According to our calculations, this means that you should hold a hearing on or before November 3, 1986.

The statute also provides that the hearing shall be de novo. Since the original hearing before the Commission occupied 4 1/2 days, we would propose to introduce the entire record of the original hearing at your hearing. Once you had an opportunity to review the record, you could in your discretion request additional evidence or testimony as you deem necessary. However, we believe that to repeat in person what is already contained in the record would be a waste of time and human resources. By copy of this letter to opposing counsel, we invite their concurrence in our proposal as well as whatever additional comments or suggestions they may have.


Finally, you should be aware that since the close of the original hearing, all interested parties in the Gavilan Mancos Pool have continued meeting through various technical committees



Mr. Paul Biderman  
October 20, 1986  
Page Two

with the purpose of reaching a consensus as to how the pool should be operated. These parties are scheduled to meet with the Commission staff mid-November to discuss informally their progress. However, due to statutory time constraints, that process should not affect your deliberations unless an actual consensus is reached before you have an opportunity to make your ruling.

Sincerely,



Owen M. Lopez

OML/mg

cc: W. Perry Pearce  
Ernest L. Padilla  
Robert D. Buettner  
Paul Cooter  
William F. Carr  
W. Thomas Kellahin  
Robert G. Stovall  
Kent Lund

ENERGY AND MINERALS DEPARTMENT

STATE OF NEW MEXICO

IN THE MATTER OF THE APPEAL  
TO THE SECRETARY OF THE ENERGY  
AND MINERALS DEPARTMENT FOR  
THE PURPOSE OF CONSIDERING:

THE APPEAL OF OIL CONSERVATION  
COMMISSION ORDER R-7407-D AMENDING  
THE SPECIAL RULES AND REGULATIONS  
OF THE GAVILAN-MANCOS OIL POOL

Oil Conservation  
Commission Case No. 8946

NOTICE OF APPEAL

COME NOW MALLON OIL COMPANY and MESA GRANDE RESOURCES, INC.  
and pursuant to Section 70-2-26 NMSA 1978, appeal to the  
Secretary of the Energy and Minerals Department of the State of  
New Mexico for reversal of the above-captioned order as violative  
of the public policy of the State of New Mexico, and in support  
thereof applicants state:

FACTUAL BACKGROUND:

The Oil Conservation Commission, hereinafter Commission,  
held a hearing on the Application of Jerome P. McHugh and  
Associates on August 7, 8, 21, 22 and 27, 1986. The Application  
sought the imposition of reduced oil allowables and reduced  
limiting gas-oil ratios for the Gavilan-Mancos Oil Pool (Gavilan  
Pool), Rio Arriba County, New Mexico. This pool was created by  
the Commission Order R-7407 entered on December 20, 1983. This  
same order adopted special pool rules for the Gavilan Pool.

The Application of Jerome P. McHugh and Associates (Applicant), was opposed by Mallon Oil Company ("Mallon") and Mesa Grande Resources, Inc. ("Mesa Grande") and by several other interested parties. Both Mallon and Mesa Grande are interest owners in and operators of wells in the Gavilan Pool.

On September 11, 1986, the Commission entered Order R-7407-D which reduced the oil allowables and reduced the limiting gas-oil ratios for the Gavilan Pool. Appellants Mallon and Mesa Grande are affected by this Order.

Pursuant to Section 70-2-26 NMSA 1978, Mallon and Mesa Grande appeal the entry of Order R-7407-D filed by the Oil Conservation Commission. In support of its appeal, Appellants state:

POINT I: ORDER R-7407-D SHOULD BE  
REVERSED BECAUSE THE COMMISSION  
FAILED TO MAKE "BASIC  
CONCLUSIONS OF FACT"

Order R-7407-D fails to comply with applicable statutory and judicial mandates. In Continental Oil Co. v. Oil Conservation Commission, 70 N.M. 310, 373 P.2d 809 (1962) the New Mexico Supreme Court in a case dealing with a natural gas pool discussed the basic conclusions of fact that the Commission is required to find prior to changing a proration formula. The requirements are that the Commission find, as far as it is practical to do so:

- (1) the amount of recoverable reserves under each producer's tract;

- (2) the total amount of recoverable reserves in the pool;
- (3) the proportionate relationship of (1) and (2); and
- (4) what portion of the reserves can be recovered without waste.

A review of Order R-7407-D shows that the Commission failed to make any of these required findings and did not discuss any of these necessary elements. The record in this matter is clear, Dugan Exhibit # 1, that the changes adopted by the Commission constitute a change in the proration formula since these changes alter the relative proportion of production between operators in the Gavilan Pool and deviate from statewide rules. Order R-7407-D is therefore contrary to law and arbitrary and capricious.

POINT II: ORDER R-7407-D SHOULD BE  
REVERSED BECAUSE THE ORDER  
IMPAIRS THE CORRELATIVE RIGHTS  
OF INTEREST OWNERS IN THE  
POOL

A. Order R-7407-D finds, Paragraph (12)(n), that a reduction in the allowable oil production rate and lower gas-oil ratio will afford an opportunity to recover more hydrocarbons because of gravity drainage. The gravity drainage claimed by Albert Greer, based solely on information from the West Puerto Chiquito-Mancos Oil Pool is based upon the angle of dip of the formation in said pool. This theory presupposes that for there to be more oil recovered from the pool, one proration must be down-dip from another proration unit and must recover the oil

from the up-dip unit. If the Commission's finding that gravity drainage will occur if production rates are slowed is correct, the correlative rights of the owners of up-dip proration units will be impaired as the reserves underlying their tracts are allowed to migrate to other proration units.

As a result, not only does the Commission's Order fail to protect the correlative rights of interest owners in the pool as is required by statutory and case law, but the Commission's Order actually acts to destroy those rights by preventing operators of up-dip proration units from recovering the reserves underlying their tracts prior to those reserves migrating to down-dip tracts. In the absence of unitization, any act by the Commission which favors gravity drainage is arbitrary and capricious and contrary to law.

B. Applying the Commission's amended gas-oil ratios and amended production allowables to the wells in the Gavilan Pool establishes that the applicant is benefitted by this order even more than requested in its application. The percentage of pool production allocated to various operators in this pool prior to these cases under the applicant's proposal and under the Commission's order are as follows:

PERCENT OF TOTAL STUDY AREA OIL PRODUCTION

<u>Operator</u>	<u>6/86(1)</u>	<u>Applicant's Proposal(1)</u>	<u>Koch Proposal 702/588 (1)</u>	<u>Order of 400/600 (2)</u>
Amoco	0.3	0.6	0.4	0.5
Dugan	2.5	4.2	2.9	3.6
Mallon	19.5	14.2	16.3	13.6
McHugh	39.7	37.5	41.7	41.6
Meridian	9.9	13.0	10.9	11.7
Merrion	0.4	0.6	0.4	0.5
Mesa Grande	10.7	13.2	10.9	11.8
Mobil	4.2	5.8	4.9	5.7
Reading & Bates	1.1	1.8	1.3	1.6
BMG	<u>11.8</u>	<u>9.1</u>	<u>9.9</u>	<u>9.5</u>
TOTALS	100.1	100.0	100.0	100.1

(1) Data taken from Dugan Production Company Exhibit No. 3 to the hearing of this matter.

(2) Calculated from data available in record.

This data clearly shows that the effect of the Commission's Order is to penalize certain interest owner's production in the Gavilan Pool much more severely than others, and even more than the applicant requested. It is also undisputable that the most equitable and balanced treatment of production curtailment in the Gavilan Pool was that proposed by Koch Production Company which was supported by Mallon and Mesa Grande.

For these reasons, Order R-7407-D violates the correlative rights of certain interest owners in the Gavilan Pool and is therefore contrary to law and is arbitrary and capricious.

C. Order R-7407-D also impairs the correlative rights of owners in the Gavilan Pool by allowing wells in the western section of the adjoining West Puerto Chiquito-Mancos Pool to receive credit for gas injection and produce at higher allowable rates than wells in the Gavilan Pool. Some of these wells were relied upon by the applicant to demonstrate the direct and high degree of communication between wells in the Gavilan Pool. The evidence submitted by all parties isolated these western wells from the other wells lying to the east in the West Puerto Chiquito-Mancos Oil Pool. Consequently, there is no justification for treating more favorably these western wells in the West Puerto Chiquito-Mancos Pool.

For this reason Order R-7406-D violates the correlative rights of interest owners in the Gavilan Pool, and is thereby contrary to law and is arbitrary and capricious.

POINT III. ORDER R-7407-D SHOULD BE  
REVERSED BECAUSE THE ORDER  
FAILS TO CONTAIN SUFFICIENT  
FINDINGS

Finding 12(b) of the Order states that the Gavilan Pool is primarily a solution-gas drive reservoir with potential for substantial additional ultimate oil recovery by gravity drainage. Testimony in this case is uniformly in agreement that increasing gas-oil ratios are to be expected in solution gas drive

reservoirs and in fact John Roe found that the pressure decline curves and gas-oil ratio curves closely conform to the expected curve shown in Dugan Exhibit 2.

In Fasken v. Oil Conservation Commission, 87 N.M. 292, 532 P.2d 588 (1975) the New Mexico Supreme Court stated that two levels of findings were necessary in Commission orders. First, those orders must contain "ultimate findings" such as that the order operates to prevent waste or protect correlative rights. Secondly, the order must contain sufficient findings to "disclose the reasoning of the Commission".

The findings of Order R-7407-D fail to set forth the reasoning of the Commission which allows it to ignore the primary production mechanism in favor of the confiscatory mechanism of drainage or some other unspecified production mechanisms.

For this reason Order R-7407-D is contrary to law and is arbitrary and capricious.

POINT IV. ORDER R-7407-D IS CONTRARY TO  
LAW

Paragraph (11) of Order R-7407-D finds that the working interest owners in the Gavilan Pool are not in agreement on any method of operation of the pool other than that previously adopted by the Commission Order R-7407. During the presentation of testimony in support of the applicant's case, it became clear that the applicant brought this case with the intent of forcing other operators to agree to the unitization of the Gavilan Pool. In fact, the applicant threatened that if its application did not



force the desired unitization, the applicant intended to apply for even more restrictive allowables in the future.

Consequently, it is clear that the applicant seeks to have the Commission do indirectly what the New Mexico Oil and Gas Act does not authorize it to do directly. The Oil and Gas Act does not authorize statutory unitization for primary recovery of oil and gas reserves. However, Order R-7407-D essentially operates to coerce operators to unitize involuntarily and is without statutory authority.

Order R-7407-D is therefore contrary to law and is arbitrary and capricious.

POINT V. ORDER R-7407-D IS NOT SUPPORTED BY  
SUBSTANTIAL EVIDENCE, IS ARBITRARY  
AND CAPRICIOUS AND IS CONTRARY TO  
LAW

The following findings made by the Commission Order R-7407-D are not supported by substantial evidence contained in the record as a whole.

1. Finding (11)
2. Finding (12)
3. Finding (13)
4. Finding (14)
5. Finding (15)

In the absence of such substantial evidence the Order is arbitrary and capricious and is contrary to law.

POINT VI. ORDER R-7407-D IS CONTRARY TO THE  
PUBLIC INTEREST

Order R-7407-D is contrary to the public interest for the following reasons:

A. Order R-7407-D discriminates in favor of in-state New Mexico operators and against out-of-state operators, including Mallon and Mesa Grande.

B. The undisputed evidence (Koch Exploration Company's Exhibits 7, 8 and 9) demonstrates that the result of Order R-7407-D is contrary to the economic interests of the State of New Mexico. Although the issue before the Commission was loss of reservoir energy, it is clear that the resultant loss of income to the State of New Mexico through loss of severance taxes and royalty income, not to mention the loss of income to interest owners in the Gavilan Pool, far exceeds the cost of gas required to maintain the Gavilan Pool's present reservoir energy. Consequently, there is no economic justification for the order.

Therefore, Order R-7407-D violates the correlative rights of interest owners in the Gavilan Pool, is contrary to law and is arbitrary and capricious.

POINT VII. ORDER R-7407-D SHOULD BE  
REVERSED BECAUSE MALLON AND  
MESA GRANDE HAVE BEEN DENIED  
DUE PROCESS OF LAW AND A FULL  
AND FAIR HEARING

At the close of the hearing of this matter on August 27, 1986, the Chairman of the Commission requested applicant's counsel to provide him with a draft order in this matter.

Subsequent to that time, Mallon and Mesa Grande have received from counsel for applicant a copy of the proposed draft order which was submitted to the Commission for its consideration. Mallon and McHugh are unaware of what further steps have been taken with regard to the drafting and preparation of the final order entered in this matter.

In Morgan v. United States, 304 U.S. 1, 58 S.Ct. 773 (1938) the United States Supreme Court considered the propriety of communications being received in administrative proceedings from only one party to that proceeding. The Court states:

If in an equity cause, a special master or the trial judge permitted the plaintiff's attorney to formulate the findings upon the evidence, conferred ex parte with the plaintiff's attorney regarding them, and then adopted his proposal without affording an opportunity to his opponent to know their contents and present objections, there would be no hesitation in setting aside the report or decree as having been made without a fair hearing. The requirements of fairness are not exhausted in the taking or consideration of evidence, but extend to the concluding parts of the procedure as well as to the beginning and intermediate steps.

58 S.Ct. at 777.

In this case, the Commission specifically requested proposed findings and conclusions from only one party to this proceeding and applicants Mallon and Mesa Grande have therefore been denied their rights to due process of law and their rights to a full and fair hearing of this matter.

WHEREFORE, Mallon Oil Company and Mesa Grande Resources, Inc. request that the Secretary vacate and set aside Order R-7407-D.

Respectfully submitted,

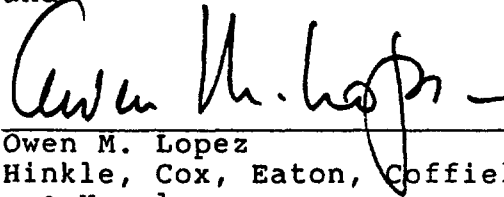
MONTGOMERY & ANDREWS, P.A.



W. Perry Pearce  
Post Office Box 2307  
Santa Fe, New Mexico 87504-2307  
(505) 982-3873

Counsel for Mallon Oil Company

and



Owen M. Lopez  
Hinkle, Cox, Eaton, Coffield  
& Hensley  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068

Counsel for Mesa Grande Resources,  
Inc.

CERTIFICATE OF SERVICE

I hereby certify that I caused to be mailed a true and correct copy of the foregoing Notice of Appeal to the following individuals on this 20th day of October, 1986:

W. Thomas Kellahin, Esquire  
Kellahin & Kellahin  
Post Office Box 2265  
Santa Fe, New Mexico 87501

William F. Carr, Esquire  
Campbell & Black, P.A.  
Post Office Box 2208  
Santa Fe, New Mexico 87501

Robert G. Stovall, Esquire  
Dugan Production Company  
Post Office Box 208  
Farmington, New Mexico 87499


Kent Lund, Esquire  
Amoco Production Company  
Post Office Box 800  
Denver, Colorado 80201

Ernest L. Padilla, Esquire  
Padilla & Snyder  
Post Office Box 2523  
Santa Fe, New Mexico 87501

Robert D. Buettner, Esquire  
Koch Exploration Company  
Post Office Box 2256  
Wichita, Kansas 67201

Owen M. Lopez, Esquire  
Hinkle, Cox, Eaton, Coffield  
& Hensley  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068

Paul Cooter, Esquire  
Rodey, Dickason, Sloan,  
Akin & Robb, P.A.  
Post Office Box 1357  
Santa Fe, New Mexico 87504

  
\_\_\_\_\_  
W. Perry Pearce

15,193/33



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

TONY ANAYA  
GOVERNOR

November 12, 1986

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501-2088  
(505) 827-5800

Mr. Richard E. Fraley  
Gavilan Engineering Subcommittee  
Co-Chairman  
Meridian Oil  
Box 4289  
Farmington, N.M. 87499

Dear Mr. Fraley:

By your letter of November 6, 1986, you advised me that all but one member of the Gavilan Pool Study Committee had recommended the special test procedure for new wells in the pool as outlined in your letter.

As we discussed, I would be willing to administratively authorize a special test procedure but only if it was unanimously agreed to by Committee members. In the absence of such unanimity, no such procedure will be approved.

Further, the proposal in your November 6 letter is not exactly what I had in mind when we talked earlier. My perception was that new wells in the Gavilan-Mancos Pool would be allowed to produce up to 702 barrels of oil per day for their first 60 days of production. All oil and gas production would be measured and any oil and gas produced in excess of the regular allowable of 200 barrels of oil per day and the 120,000 cubic feet of gas per day would then have to be made up. Overproduced wells would have to be shut-in and remain shut-in until all overproduction had been compensated for by new allowable. This type of procedure would not result in pool production over time being any greater than allowed by current pool rules.

In the absence of committee unanimity on a test procedure, the only avenue open for approval of a special test procedure would be after a hearing to establish such a procedure in the temporary special pool rules.

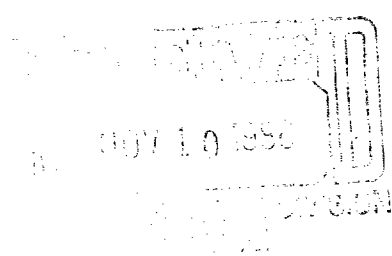
Sincerely,

A handwritten signature in dark ink, appearing to read "R. L. Stamets", written over a horizontal line.

R. L. STAMETS  
Director

RLS:dp

cc: Frank Chavez



November 6, 1986

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

Re: Special Testing Allowable  
Gavilan Mancos Oil Pool  
Rio Arriba County, New Mexico

Dear Mr. Stamets:

The Gavilan Mancos Engineering Subcommittee hereby requests the approval of a special testing allowable of 702 barrels of oil per day with a gas-oil ratio limit of 2000:1 to be granted to wells first delivered into a gas pipeline after September 1, 1986. Likewise, a special testing allowable of 1404 barrels of oil per day with a gas-oil ratio limit of 2000:1 is requested for new wells first delivered into a gas pipeline after September 1 in the Canada Djitos Unit. It is further requested that the proposed test period shall be for sixty days commencing on the date of first delivery of casinghead gas into a pipeline.

This request is supported by the following members of the Gavilan-Mancos Engineering Subcommittee:

1. Dugan Production Corp.
2. Jerome P. McHugh & Associates
3. Meridian Oil Company
4. Mesa Grande Resources, Inc.
5. Mobil Oil Corp.
6. BMG Drilling Corp.
7. Hooper, Kimball & Williams, Inc.

This request is opposed by Koch Exploration Company which offers the following statement of position:

"Koch Exploration Company is opposed to the proposed test period allowable since it is not consistent with the Commission's order that production from the Gavilan Pool must be restricted."

Mr. Richard Stamets  
November 6, 1986  
Page Two

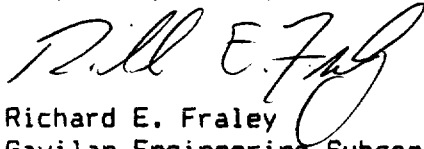
In addition, Mallon Oil Company has no objections to this request.

The positions of other operators in the pool are not known as they were not represented on the Engineering Subcommittee.

The above request will allow the operators to better determine the stabilized production rates of each new well and will allow the operator sufficient time to determine which remedial steps, if any, are necessary to bring new wells into compliance with NMOCD Order R-7407-D. Approval of the request will also allow the acquisition of more accurate well productivities for the purpose of equity determination should unitization be agreed to.

Your prompt consideration will be appreciated. Please advise if further information is needed.

Very Truly Yours,



Richard E. Fraley  
Gavilan Engineering Subcommittee Co-Chairman  
Meridian Oil  
(505) 327-0251

DMB:

cc: Working Interest Owners  
NMOCD - Aztec





STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
OIL CONSERVATION DIVISION

TONY ANAYA  
GOVERNOR

September 16, 1986

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

Mr. Thomas Kellahin  
Kellahin & Kellahin  
Attorneys at Law  
Post Office Box 2265  
Santa Fe, New Mexico

Re: CASE NO. 8946  
ORDER NO. R-7407-D

Applicant:

Jerome P. McHugh and Associates

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

R. L. STAMETS  
Director

RLS/fd

Copy of order also sent to:

Hobbs OCD           x            
Artesia OCD           x            
Aztec OCD           x          

Other William F. Carr, Ernest L. Padilla, W. Perry Pearce, Paul Cooter, Kent Lund, Robert Stovall, Owen Lopez, Robert Buettner, Greg Owens

NEW MEXICO OIL CONSERVATION COMMISSION

COMMISSION HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 21, 1986 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
William J. Lou KENT LUND ALAN WOOD	Campbell and Clark AMOCO PROD CO " " "	Santa Fe DENVER "
Greg D. Owens	Hooper, Kimball & Williams, Inc	Tulsa
Bruce Pettit	Reading & Bates Petroleum Co	Tulsa
T.L. Hill	Mobil Producing TX & NM, INC	Midland TX
M.E. Sweeney	" " " "	" "
Howards	<del>XXXX</del>	Lindroth, NM
S. M. STRUNA	TENNECO Oil Company	Denver, CO
L. Greg Ashdown	Conoco	Hobbs, NM
ERNEST L. PADILLA	PADILLA & SNYDER	SF, NM
W. Penny Pearce	Montgomery & Andrews, P.A.	Santa Fe
R. Huhw	Bryan	Santa Fe
JOHN ROE	Dugan Production	Farmington
R. Fraloy	MERIDIAN	"
JOHN FAULHAGER Victor T. Lyon	MOBIL PRODUCING, TX & NM, Inc, OGD	MIDLAND, TX Santa Fe
Andrew M. Hooper	Hinkle Law Firm	Santa Fe
Estate Busch	OGD	Aztec

## NEW MEXICO OIL CONSERVATION COMMISSION

## COMMISSION HEARING

SANTA FE, NEW MEXICOHearing Date AUGUST 21, 1986 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
Mallon	Mallon Oil Co	Denver
KEVIN M. FITZGERALD	MAULON OIL	DENVER
Kent A. Johnson	KODIAK PETRO., INC.	DENVER
David L. Mikesch	Mallon Oil	Denver
Dan Nettie	Cash Sugar	State
Paul Brown	Home Owner -	Lindrieth
Marie Ann Dickinson	Home Owner -	Lindrieth - Alb.
B. HUENI	BERGESON'S ASSOC.	DENVER
Goe Stevens	Giant Refining Co.	FARMINGTON
Luke Wothers	" " "	PHOENIX
Gare Clancy	Bus. Land Management	Albuquerque

NEW MEXICO OIL CONSERVATION COMMISSION

COMMISSION HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 21, 1986 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION

*BENSON-MONTIN-GREER DRILLING CORP.*

221 PETROLEUM CENTER BUILDING, FARMINGTON, NM. 87401 505-325-8874

November 28, 1986

Mr. Richard L. Stamets, Chairman  
New Mexico Oil Conservation Division  
Box 2088  
Santa Fe, NM 87501

*Case File*

Re: NMOCD CASE NO. 8946  
ORDER NO. R-7407-D:  
MALLON OIL COMPANY LETTER  
OF NOVEMBER 17, 1986

Dear Mr. Stamets:

A part of the captioned order calls for a status report of the Gavilan Technical Committee. This report has been provided you by the committee.

Mallon Oil Company, by letter dated November 17, 1986, has taken upon itself to write you a separate letter, copy of which was received by Benson-Montin-Greer (B-M-G) November 26, copy enclosed for your reference. As a member of the technical committee I think it inappropriate for the companies to write separate letters; however since Mallon has written you and the letter brings up issues that should not go unanswered, I feel compelled to respond. Hence, this letter to you now. Since Mallon is attempting to involve others as indicated by copies of his letter, I am sending copies to the same parties.

The intent of the provisions in the order for the technical committee with members of both proponents and opponents in Case No. 8946 was to provide an informal forum that would allow the resolution of the differing interpretations of pertinent technical data.

Reasonable efforts to do this have been made by the companies except for Mallon, whose actions have been directed, not only at attempts to cancel the Oil Conservation Division order, but also to thwart the Oil Conservation Division initiative of seeking resolution of the differing technical interpretations.

Witness for example:

1. Upon the OCD decision to form the technical committee, Mallon was asked to place on the committee his witness in Case 8946, as this would be the best way for the issues to be debated and

...

*BENSON-MONTIN-GREER DRILLING CORP.*

Mr. Richard L. Stamets  
New Mexico Oil Conservation Division

Page No. 2  
November 28, 1986

attempts made to reach consensus. Mallon declined, saying it would "not be cost effective" and that he wanted to reserve his witness for future use. So at the outset, Mallon revealed that he was not interested in resolving the technical issues - but to preserve his witness to later present his biased position in formal proceedings before the authorities.

2. As set out in his November 17 letter Mallon, rather than bringing issues to the technical committee for resolution (which could have been accomplished at any time since his representative was co-chairman of the committee and could have placed any issue on the agenda) chose to make unilateral interpretations (mostly erroneous) and forward them to you by his November 17 letter as if they were facts.

Then, having made his unilateral and erroneous interpretations, he draws conclusions; and in a high-handed and self-serving fashion he purports to dictate to the Commission the action he wants it to take - all without any opportunity for presentation of other views, rebuttal, or cross-examination of his statements.

Just as in Case 8946 in which the Mallon witness made misinterpretations of anomalies in reported data without ever researching to validate the erroneous data, Mallon - in his unilateral interpretations described in his November 17 letter - continues to misinterpret and jump to erroneous conclusions.

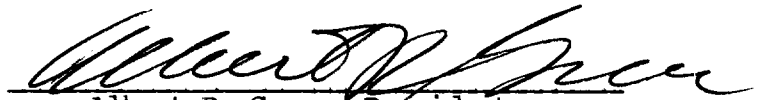
A point by point discussion of the four interpretations set out in page 1 of Mallon's letter is attached hereto.

Since his conclusions are based on misinterpretations and lack of facts, I make no comment as to the rest of his letter, except to urge that his recommendations be disregarded.

Yours truly,

BENSON-MONTIN-GREER DRILLING CORP.

BY:

  
Albert R. Greer, President

ARG/tlp

cc: Gavilan Engineering Committee members  
Governor-Elect Garrey Carruthers  
Mr. Paul Biderman, Secretary, Energy and Minerals Department

CRITIQUE OF MALLON'S INTERPRETATIONS  
PAGE 1 OF MALLON LETTER OF NOVEMBER 17, 1986  
TO R.L. STAMETS

Item 1: Core Analysis of Mallon Davis-Federal 3-15

The engineering committee has not yet made its study of this core analysis, waiting (and properly so) for the rest of the report - particularly that dealing with the full core analysis. My interpretation of the preliminary data is that it is in the direction of confirming the concerns I expressed at the hearing; so Mallon's statement - weak as it is - "possibility for matrix contribution" must be considered an interpretation, and not a fact agreed upon by the members of the committee. The significant aspects of Mallon's interpretation are the following:

1. The opponents appear to be coming closer to the proponents' position in that the reservoir is simply a fractured reservoir.

2. If the matrix contribution - if any - is limited to those areas of highly fractured reservoir then a large pressure drop is not required to move the oil from the matrix to the fractures (and is in accordance with B-M-G's testimony at the hearing as being the normal situation for fractured reservoirs with matrix porosity).

3. This interpretation that the matrix contribution is limited to only highly fractured areas is in direct conflict with the testimony presented by Mobil at the hearing; and means either that the opponents now accept the proponents' interpretation of this part of the reservoir mechanics - or if not, they are in disarray with respect to this issue. (Self-evident confirmation of the wisdom of the OCD initiative to seek resolution of technical interpretations through informal committee discussions.)

Item 2: Initial Pressure Surveys of the Mallon Davis-Federal 3-15

In typical Mallon fashion he has accepted an anomalous pressure and - without confirming it to be true - has drawn erroneous conclusions from it. It was noted by the engineering committee when the first pressure on this well was taken that it was anomalously high; and could be the consequence of residual frac pressure. To confirm this, additional surveys would be needed; and although Mallon apparently was not intending to properly condition the well, nevertheless the question of residual frac pressure could be resolved with a low degree of precision in the conditioning process (a well in which relatively small volumes of reservoir fluids are withdrawn prior to shut in will show consecutive bottom hole pressure surveys that will "track" reasonably well when pressure is plotted versus time).

The committee recommended another survey and Mallon agreed to it (there was no cost to Mallon for the survey work as it was contributed by the Canada Ojitos Unit).

Despite the committee's admonitions with respect to this survey, Mallon prematurely made the interpretation that the survey

shows the reservoir to be at virgin pressure without waiting for the confirming survey, and draws erroneous conclusions and now expects the ODD to accept them.

When the second survey was taken it demonstrated that the first one probably was a reflection of overpressuring as a consequence of the frac treatment, since the second survey showed a pressure of approximately 150# less than the first survey and the curve showed a substantial difference in character of buildup (see colored graph attached). So Mallon was simply wrong again.

Whether Mallon will properly test the well to determine the true reservoir pressure is unknown; but from the preliminary data, it appears that the reservoir in this area is tight. Despite this, the probability exists that its pressure may have been depleted by other wells in the area such that the pressure appears to be hundreds of pounds less than virgin pressure.

The pressure information on this well to date suggests a more significant interpretation with respect to reservoir mechanics which has not been recognized by Mallon; but which presumably the engineering committee will take up in due course - providing Mallon does not withhold further test information.

#### Items 3 and 4 Regarding Gas-Oil Ratios

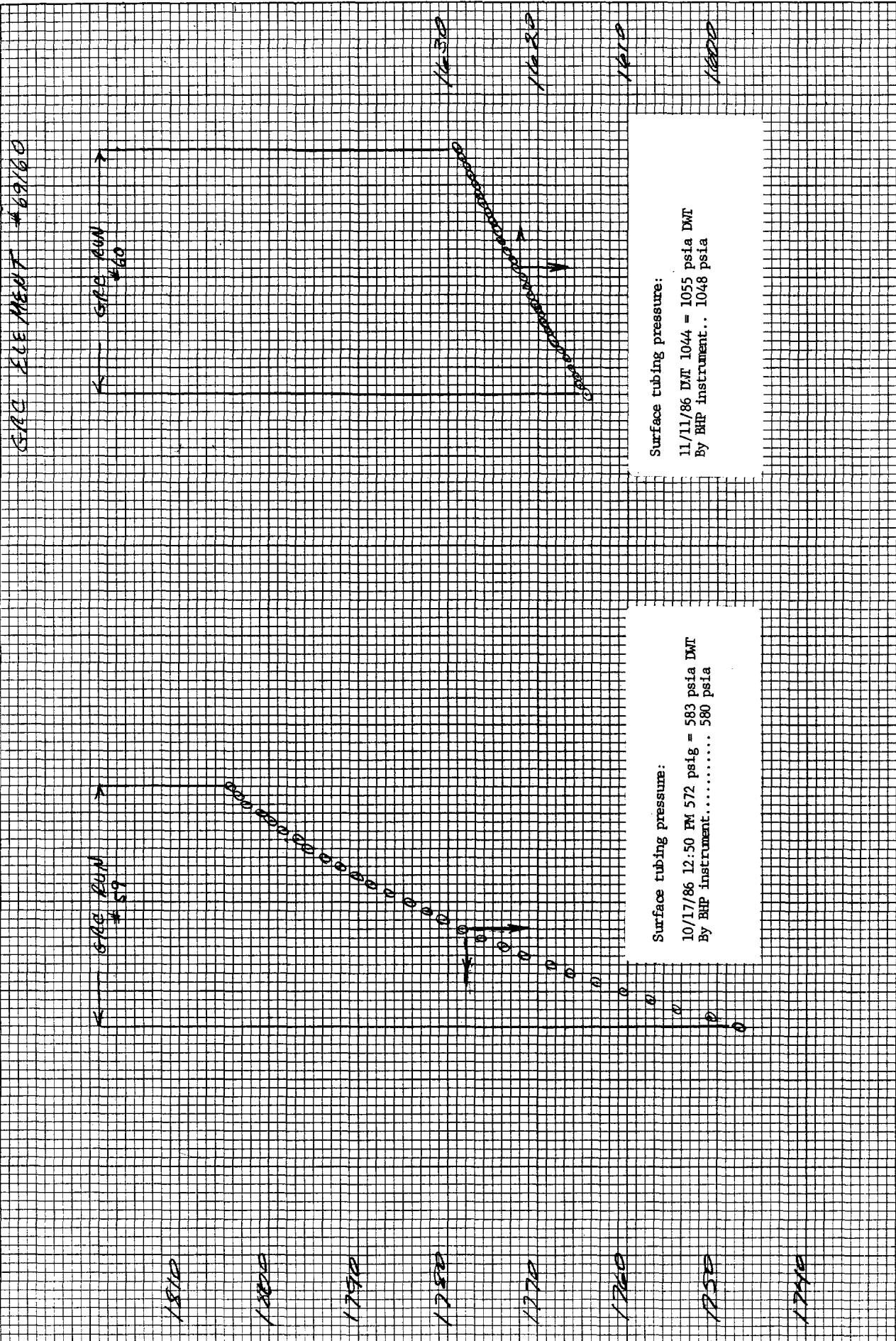
Here Mallon refers to new gas-oil ratio information acquired since the hearing and makes interpretations of changed conditions under the order.

The OCD needs to realize that not all wells (particularly Mallon's) were restricted to their new allowables in September and that the committee has not had November data to study. This leaves only the month of October; and I submit that it is impossible from such limited data to reliably reach such far-ranging conclusions as Mallon does. These are typical Mallon actions - interpret and conclude before the facts are known.



BHP SURVEY WAGON 3-15 DAVIS-FED  
 GRC ELEMENT #69/60

PRESSURE AT 7162' RKB - PSIA



Surface tubing pressure:

11/11/86 DMT 1044 = 1055 psia DMT  
 By BHP instrument.. 1048 psia

Surface tubing pressure:

10/17/86 12:50 PM 572 psig = 583 psia DMT  
 By BHP instrument..... 580 psia

PRESSURE AT 7162' G.L. - PSIA

17 18 19 20 11 12 13 14  
 DAYS IN OCTOBER, 1986 DAYS IN NOVEMBER 1986

# MONTGOMERY & ANDREWS

OF COUNSEL  
A. K. Montgomery

PROFESSIONAL ASSOCIATION  
ATTORNEYS AND COUNSELORS AT LAW

J. O. Seth (1883-1963)  
Frank Andrews (1914-1981)

Seth D. Montgomery	Sarah M. Singleton
Victor R. Ortega	Jay R. Hone
Jeffrey R. Brannen	Charles W. N. Thompson, Jr.
John B. Pound	John M. Hickey
Gary R. Kilpatric	Mack E. With
Thomas W. Olson	Galen M. Buller
William C. Madison	Katherine W. Hall
Walter J. Melendres	Edmund H. Kendrick
Bruce Herr	Helen C. Sturm
Michael W. Brennan	Richard L. Puglisi
Robert P. Worcester	Arturo Rodriguez
James C. Compton	Joan M. Waters
John B. Draper	Terri A. Mazur
Nancy M. Anderson	Stephen R. Kotz
Alison K. Schuler	Christine Gray
Janet McL. McKay	James C. Murphy
Jean-Nikole Wells	James R. Jurgens
Mark F. Sheridan	Ann M. Maloney
Joseph E. Earnest	Deborah J. Van Vleck
Stephen S. Hamilton	Anne B. Hemenway
W. Perry Pearce	Roger L. Prucino
Stephen J. Rhoades	Kay E. Mares
Brad V. Coryell	Deborah S. Dungan
Michael H. Harbour	Helen L. Stirling
Robert J. Mroz	Rosalise Olson

November 21, 1986



LOS ALAMOS OFFICE  
Suite 120  
901 18th Street  
Los Alamos, New Mexico 87544

Telephone (505) 662-0005

REPLY TO SANTA FE OFFICE

W. Thomas Kellahin, Esquire  
Kellahin & Kellahin  
117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

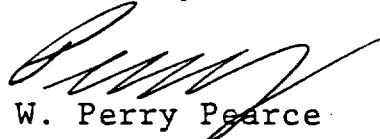
Re: Operators Technical Committee/Gavilan-Mancos Oil Pool

Dear Tom:

Attached is a copy of a letter which George Mallon of Mallon Oil Company recently sent to Dick Stamets relating to the Gavilan-Mancos Oil Pool. I believe the letter is self-explanatory.

Although the appeal of Order R-7407-D is now in the District Court and I believe is therefore removed from Dick's jurisdiction I thought it was appropriate to provide you as well as all other parties to the McHugh case for restriction of allowables and reduction of gas oil ratios to review a copy. If I can be of further assistance please let me know.

Sincerely,



W. Perry Pearce

WPP:ds

Enclosure

cc: Mr. George Mallon

# MALLON OIL COMPANY

2750 Security Life Building, Denver, Colorado 80202  
(303) 572-1511

November 17, 1986

Mr. R. L. Stamets, Chairman  
New Mexico Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico 87501

Re: Gavilan Status Report  
NMOCC Case No. 8946  
Order No. R-7407-D

Dear Mr. Stamets:

Pursuant to Paragraph (3) of the above referenced order, Mallon Oil Company hereby submits this statement of its current position for your review and requests you immediately take action to remove the allowable restrictions enacted by the above order and return to previous allowables established by the Commission when Gavilan Pool was created.

Since the hearings in August were adjourned, the following data has been analyzed:

1. A preliminary core analysis of Mallon Oil's Davis-Federal indicates the possibility for matrix contribution, but only in areas of high fracture intensity and in wells of high productive capacity.
2. A recent pressure survey in this same well indicates the reservoir in this area, between the two high withdrawal areas, is at virgin reservoir pressure. This indicates the need for additional development in the field.
3. The reservoir continues to produce at gas-oil ratios less than would be predicted for solution gas drive indicating increased reserves from additional drive mechanisms, such as presented in the Mallon-MesaGrande case at the hearing.
4. Reduction of withdrawal rates has not reduced the gas-oil ratios as should be expected if gravity drainage was contributing to the reservoir performance. Gas-oil ratios have actually increased in high productivity wells since the pressure drawdown is now near the wellbore and does not allow the gas to segregate and migrate to the top of the formation.

In light of this new data and upon further review of the existing data, it is the opinion of Mallon Oil Company and its petroleum

engineers that: 1) the Statewide rule allowing 702 BOPD with a gas-oil ratio limitation of 2000 to 1 is an appropriate production level which will in no way reduce ultimate recovery from the reservoir, 2) reduced allowables accomplishes nothing and can be detrimental to the gas segregation naturally occurring in the reservoir and 3) re-injection of produced gas for pressure maintenance, if attempted, may permanently damage this reservoir.

While the application of Jerome P. McHugh (as supported by Benson-Montin-Greer and Dugan Production Company) spoke of emergencies and the need to preserve reservoir energy, it has become apparent the applicants are not interested in resolving the major differences in engineering and geological interpretations raised at the hearings and the committee has made no progress in that direction. As the sub-committee meetings have been conducted, the focus has drifted sharply from one of analyzing data to the subject of unitization, equities therein, and how quickly it can be accomplished. The committee meetings are now centered on persuading unwilling parties to commit their substantial investments to unit operations. The significance has shifted from emergencies, conservation, and pressure maintenance to simply, "Lets stop competitive operations and drill fewer wells." For this reason, Mallon Oil Company is resigning its position on the committees and will continue to focus its expertise on the more important aspect of analyzing the reservoir.

Drilling fewer wells is hardly justification for McHugh's application and certainly does not justify forcing unitization. The Gavilan reservoir is highly erratic in its quality and its ability to be drained economically. While one well appears to be effectively draining 320 acres, many wells are draining much smaller areas. An excellent example lies in Mallon's Howard 1-11, a high productivity well, and Mallon's Johnson 12-5, a low productivity well which is less than 3/4 of a mile away. Had the Johnson well been the only well drilled in this immediate area, then the field development would have been uneconomic. One cannot afford to spend \$650,000 for wells that produce 50 barrels per day. It is the hope and expectation of finding the highly productive wells that inspires development and provides incentive to drill.

The State must also realize that under Canada Ojitos Unit operations and the drilling of fewer wells, undiscovered reserves laid dormant for some twenty years after the unit was formed. It was only through Mallon Oil Company's activities that the operator of the Canada Ojitos Unit was forced to drill and develop new reserves. As far as drilling fewer wells, since the hearings, the only drilling activity in the Gavilan Pool and Canada Ojitos Unit has been by the applicants whose original concerns were to restrict withdrawals from the reservoir while a study was to be performed. I find this rather ironic.

In summary, Mallon's position is:

1. There is no emergency and the application by Jerome P. McHugh

and Benson-Montin-Greer is to force unitization and for personal business gain. It has created undue and unnecessary engineering and legal expenses of over \$100,000 for Mallon Oil and MesaGrande Resources alone.

2. The reservoir is not harmed at the 702 BOPD allowable restrictions, which were in place when the majority of the sixty wells in the field were drilled. In fact, the reservoir has enjoyed enhanced recovery from gas segregation at these higher rates.

3. The Commission should return immediately to the previous allowable rates of 702 BOPD with a limiting gas-oil ratio of 2000 to 1.

In closing, I feel that the artificial depression of production by the Commission for any reason other than protection of the reservoir is without merit and causes great harm to the oil industry and to the State of New Mexico.

Should you have any questions or wish to discuss this letter please do not hesitate to call myself or Kevin M. Fitzgerald, our Vice President of Engineering.

Sincerely,

MALLON OIL COMPANY



George O. Mallon, Jr.  
President

cc: Paul Biderman  
Secretary  
Energy and Minerals Department

Garrey Carruthers  
Governor Elect

PRESSURE BUILD-UP COMPARISON SUMMARY

Gavilan Field Gallup Formation

Well Name	Test Date	q <sub>o</sub>	t <sub>p</sub>	P <sub>wf</sub>	C <sub>D</sub> e <sup>2S</sup>	Type Curve Analysis					Horner Plot Analysis				
						Δt/tD/CD	Kh	C	S	M	P*	P <sub>1h</sub>	Kh	S	
Rucker Lake 2	12/01/83	307	1325	988	1	.088	493	.024	-3.3	225	--	1290	156	-2.8	
Hawk Fed. 2	04/10/84	185	72	1174	10 <sup>2</sup>	6.2	1151	4.0	-3.6	Test did not reach S.L.S.L.					
Native Son 1	07/23/84	334	426	1106	10	.877	237	.12	-3.0	212	1825	1265	181	-3.6	
Native Son 1	11/30/84	398	2843	926	--	--	--	--	--	Test did not reach S.L.S.L.					
Bearcat Fed. 1	05/06/86	125	790	993	1	2.8	55	.086	-4.0	310	--	715	46	-4.8	
Gavilan Howard 1	05/06/86	150	11400	837	10 <sup>6</sup>	.28	266	.041	3.3	40	1410	1330	430	9.3	
Invader Fed. 1	05/07/86	25	77	492	10 <sup>10</sup>	.98	40	.022	8.2	Test did not reach S.L.S.L.					

ave Kh 263 md ft

203 md ft

Assumed Reservoir Fluid and Well Constants:

- Bo = 1.33
- μo = .53 cp
- φ = .01
- h = 300 ft.
- r<sub>w</sub> = .3 ft.
- C<sub>t</sub> = 100 × 10<sup>-6</sup> psi<sup>-1</sup>

OIL COMPANY  
 COMPANY NO. 8946  
 SUBJECT: M M M  
 DATE: 3/30/86  
 BY: [Signature]

APPENDIX I

PART A - INDIVIDUAL WELL TRANSMISSIBILITIES

Tests to determine individual well transmissibilities are identified below and the results are summarized as follows:

1. Cañada Ojitos Unit L-11: This is a production (pressure draw-down) test conducted September 24, 1965. Results of this test are shown on the graph at the end of this appendix, Figure No. I-1. This shows a transmissibility of .45 darcy feet, when analyzed in the conventional manner, as indicated by the calculations on the graph.

2. Cañada Ojitos Unit A-23: This is a pressure build-up test conducted May 14 to 20, 1965. Results of this test are shown in this appendix on Figure No. I-2. This test shows two distinctly different slopes. The first shows transmissibility of .025 darcy feet and the second a transmissibility of .206 darcy feet. The second slope is believed to indicate an area which more or less surrounds the first area of low transmissibility.

3. Cañada Ojitos Unit K-13: This is a pressure fall-off test conducted on the injection well K-13 on October 16, 1969, approximately 14 months after the well first went on injection. The calculated transmissibility, as shown on Figure I-3, of .0182 darcy feet results from permeability to gas. The oil saturation of the local area represented by this test is not known. The area was probably not 100 percent gas saturated at the time of the test. Accordingly initial permeability to oil when the area was completely liquid saturated probably was a little higher - perhaps .025 darcy feet.

Bowson - Montine Green

Case No. 3455

December 17, 1969

4. Cañada Ojitos Unit W-10: A production (pressure draw-down) test was conducted on this well December 6 and 7, 1967. Data from this test were used to construct the graph at the end of this appendix, Figure I-4, which indicates a transmissibility of 1.5 darcy feet.

5. Cañada Ojitos Unit P-11: This is a pressure build-up test measured on this well in February, March and April of 1964. The data from this test is shown on the graph at the end of this appendix, Figure I-5. This indicates a transmissibility of 1 darcy feet.

Details of the tests, 1 to 5 above, are not included here. It is believed that the accuracies of the data shown on each of the graphs, Figures I-1 through I-5, are adequate for the analyses for which the data are used. In this regard the following information is offered respecting each test, along with remarks concerning suitability of the reservoir and conditioning of the wells for the tests.

Figure I-1: This test was made in conjunction with an interference test in which all of the wells in the reservoir were shut in for approximately two months and one well (P-11) put on production and produced until reservoir conditions approached those of steady state, at which time the subject well (L-11) was put on production. This well was produced for three days the first week in September, and then shut in again until the production test commenced September 24, 1965. Producing bottom hole pressures were determined by measuring the surface casing pressure and adding the calculated pressure differential from surface to the pay zone. During the test the casing was shut in and all gas and oil were produced through the bottom hole pump and up the tubing. The static



PRESSURE BUILDUP ANALYSIS

(Blanford)

TEST DATA:

Test Date: 5/13/86
Producing Formation
Hole Size (inches)
Cum. Prod. Np (bbl)
Stabilized Daily Prod. q (bbl)
Effective Prod. Life t (hr) = 24 Np/q

Company Mesa Grande
Lease Bearcat
Well No.
Field
State
125 BOPD
790 hrs

I. Calculation of kh (md-ft) and k (md):

kh = 162.6 qB / m ; k = kh / h

h ft
q B/D
mu cp
B
m 50 psi/cycle

kh = 291.7 = md-ft; k = md

II. Calculation of Skin Effect, s; and Pressure Loss Due to Skin, ΔP skin (psi):

s = 1.151 [ P1 hr - Pwf / m - log ( k / (phi mu crw^2) ) + 3.23 ]

ΔP skin = (m) x 0.87 (s)

k md
phi
mu cp
c psi^-1
rw ft
P1 hr psig
Pwf psig
m 50 psi/cycle

s = 1.151 [ ( ) - ( ) - log ( ) + 3.23 ] =

ΔP skin = ( ) x 0.87 ( ) = psi

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

J (actual) = q / (p\* - Pwf)

J (ideal) = q / ((p\* - Pwf) - ΔPskin)

ΔP skin psi
q B/D
p\* 1521 psig
Pwf psig

J (actual) = B/D-psi
P = 1484 psig

J (ideal) = B/D-psi

Flow Efficiency = J (actual) / J (ideal) =

IV. Calculation of Distance Investigated:

k Darcies
t days
n = 6.328K / phi mu
r = 2 sqrt(nt)
n = 6.328 ( ) / ( ) ( ) = feet^2 / day
r = 2 sqrt( ) ( ) = feet

PRESSURE BUILDUP ANALYSIS

(Blanford)

TEST DATA:

Test Date: 5/13/86  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) \_\_\_\_\_  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  \_\_\_\_\_

Company Mesa Grande  
 Lease Invador #1  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_  
25 BOPD  
77 hrs

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  \_\_\_\_\_ B/D  
 $\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  230 psi/cycle

$$kh = \frac{162.6 q \mu B}{m} = \frac{162.6 \times 25 \times 230}{77} = 12.7 \text{ md-ft}; k = \frac{12.7}{h} = \text{md}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_1 \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_ psi<sup>-1</sup>  
 $r_w$  \_\_\_\_\_ ft  
 $P_1 \text{ hr}$  \_\_\_\_\_ psig  
 $P_{wf}$  \_\_\_\_\_ psig  
 $m$  230 psi/cycle

$$s = 1.151 \left[ \left( \frac{P_1 \text{ hr} - P_{wf}}{m} \right) - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right] = \text{_____}$$

$$\Delta p_{skin} = (m) \times 0.87 (s) = \text{_____ psi}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{skin}}$$

$\Delta p_{skin}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D  
 $p^*$  1415 psig  
 $P_{wf}$  \_\_\_\_\_ psig

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}} = \text{_____ B/D-psi} \quad \bar{P} = 1372 \text{ psig}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{skin}} = \text{_____ B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \text{_____}$$

IV. Calculation of Distance Investigated:

$k$  \_\_\_\_\_ Darcies  
 $t$  \_\_\_\_\_ days

$$n = \frac{6.328K}{\phi \mu c} \quad r = 2 \sqrt{nt}$$

$$n = \frac{6.328 (K)}{(\phi) (\mu) (c)} = \frac{\text{feet}^2}{\text{day}} \quad r = 2 \sqrt{(\text{feet}^2) (\text{days})} = \text{_____ feet}$$

PRESSURE BUILDUP ANALYSIS

(Blanford)

TEST DATA:

Test Date: 5/12/86  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) \_\_\_\_\_  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  \_\_\_\_\_

Company Mesa Grande  
 Lease Gavilan #1  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  \_\_\_\_\_ B/D  
 $\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  70 psi/cycle

$$kh = \frac{70.0}{1} = 70.0 \text{ md-ft}; k = \frac{70.0}{1} = 70.0 \text{ md.}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_l \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_  $\text{psi}^{-1}$   
 $r_w$  \_\_\_\_\_ ft  
 $P_l$  hr \_\_\_\_\_ psig  
 $P_{wf}$  \_\_\_\_\_ psig  
 $m$  70 psi/cycle

$$s = 1.151 \left[ \frac{(\quad) - (\quad)}{(\quad)} - \log \frac{(\quad)}{(\quad)} + 3.23 \right] = \quad$$

$$\Delta p_{skin} = (\quad) \times 0.87 (\quad) = \quad \text{psi.}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - p_{wf}} \quad J (\text{ideal}) = \frac{q}{(p^* - p_{wf}) - \Delta p_{skin}}$$

$\Delta p_{skin}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D  
 $p^*$  1670 psig  
 $P_{wf}$  \_\_\_\_\_ psig

$$J (\text{actual}) = \frac{\quad}{\quad} = \quad \text{B/D-psi} \quad \bar{P} = \frac{\quad}{\quad} \text{psig}$$

$$J (\text{ideal}) = \frac{\quad}{\quad} = \quad \text{B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \frac{\quad}{\quad} = \quad$$

IV. Calculation of Distance Investigated:

$k$  \_\_\_\_\_ Darcies  
 $t$  \_\_\_\_\_ days  
 $n = \frac{6.328K}{\phi \mu c}$   
 $r = 2 \sqrt{nt}$   
 $n = \frac{6.328 (\quad)}{(\quad)(\quad)(\quad)} = \frac{\text{feet}^2}{\text{day}}$   
 $r = 2 \sqrt{(\quad)(\quad)} = \quad \text{feet}$

PRESSURE BUILDUP ANALYSIS

(Blanford)

TEST DATA:

Test Date: 5/10/86  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) \_\_\_\_\_  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  \_\_\_\_\_

Company Mesa Grande  
 Lease CAU HOWARD #1  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_

150 BOPD  
11,400 hrs.

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  \_\_\_\_\_ B/D  
 $\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  \_\_\_\_\_ 42 psi/cycle

$$kh = \frac{416.8}{m} = \text{_____ md-ft}; k = \text{_____ md.}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_1 \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_ psi<sup>-1</sup>  
 $r_w$  \_\_\_\_\_ ft  
 $P_1$  hr \_\_\_\_\_ psig  
 $P_{wf}$  \_\_\_\_\_ psig  
 $m$  \_\_\_\_\_ 42 psi/cycle

$$s = 1.151 \left[ \frac{(\text{_____}) - (\text{_____})}{(\text{_____})} - \log \frac{\text{_____}}{\text{_____}} + 3.23 \right] = \text{_____}$$

$$\Delta p_{skin} = (\text{_____}) \times 0.87 (\text{_____}) = \text{_____ psi.}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{skin}}$$

$\Delta p_{skin}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D  
 $p^*$  1501 psig  
 $P_{wf}$  \_\_\_\_\_ psig

$$J (\text{actual}) = \text{_____} = \text{_____ B/D-psi} \quad \bar{P} = \underline{1406 \text{ psig}}$$

$$J (\text{ideal}) = \text{_____} = \text{_____ B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \text{_____} = \text{_____}$$

IV. Calculation of Distance Investigated:

$$k = \text{_____ Darcies} \quad t = \text{_____ days}$$

$$n = \frac{6.328K}{\phi \mu c} \quad r = 2 \sqrt{nt}$$

$$n = \frac{6.328 (\text{_____})}{(\text{_____})(\text{_____})(\text{_____})} = \frac{\text{feet}^2}{\text{day}} \quad r = 2 \sqrt{(\text{_____})(\text{_____})} \text{ feet}$$

PRESSURE BUILDUP ANALYSIS

(Fraleey)

TEST DATA:

Test Date: 1/4/86  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) \_\_\_\_\_  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  \_\_\_\_\_

Company Meridian  
 Lease Hill Fed #1  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_

High slope at the end

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

Questionable

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  \_\_\_\_\_ B/D  
 $\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  \_\_\_\_\_ psi/cycle

$$kh = \text{_____} = \text{_____} \text{ md-ft}; k = \text{_____} = \text{_____} \text{ md.}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{\text{skin}}$  (psi):

$$s = 1.151 \left[ \frac{P_l \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{\text{skin}} = (m) \times 0.87 (s).$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_  $\text{psi}^{-1}$   
 $r_w$  \_\_\_\_\_ ft  
 $P_l \text{ hr}$  \_\_\_\_\_ psig  
 $P_{wf}$  \_\_\_\_\_ psig  
 $m$  \_\_\_\_\_ psi/cycle

$$s = 1.151 \left[ \frac{(\text{_____}) - (\text{_____})}{(\text{_____})} - \log \frac{\text{_____}}{\text{_____}} + 3.23 \right] = \text{_____}$$

$$\Delta p_{\text{skin}} = (\text{_____}) \times 0.87 (\text{_____}) = \text{_____} \text{ psi.}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{\text{skin}}}$$

$\Delta p_{\text{skin}}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D

$p^*$  1653 ? psig  
 $P_{wf}$  \_\_\_\_\_ psig

$$J (\text{actual}) = \text{_____} = \text{_____} \text{ B/D-psi}$$

$$J (\text{ideal}) = \text{_____} = \text{_____} \text{ B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \text{_____} = \text{_____}$$

IV. Calculation of Distance Investigated:

$k$  = \_\_\_\_\_ Darcies  
 $t$  = \_\_\_\_\_ days

$n = \frac{6.328K}{\phi \mu c}$   
 $r = 2 \sqrt{nt}$

$n = \frac{6.328 (\text{_____})}{(\text{_____})(\text{_____})(\text{_____})} = \frac{\text{feet}^2}{\text{day}}$   
 $r = 2 \sqrt{(\text{_____})(\text{_____})}$  \_\_\_\_\_ feet



PRESSURE BUILDUP ANALYSIS

(Pomeroy)

TEST DATA:

Test Date: 11/8/85  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) \_\_\_\_\_  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  \_\_\_\_\_

Company Meridian  
 Lease Hill Fed #1  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_

175 BOPD  
75 hrs

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  \_\_\_\_\_ B/D

$\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  \_\_\_\_\_ 700 psi/cycle

$kh = \frac{29.2}{m} = \text{md-ft}; k = \text{md}$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_1 hr - P_{wf}}{m} \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_  $psi^{-1}$

$r_w$  \_\_\_\_\_ ft  
 $P_1$  hr \_\_\_\_\_ psig  
 $P_{wf}$  \_\_\_\_\_ psig  
 $m$  \_\_\_\_\_ 700 psi/cycle

$$s = 1.151 \left[ \left( \frac{\quad}{\quad} \right) - \left( \frac{\quad}{\quad} \right) - \log \left( \frac{\quad}{\quad} \right) + 3.23 \right] = \quad$$

$$\Delta p_{skin} = ( \quad ) \times 0.87 ( \quad ) = \quad \text{psi}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{skin}}$$

$\Delta p_{skin}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D

$p^*$  \_\_\_\_\_ psig  
 $P_{wf}$  \_\_\_\_\_ psig

$$J (\text{actual}) = \text{_____} = \text{_____ B/D-psi}$$

$$J (\text{ideal}) = \text{_____} = \text{_____ B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \text{_____} = \text{_____}$$

IV. Calculation of Distance Investigated:

$k$  \_\_\_\_\_ Darcies

$t$  \_\_\_\_\_ days

$n = \frac{6.328K}{\phi \mu c}$

$r = 2 \sqrt{nt}$

$n = \frac{6.328 ( \quad )}{( \quad ) ( \quad ) ( \quad )} = \frac{\text{feet}^2}{\text{day}}$

$r = 2 \sqrt{( \quad ) ( \quad )} \text{ feet}$

PRESSURE BUILDUP ANALYSIS

(MCCORD)

TEST DATA: Buildup #1 Company McHugh  
 Test Date: 7/31/84 Lease Native Son #1  
 Producing Formation \_\_\_\_\_ Well No. \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_ Field \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) 5927 State \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) 334  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  426

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  $\mu$  \_\_\_\_\_ cp  
 $q$  334 B/D  $B$  \_\_\_\_\_  
 $m$  \_\_\_\_\_ 222 psi/cycle

$$kh = \frac{175.5}{m} = \text{md-ft}; k = \text{md}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{\text{skin}}$  (psi):

$$s = 1.151 \left[ \frac{P_1 \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{\text{skin}} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  $r_w$  \_\_\_\_\_ ft  
 $\phi$  \_\_\_\_\_  $P_1 \text{ hr}$  1253 psig  
 $\mu$  \_\_\_\_\_ cp  $P_{wf}$  1106 psig  
 $c$  \_\_\_\_\_ psi<sup>-1</sup>  $m$  222 psi/cycle

$$s = 1.151 \left[ \frac{(\quad) - (\quad)}{(\quad)} - \log \frac{(\quad)}{(\quad)} + 3.23 \right] = \text{_____}$$

$$\Delta p_{\text{skin}} = (\quad) \times 0.87 (\quad) = \text{_____ psi}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$J$  (actual) =  $\frac{q}{P^* - P_{wf}}$   $J$  (ideal) =  $\frac{q}{(P^* - P_{wf}) - \Delta p_{\text{skin}}}$   
 $\Delta p_{\text{skin}}$  \_\_\_\_\_ psi  $P^*$  1837 psig  
 $q$  \_\_\_\_\_ B/D  $P_{wf}$  1106 psig

$$J$$
 (actual) = \_\_\_\_\_ = \_\_\_\_\_ B/D-psi

$$J$$
 (ideal) = \_\_\_\_\_ = \_\_\_\_\_ B/D-psi

$$\text{Flow Efficiency} = \frac{J \text{ (actual)}}{J \text{ (ideal)}} = \text{_____}$$

IV. Calculation of Distance Investigated:

$k$  = \_\_\_\_\_ Darcies  $t$  = \_\_\_\_\_ days  
 $n = \frac{6.328K}{\phi \mu c}$   $r = 2 \sqrt{nt}$   
 $n = \frac{6.328 (\quad)}{(\quad)(\quad)(\quad)} = \frac{\text{feet}^2}{\text{day}}$   $r = 2 \sqrt{(\quad)(\quad)}$  \_\_\_\_\_ feet



PRESSURE BUILDUP ANALYSIS

(Roe)

TEST DATA: Buildup #1 Company McHugh  
 Test Date: 7/31/84 Lease Native Son #1  
 Producing Formation \_\_\_\_\_ Well No. \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_ Field \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) 5927 State \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) 335  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  435

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  $\mu$  \_\_\_\_\_ cp  
 $q$  \_\_\_\_\_ B/D  $B$  \_\_\_\_\_  
 $m$  \_\_\_\_\_ 212 psi/cycle

$$kh = \frac{184.4}{m} = \text{md-ft}; k = \text{md}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_1 hr - P_{wf}}{m} \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  $r_w$  \_\_\_\_\_ ft  
 $\phi$  \_\_\_\_\_  $P_1$  hr 1267 psig  
 $\mu$  \_\_\_\_\_ cp  $P_{wf}$  1106 psig  
 $c$  \_\_\_\_\_  $psi^{-1}$   $m$  \_\_\_\_\_ psi/cycle

$$s = 1.151 \left[ \frac{(\quad) - (\quad)}{(\quad)} - \log \left( \frac{(\quad)}{(\quad)} \right) + 3.23 \right] = \text{_____}$$

$$\Delta p_{skin} = (\quad) \times 0.87 (\quad) = \text{_____ psi}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$J$  (actual) =  $\frac{q}{p^* - P_{wf}}$   $J$  (ideal) =  $\frac{q}{(p^* - P_{wf}) - \Delta p_{skin}}$   
 $\Delta p_{skin}$  \_\_\_\_\_ psi  $p^*$  1828 psig  
 $q$  \_\_\_\_\_ B/D  $P_{wf}$  1106 psig

$$J$$
 (actual) = \_\_\_\_\_ = \_\_\_\_\_ B/D-psi  $\bar{P}$  1745 psig

$$J$$
 (ideal) = \_\_\_\_\_ = \_\_\_\_\_ B/D-psi

$$\text{Flow Efficiency} = \frac{J \text{ (actual)}}{J \text{ (ideal)}} = \text{_____} = \text{_____}$$

IV. Calculation of Distance Investigated:

$k$  = \_\_\_\_\_ Darcies  $t$  = \_\_\_\_\_ days  
 $n = \frac{6.328K}{\phi \mu c}$   $r = 2 \sqrt{nt}$   
 $n = \frac{6.328 (\quad)}{(\quad)(\quad)(\quad)} = \frac{\text{feet}^2}{\text{day}}$   $r = 2 \sqrt{(\quad)(\quad)}$  \_\_\_\_\_ feet



PRESSURE BUILDUP ANALYSIS

(McCord)

TEST DATA:

Buildup #2  
 Test Date: 12/05/84  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) 48,839  
 Stabilized Daily Prod.  $q$  (bbl) 398  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  2945

Company McHual  
 Lease Native Son #1  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  \_\_\_\_\_ B/D  
 $\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  175 psi/cycle  
 $kh =$  265.4 = \_\_\_\_\_ md-ft;  $k =$  \_\_\_\_\_ = \_\_\_\_\_ md.

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_1 hr - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_ psi<sup>-1</sup>  
 $r_w$  \_\_\_\_\_ ft  
 $P_1$  hr 1293 psig  
 $P_{wf}$  927 psig  
 $m$  175 psi/cycle  
 $s = 1.151 \left[ \frac{(\quad) - (\quad)}{(\quad)} - \log \frac{(\quad)}{(\quad)} + 3.23 \right] =$  \_\_\_\_\_

$$\Delta p_{skin} = (\quad) \times 0.87 (\quad) = \text{_____ psi.}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{skin}}$$

$\Delta p_{skin}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D  
 $p^*$  1895 psig  
 $P_{wf}$  927 psig

$$J (\text{actual}) = \text{_____} = \text{_____ B/D-psi}$$

$$J (\text{ideal}) = \text{_____} = \text{_____ B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \text{_____} = \text{_____}$$

IV. Calculation of Distance Investigated:

$$k = \text{_____ Darcies} \quad t = \text{_____ days}$$

$$n = \frac{6.328K}{\phi \mu c} \quad r = 2 \sqrt{nt}$$

$$n = \frac{6.328 (\quad)}{(\quad)(\quad)(\quad)} = \frac{\text{feet}^2}{\text{day}} \quad r = 2 \sqrt{(\quad)(\quad)} \text{ feet}$$

PRESSURE BUILDUP ANALYSIS

(Fraley)

TEST DATA:

Company Meridian.  
 Lease Hawk Fed #2  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_  
 Test Date: 4/13/84  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod. N<sub>p</sub> (bbl) \_\_\_\_\_  
 Stabilized Daily Prod. q (bbl) 185 BOPD  
 Effective Prod. Life t (hr) = 24 N<sub>p</sub>/q 72 hrs

I. Calculation of kh (md-ft) and k (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

h \_\_\_\_\_ ft  
 q \_\_\_\_\_ B/D  
 $\mu$  \_\_\_\_\_ cp  
 B \_\_\_\_\_  
 m 193 psi/cycle

$$kh = \frac{111.9}{m} = \text{md-ft}; k = \text{md}$$

II. Calculation of Skin Effect, s; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_l \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

k \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 c \_\_\_\_\_ psi<sup>-1</sup>  
 r<sub>w</sub> \_\_\_\_\_ ft  
 P<sub>l</sub> hr 1298 psig  
 P<sub>wf</sub> 1174 psig  
 m \_\_\_\_\_ psi/cycle

$$s = 1.151 \left[ \left( \frac{\quad}{\quad} \right) - \left( \frac{\quad}{\quad} \right) - \log \left( \frac{\quad}{\quad} \right) + 3.23 \right] = \quad$$

$$\Delta p_{skin} = ( \quad ) \times 0.87 ( \quad ) = \quad \text{psi}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$J(\text{actual}) = \frac{q}{P^* - P_{wf}}$   
 $J(\text{ideal}) = \frac{q}{(P^* - P_{wf}) - \Delta p_{skin}}$   
 $\Delta p_{skin}$  \_\_\_\_\_ psi  
 q \_\_\_\_\_ B/D  
 P\* 1945 psig  
 P<sub>wf</sub> 1174 psig

$$J(\text{actual}) = \quad = \quad \text{B/D-psi}$$

$$J(\text{ideal}) = \quad = \quad \text{B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J(\text{actual})}{J(\text{ideal})} = \quad = \quad$$

IV. Calculation of Distance Investigated:

k = \_\_\_\_\_ Darcies  
 t = \_\_\_\_\_ days  
 $n = \frac{6.328K}{\phi \mu c}$   
 $r = 2 \sqrt{nt}$   
 $n = \frac{6.328 ( \quad )}{( \quad ) ( \quad ) ( \quad )} = \frac{\text{feet}^2}{\text{day}}$   
 $r = 2 \sqrt{( \quad ) ( \quad )} = \quad \text{feet}$

PRESSURE BUILDUP ANALYSIS

(Sweet)  
(Blanford)

TEST DATA:

Company Mesa Grande  
Lease Rucker Lake #2  
Well No. \_\_\_\_\_  
Field \_\_\_\_\_  
State \_\_\_\_\_

Test Date: 12/14/83  
Producing Formation \_\_\_\_\_  
Hole Size (inches) \_\_\_\_\_  
Cum. Prod.  $N_p$  (bbl) \_\_\_\_\_  
Stabilized Daily Prod.  $q$  (bbl) 307 (193)?  
Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  1325

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  307 B/D  
 $\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  222 psi/cycle

$$kh = \frac{162.6 (307) (193)}{222} = 161.4 (101.4) \text{ md-ft}; k = \frac{161.4}{101.4} \text{ md}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{\text{skin}}$  (psi):

$$s = 1.151 \left[ \frac{P_1 \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{\text{skin}} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_  $\text{psi}^{-1}$   
 $r_w$  \_\_\_\_\_ ft  
 $P_1 \text{ hr}$  \_\_\_\_\_ psig  
 $P_{wf}$  925 psig  
 $m$  222 psi/cycle

$$s = 1.151 \left[ \left( \frac{925}{222} \right) - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right] = \dots$$

$$\Delta p_{\text{skin}} = (m) \times 0.87 (s) = \dots \text{ psi}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{\text{skin}}}$$

$\Delta p_{\text{skin}}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D

$p^*$  1938 psig  
 $P_{wf}$  925 psig

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}} = \dots \text{ B/D-psi} \quad \bar{P} = 1731 \text{ psi}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{\text{skin}}} = \dots \text{ B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \dots$$

IV. Calculation of Distance Investigated:

$k$  = \_\_\_\_\_ Darcies

$t$  = \_\_\_\_\_ days

$$n = \frac{6.328K}{\phi \mu c}$$

$$r = 2 \sqrt{nt}$$

$$n = \frac{6.328 (k)}{(\phi)(\mu)(c)} = \frac{\text{feet}^2}{\text{day}}$$

$$r = 2 \sqrt{(\dots)(\dots)} \text{ feet}$$

PRESSURE BUILDUP ANALYSIS

(Fraley)

TEST DATA:

Test Date: 12/14/83  
 Producing Formation \_\_\_\_\_  
 Hole Size (inches) \_\_\_\_\_  
 Cum. Prod.  $N_p$  (bbl) \_\_\_\_\_  
 Stabilized Daily Prod.  $q$  (bbl) \_\_\_\_\_  
 Effective Prod. Life  $t$  (hr) =  $24 N_p/q$  \_\_\_\_\_

Company Mesa Grande  
 Lease Rucker Lake #2  
 Well No. \_\_\_\_\_  
 Field \_\_\_\_\_  
 State \_\_\_\_\_

307 (193?)  
1325

I. Calculation of  $kh$  (md-ft) and  $k$  (md):

$$kh = \frac{162.6 q \mu B}{m} ; k = \frac{kh}{h}$$

$h$  \_\_\_\_\_ ft  
 $q$  \_\_\_\_\_ B/D  
 $\mu$  \_\_\_\_\_ cp  
 $B$  \_\_\_\_\_  
 $m$  93 psi/cycle

$$kh = \frac{385.2 (242.1)}{m} = \text{_____ md-ft}; k = \text{_____} = \text{_____ md.}$$

II. Calculation of Skin Effect,  $s$ ; and Pressure Loss Due to Skin,  $\Delta p_{skin}$  (psi):

$$s = 1.151 \left[ \frac{P_1 \text{ hr} - P_{wf}}{m} - \log \left( \frac{k}{\phi \mu c r_w^2} \right) + 3.23 \right]$$

$$\Delta p_{skin} = (m) \times 0.87 (s)$$

$k$  \_\_\_\_\_ md  
 $\phi$  \_\_\_\_\_  
 $\mu$  \_\_\_\_\_ cp  
 $c$  \_\_\_\_\_  $\text{psi}^{-1}$   
 $r_w$  \_\_\_\_\_ ft  
 $P_1 \text{ hr}$  1330 psig  
 $P_{wf}$  988 psig  
 $m$  93 psi/cycle

$$s = 1.151 \left[ \frac{(\text{_____}) - (\text{_____})}{(\text{_____})} - \log \left( \frac{\text{_____}}{\text{_____}} \right) + 3.23 \right] = \text{_____}$$

$$\Delta p_{skin} = (\text{_____}) \times 0.87 (\text{_____}) = \text{_____ psi.}$$

III. Calculation of Productivity Index (B/D-psi) and Flow Efficiency:

$$J (\text{actual}) = \frac{q}{p^* - P_{wf}}$$

$$J (\text{ideal}) = \frac{q}{(p^* - P_{wf}) - \Delta p_{skin}}$$

$\Delta p_{skin}$  \_\_\_\_\_ psi  
 $q$  \_\_\_\_\_ B/D  
 $p^*$  1792 psig  
 $P_{wf}$  988 psig

$$J (\text{actual}) = \text{_____} = \text{_____ B/D-psi}$$

$$J (\text{ideal}) = \text{_____} = \text{_____ B/D-psi}$$

$$\text{Flow Efficiency} = \frac{J (\text{actual})}{J (\text{ideal})} = \text{_____} = \text{_____}$$

IV. Calculation of Distance Investigated:

$$k = \text{_____ Darcies} \quad t = \text{_____ days}$$

$$n = \frac{6.328K}{\phi \mu c} \quad r = 2 \sqrt{nt}$$

$$n = \frac{6.328 (\text{_____})}{(\text{_____})(\text{_____})(\text{_____})} = \frac{\text{feet}^2}{\text{day}} \quad r = 2 \sqrt{(\text{_____})(\text{_____})} = \text{_____ feet}$$

## RUCKER LAKE 2

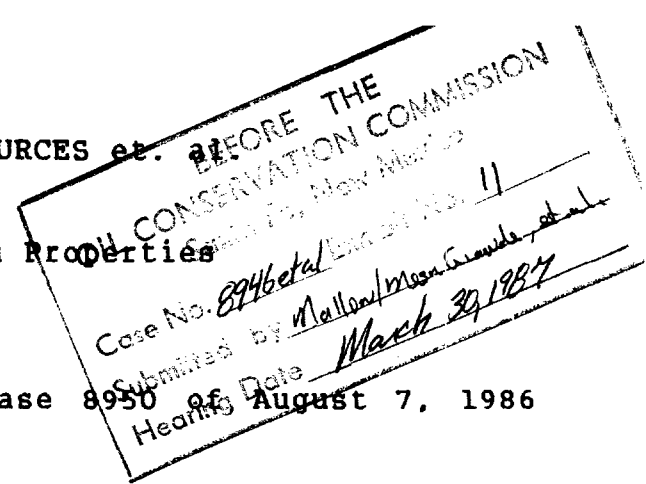
Test Date 12/1/83 to 12/8/83

The log-log and Horner plots for this test shows non-homogeneous reservoir behavior. The log-log shows possible double porosity effects in the first hour and departure from the infinite acting response at about 10 hours into the test. The Horner plot shows late time responses more effectively and departure from infinite acting at a Horner time of 65. Non-homogeneous behavior continues to the end of the test. There is a possible parallel straight line development on the Horner plot at late time indicating a double porosity system. Average reservoir pressure will be less than 1800 psi at gauge depth.

The Horner plot derived  $Kh$  is less than one-half of the type curve value and is considered more reliable.

MALLON - MESA GRANDE RESOURCES et.

Comments Regarding Fluid Properties



Prior opposition testimony in OCD Case 8950 of August 7, 1986 indicated that,

1. The bubble point pressure of the Canada Ojitos Unit is 1519 psig (as measured for the Canada Ojitos Unit 12-11 at a reservoir temperature of 162° F).
2. The bubble point pressure of the Loddy #1 is 1482 psig (at a temperature of 170° F) while the initial solution gas-oil ratio is 588 cubic feet per barrel.
3. Since the two samples have similar bubble point pressures the correct bubble point pressure for use in interpreting Gavilan performance is approximately 1500 psi.

In performing the engineering study of the Gavilan Mancos Pool, Bergeson has determined the following,

1. The bubble point pressure is on the order of 1660 psig. This pressure is required to obtain reasonable duplication of gas-oil ratio versus pressure performance for the total field as well as for individual wells. A bubble point pressure (1770 psig) higher than that value results in too early gas production compared to observed while a lower bubble point pressure (1500 psig) results in too late a response in gas production. This result has been studied and been found to be true regardless of the reservoir drive mechanism description (i.e., single porosity-solution gas drive, single porosity-gas segregation, or dual porosity).
2. The bubble point pressure may be different in Gavilan than in Canada Ojitos. This is not unusual between nearby oil



accumulations and/or even within individual reservoirs of large areal or vertical extent. A prime example of this behavior is the Codell formation of the Denver-Julesberg Basin of Eastern Colorado, where variations in fluid type and properties are reflected in initial gas-oil ratios between 2000 and 10,000 cubic feet per barrel for wells located within a few miles of each other. Bergeson notes that the Canada Ojitos data when evaluated at a reservoir temperature of 172° F reports an increase in bubble point pressure to 1540 psig. Bergeson also notes a variation in reported fluid composition between the Canada Ojitos and Loddy fluids as shown below:

<u>Component</u>	<u>Mole Percent</u>	
	<u>Loddy Sample</u>	<u>COU 12-11 Sample</u>
Methane	24.58	26.36
Heptanes +	44.32	46.34

While the heptanes + fraction is lower in the Loddy than the COU 12-11 sample, the methane fraction is surprisingly also lower. Normally, it would be expected to be higher reflecting a transformation of heavy components into light components from a thermal maturation process. One possible explanation for this behavior is that some initial solution gas was lost due to the wellbore pressure dropping below the bubble point pressure as oil is produced into the wellbore during the well sampling phase. This is particularly likely to have occurred since the reservoir pressure at the time of sampling was 1648 psig (see Loddy Fluid Analysis Report, Page 1 of 12) placing it at the same level as the hypothesized bubble point pressure. Any flow of fluid into the wellbore would, therefore, have had to have caused the wellbore pressure to be less than the saturation pressure resulting in the liberation of gas from solution.

The Loddy PVT sample indicates that the well had been shut-in since September 10, 1985 with sampling occurring on February 26, 1986. No mention is made of conditioning the well prior to sampling nor is any oil production reported to the OCD during that period. It appears from this information that the oil which was sampled may have been in the wellbore for 6 months prior to the bottomhole sample during which time it would have been subject to thermal convection effects which could have separated out gas from the sample (as the hotter and less dense oil at the base of the formation rose in the wellbore reducing the pressure).

3. It is not unusual for wells to be improperly conditioned or the oil to be so close to the initial bubble point pressure, that a representative sample is not obtained. The result is an understated bubble point pressure even though the laboratory procedure is carried out with complete accuracy. These points are discussed in a section taken from a Core Lab course covering Phase Behavior of Hydrocarbon Reservoir Fluids. Pertinent comments have been highlighted.
4. The question of what is the true oil formation volume factor and initial solution gas ratio has been raised previously. In order to use laboratory derived differential liberation data to study reservoir behavior, it is first necessary to adjust this data to field conditions by proper application of separator test information. Bergeson has made the appropriate adjustments for the Gavilan oil properties using the Loddy separator tests. The need for and methods used for making these adjustments are explained in the attached section of a text titled "Fundamentals of Reservoir Engineering" written by L. P. Dake. The net result of this is that if we were to accept the Loddy Fluid Analysis as correct and used the 50 psig separator test as representing field conditions, then the field applicable oil formation volume factor at the

bubble point would be 1.305 RB/STB and initial solution gas-oil ratio would be 498 cubic feet per stock tank barrel (see Loddy Fluid Analysis, page 8 of 12).

**A COURSE IN THE  
PHASE BEHAVIOR OF HYDROCARBON  
RESERVOIR FLUIDS**

**Presented by the  
RESERVOIR FLUID ANALYSIS DEPARTMENT  
of  
CORE LABORATORIES, INC.**

## WELL CONDITIONING

The well conditioning procedure is a part of sampling that is extremely important, but often neglected or completely ignored. The pressure drawdown associated with normal production rates will cause two-phase flow near the wellbore, if the fluid in the formation was initially saturated or only slightly undersaturated. Relative permeability effects may then cause the material entering the wellbore to be different from the original reservoir fluid existing at the boundary of the drainage area.

The problem of drawdown in a saturated reservoir cannot be avoided, therefore the purpose of well conditioning is to reduce the pressure drawdown by reducing the flow rate to the lowest possible stable rate. At the lower flowrate, the fluid entering the wellbore will now more closely approximate the reservoir fluid. This desired change will occur quickly if the involved drainage area is not too extensive.

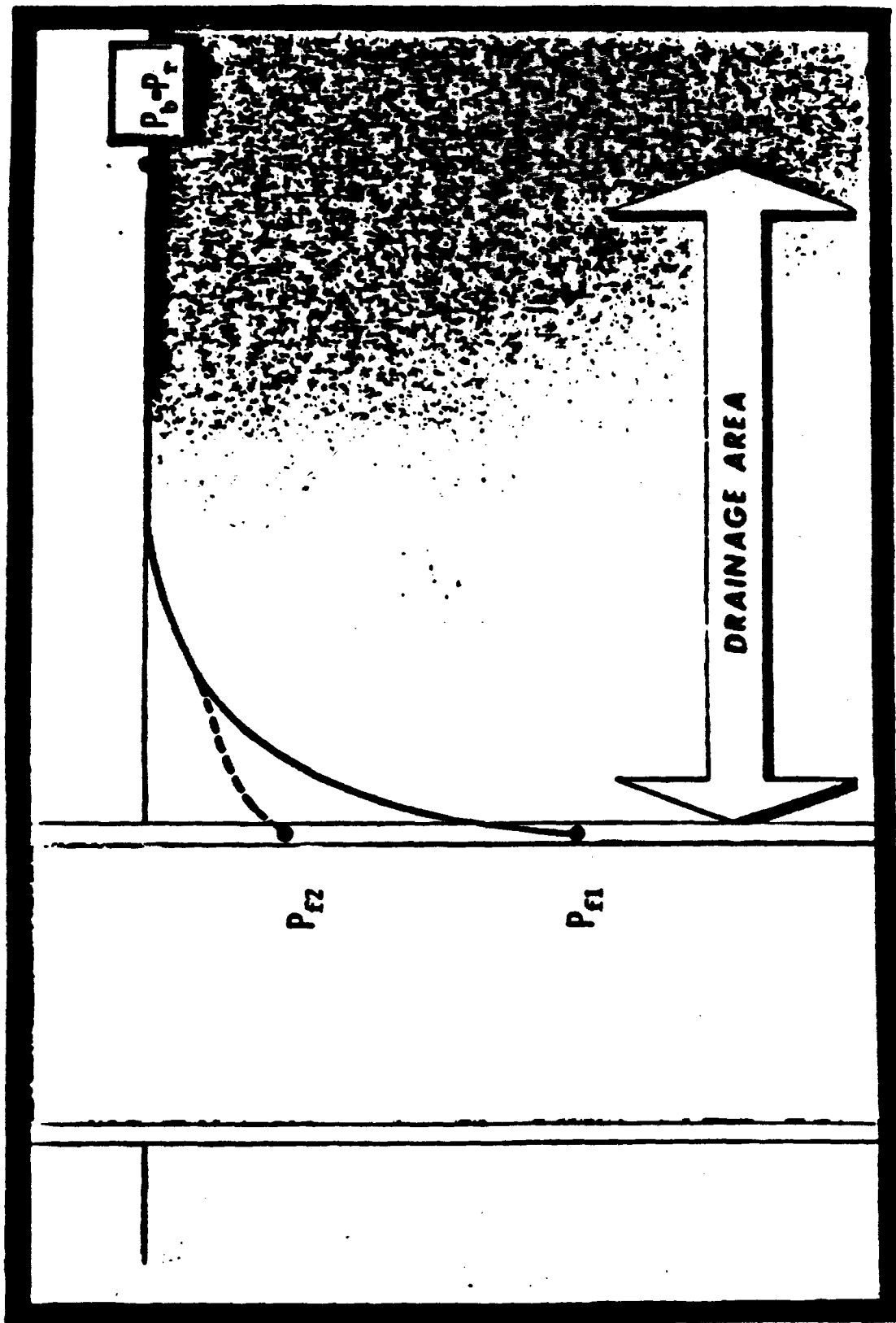
Figure 1 is a schematic representation of a saturated reservoir ( $P_b = P_r$ ) penetrated, at the left, by a wellbore. Superimposed is a curve of pressure distribution as a function of distance from the wellbore, assuming normal flow rate. At this normal flow rate, the flowing bottomhole pressure would be  $P_{f1}$  and the fluid entering the wellbore would be saturated at this pressure, rather than  $P_r$ , the pressure at the drainage boundary. By reducing the flow rate substantially, much of the excess gas saturation around the wellbore can be removed, the flowing bottomhole pressure elevated to  $P_{f2}$ , and the fluid entering the wellbore will more closely approximate the reservoir fluid existing at

the drainage boundary. The pressure distribution curve in the saturated reservoir associated with the period of reduced flow rate is shown as the dashed line in Figure 1.

Figure 2 is a schematic representation of an undersaturated reservoir ( $P_b < P_r$ ) penetrated, at the left, by a wellbore. Again, a curve of pressure distribution versus distance from the wellbore has been superimposed, assuming normal flow rate. Note that free gas saturation does not occur until that point where the pressure distribution curve drops below the bubble point pressure,  $P_b$ . The conditioning process for the undersaturated reservoir is identical to that employed for the saturated reservoir. By reducing the flow rate, we can raise the flowing bottomhole pressure from  $P_{f1}$  to  $P_{f2}$ . If  $P_{f2}$  happens to be higher than the bubble point pressure ( $P_b$ ) of the fluid, the free gas saturation around the wellbore can be completely eliminated, and fluid identical to that existing at the drainage boundary will enter the wellbore.

The fluid sampling method to be used dictates the remainder of the conditioning process. If bottomhole samples are to be collected, the period of reduced flow rate will generally last from one to four days, depending upon formation and fluid characteristics, and the drainage area affected. After this reduced flow rate period, the well would be shut-in and allowed to reach static pressure. The shut-in period would generally last from one day up to a week or more, based primarily upon formation characteristics. For the case of the saturated reservoir, the shut-in period has the resultant effect of forcing gas into solution

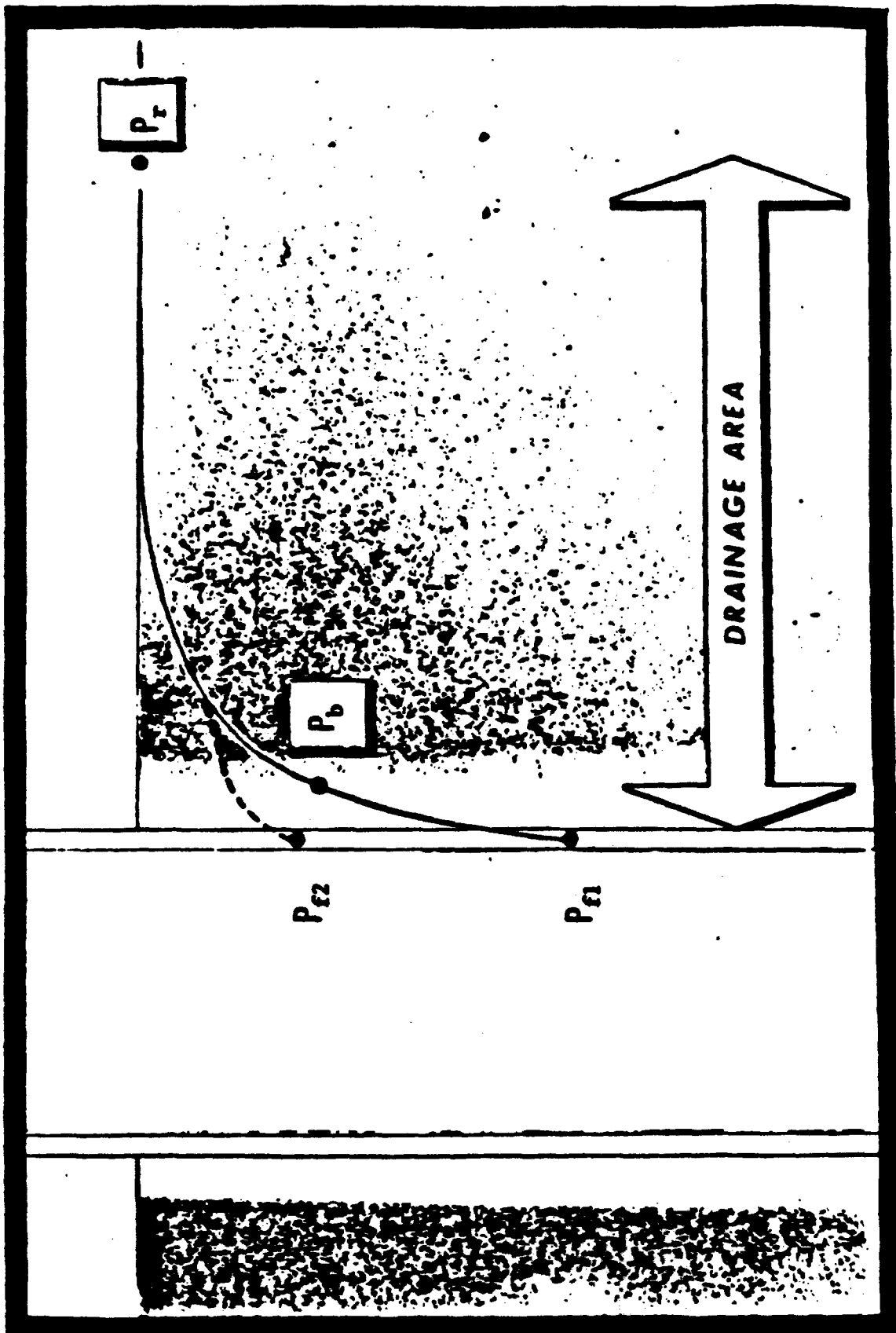




SATURATED RESERVOIR

FIGURE 1





UNDERSATURATED RESERVOIR

FIGURE 2

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
**DALLAS, TEXAS**

Extrapolation of Reservoir Fluid Data

In collecting fluid samples from oil wells, the possibility exists of obtaining samples the saturation pressure of which may be lower than the actual saturation pressure of the reservoir. This condition may be due to either of two circumstances. Water in the tubing may have necessitated sampling the well above the producing formation; or in the case of low productivity wells, the drawdown at the base of the wellbore could not be completely overcome during the well conditioning period prior to sampling. If either of these conditions exists or if the reservoir pressure had declined below the original saturation pressure prior to sampling, it is then necessary for the fluid data to be extrapolated to the original saturation pressure prior to its use in engineering calculations. In the case of a reservoir with an original gas cap, the original saturation pressure is normally chosen as the reservoir pressure at the gas-oil contact at the time of discovery. If possible, extrapolation should not be over 10 to 15 percent of the final saturation pressure.

Methods for carrying out this extrapolation are described on the following pages.

Procedure

1. Pressure-Volume Relationship ( $V/V_{sat}$  vs. Pressure). The "Y" function,  $(P_s - P/P_{abs}) \Delta V$ , is calculated for each point below saturation pressure, Table 3.  $P_s$  is the measured saturation pressure,  $P$  is any pressure,  $P_{abs}$  is  $P + 15$ ,  $\Delta V$  is the measured  $V/V_{sat} - 1$ . Points so obtained are plotted against  $P$ , and the best straight line drawn through them, line A, Fig. 1. Points in the neighborhood of  $P_s$  may be erratic and need not be calculated above  $P/P_s = 0.9$  as the line is determined by the points in the middle pressure range,  $P/P_s = 0.3$  to  $P/P_s = 0.9$ . The line is extended through the new saturation pressure,  $P_s'$ . At desired pressures, points are read from this line and new  $V/V_{sat}'$  values are calculated, Table 4.

To determine points above the new saturation pressure,  $P_s'$ , points above the old saturation pressure are plotted on an extended scale, line B, Figure 1, and a line parallel to it drawn through  $V/V_{sat} = 1.0$  at  $P_s'$ , line C, Fig. 1. Points for the desired pressures above  $P_s'$  are read from line C and entered in Table 4. Relative volume points for the new saturation pressure  $P_s'$  are then copied on the extrapolated reservoir fluid sample tabular data sheet, Table 6.

Developments in Petroleum Science, 8

# fundamentals of reservoir engineering

**L.P. DAKE**

*Senior Lecturer in Reservoir Engineering,  
Shell Internationale Petroleum Maatschappij B.V.,  
The Hague, The Netherlands*



**ELSEVIER SCIENTIFIC PUBLISHING COMPANY**  
Amsterdam — Oxford — New York

1978

## 2.5 ALTERNATIVE MANNER OF EXPRESSING PVT LABORATORY ANALYSIS RESULTS

The results of the differential liberation experiment, as listed in table 2.2, provide an absolute set of data which can be modified, according to the surface separators used, to give the values of the PVT parameters required for field use. In table 2.2 all volumes are measured relative to the unit oil volume at the bubble point. There is, however, a more common way of representing the results of the differential liberation in which volumes are measured relative to the volume of residual oil at stock tank conditions. This volume is obtained as the final step in the differential liberation experiment by flashing the volume of oil measured at atmospheric pressure and reservoir temperature, to atmospheric pressure and 60°F. This final step is shown in table 2.2 in which 0.8296 relative oil volumes at 14.7 psia and 200°F yield 0.7794 relative oil volumes at 14.7 psia and 60°F. This value of 0.7794 is the shrinkage factor for a unit volume of bubble point oil during differential liberation to stock tank conditions and is denoted by  $c_{b_d}$ . The value of  $c_{b_d}$  is not dependent on any separator conditions and therefore, relating all volumes in the differential liberation to this value of  $c_{b_d}$ , which is normally referred to as the "residual oil volume", will provide an alternative means of expressing the differential liberation results.

Pressure psia	Relative Gas Vol. (at p and T) $V_g$	Relative Gas Vol. (sc) $V_g$	Cumulative Relative Gas Vol. (sc) F	Gas expansion Factor E	Z-factor Z	Relative Oil Vol. (at p and T) $V_o$
3330 ( $p_b$ )						1.0000
3000	.0460	8.5211	8.5211	185.24	.868	.9769
2700	.0417	6.9731	15.4942	167.22	.865	.9609
2400	.0466	6.9457	22.4399	149.05	.863	.9449
2100	.0535	6.9457	29.3856	129.83	.867	.9298
1800	.0597	6.5859	35.9715	110.32	.874	.9152
1500	.0687	6.2333	42.2048	90.73	.886	.9022
1200	.0923	6.5895	48.7943	71.39	.901	.8884
900	.1220	6.4114	55.2057	52.55	.918	.8744
600	.1818	6.2369	61.4426	34.31	.937	.8603
300	.3728	6.2297	67.6723	16.71	.962	.8459
14.7 (200° F)			74.9557			.8296
14.7 ( 60° F)			74.9557			.7794

All volumes are measured relative to the unit volume of oil at the bubble point pressure of 3330 psi

TABLE 2.2  
Results of isothermal differential liberation at 200° F

It should be noted, however, that the magnitude of  $c_{b_d}$  is dependent on the number of pressure steps taken in the differential experiment. Therefore, the differential liberation results, in which all volumes are measured relative to  $c_{b_d}$ , do not provide an absolute set of data such as that obtained by relating all volumes to the unit volume of oil at the bubble point.

In the presentation of differential data, in which volumes are measured relative to  $c_{b_d}$ , the values of  $v_o$  and  $F$  in table 2.2 are replaced by  $B_{o_d}$  and  $R_{s_d}$  where

$B_{o_d}$  = Differential oil formation volume factor  
(rb/stb-residual oil)

and  $R_{s_d}$  = Differential solution gas oil ratio  
(scf/stb-residual oil)

Alternatively, by replacing  $c_{b_i}$  in eqs. (2.5) and (2.6) by  $c_{b_d}$ , these parameters can be expressed as

$$B_{o_d} = \frac{v_o}{c_{b_d}} \left[ \frac{rb/rb_b}{stb-residual/rb_b} \right] \quad (2.8)$$

$$\text{and } R_{s_d} = R_{s_i_d} - \frac{5.615 F}{c_{b_d}} \left[ \frac{scf}{stb-residual} \right] \quad (2.9)$$

where  $R_{s_i_d}$  is the initial dissolved gas relative to the residual barrel of oil at 60° F, and is proportional to the total gas liberated in the differential experiment, thus

$$R_{s_i_d} = \frac{(\text{Maximum value of } F)}{c_{b_d}} \times 5.615 \left[ \frac{scf}{stb-residual} \right] \quad (2.10)$$

and for the differential data presented in table 2.2

$$R_{s_i_d} = \frac{74.9557 \times 5.615}{.7794} = 540 \text{ scf/stb-residual oil}$$

The majority of commercial laboratories serving the industry would normally present the essential data in the differential liberation experiment (table 2.2) as shown in table 2.5.

There is a danger in presenting the results of the differential liberation experiment in this way since a great many engineers are tempted to use the  $B_{o_d}$  and  $R_{s_d}$  values directly in reservoir calculations, without making the necessary corrections to allow for the surface separator conditions. In many cases, the error in directly using the data in table 2.5 is negligible, however, for moderate and high volatility oils the error can be quite significant and therefore, the reader should always make the necessary correction to the data in table 2.5 to allow for the field separator conditions, as a matter of course.

Pressure (psia)	Formation Vol. Factor $B_{o_d} = v_o/c_{b_d}$	Solution GOR $R_{s_d} = R_{s_{i_d}} - 5.615 F/c_{b_d}$
4000	1.2734	540
3500	1.2798	540
3300	1.2830 ( $B_{ob_d}$ )	540 ( $R_{s_{i_d}}$ )
3000	1.2534	479
2700	1.2329	428
2400	1.2123	378
2100	1.1930	328
1800	1.1742	281
1500	1.1576	236
1200	1.1399	188
900	1.1219	142
600	1.1038	97
300	1.0853	52
14.7 (200°F)	1.0644	0
14.7 (60°F)	1.0000	0

TABLE 2.5

Differential PVT parameters as conventionally presented by laboratories, in which  $B_o$  and  $R_s$  are measured relative to the residual oil volume at 60°F

The conversion can be made by expressing  $B_{o_d}$  and  $R_{s_d}$  in table 2.5, in their equivalent, absolute forms of  $v_o$  and  $F$ , in table 2.2, using eqs. (2.8) and (2.9) and thereafter, using eqs. (2.5) and (2.6) to allow for the surface separators. This will result in the required expressions for  $B_o$  and  $R_s$ . Alternatively, the required field parameters can be calculated directly as

$$B_{o_d} = \frac{v_o}{c_{b_f}} = \frac{v_o}{c_{b_d}} \left[ \frac{c_{b_d}}{c_{b_f}} \right] = B_{o_d} \left[ \frac{B_{ob_f}}{B_{ob_d}} \right] \quad (2.11)$$

where

$v_o/c_{b_d}$  =  $B_{o_d}$  the differential oil formation volume factor measured relative to the residual oil volume as listed in table 2.5 (rb/stb-residual);

$B_{ob_f}$  =  $1/c_{b_f}$  is the oil formation volume factor of the bubble point oil (rb<sub>b</sub>/stb) determined by flashing the oil through the appropriate surface separators and is measured relative to the stock tank oil volume (refer tables 2.3 and 2.4); and

$B_{ob_d}$  =  $1/c_{b_d}$  is the oil formation volume factor of the bubble point oil determined during the differential liberation experiment and is measured relative to the residual oil volume (refer table 2.5) (rb<sub>b</sub>/stb-residual).

Similarly, the required solution gas oil ratio for use under field operating conditions is, equ. (2.6)

$$R_s = R_{s_{if}} - \frac{5.615 F}{c_{b_f}} = R_{s_{if}} - \frac{5.615 F}{c_{b_d}} \left[ \frac{c_{b_d}}{c_{b_f}} \right]$$

which, using equ. (2.9), can be expressed as

$$R_s = R_{s_{if}} - (R_{s_{id}} - R_{s_d}) \left[ \frac{B_{ob_f}}{B_{ob_d}} \right] \quad (2.12)$$

where

$R_{s_{if}}$  = solution gas oil ratio of the bubble point oil, determined by flashing the oil through the appropriate surface separators, and is measured relative to the oil volume at 60°F and 14.7 psia (refer tables 2.3 and 2.4) (scf/stb).

$R_{s_{id}}$  = solution gas oil ratio of the bubble point oil determined during the differential experiment and measured relative to the residual oil volume at 60°F and 14.7 psia (refer table 2.5 and equ. (2.10)) (scf/stb-residual).

The differential data, as presented in table 2.5, can be directly converted to the required form, table 2.4, using the above relations. For instance, using the following data from table 2.5, at a pressure of 2400 psi

$$B_{o_d} = 1.2123 \text{ (rb /barrel of residual oil at 60°F and 14.7 psia)}$$

$$R_{s_d} = 378 \text{ (scf/ - " - )}$$

$$B_{ob_d} = 1.2830 \text{ (rb / - " - )}$$

$$R_{s_{id}} = 540 \text{ (scf/ - " - )}$$

while from the separator flash tests (table 2.3), for the optimum separator conditions of 150 psia and 80°F

$$B_{ob_f} = (1/c_{b_f}) = 1.2511 \text{ (rb/stb)}$$

$$R_{s_{if}} = 510 \text{ (scf/stb)}$$

Therefore, using equ. (2.11)

$$B_o = 1.2123 \times \frac{1.2511}{1.2830} = 1.1822 \text{ rb/stb}$$

and equ. (2.12)

$$R_s = 510 - (540 - 378) \times \frac{1.2511}{1.2830} = 352 \text{ scf/stb}$$



MOBIL RESEARCH AND DEVELOPMENT CORPORATION  
Dallas Research Laboratory

TELEX

Date: April 3, 1987

Gregory B. Hueni  
Santa Fe, New Mexico

cc: E. L. Jones, DRL  
C. L. Murphy, DRL  
J. Faulhaber, Midland  
Records Center

REFERENCE TO OIL PRODUCTION  
FROM TIGHT MATRIX-FRACTURED  
RESERVOIRS AS REPRESENTED BY  
THE GALLUP B-38 WELL CORE.

1. Oil production from this type reservoir is characterized by oil feeding the fracture system due to the change in the formation volume factor because of pressure decline. The fractured Asmari reservoirs in Iran are an example of this mechanism.
2. Capillary pressure, end effects, and three-phase flow information generated from viscous displacement tests should not be confused with this type displacement.
3. Normally, in excess of 70 percent of the oil-in-place is found in the tight matrix part of this type of reservoir and can support efficient recovery.

*P. M. Wilson*

P. M. Wilson/B. F. Marek

BFM/jmr

*4/16A*

BENSON-MONTIN-GREER DRILLING CORP.

*[Handwritten initials]*  
KF  
RL

221 PETROLEUM CENTER BUILDING, FARMINGTON, N.M. 87401 505-325-8874

June 12, 1987

To: CANADA OJITOS UNIT  
WORKING INTEREST OWNERS

Re: CANADA OJITOS UNIT  
RIO ARriba COUNTY, NEW MEXICO:  
OIL CONSERVATION COMMISSION ORDERS  
R-6469-D AND R-7407-E  
(RE MARCH ALLOWABLE & SPACING HEARING)

-----  
ASSESSMENT OF OIL CONSERVATION  
COMMISSION "FINDINGS" AND IMPLICATIONS  
OF ORDERS AS TO CANADA OJITOS UNIT  
OPERATIONS

-----  
REDUCTION IN PRESSURE MAINTENANCE

-----  
GAS MARKETING

-----  
CONTINUED EXPANSION OF GAS HANDLING  
FACILITIES (AFE ENCLOSED)

-----  
RESPONSE REQUESTED REGARDING MARKETING  
EACH OWNER'S SHARE OF GAS (BALLOT AND  
GAS SALES CONTRACT ENCLOSED)

Orders entered following the March spacing and allowable hearing were forwarded to the working interest owners a few days ago. Additional copies (Order R-6469-D yellow color, R-7407-E blue color) are enclosed with this letter.

Unit Operator's assessment of the OCD "findings" of Order No. 6469-D are enclosed (Attachment No. 1). Implications of these findings and Orders as to Canada Ojitos Unit operations are described in Attachment No. 2, along with reduction in the pressure maintenance program.

Remarks concerning gas marketing (Attachment No. 3) follow. Attachment No. 3 includes discussion of a proposed gas sales contract and a ballot which we request you consider and act on.

...

②

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BENSON-MONTIN-GREER DRILLING CORP.

Canada Ojitos Unit  
Working Interest Owners

Page No. 2  
June 12, 1987

Continuation of last fall's expansion of gas handling facilities is discussed under Attachment No. 4; and an AFE to cover the costs of this expansion is enclosed. This expansion serves the dual purpose of gas injection and gas marketing. We request you give this AFE early consideration. We recognize that cash flow is of more concern to working interest owners now than in normal times; and in this respect we note that anticipated income from 2 or 3 months' gas sales will exceed the cost of this expansion of gas facilities set out in the AFE.

Presumably the Commission did not intend that its orders would cause a dismantling of the Canada Ojitos Unit pressure maintenance project; but the unit owners must face the reality that such could be an unintended consequence of "Finding" No. 17 of Order R-6469-D.

The Commission's pressure maintenance regulations provide for partial, as well as complete, pressure maintenance in that only partial credit is given in determining allowables if only partial pressure maintenance is carried on.

We regret not having provided more notice as to gas marketing; but under the circumstances we were unable to do so. Perhaps we should have been prepared; but our preparations had been limited only to long range planning. It never occurred to us that the Commission would increase the reservoir voidage for top allowable wells by a factor of 7 to 1 over that currently existing; and although it is for only a short time, the consequences could be serious. More significant, however, is that although we approve of the Commission's actions as to permanent allowables, we are concerned - as discussed herein with respect to its "Finding" No. 17 - that it is forestalling expanded unitized operations. This, along with Gavilan's continued alarming rate of pressure decline, makes it incumbent on the Canada Ojitos Unit owners to establish quickly a ready market for gas.

Why sell  
gas now?  
To confuse  
Pressure data  
Smoke?

In view of the foregoing, it is to be expected that the participants will have a number of questions. We have tried to anticipate and answer these in the attachments.

Recognizing the implications of these orders, we will want to add to the agenda of the upcoming Operators' Meeting a discussion of the issues of phased dismantling of the pressure maintenance project, and operator's plans for marketing large volumes of gas on short notice.

It now appears that the time to hold the Operators'

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BENSON-MONTIN-GREER DRILLING CORP.

Canada Ojitos Unit  
Working Interest Owners

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June 12, 1987

meeting when issues can most productively be considered will be October or November; and aside from any "required wells" (as defined in the Unit Agreements) we anticipate not recommending any new wells (beyond the F-7) prior to the meeting.

BENSON-MONTIN-GREER DRILLING CORP.

BY:

  
Albert R. Greer, President

ARG/tlp

Enclosures

ATTACHMENT NO. 1  
TO LETTER DATED JUNE 12, 1987  
TO CANADA OJITOS UNIT PARTICIPANTS

UNIT OPERATOR'S ASSESSMENT OF THE OIL CONSERVATION COMMISSION  
"FINDINGS" OF ORDER NO. 6469-D

First, we note that the "findings" reveal the dilemma of well-intentioned Commissioners faced with making decisions on issues about which the opinions of expert witnesses are in conflict; and accordingly are searching for some way to obtain the necessary facts to resolve the differences.

We sympathize with their dilemma; but cannot agree that their plan will provide definitive answers.

Following is our assessment of each of the numbered findings.

Finding No. 5:

We disagree that there is limited communication between the two designated pools. As we have noted over the years, the zones are stratified and there is limited vertical communication among the zones; except along the steeply dipping east side where we believe that the zones may be connected by faults. Within the zones, the permeability varies markedly from area to area particularly with respect to the individual tight blocks in which the wells are completed. Overall, however, there is a high degree of lateral communication in each zone; and it continues from one designated pool into the other.

The problem here is the opposition's analysis described in the hearing (and apparently the Commission has accepted it) in comparing C zone pressures in the east part of the unit with combined A, B and C zone pressures in the Gavilan area (like mixing apples and oranges) and thereby concluding that the communication between the two areas is "weak". Since about 6 times as much oil had been taken out of the C zone in the unit as compared to the A and B zones when the first Gavilan well was drilled; it is only to be expected that the combined pressures of the three zones in Gavilan would be significantly different from that of the east portion of the reservoir's C zone pressure. It does not mean that there's weak communication laterally in any of the zones.

Finding No. 6:

We agree in part with this finding in that in West Puerto Chiquito the principal zone of production for many years was the C zone; however the A and B zones are also productive in the unit. We suggested last summer that the dominant zones in Gavilan were probably the A and B zones; however no one really knows since the wells in Gavilan for the most part have not tested the zones separately. Where

zones were tested separately and reported in the March hearing all zones were producing in Gavilan.

Finding No. 7:

We disagree that throughout the reservoir there is communication between zones A and B. We have, on occasion, tested the zones individually and found the A and B zones to be separated.

Finding No. 8:

We agree completely with this finding.

Finding No. 9:

We agree that there was conflicting testimony; however we fail to see how the proposed test will provide definitive information in this respect.

Finding No. 10:

This was the testimony. Not addressed was the life of West Puerto Chiquito. Whether the life of West Puerto Chiquito can be extended beyond that of Gavilan given the communication throughout the area now becomes a vital question.

Finding No. 11:

This appears to be a statement of the statewide depth bracket allowable. We think, however, it is a mistake to provide an allowable this high for this pool even for a short length of time.

Finding No. 12:

The Commission's objectives here are commendable and its decision to reach the objective is, of course, well intended. Even so we do not believe the proposed test will provide the Commission with definitive data with regard to these issues. Particularly as to the ability of high capacity wells to drain other wells' tracts there has already been established (through the pressure decline of shut in wells) that high volume wells can drain the tracts of smaller (or shut in) wells - just as Finding No. 8 states. In no way can the planned test provide more definitive data than that already existing.

In addition to the above, there are practical matters which could override any factual data the Commission is attempting to obtain and analyze with respect to the consequences of setting a high allowable:

1. Unless the Commission suspends the regulations for overproduced wells, then these wells will not be produced at the high rates; therefore deductions based on reservoir performance at "high allowables" would be invalid (since the

wells were not produced at high rates).

2. As to our unit operations, Unit Operator feels strongly about the hazard of producing wells at rates high enough that might cause channelling of the injected gas and compound the problem of keeping unitized products on the unit's side of the boundary. Just what is the proper balance of pressure differential from the gas injection area to the downdip recovery area, production rates to minimize drainage and level at which the gas cap pressure should be maintained are matters impossible to forecast precisely. Unit Operator's present thinking is that the most practical course, given all the imponderables, is to commence reducing the pressure differential from the gas cap area to the downdip - recovery area by marketing gas rather than increasing production rates. If we follow this course, then, the unit's production will not substantially increase during the test period and the same invalidation of the Commission's test will result as will that based on wells restricted because of overproduction.

will confuse data interpretation

The only clear-cut consequence of a test raising the allowable and GOR limit is that production will be transferred from more efficient wells to less efficient wells; and it is not necessary to run a test to try to determine how that applies in this particular reservoir - that's an accepted principle of conservation for any reservoir.

This is how it should be

Finding No. 13:

We agree the allowable should be as set out in Finding No. 13 for a permanent allowable.

Finding No. 14:

This is a statement of a fact.

Finding No. 15:

This also is a statement of a fact.

Finding No. 16:

This is a finding that most of us have wished were true. When we first proposed the concept years ago, it seemed such a good solution to a situation that otherwise would pose problems, that it was only natural that everyone involved wanted it to be the case.

The problem is that it's only about 10% geologic hypothesis and 90% wishful thinking.



The truth of the matter is that it is impossible to make a conclusive finding that categorically states - as this does - that "proper development" will protect the Canada Ojitos Unit from drainage. We note that the high capacity fracture system exists in the boundary area; but we do not know that the unit wells which are currently being drilled here will be in adequate communication with the high capacity system such that they can produce enough to minimize the drainage.

In a reservoir of uniform properties, two rows of wells on the same spacing within a unit as opposed to those offsetting wells outside the unit generally can be expected to significantly minimize drainage. This reservoir, however, is not an ordinary reservoir of fairly uniform properties; and the general situation does not apply here.

Not only this but the drilling of more than one well to a section will clearly cause waste in that the second well is unnecessary (as the Commission found) to recover the oil and gas. If the Canada Ojitos Unit boundary wells are located one well to a section (one-half the density of the Gavilan wells), then, at a minimum, they must produce twice the reservoir voidage of the average Gavilan well just to "break even" - and to stop drainage, not only must these wells "break even", they must produce their shares of the injected gas as well. With Gavilan's GOR's about 4 times that of the unit's boundary wells (whose gravity drainage production keeps their GOR's low) then each Canada Ojitos Unit boundary well must produce in addition to injected gas 8 times as much oil as each Gavilan well to equalize withdrawals. Some of the Canada Ojitos Unit boundary wells are capable of this - but not all.

Accordingly, we cannot blindly rely on the notion that the drilling of offset wells along the boundary will stop drainage from the unit; so we disagree with this finding.

Finding No. 17:

We disagree with this entirely. The two parts of the reservoir are so well connected that all wells therein should be operated under the same rules and regulations. As noted in Attachment No. 2 herein ("Implications") this finding causes us the greatest concern of all. The two areas are not geologically different: they produce from the same common source of supply, and as reservoirs go, they have an astonishingly high degree of communication. True, the areas are operated differently - but this is a man-made development and not a requirement of the physical properties of the reservoir.

What about  
the 14  
Strip?

Green said  
just that  
opposite of  
this in  
Sep. 1, 86.

Mallon supported  
Green 2 years ago  
on unit rule  
changes when  
Green stated  
everything would  
be OK if he  
had 2 wells/  
Sec. on  
boundary.

Boundary  
is that  
A-B wells  
are part of  
Gavilan &  
is using A-B  
gas from  
Gavilan to inject  
in his 'C'  
zone unit.

Trying to treat  
Pressure on Comm. for  
lay blame on others for  
his improper development of  
Canada Ojitos.

ATTACHMENT NO. 2  
TO LETTER DATED JUNE 12, 1987  
TO CANADA OJITOS UNIT PARTICIPANTS

Green is determined  
to force unitization  
in central & south  
entire area. If  
Green ran the show  
Gavilan would  
never have been  
found.

IMPLICATIONS

As we have from time to time indicated, the unit's pressure maintenance project cannot be continued with assurance that unitized products will not be lost from unit control unless the pressure in Gavilan is maintained or some kind of cooperative agreement worked out to recognize the migration.

The lower the pressure drops in Gavilan, the greater the hazard of migration. The obvious and practical solution would be a single unit covering Canada Ojitos and Gavilan; such that the increased recovery resulting from pressure maintenance in the Canada Ojitos Unit would benefit both the owners of the existing unit and those in Gavilan. (Although there is difference of opinion about the benefits of pressure maintenance in Gavilan, we presume there is no argument about the clear-cut pressure maintenance benefits that have occurred in the Canada Ojitos Unit.)

Owners of about 95% of the acreage in the Canada Ojitos Unit and half of the acreage in Gavilan would prefer a single unit. Half of the Gavilan owners have resisted any kind of unitization - that is until the March hearing.

At the March hearing those who had been opposed to unitization indicated that pressure maintenance - which requires unitization - would be beneficial under "low pressure". Since that part of the reservoir underlying Gavilan will soon be at low pressure rational thinking would suggest that unitization efforts be commenced right away.

This, however, is not being done; and the Commission's Finding No. 17 in Order No. R-6469-D implies that the Commission does not want to entertain unitization of the combined area.

There is no question that with the communication across the reservoir underlying both established pools that the protection of correlative rights demands that this be recognized and - as the Commission has done - provide the same rules for both areas. In a practical sense this should be done by recognizing the common source of supply and designating it as one pool.

Greens want  
two rows of  
sections  
should be  
Put in  
Gavilan

As we see it, the only reason not to designate the reservoir as a single pool is to forestall a unit covering the reservoir. Where approximately 3/4 of the operators would prefer a single unit, it would seem that the Commission would not try to prejudge the merits of a single unit; but would leave the process to the regulations as they now stand; so this decision of the Commission gives us concern.

With Gavilan "dragging its feet" with respect to unitization and the Commission apparently forestalling the possibility of an enlarged unit, it is incumbent upon the Canada Ojitos Unit owners to take immediate steps to mitigate drainage.

As the pressure in the boundary area drops, the pressure differential increases from the Canada Ojitos Unit gas cap area to the downdip recovery area (along the boundary) and the potential for gas channelling and migration of unitized substances increases.

Also as the reservoir's gas saturation increases the permeability to gas greatly increases and the migration potential will increase in a compounding fashion.

Once the cycle reaches a critical point, it will be impossible to stop and the only solution will be to reduce the pressure in the gas cap (by marketing gas).

This will reduce the ultimate recovery of oil, so the issue we face now is which is the lesser of the two evils: reduction in ultimate oil recovery or loss of oil and gas by migration away from the unit.

If we find it necessary for the unit to match Gavilan's declining pressures, then this fast rate of pressure decline will cause the oil recovery mechanism to revert to that of the inefficient solution gas drive with consequent relatively low recovery of oil and high overall GOR's. Given this and the volume of gas in the gas cap the future GOR's could average as much as 20 MCF per barrel; such that the value of the gas even at spot market prices will substantially exceed the value of the oil. Accordingly we must not allow to develop a situation where gas, with its high mobility, is allowed to migrate, unchecked, out of our control, and therefore the ability to market gas in large volumes is essential. bull

We are suggesting at this time that gas marketed not exceed 10 MMCF per day; but that we be prepared to market larger volumes. At the Operators' Meeting planned for this coming fall, we will describe our plans for utilization of unit facilities to market larger volumes.

Failure of the unit owners to prepare for marketing large volumes of gas, given the current circumstances, would be worse than imprudent - it would be foolhardy.

It is unfortunate that events have brought us to this situation. Clearly, with the benefit of pressure maintenance and the industry's current gas oversupply situation the proper course would be to continue with pressure maintenance and market the gas later at a more opportune time, and following a substantial period of gas cycling with perhaps a gasoline plant. "Stripped" gas injected on the east side of the reservoir and moving several miles to be produced in Gavilan could be expected to pick up substantial liquids and further increase the ultimate recovery.

The low pressure gas injection suggested at the March hearing for Gavilan would - in contrast - result in gas movement over short distances through high gas saturated channels with little ability to accomplish this potential benefit.

As to Gavilan it is more than unfortunate - it is a tragedy - that Gavilan is not unitized. Given the great difference in drainage of the reservoir by wells on different tracts and drainage from tracts not drilled - or drilled but shut in for lack of gas market - and that average future wells in Gavilan will not produce enough oil to pay for the cost of drilling, there is only one commonsense solution: unitization.

Had Gavilan been unitized under the tentative plans the Engineering Committee was following last year, the correlative rights problems would have been solved, the undrilled acreage (as to both working interest and royalty owners) would have received equity for the production that has been drained from them - and the shares of the costs to the working interest owners of undrilled tracts would have been paid for out of production without their having to provide upfront funds.

Recognizing the above and simple facts set out below, one wonders what has kept unitization from coming about.

The simple facts:

1. The Canada Ojitos Unit needs the cooperation of Gavilan to continue its pressure maintenance project.
2. Gavilan will need the cooperation of the Canada Ojitos Unit to institute its low pressure gas injection project.
3. Canada Ojitos Unit pressure maintenance is already in effect.
4. Low pressure in Gavilan will soon arrive.

The elements of dependency create a climate that should insure cooperative efforts; so why aren't they being undertaken?

Considerable progress was made last fall - until the election. At the first meeting following the election, Mallon withdrew from the Engineering Committee and the process was halted.

Unless positive steps - now not being planned as far as we know - are taken toward unitizing Gavilan, the implications for continued pressure maintenance under the Canada Ojitos Unit operations are not favorable.

but

Pressure Maint.  
will NOT work  
At Gavilan  
Probably has  
contributed little  
to nothing in  
Canada Unit

NOT  
NICE!

ATTACHMENT NO. 3  
TO LETTER DATED JUNE 12, 1987  
TO CANADA OJITOS UNIT PARTICIPANTS

GAS MARKETING

As set out in the cover letter hereto, Unit Operator proposes short term marketing of gas (for a time equal to that of the high allowables) at estimated rates of 5 to 7 MMCF/D. Volumes proposed for sale will be at least as much as that produced by wells on the westernmost two rows of sections but not to exceed 10 MMCF/D.

If the working interest owners approve the marketing of gas, then the Unit Operator will sell its share of the gas for this short time under the enclosed gas contract. The other participants are invited to do likewise.

Should the working interest owners vote not to market gas, then we will simply nominate zero for affected months under the contract.

Because of time constraints we chose the course of entering into the contract first, and securing approval later. We just did not have available the time we ordinarily would have set aside for working interest owners' consideration of such matters. We received our copy of the Commission's order Tuesday, June 9; this letter is being written June 12, and to sell gas in the spot market for July requires a bid June 19.

For those who wish to sell under the same contract terms, it is not necessary that each party formally enter into a contract with the purchaser. The Unit Agreement provides as to contracts with terms of less than one year that the Unit Operator can market the other participants' shares of gas for them - providing that if gas is sold into interstate commerce (our proposal) that each participant must approve the sale.

As to penalties under a transportation agreement with El Paso, we have been advised that EPNG has, so far, not assessed any penalties. It's our understanding that as long as we are slightly overproduced that we shouldn't suffer any penalties. Presumably we can do this.

The fee to Grand Valley Transmission for its part in the transaction is an amount equal to the difference in value of the gas as delivered by the "wet" and "dry" BTU measurements (about 2-1/4%).

Approval of the enclosed gas marketing contract by signing one copy of the enclosed Ratification to Gas Purchase Contract and returning it to operator will evidence each party's official approval to market gas (also noted on the enclosed ballot).

We request that each owner advise if you have any gas contracts providing for sale of gas into interstate commerce covering

*This will  
confer  
"C" zone  
Presumably  
for comm  
test. Doing  
on purpose*

the Mancos formation in any of the leases you have contributed to the unit. Our check of the records reflects that there are none - however we would appreciate each of you confirming this. This determination - whether or not gas is dedicated to interstate commerce - is the first, and simplest, test to determine if the gas qualifies for the contemplated sale. If we find that some gas has been dedicated to interstate commerce, we will have to check into each such situation further.

With respect to marketing of gas from the unit and the possible complications if one or more tracts are found to have Mancos formation gas that cannot qualify for the contemplated sale under the regulations, our legal counsel advises that this is one instance in which the regulations make sense: such a commitment of one lease does not "taint" the gas from the other leases, such that it would be unlawful, without abandonment, to now sell on the spot market (some unit wells were drilled before February 17, 1977). The regulation derives from the principle that one owner cannot dedicate into interstate commerce the gas of another owner. Accordingly, if it develops that there is a problem lease or two, they can be dealt with by not marketing the gas allocated to those tracts.

If we find that there are tracts whose Mancos formation gas does not qualify for this sale, we will establish an internal accounting procedure of gas balancing so that gas allocated to such tracts will not be sold, but will be held in storage until abandonment can be effected.

Should any operator elect not to sell gas we will submit to all parties for consideration a draft of a balancing agreement. We will keep open for the participants their option to elect to sell or not to sell for as long as possible to permit assessing individual situations. Should a gas balancing agreement be adopted we believe it should be of the kind that does not provide for cash settlement if the time comes that current non-sellers elect to sell and there is no gas left. That's the whole purpose of marketing gas now - the hazard that it may migrate out of control; so a current non-seller must bear that risk.

To expedite handling of the gas marketing issue, a ballot is enclosed. We request you fill out and return it to us as soon as possible. We may conduct a telephone poll in this connection; however we will still need your ballot.

If the participants approve the operator's recommendations to market gas now, such authority will terminate with the three months sales provided by the vote. No further sales are planned until such matters can be thoroughly discussed at the Operators' Meeting.

ATTACHMENT NO. 4  
TO LETTER DATED JUNE 12, 1987  
TO CANADA OJITOS UNIT PARTICIPANTS

CONTINUED EXPANSION OF GAS HANDLING FACILITIES

Operator's earlier plans for depletion of the reservoir included a period of gas cycling at rather high volumes, with consideration of a gasoline plant in conjunction with it. Experience gained in producing wells, along with reservoir analysis through interference testing shows that following gas breakthrough it is to be anticipated that wells will produce at relatively high flowing pressures, and that high volume gas cycling can take place with comparatively low compression horsepower requirements.

To carry out the cycling process the gas gathering system was planned to comprise a low pressure (100# to 200#) system and a high pressure (400# to 500#) system. Trunks (8" and 6") for these systems were installed down Lleguas Wash last winter. We considered using two 8" lines, but because the wash might flow sand under certain conditions and a possibility that the "river weights" used to assure negative buoyance might not be as effective as necessary, we elected to use only one 8" line, with the other being 6". (Heavy wall 6" through the critical areas, it is believed will not "float" under any of the forecast adverse conditions; so, if the conditions at some time might cause the 8" to float, the 6" would be available for partial operation, while repairs are made to the 8"). Since the distance up Lleguas Wash is relatively short (2-1/2 miles to Simon Canyon), we believe the lower gas carrying capacity of the 6" will not seriously affect our operations.

To expand the gas system for high volume gas cycling at high and low pressure gas gathering means continuation of the trunk lines up Simon Canyon. Here, with relatively good terrain, we recommend two 8" lines. Had Gavilan been unitized and pressure maintenance instituted, the installation of these two lines would have not been required for some time. As it is, we think it now time to lay these lines.

In addition to serving the purpose of gas gathering these lines can also be used for gas marketing. These two lines will provide for flexibility in gas marketing. Initially, the Simon Canyon low pressure 8" line will be blocked off at Lleguas Wash and gas from selected wells producing into this system will go directly (without compression) into the sales line. Gas from wells producing into the high pressure gathering line can go either to sales or to the central gas system - or both; and are expected to be useful in regulating the total sales volume to meet contract commitments.

**BENSON-MONTIN-GREER DRILLING CORP.**

221 PETROLEUM CENTER BUILDING, FARMINGTON, N.M. 87401 505-325-8874

June 5, 1987

To: CANADA OJITOS UNIT  
WORKING INTEREST OWNERS

Re: CANADA OJITOS UNIT  
RIO ARriba COUNTY, NEW MEXICO:  
SECOND AMENDMENT TO 1987 DRILLING  
PROGRAM  
DRILLING OF UNIT WELL F-7  
TOWNSHIP 25 NORTH, RANGE 1 WEST  
(AFE's ENCLOSED)

Unit Operator now proposes the drilling of a well on the Gavilan boundary in Section 7, Township 25 North, Range 1 West.

Although it is our intention to delay proposing the drilling of other additional wells until we can hold a productive operators' meeting, we believe at least one well in Section 7 will be needed under any circumstances. Moreover we have for this Section 7 the geological and geophysical data of the electromagnetic survey, satellite imagery and high altitude photos which suggest the NW/4 of Section 7 to be a good location. It is our thinking now that the information from a well drilled at this location would be useful for the owners in making decisions at the upcoming operators' meeting.

The well is located in the downdip part of the structure, well situated for a recovery well. As with other wells in this township under the design of our oil gathering system, oil from this well will flow by gravity into the oil gathering system and to the LACT unit; so from this respect, also it is well situated.

In order to save time in obtaining approval of the drilling of this well, we are concurrently asking of the authorities approval of this second amendment to our 1987 drilling program; copy of these notices are enclosed. If any working interest owner has objection to this amendment to our 1987 program, please let us know at your first opportunity.

Enclosed with this letter are AFE's covering the cost of drilling, completing, equipping and connecting of the well to our

COPY



*BENSON-MONTIN-GREER DRILLING CORP.*

Canada Ojitos Unit  
Working Interest Owners

Page No. 2  
June 5, 1987

pipeline systems. Your approval of these AFEs will constitute your approval of this second amendment to the 1987 drilling program.

*BENSON-MONTIN-GREER DRILLING CORP.*

BY:

  
\_\_\_\_\_  
Albert R. Greer, President

ARG/tlp

Enclosures

**COPY**

87108/282

**MALLON OIL COMPANY** RECEIVED  
OFFICE OF THE GOVERNOR  
1099 18th Street, Suite 2750, Denver, Colorado 80202  
(303) 293-2333

AUG 11 10 41 AM '87

August 4, 1987

Diana Daggett  
Governor's Office  
State Capital Building  
Room 418  
Santa Fe, New Mexico 87503

Dear Diana:

Enclosed are copies of parts of the transcript from the March/April hearing.

Sincerely,

MALLON OIL COMPANY



George O. Mallon, Jr.  
President

GOM:cag  
Enclosures

1 MR. MOCK: Mr. Chairman, Com-  
2 missioners and Staff, Phelps Dodge appreciates the opportu-  
3 nity to speak here today and we -- I particularly appreciate  
4 the consideration on allowing me to make this presentation  
5 out of time.

6 My name is Robert Mock. I'm  
7 Director of Materials Management for Phelps Dodge Corpora-  
8 tion. Among my responsibilities is the management of the  
9 acquisition function of our acquisition of energy for Phelps  
10 Dodge Corporation.

11 As an aside, I'm a graduate of,  
12 or attended a New Mexico high school and graduated from New  
13 Mexico State University, so I am a New Mexican.

14 Phelps Dodge is the largest do-  
15 mestic producer of copper. In 1986 we produced about one-  
16 third of the copper mined in this country. Nearly all of  
17 our production is either mined or processed in New Mexico.

18 Phelps Dodge has invested ap-  
19 proximately One and a Quarter Billion Dollars in equivalent  
20 facilities and resources in New Mexico. We are proud to be  
21 a part of New Mexico's business community. We have been a  
22 part of this state for a long time and we will continue to  
23 be a part of this state in the future.

24 In New Mexico Phelps Dodge is  
25 number one among users and expenditures of utilities,

1 \$50,000,000 a year; number two among employers in total pay-  
2 roll, over \$70,000,000 a year. We're number three among  
3 taxpayers in this -- in the state, paying over \$10,000,000 a  
4 year, and we are number four among customers of New Mexico  
5 businesses, spending approximately \$20,000,000 a year. Our  
6 average annual expenditure for new construction in this  
7 state over the past three years is nearly \$70,000,000.

8 As you can clearly see, Phelps  
9 Dodge is in New Mexico for the long haul.

10 Today Phelps Dodge is a heal-  
11 thy, growing company in what has been a relatively anemic  
12 industry. We reported net income of \$61.4 million in 1986,  
13 remarkably improved from 1984's record loss of \$268,000,000.

14 This recovery occurred at a  
15 time when copper prices remained near all time low levels.

16 We pursue a competitive  
17 strategy of being the lowest cost domestic copper producer  
18 and among the lowest cost producers in the world. This is  
19 not in-stage condition; it's a goal that we pursue constant-  
20 ly.

21 In 1986 our unit production  
22 costs per pound of copper produced were a third lower than  
23 in 1981, before adjustment for inflation. After inflation  
24 adjustment our '86 costs were 40 percent lower than they  
25 were in '81. These cost reductions are achieved through a

1 combination of efforts. Directed by the vision of our  
2 senior management dramatic improvements were made in effec-  
3 tiveness and efficiency of our labor, equipment and facili-  
4 ties utilization, and the effectiveness of our expenditures  
5 for materials and service.

6 Also very significant in our  
7 efforts to lower our costs is our willingness to invest  
8 money in new technology. We are by no means experts in the  
9 oil and gas industry. I'm here as a representative of  
10 Phelps Dodge, a New Mexico taxpayer, a New Mexico employer,  
11 and a New Mexico consumer of fuels and natural gas.

12 With the emergence of open ac-  
13 cess to interstate pipelines for the transportation of third  
14 party natural gas in 1985, we began to develop an understand-  
15 ing of the natural gas and pipeline business. We believe  
16 there's a significant value to be derived by the producers  
17 and by the end users by moving up-stream of our traditional  
18 pipeline supplies for natural gas. Our gas consumption in  
19 the southwest, principally New Mexico, is approximately  
20 25,000,000 cubic feet per day and our largest uses for  
21 natural gas are in our smelters located in Hidalgo County  
22 and Grant County, New Mexico, also a significant use for  
23 natural gas is in our electrolytic refining facility in El  
24 Paso, Texas. All of these facilities are positioned to be a  
25 logical market for New Mexico's gas resource.

1                   Phelps Dodge is interested in  
2 obtaining at least a portion of its natural gas requirements  
3 from within the State of New Mexico. In late 1986 we pur-  
4 chased a small 4,000,000 cubic feet per day gas processing  
5 plant in the San Juan Basin located in Rio Arriba County.  
6 Today the plant is fed by seven wells owned by Mallon Oil  
7 Company associated with the Gavilan Mancos Pool. The plant  
8 currently is operating at between 30 and 40 percent of its  
9 capacity. Residue gas from the plant is delivered to Gas  
10 Company of New Mexico at their Cedar Mountain delivery point  
11 and then on to market. We are presently seeking connections  
12 with the El Paso Natural Gas Company's gathering system and  
13 the gathering system of Northwest Pipeline.

14                   Our ability to realize our ex-  
15 pectations from this processing plant will be significantly  
16 affected by the outcome of this proceeding. Phelps Dodge is  
17 not in a position to present technical evidence which might  
18 be helpful to the Commission in deliberating the issues.  
19 I'm sure there will be adequate supplies of technical data  
20 presented, that's already been presented and will continue  
21 to be presented today.

22                   I would, however, like to pre-  
23 sent a businessman's point of view. I'm sure this Commis-  
24 sion will be guided by what is in the best interest of the  
25 state, its industry, and its people. We believe that any-

1 thing this Commission can do to enhance the attractiveness  
2 of the business environment in New Mexico will in the long  
3 run serve the public interest. Actions which make the oil  
4 and gas business environment in New Mexico more attractive  
5 for investment will translate into an improved availability  
6 of New Mexico produced oil and gas and larger sales revenues  
7 for the producers and tax revenues for the state.

8 We believe that a policy of en-  
9 couraging well production at as high a level as possible  
10 consistent with responsible (not clearly understood) of the  
11 resource, will help to encourage investors to further  
12 explore and develop New Mexico's resources.

13 Ultimately this philosophy will  
14 translate into enhanced state revenues by encouraging new  
15 markets to look to New Mexico for reliable long-term  
16 solutions to their energy needs. Markets that traditionally  
17 looked elsewhere for their energy needs can now access  
18 through interstate and intrastate pipelines gas supplies in  
19 New Mexico. Making this state's energy resource available  
20 and accessible will benefit all New Mexicans.

21 In general, I would like to say  
22 that in order to enhance the business environment in New  
23 Mexico in this industry, there has to be, as in any  
24 industry, there has to be predictability if an investor,  
25 Phelps Dodge, or any investor, invests money under a certain

1 set of beliefs and understandings finds that the assumptions  
2 that they made in that investment are changed, there's been  
3 enough uncertainty exists in that business environment and  
4 along with it an unwillingness to -- to make that investment  
5 or to make further investments. I think it is the respons-  
6 ibility of every state regulatory body to communicate con-  
7 sistency and predictability in their rulings so that poten-  
8 tial investors will view the state as an opportunity and not  
9 an inordinate risk.

10 That concludes my remarks.

11 MR. LEMAY: Thank you very much,  
12 Mr. Mock. I appreciate your comments.

13 We shall recall back Dr. Lee to  
14 the stand for cross examination.

15

16 DR. JOHN D. LEE,

17 being recalled and remaining under oath, testified as fol-  
18 lows, to-wit:

19

20

CROSS EXAMINATION

21 BY MR. PEARCE:

22 Q Before I begin asking questions I think I  
23 need to warn you and everybody else in the room, although  
24 they may already know, in listening to my questions and an-  
25 swering them, I think you need to think of me as freshman



1 affect ultimate recovery, is to adopt a decision for the  
2 proponents.

3 Thank you for the opportunity  
4 to appear before you.

5 MR. LEMAY: Thank you, Mr. Kel-  
6 lahin.

7 At this time are there any ad-  
8 ditional statements from the audience?

9 Yes, sir.

10 MR. BUETTNER: Mr. Chairman, no  
11 more than three minutes.

12 Mr. Chairman, Members of the  
13 Commission, Ladies and Gentlemen.

14 My name is Robert Buettner. I  
15 am General Counsel and Secretary of Koch Exploration Com-  
16 pany. Koch Exploration Company is a wholly owned subsidiary  
17 of Koch Industries, Incorporated, which is headquartered in  
18 Wichita, Kansas.

19 Koch Industries is the largest  
20 privately owned oil company in the United States. If pub-  
21 licly owned we would rank between 15 and 18 on the Fortune  
22 500 with revenues in the range of \$17,000,000,000 annually.

23 Koch Exploration thus has  
24 available to it huge capital resources. Since 1981 we have  
25 invested those resources in the Beaufort Sea off shore Cali-

1   fornia, the Gulf Coast, and the Willison Basin. We have not  
2   invested them in New Mexico.

3                   Unfortunately that has been no  
4   accident. Mr. Carr has alluded to the regulatory inconsis-  
5   tency, which in his words, will kill investment in New Mexi-  
6   co. Koch was forced to adopt what has essentially been a  
7   company policy that regulatory bias in New Mexico against  
8   out-of-state investors has made investment in exploration in  
9   New Mexico unacceptably risky.

10                   That policy resulted from a  
11   series of regulatory actions instigated by Mr. Greer since  
12   1980 but which Koch was prevented from drilling acreage  
13   which it bought at competitive sales in the West Puerto Chi-  
14   quito Gavilan boundary area. Koch was thus forced to yield  
15   all but about three percent of its interest in orde to pro-  
16   tect Mr. Greer's pressure maintenance unit.

17                   It is significant that Koch's  
18   acreage, which was only about 3000 acres, has since then  
19   yielded the wells that I've marked in yellow on the maximum  
20   oil rate map with the green circles on it on the -- on the  
21   far wall.

22                   As you can see, as I can see,  
23   even, from across the room if I look closely, the best wells  
24   in the Gavilan and West Puerto Chiquito area are among those  
25   four wells that -- that I've marked on Koch acreage, and in

1 addition there is a fifth well on Koch acreage which Mr.  
2 Carr yesterday identified as the best well in the State of  
3 New Mexico.

4 Several of those wells were  
5 drilled by Mallon on farmout since Koch had essentially, as  
6 we said, pulled out of investing in New Mexico.

7 In other words, gentlemen, we  
8 had the fresh, correct, geologic ideas. We made the invest-  
9 ments and we were ready to take the risk, and New Mexico  
10 gave it all to Al Greer.

11 This afternoon's disclosure  
12 that the acreage which was denied to us to protect the C  
13 Zone injection project, produces from the unconnected A and  
14 B Zones, is particularly ironic but typical of our bitter  
15 experience in New Mexico. Today we observed that Mallon has  
16 suffered the same penalty for coming to New Mexico, taking  
17 risks, and creating wealth.

18 Koch believes that past regula-  
19 tory action resulted from a well motivated but dispropor-  
20 tionate reliance on improbable claims of increased recovery  
21 and unfounded alarms about waste. Frankly, others have as-  
22 sumed that the action was more darkly motivated; however,  
23 that, I think, is enough about the mistakes of the past as  
24 Koch perceives them.

25 My purpose here is to urge this

1 new commission to be open to new ideas, to encourage  
2 explorers, and to recognize that the future of New Mexico's  
3 oil and gas industry lies in encouraging enterprise and  
4 energy, not in chasing away investment by confiscating and  
5 redistributing the fruits of hard and imaginative work.

6 We urge you to recognize that  
7 statewide rule changes and megapools must be proved neces-  
8 sary by their advocates. It should no longer be enough to  
9 simply claim that Mr. Hueni may be wrong or if Al Greer hap-  
10 pens to be right. The burden to prove the need for these  
11 changes is on those who seek them.

12 To honor the paramount duty to  
13 prevent waste does not require you to honor quick sketch  
14 criticism or to swallow incredible plan just because they're  
15 made. You can better assure the harvest of the resources of  
16 the State of New Mexico by encouraging someone to come in  
17 and do the work and to recognize work which is of depth and  
18 quality.

19 If you affirm the statewide  
20 rules and geologically based pool boundaries which Mallon,  
21 Mobil, and others relied on in making their investments, you  
22 encourage them that the playing field in New Mexico is  
23 level. The result will be an improved investment climate in  
24 New Mexico as well as the best development for the Gavilan  
25 Mancos area.

1                   That's my -- that concludes my  
2 statement except I would like to say that I have this kind  
3 of a job and I sit in on these kinds of things around the  
4 country, and I have for years, and having sat through all of  
5 this, I'll say one thing. Greg Hueni can engineer my oil-  
6 field any time.

7                   Thank you.

8                   MR. LEMAY: Thank you, Mr.  
9 Buettner.

10                   Additional comments?

11                   MR. WOOD: Yes, sir, if I may.

12                   Mr. Chairman, Members of the  
13 Commission, thank you.

14                   My name is Alan Wood. I'm the  
15 Proration Unitization Manager for Amoco Production Company,  
16 Denver Region.

17                   Amoco's statement of position  
18 was reflected quite adequately by Mr. Pearce. I would, how-  
19 ever, like to add some additional comments. *Amoco for the hearing*

20                   The initial hearing in this  
21 matter was in August of 1986. Following extensive testimony  
22 the Commission issued an order which restricted production  
23 in the Gavilan Mancos Pool to a level which would protect  
24 the reservoir from potential damage until additional reser-  
25 voir tests and technical studies could be accomplished.

1 Amoco participated in that  
2 hearing and in fact made a recommendation that you err on the  
3 side of the prevention of waste.

4 What we need to do is to re-  
5 flect on what has happened since that August hearing. The  
6 operators have responded by undertaking joint and separate  
7 reservoir testing and evaluation, a process which has cost  
8 thousands of dollars and has involved hundreds of manhours.

9 Amoco Production Company as an  
10 operator in the field has participated in this technical ef-  
11 fort. Unfortunately, as indicated in the last four days,  
12 the various operators have not been able to reconcile their  
13 technical differences.

14 In our letter of March 20th,  
15 1987, we stated our position on the substantive issues which  
16 are now before you. *→ Exact same position as mentioned in 1987* For the sake of brevity I do not wish  
17 to reiterate the contents of that letter but would request  
18 it be made part of the record.

19 These positions reflected our  
20 technical opinions on the Gavilan Mancos Pool at that time.

21 With regard to Case Number 4946  
22 and 4950, our letter of March 20th, 1987, stated that as of  
23 that date the available data was inconclusive as to whether  
24 the reservoir is rate sensitive and as to whether there is  
25 secondary potential.

1                   Subsequent to that letter we  
2 have had the opportunity to review the completed Bergeson  
3 and Associates report, as well as listening to the testimony  
4 presented during this hearing.

5                   It is our opinion that the Gav-  
6 ilan Mancos Pool is not rate sensitive at the rates which  
7 are achievable under the application of the 320-acre state-  
8 wide allowable, nor at this time is there any immediate need  
9 to implement secondary recovery operations.

10                   It is therefore our position  
11 that the production restrictions be vacated and the field be  
12 returned to primary operations.

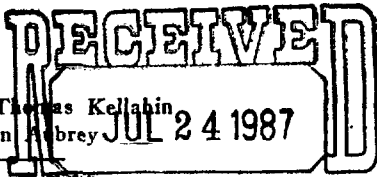
13                   Unfortunately, we may never  
14 know the correct answer for the Gavilan Mancos Pool. I  
15 would point out a statement that Dr. Lee made, that in order  
16 to fully understand this reservoir a field-wide reservoir  
17 stimulation would have to be developed -- excuse me, simula-  
18 tion, a project that would be prohibitively expensive.

19                   Thank you.

20                   MR. LEMAY: Thank you, Mr.  
21 Wood.

22                   Any additional comments or  
23 statements?

24                   Well, I think my fellow -- Mr.  
25 Kellahin.



W. Thomas Kellahin  
Karen Aubrey

Jason Kellahin  
Of Counsel

OIL CONSERVATION DIVISION  
SANTA FE

VIA HAND DELIVERY

KELLAHIN, KELLAHIN AND AUBREY

Attorneys at Law

El Patio - 117 North Guadalupe

Post Office Box 2265

Santa Fe, New Mexico 87504-2265

July 23, 1987

Telephone 982-4285  
Area Code 505

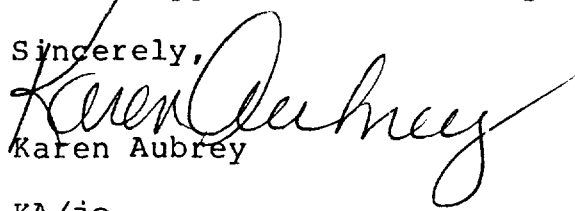
Tom C. Barr, Secretary  
Energy, Minerals and  
Natural Resources Department  
525 Camino de los Marquez  
State of New Mexico  
Santa Fe, New Mexico 87501

Re: Review of Oil Conservation Division Orders  
R-7407-E and R-6469-D

Dear Secretary Barr:

Yesterday afternoon we received a copy of Mesa Grande Resources and Mallon Oil Company's request that you hold a hearing under § 70-2-26 N.M.S.A. (1978 Comp.) on the grounds that the Orders entered by the Oil Conservation Commission contravene either the state-wide energy plan or the public interest. This firm represents Sun Exploration and Production Company and others in connection with this matter.

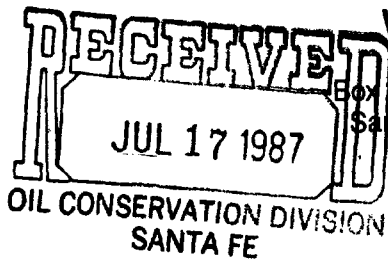
Our clients request that you allow us until Friday, July 24, 1987, at 12:00 p.m. to file a brief in opposition to Mallon and Mesa Grande's request that you hold a hearing. It would benefit all parties if we could receive your decision regarding the hearing by 5:00 p.m. on Friday. In addition, we understand that William F. Carr, of Campbell and Black who represents additional interest owners in this matter, is out of town until Friday, July 24, 1987, and is not yet aware of the Application before you.

Sincerely,  
  
Karen Aubrey

KA/jo

cc: W. Perry Pearce, Esq.  
William F. Carr, Esq.  
Sun Exploration & Production Co.  
Jerome P. McHugh & Associates  
✓ Charles Roybal, Esq.  
Mr. William LeMay  
Jeff Taylor, Esq.  
All Counsel of Record





Wm. Oscar Jordan  
Attorney At Law  
Box 28, Old Arroyo Chamisa Rd.  
Santa Fe, New Mexico 87505  
(505) 982-5689

15 July 1987

Mr. William J. LeMay, Director  
Oil Conservation Division  
Energy and Minerals Department  
Post Office Box 2088  
Santa Fe, New Mexico 87504-2088

Re: Case Nos. 7980, 8946, 9113, 9114, and 8950

Dear Mr. LeMay:

Reference is made to your letter of July 9, 1987 rejecting our application for rehearing as not being timely filed for the reason that it was not filed within ten days from the date of entry of the order. The fourth paragraph of our application makes reference to the fact that it was not filed within 20 days of entry of the order but it also pointed out that it was filed within 20 days of our receipt of a copy of the order. In this connection your Rule 1221 requires the Commission to mail, within 10 days of entry of the order, a copy of such order to each person or his attorney of record who has entered his appearance. I entered my appearance, but to this day I have not received a copy of the order in the mail. As a matter of fact after the hearing I made inquiry from time to time either to your office or the office of the Commissioner of Public Lands as to when a decision could be expected and it was on the 24th of June that I learned from the Land Commissioner that a decision had been rendered. He was kind enough to call your office and a member of your staff brought a copy of the order up to me. The staff member commented at that time that I had only 10 days to ask for a rehearing and that I was probably too late to do so.

It is submitted that 70-2-7 NMSA 1978 authorized you to adopt rules of procedure therefore your Rule 1221 providing for mailing of notice has the force and effect of law. The New Mexico Supreme Court does not take kindly to entry of orders without notice to the parties attorney. In Montano v. Encinias, 103 NM 515, 709 P2d 1024, the court in a similar factual situation directed a district judge to set aside his order and enter a new order and to give the attorney notice so that an appeal could be taken. True, there was a statute involved but as I read the decision the court held that aside from the statute as a matter of principle notice is required to prevent sharp practice and to avoid having an attorney to make a daily check of the docket.

From the language in that case I have little doubt but that the Supreme Court would apply the same reasoning to a decision of an administrative agency.

In view of the foregoing I respectfully request that the

letter of July 9, 1987 be withdrawn and that you consider our application for rehearing as timely. In return I would have no objection to stipulating that our request for rehearing was denied along with the other parties' by inaction on your part within the 10 days as per your Rule 1222.

Very truly yours,

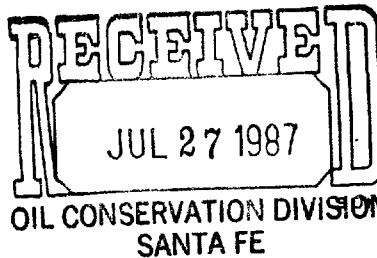
  
William C. Jordan

cc: Mrs. Don Howard

CAMPBELL & BLACK, P.A.

LAWYERS

JACK M. CAMPBELL  
BRUCE D. BLACK  
MICHAEL B. CAMPBELL  
WILLIAM F. CARR  
BRADFORD C. BERGE  
J. SCOTT HALL  
PETER N. IVES  
JOHN H. BEMIS  
MARTE D. LIGHTSTONE



GUADALUPE PLACE

OFFICE 1 - 110 NORTH GUADALUPE

POST OFFICE BOX 2208

SANTA FE, NEW MEXICO 87504-2208

TELEPHONE: (505) 988-4421

TELECOPIER: (505) 983-6043

July 24, 1987

HAND DELIVERED

Tom C. Barr, Secretary  
Energy, Minerals and Natural  
Resources Department  
State of New Mexico  
525 Camino de Los Marquez  
Santa Fe, New Mexico 87501

NATURAL RESOURCES DEPT.  
RECEIVED

JUL 24 1987

OFFICE OF THE SECRETARY

Re: Response of Benson-Montin-Greer Drilling Corp. to Application for Review of Mallon Oil Company and Mesa Grande Resources, Inc. (Oil Conservation Commission Orders R-7407-E and R-6469-D).

Dear Secretary Barr:

This letter is the Response of Benson-Montin-Greer Drilling Corp. to the Application for Review of the above-referenced orders of Mallon Oil Company ("Mallon") and Mesa Grande Resources, Inc. ("Mesa Grande") filed on July 22, 1987.

Having presented their case to the Oil Conservation Commission and not having a record which could be successfully appealed to the District Court, Mallon and Mesa Grande are now attempting to utilize the provisions of Section 70-2-26 to bring these orders before you for review - a matter which neither raises questions contemplated by this section of statute nor a matter which can be effectively disposed of by the Secretary since it involves questions of reservoir damage and the waste of oil - questions which properly rest with the Oil Conservation Commission.

Section 70-2-26, N.M.S.A. 1978, was adopted at the time the Department of Energy and Minerals was created. This section of statute recognizes that there may be circumstances in which the State of New Mexico has interests which are inconsistent with the statutory duties of the Oil Conservation Commission, i.e., the prevention of waste of oil and natural gas and the protection of correlative rights. This section of statute anticipated the formal promulgation of a state-wide energy plan. If an order of

Tom C. Barr, Secretary  
July 24, 1987  
Page Two

the Oil Conservation Commission contravenes that plan or an order has been entered contrary to the public interest, the Secretary can call the matter before him, receive testimony and enter an order consistent with the State Energy Plan or the public interest.

Pursuant to Section 70-2-26, the Secretary of Energy and Minerals may call a matter before him for hearing. This is a discretionary matter. Once the Secretary decides to call a matter before him for hearing, however, this statute is clear as to other matters which are not within the Secretary's discretion. The first non-discretionary requirement is that the hearing must be held within twenty days of the entry of the Commission's order. The twenty-day figure was not arbitrarily set by the legislature. It was designed to be consistent with the appellant procedures for Oil Conservation Commission orders set out in Section 70-2-25, N.M.S.A. 1978. Under this section of statute, any party of record adversely affected by a Commission decision, following the denial of an application for rehearing, may appeal the decision to the District Court. It was the intent of those of us who drafted this statute, and I believe the legislature, to provide that this separate appeal procedure would be available, but that it would be available only within the time frame of the OCC appeal statutes. It was our intention that a party not be allowed to file an application with the Secretary and at the same time pursue the matter before the District Court. It, therefore, is essential that if you decide to hold a hearing on this matter, the hearing must be held within the twenty days provided for by statute. You must also receive testimony on all issues, for your order will be the only order appealed to the courts. If you decide not to hear the case, an early decision will permit Mallon and Mesa Grande to appeal pursuant to Section 70-2-25, N.M.S.A. 1978.

Another matter which is not discretionary with the Secretary, once he decides to hold a hearing under this statute, is that the hearing must be de novo. On this point, the statute is clear. It provides that the hearing "shall be a de novo proceeding". The reason for this is that if the Secretary of Energy reviews an order to determine whether or not it is consistent with a state-wide energy plan or the public interest, his jurisdiction is different from that of the Commission and he is necessarily deciding different issues and looking for different facts than

Tom C. Barr, Secretary  
July 24, 1987  
Page Three

those which were properly before the Commission. For this reason, it is essential that any proceeding before the Secretary be de novo.

This statutory appeal provision is not designed to correct errors of the Commission, but to assure that OCC actions, though correct from a waste and correlative rights point of view, do not contravene the State's Energy Plan or the public interest. A review of an OCC order for error is a separate matter and is properly addressed to the courts.

In this case, the Application for Rehearing filed with the Commission and the Application for Review filed with the Secretary are essentially identical. On page 3 of their Memorandum of Law and Authority in Support of Application for Review, Mallon and Mesa Grande identify the four amendments they seek to the Commission orders in question. Each of these was raised in their Application for Rehearing to the Commission. Their requested change in testing requirements was addressed on pages 3 through 6 of their Application for Rehearing. The second point they raised concerning the May, 1988, hearing date was discussed on pages 6 and 7 of their Application for Rehearing. Likewise, their third point, seeking a change in allowables, was discussed on pages 2 and 3 of the Application for Rehearing and their last point concerning the appropriateness of boundaries between the Gavilan and West Puerto Chiquito Pools was presented to the Commission on page 2 of the Application for Rehearing. No new questions, therefore, are presented to the Secretary by the Application for Review and all Mallon and Mesa Grande seek is a review of the actions of the Oil Conservation Commission - actions which were taken squarely within its statutorily imposed duty - actions which should be reviewed only by the District Court.

In deciding whether or not to hold further hearings on this matter, it is essential that the Secretary look to the Application for Review to determine if the questions being presented for consideration warrant further review. In this regard, Mallon and Mesa Grande assert that the Commission's orders are contrary to the economic interest of the State of New Mexico (Application for Review, pages 5 and 6). This argument was soundly refuted by the testimony presented by Benson-Montin-Greer in the 1986 hearing. See Benson-Montin-Greer Exhibit 4, Transcript Volume II, pages 79-87. A copy of this testimony and exhibit are attached for your review.

Tom C. Barr, Secretary  
July 24, 1987  
Page Four

Mallon and Mesa Grande also assert that these orders are contrary to the public interest because they do not "... encourage the development and production of resources ...." and because they, are entitled to rely upon state-wide rules instead of the special rules adopted by the Commission. This argument is entirely contrary to the purpose of the hearings and orders at issue. The central question presented to the Commission is whether or not production of the Gavilan and West Puerto Chiquito Pools under state-wide rules will result in the waste of natural resources, the unnecessary drilling of wells and the impairment of the rights of all interest owners in these pools. The assertion of Mallon and Mesa Grande that they should be entitled to rely on state-wide rules instead of rules which are based on conservation principles -just because they have invested some money - is absolutely preposterous. To adopt this theory would require refusal by the state to act on newly developed information even when conservation and correlative rights considerations dictated a change in the rules. We submit the only way the public interest can be served is to permit the Oil Conservation Commission, as the appropriate conservation agency in this state, to act on the most recent information available to it. To refuse or be unable to change the Division's rules when current information demonstrates that change is necessary would ultimately lead to the demise of any effective conservation program in the State of New Mexico.

In October, 1986, Mallon and Mesa Grande sought review by the Secretary of decisions of the Commission concerning development of the Gavilan and West Puerto Chiquito Pools. In that instance, as now, they waited until the eleventh hour before seeking review by the Secretary. Here, with only seven days left within which the Secretary can act, Mallon and Mesa propose that their application be granted, the case set for hearing on or before July 29, and at that time, the case be continued to "a future date" for the parties to present argument. This procedure is inconsistent with the statute authorizing review by the Secretary and we submit is nothing more than an attempt by Mallon and Mesa to lead the Secretary into error.

If, however, you should decide to grant the Application for Review, we must advise you that in our judgment the case cannot be presented to you in less than eight hearing days. We also believe that if you decide to review this matter and enter your own order, all parties will be severely prejudiced if the case is not heard and decided before August 15, 1987.

Tom C. Barr, Secretary  
July 24, 2987  
Page Five

Your consideration of this Reponse to the Application for Review  
is appreciated.

Very truly yours,

  
WILLIAM F. CARR

WFC/ab  
Enclosure

cc w/enclosure: William J. LeMay  
Charles Roybal, Esquire  
Jeff Taylor, Esquire  
All counsel of record

CAMPBELL & BLACK, P.A.

LAWYERS

JACK M. CAMPBELL  
BRUCE D. BLACK  
MICHAEL B. CAMPBELL  
WILLIAM F. CARR  
BRADFORD C. BERGE  
J. SCOTT HALL  
PETER N. IVES  
JOHN H. BEMIS  
MARTE D. LIGHTSTONE

GUADALUPE PLACE  
SUITE 1 - 110 NORTH GUADALUPE  
POST OFFICE BOX 2208  
SANTA FE, NEW MEXICO 87504-2208  
TELEPHONE: (505) 988-4421  
TELECOPIER: (505) 983-6043

March 9, 1988

RECEIVED

MAR 9 1988

OIL CONSERVATION DIVISION

HAND DELIVERED

Mr. William J. LeMay, Director  
Oil Conservation Division  
New Mexico Department of  
Energy, Minerals and Natural Resources  
State Land Office Building  
Santa Fe, New Mexico 87503

Dear Mr. LeMay:

By letter dated March 1, 1988, Mallon asks the Commission to increase allowables in the Gavilan Mancos pool prior to the currently scheduled May 1988 hearing on this matter.

In response to this request, Benson-Montin-Greer Drilling Corp. must point out that five of the wells upon which Mallon relies in his March letter are Canada Ojitos Unit wells. The Unit Operator can show that the cause of the lower GOR's in the Canada Ojitos Unit wells is not the consequence of producing these wells at higher rates. Mallon's interpretations must be reviewed through the hearing process. When this is done, we believe Mallon's interpretations will be shown not only to be incorrect but to reflect only a shallow and superficial understanding of this reservoir.

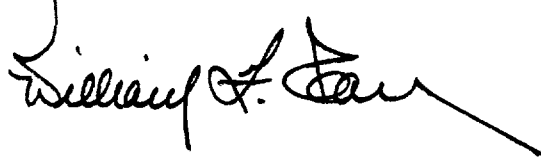
It must also be pointed out that Mallon asks the Oil Conservation Commission to amend its Order R-7407-E administratively. Procedurally this cannot be done for this Order can only be amended after notice and further hearing. We suggest that the Commission should not act on a matter of this complexity on written submissions by individual parties for this can only further confuse and complicate this matter. To meet your duties to prevent waste and protect correlative rights in this reservoir, these matters must be fully reviewed at the May 1988 hearing. To act before that time will undercut the current efforts to



Mr. William J. LeMay  
March 9, 1988  
Page Two

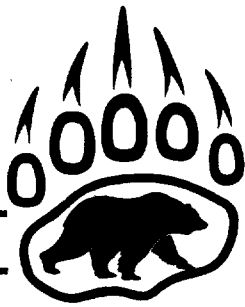
study and evaluate this reservoir in accordance with your Order  
R-7407-E.

Very truly yours,

A handwritten signature in cursive script, appearing to read "William F. Carr". The signature is written in dark ink and extends to the right with a long, thin horizontal stroke.

WILLIAM F. CARR

cc: Mr. William R. Humphries  
Mr. Erling Brostuen  
Mr. Albert R. Greer  
Mr. Frank Syfan  
Mr. John Roe  
W. Thomas Kellahin, Esq.  
W. Perry Pearce, Esq.



**KODIAK**

**PETROLEUM, INC.**

March 8, 1988

Mr. William J. LeMay, Chairman  
Mr. Erling A. Brostuen  
Mr. William R. Humphries  
New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

RECEIVED

MAR 11 1988

OIL CONSERVATION DIVISION

RE: Gavilan Mancos Oil Pool Allowable Production  
Request to Return to Normal Statewide Allowables

Dear Commissioners:

This letter is written to reiterate the request, made by Mallon Oil Company in its letter of March 1, 1988, that the production rates and gas/oil ratios applicable to the Gavilan Mancos Oil Pool be returned to normal statewide levels in order to prevent waste and to protect the correlative rights of all interest owners within the pool.

Kodiak Petroleum, Inc., wholeheartedly supports this request, as it is Kodiak's opinion that the production data collected since the restrictions were imposed by the commission clearly shows that needless waste of reservoir energy as well as the waste of New Mexico's natural resources is occurring.

The data, supplied from well after well and for the Gavilan Mancos Oil Pool as a whole, shows that UNDER RESTRICTED PRODUCTION RATES, THE GAS/OIL RATIO INCREASES (see attachment). Reduced allowables have, in fact, accelerated the rate of increase of the gas/oil ratios, which, in turn, has reduced and, if left unchecked, will continue to reduce the ultimate recovery of oil from the pool. Contrary to certain hysterical allegations that normal statewide production rates and gas/oil ratios had resulted in a "Gavilan in Crisis," it is apparent that the RESTRICTED ALLOWABLES imposed on the pool have NOW created a crisis.

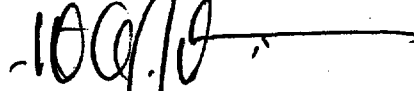
The increased gas/oil ratios have had a drastic, detrimental effect on production and the restrictions are surely more severe than the commission had intended. The wells in which Kodiak has a working interest were commercial under statewide allowables; however, under the current restrictions, most of these wells are now noncommercial.

We were pleased to read in Commissioner LeMay's letter of February 5, 1988, that should the production data confirm the occurrence of waste, the commission would immediately rectify the problem by reinstating the statewide allowables in the Gavilan Mancos Pool. The production data that has been obtained and supplied to the commission leaves no doubt that waste has occurred and that waste will continue to occur until the Gavilan Mancos Pool is allowed to produce under normal statewide allowables.

In summary the production data collected and supplied to the commission clearly shows that unduly restricting production has resulted in an accelerated increase in the gas/oil ratio with the consequent waste of New Mexico's natural resources as well as extreme hardship on the operators, the working-interest owners, and the royalty owners of the Gavilan Mancos Oil Pool. Based upon this data, Kodiak Petroleum, Inc., supports the request by Mallon Oil Company that the production rates and the gas/oil ratios applicable to the Gavilan Mancos Oil Pool be returned to normal statewide levels in order to prevent waste and to protect the correlative rights of all of the interest owners within this pool.

Recognizing the statutory and fiduciary accountability inherent in the charge of the New Mexico Oil and Gas Commission, we respectfully request that the commission order the immediate return of statewide allowables for the Gavilan Mancos Oil Pool.

Sincerely yours,

A handwritten signature in black ink, appearing to read "K.A. Johnson", with a long horizontal line extending to the right.

Kent A. Johnson  
President

KAJ/ccj

Enclosure

GAVILAN MANCOS OIL POOL  
 Rio Arriba County, New Mexico  
 1987 PRODUCTION

BOPD

GAS/OIL RATIO

6000

6000

5000

5000

4000

4000

3000

3000

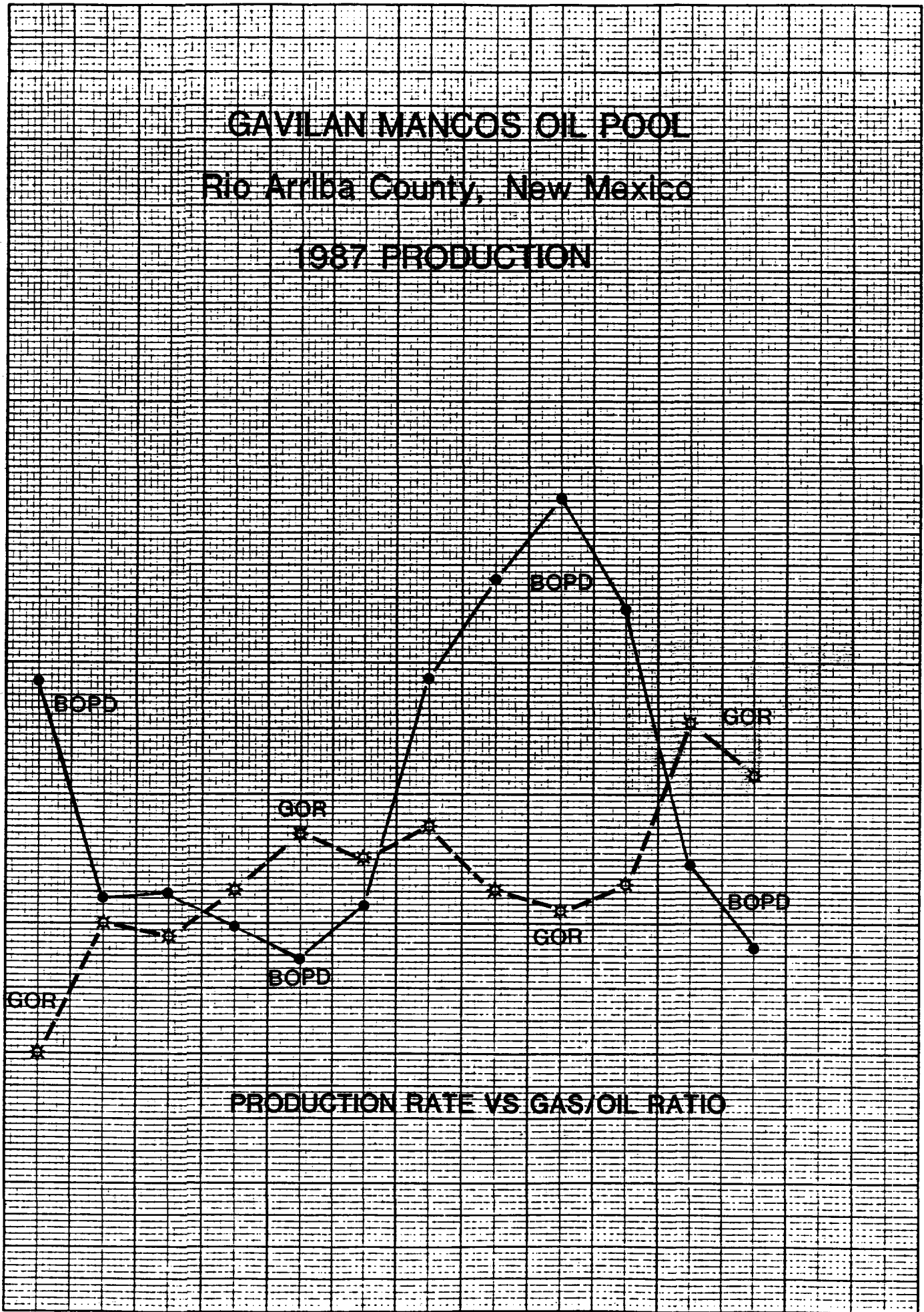
2000

2000

1000

PRODUCTION RATE VS GAS/OIL RATIO

J F M A M J J A S O N D



GAVILAN MANCOS OIL POOL  
Rio Arriba County, New Mexico

1987 PRODUCTION

<u>Months</u>	<u>BOPD</u>	<u>MCFPD</u>	<u>GOR</u>
Jan	4861	9731	2002
Feb	3210	9643	3004
Mar	3246	9407	2898
Apr	2978	9709	3260
May	2727	10,063	3691
June	3140	11,002	3504
July	4889	18,373	3758
Aug	5656	18,477	3267
Sept	6285	19,507	3104
Oct	5407	17,941	3318
Nov	3454	15,706	4547
Dec	2804	11,644	4153

# Mobil Exploration & Producing U.S. Inc.

P.O. BOX 5444  
DENVER, COLORADO 80217-5444

March 9, 1988

RECEIVED

MAR 21 1988

OIL CONSERVATION DIVISION

William J. LeMay, Chairman  
Mr. William R. Humphries  
Mr. Erland A. Brostuen  
New Mexico Oil Conversation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

OCCURRENCE OF WASTE  
GAVILAN-MANCOS POOL

Dear Commissioners:

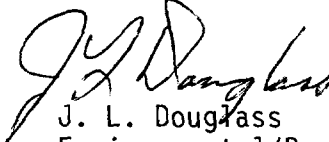
The purpose of this letter is to support the conclusion and data presented by Mallon Oil Company in their letter of March 1, 1988, and to likewise urge the Commissioners to take immediate action to reinstate normal pool allowables in the Gavilan Mancos Pool.

The performance of Mobil's Lindrith B-37 has shown a dramatic inverse relationship between oil rate and GOR; lower oil rates yield higher producing GORs. The attached graph shows the complete interdependence of these performance characteristics. The attachment also indicates that this relationship has been maintained since the well was placed on continuous production in June, 1986.

Therefore, the data from Mobil's Lindrith No. B-37 shows that the restriction of production rates causes increasing gas/oil ratios and threatens to waste reservoir energy. Based upon this data, Mobil Oil Corporation requests that the production rates and gas/oil ratios applicable to the Gavilan Mancos Pool be increased to normal statewide levels on an interim basis pending further hearing on this matter in order to prevent waste and to protect the correlative rights of all interest owners with in this pool.

We are prepared to cooperate with the Commission in any way possible to quickly resolve this matter.

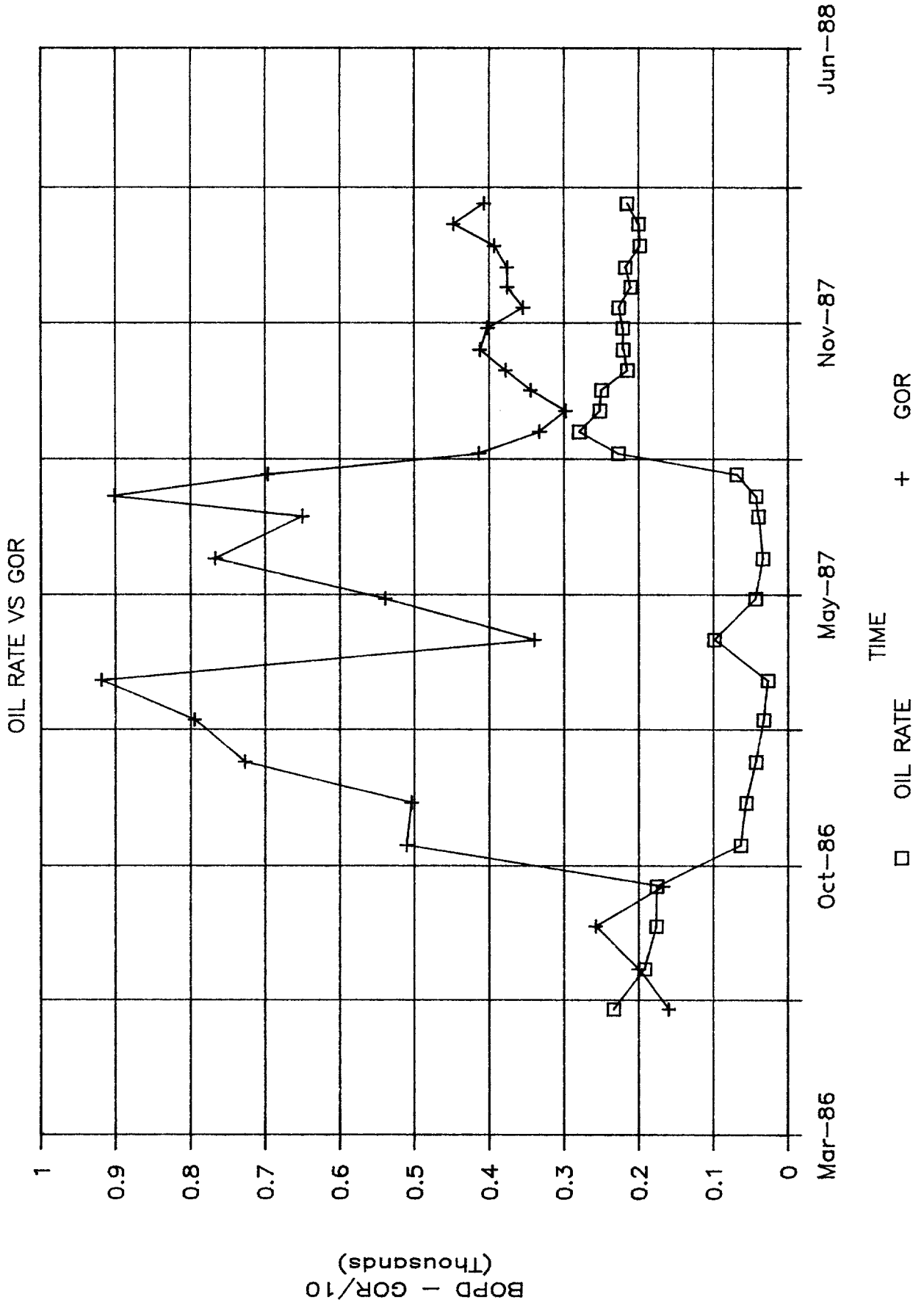
Sincerely,



J. L. Douglass

Environmental/Regulatory Manager

# MOBIL - LINDRITH NO. B-37



# NOSECO CORPORATION

327 Thoma Street  
Reno, Nevada 89502  
(702) 322-5474

April 9, 1988

Mr. William J. LeMay  
Chairman  
New Mexico Oil  
Conservation Commission  
Stateland Office Building  
Santa Fe, New Mexico 87501

*Copy to  
William J. LeMay  
Chairman  
New Mexico Oil  
Conservation Commission  
Stateland Office Building  
Santa Fe, New Mexico 87501*  
*Case 8946*

Dear Commissioner LeMay:

After our telephone conversation of two weeks ago, I went back to past materials and rates collected from the hearings of 3/30/87 and 4/3/87 and more recent data such as the recent report of 3/1/88 made by Bergeson-Mallon and submitted by Perry Pierce of Montgomery and Andrews. Their analysis correlates with the economic damage suffered by our group in the Gavilan Dome-Mancos (Gallup) area in T-25N, R-2W, Rio Arriba County.

During the first year of operation (4/85-3/86), our #1 Howard in Section 26 produced 71,308 barrels of oil and 662,591 MCF of gas. Our Brown well in Section 17 produced 19,960 barrels of oil and no gas. This produced for us a total of \$543,891.32 of revenue for a 16.113280% W.I. in the #1 Howard and a 13.826196% W.I. in the Brown. Our total working interest for the period would be considered 23.026378% W.I. using one-half of the Brown W.I. as the Brown was down for a few months and it produced no gas (Howard = 16.113280% W.I. + 13.826196% W.I./2 = 6.913048% W.I. = 23.626378% W.I.). So, 23.626378% W.I. produced \$543,891.32 of revenue before operating expenses.

On the average during the first year our #1 Howard produced 5942 BOPM and 55.2 MMCFGM. This equates to 198 BOPP and 1.84 MMCFGD. Not to distort this, the well was co-produced with the Dakota and the Mancos-Gallup produced about 90% of the oil and 30% of the gas. The Dakota produced 10% of the oil and 70% of the gas. During the first year the Brown produced 19.960 barrels of oil for an average of 1663 BOPM or 55.4 BOPP. Again, we received no payments for gas during this period.

After taxes, prices the first year of operation averaged \$22.91/BBL and \$2.92/MCF going from a high of \$29.66/BBL and \$3.72/WCF for 4/85 to \$12.00/BBL and \$2.55/MCF at the close of the producing year 3/86. The price drop was continuous throughout for gas but oil dropped over the last three months from \$24.44/BBL to \$12.00/BBL. The drop in the price of oil of \$17.66/BBL from the first of the year to the end represented a 60% decrease. The drop in the price of gas from



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\$2.92/MCF to \$2.55 was only a 13% decrease but in the following months the gas price fell drastically to .82 MCF (net after taxes) in November of 1986. From the high to the low this was a 72% drop in price and, likewise, revenues.

During the second year of our operations, 4/86-3/87, our #1 Howard produced 28.545 barrels of oil and 374.336 MCF of gas. This was a decrease of 60% in oil and 44% for gas. For the Howard, this is again distorted because it co-produces with the Dakota but, based on production history, the preponderance of decrease was at the expense of the Gallup-Mancos zone and a direct result of the first imposition of an allowable cut back in 1986 which in effect have been carried through to the time of this writing.

Our Brown well produced 5347 barrels of oil for the second year and 10.298 MCF of gas. Towards the end of the year, our G.D. #2 Federal in Section 26 and Hellcat and Bearcat wells in Section 22 were brought into production. These wells were hampered by restricted allowables and never had a run of production under normal allowable conditions to let them cleanup. The G.D. #2 Federal was admittedly damaged during completion and after continued clean up efforts began coming back only to be hampered again by cut backs.

So in the second year, considering three more wells were added to production for half the year (or an additional 27.162082 13.581041% W.I.), the total value of oil production was down (\$67,488.27 vs. \$286,324.91) by \$218,836.64 or a 76% decrease and the value of gas down (\$61,555.11 vs. \$257,566.41) \$196,011.30 for a 76% decrease in gas value, also. This was in a period where about (23.626378% W.I. + 13.581041% W.I.) 57% additional productive working interest produced a decrease of 76% in revenue.

Prices during the second production year average \$11.64/BBL and \$1.33/MCF net after taxes and, while not adequate, both oil and gas raised about the low point of mid year 1986.

The third year (4/87-1/88) we have received production checks for ten months to date. Oil and gas prices are up substantially from the low points of mid 1986 but the cut back in allowables has negated prospects of any decent economic return.

Our #1 Howard has produced 2909 barrels of oil and 184,664 MCF of gas in this ten month period. This equates to less than ten barrels of oil per day. About five barrels each from the Gallup-Mancos and Dakota zones. For the Gallup-Mancos this represents about 1/36th or 2.8% of the first years' production which averaged about 178 barrels a day (198 BBLs x 90% - 178 BBL) from the Gallup-Mancos zone. With allowables as they are, the Dakota zone is the biggest contributor to income from this well.

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Gas in the #1 Howard is averaging about 18,464 MCF or about 616 MCFGD. Again, the Dakota produces about 70% of this gas. The problem is not rapid depletion but allowables and with the #1 Howard a question of whether the well can ever be brought back to decent production capacity from the Gallup-Mancos.

The Brown in Section 17 is a good well but has been restricted by allowables so we have never had a good run with the well since it has been completed either because of slowness of hookup or production curtailments. Since the well is irregularly spaced (506+ acres versus 320 acres) there is some allowable relief but during periods of restriction the effects and decreases in production are quite clear.

Our G.D. #2 Federal in Section 26 and Hellcat and Bearcat wells in Section 22 have been restricted to the point where they just about pay operating costs. They do not provide any return or investment.

These wells suffer because they were brought on stream when allowables were cut back and they have never had a chance to clean up. The question here, as in the #1 Howard, is if the wells are damaged by restrictions can this loss ever be recovered. The economic hurt is certainly felt currently.

These are simple observable facts taken from actual well(s) production and revenues. The work up sheets are attached. The economic damage we have experienced is consistent with the latest report of Mallon-Bergeson and we need to have the restrictions lifted to get any kind of decent return.

I am also in receipt of Peter Neumann's letter to you of 3/14/88 and the tone is not at all surprising. Between Mr. Neumann and my group we have a considerable investment in the Gavilan-Dome area and under present conditions the rate of return is not at all attractive, especially if part of the investment is leverage.

We, as many others have stated, still feel that the Greer-Sun opposition groups distorted the flow curve and compressibility test in the two earlier hearings to achieve their desired results. By omitting the first hours in test data of flow curves, you get highly distorted permeability-drainage-interference factors. By slanting compressibility test reservoir capacity is understated. So far we have never seen any determination by the Commission as to the respective accuracy of each sides formula presentations on this point and, perhaps if this were disclosed, some of the questions about politics would be resolved.

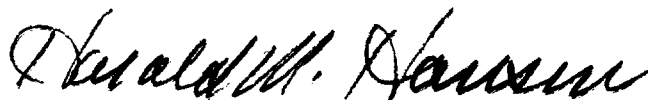
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Page Four

This accuracy of the respective data question should be resolved and I believe all sides (or at least one side) would agree to sharing of costs for independent analysis of this point.

The setting of spacing and allowables are obviously strongly influenced by the flow curve and compressibility analysis as well as empirical data. We would like to see such an independent analysis and feel it is incumbent upon the Commission to institute a movement to settle this.

All we know is that our interests have been diluted by spacing, allowables and high state gas taxes and we feel to a large degree this has been brought about by a misuse of flow curves and compressibility testing. For whatever reasons, the opposition has done this operational control purchase of discounted interests pipeline use, etc., a resolution of the issue would eliminate the specter of political favoritism.

Yours very truly,



Harold M. Hansen

cc: E. Alex Phillips  
Peter Neumann  
Commissioner Erling A. Bostuen  
Commissioner William Humphries  
George Mallon

GAVILIN DOWNE FIELD - MINIMUM RETIREMENTS - TASHN, K-LW, COLLIERIA COUNTY, N.M.

Prepared By: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Initials: \_\_\_\_\_

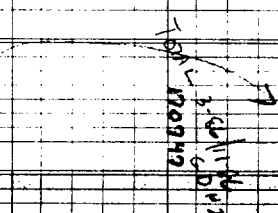
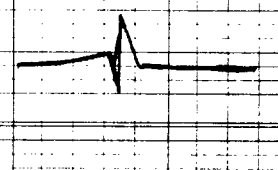
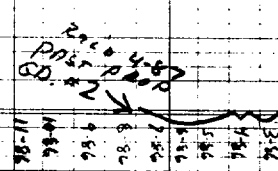
MONTH	Comments - Rates ETC	HOWARD - SEC 23	FEDERAL - SEC 24	BEAUMONT - SEC 17	HARRIS - SEC 22	BERKELEY - SEC 22	TOTAL MONTHLY RETIREMENTS
YEAR		OIL	GAS	OIL	GAS	OIL	
4-85	2764 - 372	6656	82950	900			\$ 2587608
5-85	2572 3 65	7175	71937	451			\$ 3959345
6-85	2373 - 330	6684	65796	1365			2479972
7-85	2305 2 02	7124	62893	1134			2118580
8-85	2325 2 78	5899	48574	215			2619675
9-85	2372 2 74	4928	46645				2044853
10-85	2372 2 7	6789	56179				1502571
11-85	24 2 74	4645	45960	824			2114801
12-85	24 2 74	5834	49492	3577			1846782
1	24 2 74	6147	48424	7443			3404712
2	24 2 74	4672	40851	3601			4809470
3	24 2 74	4851	42890	4750			2114008
4	24 2 74	3516	31463	224			856454
5	24 2 74	1790	30581	436			505710
6	24 2 74	4116	28572				295545
7	24 2 74	4045	36726				701861
8	24 2 74	2487	24475				524525
9	24 2 74	3106	17471				317685
10	24 2 74	5723	34568				468268
11	24 2 74	1770	35050				535493
12-86	11 2 91						285475
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2-86	10 2 82	1101	30214				206622
3-86	10 2 82	428	24084				643781
4-86	10 2 82	1038	43936				415298
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# GRVLRN DOWE MONTHLY RETURNS 4/87-3/88

Prepared By: \_\_\_\_\_  
 Approved By: \_\_\_\_\_  
 Date: \_\_\_\_\_

Mo/Yr	Comments, Breakers	Hourly - Sec 23	GRV-1-170 - Sec 26	2300W - Sec 17	HALENT - Sec 22	2300E - Sec 22	2300W - Sec 22
		GRS	GRS	GRS	GRS	GRS	GRS
4 87	1463 - 1.54 Past Prod G.D.H.2 3/86-11/86	228	411	871	4120	1309	8697
5 87	1559	448	3179	628	4258	688	5901
6 87	152	413	3174	217	3170	803	6723
7 87	120	820	4881	2049	368	1438	8901
8 87	165	603	444	2828	2918	1446	623
9 87	175	213	435	3453	96	206	411
10 87	158	209	657	3809	91	706	4571
11 87	190	203	4606	2264	1646	206	4571
12 87	188	203	5185	1946	2009	212	4544
1 88	141	2302	741	2319	3009	—	3939
22		2509	184642	14412	158588	—	382277
23							5236812
24							86681134
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GRVLRN  
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 18466 1005  
 5385 DUCON - DTY  
 5385 GRVLRN - DTY



TOTAL MONTHLY RETURNS TO WORKING INTEREST

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION COMMISSION

RECEIVED

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

JUN 29 1987

OIL CONSERVATION DIVISION

CASES NOS. 7980, 8946,  
9113, AND 9114  
ORDER NO. R-7407-E

CASE NO. 8950  
ORDER NO. R-6469-D

CASE NO. 7980

IN THE MATTER OF CASE 7980 BEING REOPENED PURSUANT TO THE PROVISIONS OF COMMISSION ORDER NO. R-7407, WHICH ORDER PROMULGATED TEMPORARY SPECIAL RULES AND REGULATIONS FOR THE GAVILAN-MANCOS OIL POOL IN RIO ARRIBA COUNTY, INCLUDING A PROVISION FOR 320-ACRE SPACING UNITS.

CASE NO. 8946

IN THE MATTER OF CASE 8946 BEING REOPENED PURSUANT TO THE PROVISIONS OF COMMISSION ORDER NO. R-7407-D, WHICH ORDER PROMULGATED A TEMPORARY LIMITING GAS-OIL RATIO AND DEPTH BRACKET ALLOWABLE FOR THE GAVILAN-MANCOS OIL POOL IN RIO ARRIBA COUNTY.

CASE NO. 9113

APPLICATION OF BENSON-MONTIN-GREER DRILLING CORPORATION, JEROME P. MCHUGH & ASSOCIATES, AND SUN EXPLORATION AND PRODUCTION COMPANY TO ABOLISH THE GAVILAN-MANCOS OIL POOL, TO EXTEND THE WEST PUERTO CHIQUITO-MANCOS OIL POOL, AND TO AMEND THE SPECIAL RULES AND REGULATIONS FOR THE WEST PUERTO CHIQUITO-MANCOS OIL POOL, RIO ARRIBA COUNTY, NEW MEXICO.

CASE NO. 9114

APPLICATION OF MESA GRANDE RESOURCES, INC. FOR THE EXTENSION OF THE GAVILAN-MANCOS OIL POOL AND THE CONTRACTION OF THE WEST PUERTO CHIQUITO-MANCOS OIL POOL, RIO ARRIBA COUNTY, NEW MEXICO.

CASE NO. 8950

IN THE MATTER OF CASE 8950 BEING REOPENED PURSUANT TO THE PROVISIONS OF COMMISSION ORDERS NOS. R-6469-C AND R-3401-A, AS AMENDED, WHICH ORDER PROMULGATED A TEMPORARY ALLOWABLE AND

LIMITING GAS-OIL RATIO FOR THE WEST PUERTO CHIQUITO-MANCOS OIL POOL IN RIO ARRIBA COUNTY.

APPLICATION FOR REHEARING

Mesa Grande Resources, Inc. and Mallon Oil Company,  
(Applicants) file this Application for Rehearing, and state:

1. Applicants are pleased the Commission has confirmed that the Gavilan-Mancos Oil Pool ("Gavilan") is a separate pool from the West Puerto Chiquito-Mancos Pool ("West Puerto"), and as such should continue to be operated under separate rules. Because the two pools do have "different geologic and operating conditions," the Commission should direct its attention to protecting each pools' separate conservation aspects and the separate correlative rights of the owners in each pool.

The only remaining issues for the Commission to decide should be:

- a. The appropriate boundary between the Gavilan and West Puerto;
- b. Whether the Gavilan owners' correlative rights should be further impinged upon by the unnecessary restriction of the Gavilan allowable production from 702 bopd with a 2000/1 GOR to the temporary 400 bopd with a 600/1 GOR rule for a 320-acre proration unit. For example, a top allowable well on a 320-acre proration unit with a 2000/1 GOR in the Gavilan suffers an 83% allowable cut from 702 bopd to only 120 bopd. This cut in allowable is not necessary to prevent waste or to protect correlative rights. In fact, the only result of this arbitrary

allowable cut is to redistribute reserves away from the top allowable wells, in violation of the owners' correlative rights.

The effect of this cut will continue to be devastating on Gavilan development by the Applicants and others similarly situated. The Commission should note that 15 wells have been drilled in the Gavilan and West Puerto Pools since the Commission's original imposition of drastic and unwarranted allowable cuts in September 1, 1986. Of these 15 wells, 12 have been drilled by the proponents of allowable reduction, who also sought increased spacing allegedly to prevent the drilling of unnecessary wells.

The Commission needs to be aware that drilling \$800,000 wells in this area can become uneconomic in today's oil depression when the additional risk imposed by this Commission of drastically limiting production is added to the already high risks of obtaining a good producing well.

2. Although not accepting the allowable constraints of the above orders, the Applicants do recognize the Commission's intent to obtain additional engineering data to confirm applicant's and the Commission's positions that Gavilan and West Puerto should remain separate. Applicants also recognize this Commission's concern of future waste in the Gavilan. Applicants share the same concern. That is why Applicants commissioned an independent engineering study to review in depth the possibility of waste. This complete study, based on actual Gavilan data, has been presented to the Commission and Applicants submit such study clearly shows that statewide producing practices will not injure



this pool, just as such practices have not injured hundreds of other New Mexico pools with similar solution gas drive characteristics. However, Applicants request that if the Commission and its staff truly seek meaningful engineering data during the next six months that the following be ordered or required:

a. "C" zone pressure testing in the oil column of the West Puerto should be required to comply with the spirit of the Commissions June 8th orders.

The Commission should note that at an operators' meeting held at the Division's request on June 23, 1987, for the purpose of attempting to satisfy the requirement of ordering paragraphs (3) in order no. r-6469-d and (4) in order no. R-7407-E, Benson-Montin-Greer Drilling Corporation (BMG), through Mr. Al Greer, refused to permit "C" zone pressure tests in the oil column of the West Puerto<sup>1</sup> -- specifically the Canada Ojitos Unit (COU) Well E-10 (Section 10, Township 25 North, Range 1 West). The Applicants believe the Commission is extremely interested in whether the "C" zone is affected by "A & B" zone production rates from the Gavilan-Mancos Pool wells. No recent "C" zone pressure in the oil column has been provided to the Applicants or the Commission. It is urged the Commission order "C" zone pressure tests in the E-10 well. A copy of Mallon Oil

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<sup>1</sup> The Commission staff has professed they did not want this testing to cause any expense to the operators. However, none of the pressure tests sought by the commission can be accomplished without the operators incurring additional expenses and this should be executed by all operators.

Company's letter of June 24, 1987, setting forth this problem is attached. Only with meaningful pressure data of this type can Mr. Greer's factually unsupported allegations of harm to his "C" zone project be refuted or proved.

b. Isolation tests should be required on key BMG wells F-30, B-29 and B-32.

The key wells in the BMG case were F-30, B-29 and B-32. These wells are completed in the "A & B" and "C" zones. BMG presented so-called interference tests on these three wells. As these wells are presently completed, however, there is no way to determine the individual productivity or the pressure contribution of the "A & B" zones and "C" zone in these three wells. The Commission should order isolation tests for these key wells of the same type run by Mallon on its Fisher Federal 2-1 and by Mobil on its B-73. The Commission ordered bottomhole pressure surveys. These should be run separately on the "A & B" zone and on the "C" zone in the F-30 and B-29 wells in conjunction with the isolation tests. The B-32 is already on the bottomhole pressure survey schedule and its bottomhole pressure should be measured separately on the "A & B" zones and the "C" zone at the same time as the isolation tests. Again, this type of meaningful pressure and production data will be significant to determine:

(1) if the "A & B" zones are cross-flowing and charging the "C" zone in the West Puerto, especially at the curtailed "A & B" zones rate, and

(2) the extent of the production between the "A &

B" zones in the Gavilan versus the West Puerto.

c. Isolation and pressure tests should be required for the BMG-COU Well No. L-27.

Mr. Greer testified that the L-27 had produced approximately 1.5 million barrels from the "A & B" zones. No separate tests have been run on the "A & B" zones and the "C" zone in the L-27 well. Isolation tests and bottomhole pressure measurements on the L-27 will verify whether the "A & B" zones are the producing zones and the relationship of the "A & B" zone production, if any, in this area of the West Puerto to the separate "A & B" zones production from Gavilan.

d. This case should be reopened in February 1988 rather than May 1988.

Gavilan has already suffered reduced allowables from September 1, 1986 to July 1, 1987 and will suffer another 83% allowable cut from October 1, 1987 until the Commission restores the allowable after the hearing now scheduled for May 1988.<sup>2</sup> Applicants respectfully request that the May 1988 hearing be advanced to February 1988 so that the Commission may review the latest data in a timely manner. The pressure and production data at normal statewide rates will be available in the first week of October 1987 and there will be four (4) months to analyze this

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2

For example, the Applicants' monthly production rate will have been drastically reduced for all but three months in a two-year period if the Commission's current hearing schedule is followed. Applicants are losing approximately 49,000 barrels per month due to the Commission's allowable limit orders. To date, more than 440,000 barrels of production has been lost with the working and royalty interest owners and the State of New Mexico suffering severe financial losses.

data before a February 1988 hearing. The additional reduced production data and January 1988 pressure data will be available in January 1988, or at least 30 days before a February 1988 vhearing date. The issues before the Commission need to be determined as soon as possible in order to protect the correlative rights of owners in Gavilan. Gavilan will be suffering severe allowable cuts from October 1987 to the subsequent hearing decision date. Moving the hearing date to February 1988 will provide all parties adequate time to prepare and will reduce the time for imposing unnecessary allowable restraints on Gavilan.

3. Applicants would further state they are parties of record adversely affected by the issuance of Orders Nos. R-7407-E and R-6469-D.

4. The Commission should reconsider its decision in this matter and should grant a rehearing because:

a. The decisions of the Commission to reduce allowable production and its failure to extend the Gavilan boundaries ("Decisions") are arbitrary and capricious;

b. The Decisions of the Commission are not based upon substantial evidence;

c. The Decisions of the Commission ignore and do not recognize the correlative rights of the applicants; and

d. The Decisions of the Commission are contrary to law;

all as more specifically described below.

5. Benson-Montin-Greer Drilling Corporation, Jerome P.

McHugh & Associates, and Sun Exploration and Production Company proposed changes to the special pool rules and statewide rules governing the Gavilan Pool. Therefore, they have the burden of proving by a preponderance of evidence that such rule changes were justified. International Minerals & Chemicals Corp. v. New Mexico Public Service Com'n, 81 N.M. 280, 466 P.2d 557 (1970). Such parties failed in their burden and the Commission did not address this failure.

6. Applicants submit that certain findings and orderings are not supported by the evidence presented at the hearing. In particular, and without limitation, the following findings are incorrect for the reasons stated below:

As to Order R-7407-E:

a. Finding (9): Applicants proved that most of the recoverable oil in Gavilan is stored in the micro fractures and intergranular porosity. The BMG group presented no facts which refuted this proof. Finding (9) is incorrect and fails to recognize this proof.

b. Findings (12) and (13): While testimony regarding rate-sensitivity was conflicting, the only model which matched Gavilan field performance was the model presented by Applicants. The model presented by Sun Exploration and Production Company was not based upon realistic parameters or actual field conditions as to Gavilan. As a result, the only reliable evidence establishes that Gavilan is not rate sensitive.

c. Finding (14): The parties are not in agreement that any type of pressure maintenance project is proper at this

time. Applicants believe that a high pressure-pressure maintenance project which is suggested by BMG would adversely affect Gavilan pool performance at this time and cause waste. In addition, the formation of a unit is beyond the scope of the hearing and no evidence regarding unitization was presented at the hearing.

d. Finding (15): The pool depletion period estimated by Applicants is nine years. There is no evidence to support the five-year estimate.

e. Finding (16): The issue of pipeline connections is beyond the scope of the hearing. In addition, a pool cannot be produced without drainage, and the conservation system is designed to give each owner the opportunity to produce his fair share. As set forth below it is an illegal act to reduce production from non-wasteful (connected) well to protect the correlative rights of the owners of a wasteful (unconnected) well.

f. Finding (20): This finding proposes to further reduce allowables for some wells connected to pipelines beyond the 83% reduction to protect the correlative rights of wells that do not have a casinghead gas connection. New Mexico law does not permit this Commission to reduce the allowable on a connected well in order to protect a non-connected well that flares and wastes its casinghead gas. It is believed that approximately 55 wells in the Gavilan have casinghead gas connections while approximately 15 wells have no connection. Under the Commission's order, these 50 connected wells have their top

allowable potential reduced by 83%. The Commission's order permits the Director to further reduce production from Applicants' wells, below 17% of top allowable, without any legal justification. This part of the Commission's order should be stricken. If any action is needed in this area, the Commission or affected operators should institute separate hearings.

g. Ordering (2): This extension application of Mesa Grande Resources, Inc., should be granted. BMG admits its extension area wells are in good communication in the "A & B" zones with the Gavilan wells.

h. Ordering (4): The Gavilan allowable for a 640 acre proration unit should be 1404 bopd and 2000/1 GOR. Testing requirements should be modified as set forth in paragraphs 2(a)(b) and (c) above.

i. Ordering (5): There is no basis in law or fact to arbitrarily reduce the Gavilan allowable for an indefinite period of time.

j. Ordering (6): As previously outlined, the unconnected well matter was not an issue at this hearing, and the Commission has no authority to reduce the allowable of a non-wasteful (connected) well to protect the correlative rights of a wasteful (unconnected) well.

k. Ordering (8): As already requested, the reopened hearing should be advanced to February 1988.

As to Order R-6469-D (and only as to their effect on Gavilan):

l. Finding (11): There is no similar finding in

R-7407-E. The top allowable in Gavilan for a 640-acre proration unit should be 1404 bopd (twice the current 702 bopd for a 320-acre proration unit). The top allowable for Gavilan should be 1404 bopd with a 2000/1 GOR. This will cause no penalty to wells already drilled on 320-acre proration units which originally had the Gavilan top allowable of 702 bopd with a 2000/1 GOR. Applicants have no objection to the West Puerto having the same top allowable treatment.

m. Findings (12) & (13): There are no findings with these provisions in the findings of Order R-7407-E. The Gavilan top allowable producing rate of 702 bopd and 2000/1 for a 320-acre spacing unit are no wasteful. If the Commission and Mr. Greer are interested in determining whether waste will occur at normal allowable rates or drainage occur "via the highly transmissive fracture system," then the testing requests in paragraphs 2(a), (b) and (c) above should be granted. There is no factual or legal basis to apply these two findings to Gavilan.

n. Finding (15): This finding does not appear in R-7407-E. There is no evidence to support a finding that "the pressure differential favors" Gavilan." In fact, the limited data showed the exact opposite: if there is a "weak" connection between Gavilan and West Puerto the pressure differential still favors West Puerto. In addition, the testing requested in paragraphs 2(a), (b) and (c) above will relate directly to these erroneous findings.

o. Finding (16): This finding does not appear in R-7407-E. If this finding is correct then the westernmost tier



of sections referred to therein should be deleted from the West Puerto and included in the extension of Gavilan in accordance with the application of Mesa Grande Resources, Inc., in Case No. 9114.

p. Ordering (2): As discussed above, this application should be granted.

q. Ordering (3): This paragraph should be amended to include the tests requested in paragraphs 2(a),(b) and (c) above.

r. Ordering (4): This ordering paragraph should be stricken as to the allowable limitation of 800 bopd and 600/1 GOR.

s. Ordering (5): The reopened hearing should be advanced to February 1988.

7. Rules issued by the Commission should be fair and equal in effect. The subject order is discriminatory as described below:

a. The order allows production at 1280 barrels of oil per day and a GOR of 2000:1 for a three (3) month period, but requires production at 800 barrels of oil per day and a GOR of 600:1 for eight (8) months and is therefore inherently unfair and biased as to the periods of production (3 months v. 8 months) toward the interests of Jerome P. McHugh & Associates and Sun Exploration and Production Company.

b. The Commission's production limitations have resulted in certain wells operated by Mallon Oil Company being shut-in for over 25 days per month. This discriminates against Mallon Oil Company and causes economic waste and violates

correlative rights due to production from offsetting wells.

c. Substantial investments were made by Applicants herein and others in Gavilan based upon then-existing pool rules. A change of the rules in mid-stream has and will work a financial hardship on those interest owners by restricting production. This has resulted in limiting return on investment to an amount insufficient to recover the millions of dollars invested, resulting in severe economic hardship. In addition, this has a chilling effect on further oil and gas investment in this state.

8. The Commission's production limitations constitute a taking of property without just compensation in violation of the federal and state constitutions.

9. Order R-7407-E fails to comply with applicable statutory and judicial mandates. In Continental Oil Co. v. Oil Conservation Commission, 70 N.M. 310, 373 P.2d 809 (1962), the New Mexico Supreme Court, in a case dealing with a natural gas pool, discussed the basic conclusions of fact that the Commission is required to find prior to changing a proration formula. The requirements are that the Commission find, as far as it is practical to do so:

1. the amount of recoverable reserves under each producer's tract;
2. the total amount of recoverable reserves in the pool;
3. the proportionate relationship of (1) and (2); and
4. what portion of the reserves can be recovered without waste.

A review of Order R-7407-E shows that the Commission failed

W. Thomas Kellahin  
Kellahin, Kellahin & Aubrey  
Post Office Box 2265  
Santa Fe, New Mexico 87501

William F. Carr  
Campbell & Black, P.A.  
Post Office Box 2208  
Santa Fe, New Mexico 87501


Robert G. Stovall  
Dugan Production Company  
Post Office Box 208  
Farmington, New Mexico 87499

Kent Lund  
Amoco Production Company  
Post Office Box 800  
Denver, Colorado 80201

Ernest L. Padilla  
Padilla & Snyder  
Post Office Box 2523  
Santa Fe, New Mexico 87501

Robert D. Buettner  
Koch Exploration Company  
Post Office Box 2256  
Wichita, Kansas 67201

Paul Cooter  
Rodey, Dickason, Sloan,  
Akin & Robb, P.A.  
Post Office Box 1357  
Santa Fe, New Mexico 87504

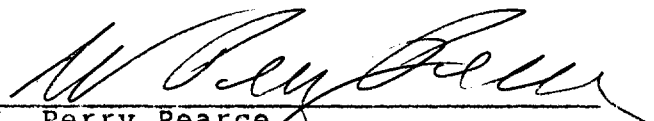
  
\_\_\_\_\_  
W. Perry Pearce

[WPP:106]

to make any of these required findings and did not discuss any of these necessary elements. The record in this matter is clear that the changes adopted by the Commission constitute a change in the proration formula since these changes alter the relative proportion of production between operators in Gavilan and deviate from statewide rules. Order R-7407-E is therefore contrary to law and arbitrary and capricious.

WHEREFORE, applicants request the Commission to set these matters for rehearing.

Respectfully submitted,  
MONTGOMERY & ANDREWS, P.A.

By   
W. Perry Pearce  
Post Office Box 2307  
Santa Fe, New Mexico 87504-2307  
(505) 982-3873

Attorneys for Mallon Oil Company

HINKLE, COX, EATON, COFFIELD &  
HENSLEY

Owen M. Lopez  
Post Office Box 2068  
Santa Fe, New Mexico 87504-2068  
(505) 982-4554

Attorneys for Mesa Grande  
Resources, Inc.

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Application for Rehearing were mailed to the following persons this 29<sup>th</sup> day of June, 1987.

# MALLON OIL COMPANY

1099 18th Street, Suite 2750, Denver, Colorado 80202

(303) 293-2333

June 24, 1987

State of New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, NM 87410

Attn: Frank Chavez

Dear Frank:

As I conveyed yesterday in the Operator's meeting and to you and Ernie Bush on the telephone this morning, I am extremely concerned by the lack of cooperation from Al Greer in his refusal to take a static pressure in a well completed in only the "C" zone below the gas-oil contact. The tone of the meeting yesterday was left without requiring any such measurement because it would require pulling tubing and would be costly to the unit.

It is important to record such a pressure and I have summarized a number of facts relating to the matter. I hope you will consider these in your discussions with the Santa Fe office.

1. Gavilan is supplying eleven wells in which pressures will be recorded for the test while the Canada Ojitos Unit has made available only three wells. The cost to the Gavilan operators will be significantly higher than to the Unit even if the Unit were required to pull downhole equipment from one or two of its wells. This is unfair to Gavilan simply by virtue that the "Canada Ojitos Unit" contains considerably more acreage than Gavilan.
2. In the hearings and in a number of meetings, Mr. Greer has stated that excessive rates in Gavilan are affecting his pressure maintenance project. A pressure in a "C" zone well below the gas-oil contact is imperative if only to determine whether the "C" zone in Canada Ojitos is affected by a change in withdrawal rates from Gavilan.
3. The only two wells in Canada Ojitos which are planned for testing are completed in the "A", "B", and "C" zones. These wells have been shown as producing primarily from the "A" and "B" and any recorded pressure for these wells will be dominated by the "A" and "B" zone pressure. The possibility exists for crossflow between zones in the reservoirs especially if the "C" zone pressure is significantly below the "A" and "B" zone pressures. Again, rate sensitivity is an issue in just such a case where this situation exists and production rates are cutback. Production from the "A" and "B" reservoirs could presently be producing into the "C" reservoir. Attached is a schematic showing such an example.

Frank Chavez  
June 24, 1987  
Page 2 of 2

4. Testing a "C" zone well above the gas-oil contact does not allow one to make an estimate of the pressure in downdip wells. This could only be done in a situation where the "oil level" in the reservoir is precisely known and even in such a case the calculation would not have the sensitivity necessary for the test we are undertaking.

The test proposed by the commission presents a unique opportunity to gather data for these reservoirs. This is likely to be the only three times that the entire reservoir will be shut in. We should take advantage of this opportunity and collect as much data as necessary. Mallon Oil Company has offered to spend a great deal of money to collect even more data than the test requires. It will be necessary for Mallon to pull downhole equipment and we have volunteered to provide two wells for this test. Please review the above information and call if you have any questions.

Sincerely

MALLON OIL COMPANY



Kevin M. Fitzgerald  
Vice President Engineering

KMF:sb

cc: Vic Lyons  
Bill LeMay  
Erling Brostuen  
William Humphries  
Frank Douglas

MALLON OIL COMPANY  
ENGINEERING CHART

SHEET NO. 1 OF 1

FILE NM-02

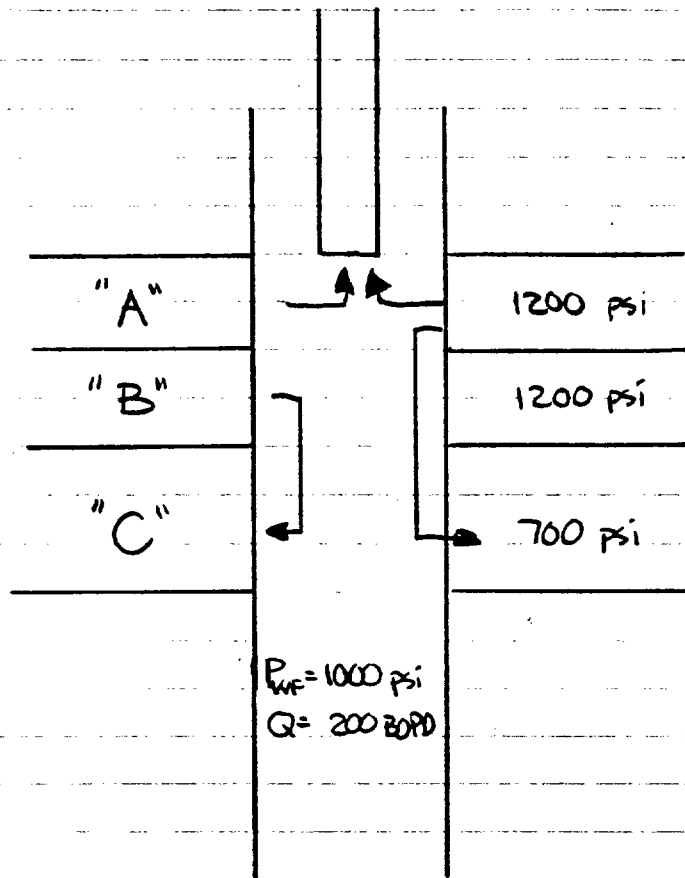
APPN

SUBJECT GAVILAN & CANADA OILS PRESSURE TESTING.

DATE 6/24/87

BY KMF

SCHEMATIC OF WELL BORE SHOWING CROSS FLOW



IN THE ABOVE EXAMPLE A WELL IS FLOWING 200 BOPD FROM THE A AND B ZONES WHILE THE BOTTOM HOLE FLOWING PRESSURE IS DRAWN DOWN TO 1000 psi. THE C ZONE, BEING LOWER PRESSURE, WILL NOT PRODUCE AND IN FACT WILL BE "DRINKING" FLUID AND TAKE RESERVES FROM THE A & B ZONES. PRODUCTIVITY TESTS IN GAVILAN AND CANADA OILS HAVE SHOWN THAT IT IS POSSIBLE FOR THESE CONDITIONS TO EXIST IN A NUMBER OF THE HIGHER PRODUCTIVITY WELLS.



MONTGOMERY & ANDREWS  
PROFESSIONAL ASSOCIATION  
ATTORNEYS AND COUNSELORS AT LAW

OF COUNSEL  
William R. Federici

SANTA FE OFFICE  
325 Paseo de Peralta  
Post Office Box 2307  
Santa Fe, New Mexico 87504-2307

Telephone (505) 982-3873  
Telecopy (505) 982-4289

J. O. Seth (1883-1963)  
A. K. Montgomery (1903-1987)  
Frank Andrews (1914-1981)

June 29, 1987

ALBUQUERQUE OFFICE  
Suite 500  
7 Broadway Place  
707 Broadway, N.E.  
Post Office Box 26927  
Albuquerque, New Mexico 87125-6927

Telephone (505) 242-9677

LOS ALAMOS OFFICE  
Suite 120  
901 18th Street  
Los Alamos, New Mexico 87544

Telephone (505) 662-0005

REPLY TO SANTA FE OFFICE

HAND-DELIVERED

RECEIVED

JUN 29 1987

OIL CONSERVATION DIVISION

- |                     |                             |
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| Jeffrey R. Brannen  | Mack E. With                |
| John B. Pound       | Galen M. Buller             |
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| Sarah M. Singleton  | Michael R. Roybal           |
| Jay R. Hone         | Robert A. Bassett           |

William J. LeMay, Director  
Oil Conservation Division  
New Mexico Energy & Minerals Dept.  
State Land Office Building  
Santa Fe, New Mexico 87503

Re: Application for Rehearing

Dear Mr. LeMay:

Enclosed for filing with the New Mexico Oil Conservation Commission, please find the Application of Mallon Oil Company, Mesa Grande and Mesa Grande Resources, for rehearing of the two orders relating to the Gavilan and West Puerto Chiquito-Mancos Oil Pools.

I would appreciate you filing these two applications and providing us with a conformed copy which shows the filing information.

Thank you for your help in this matter.

Sincerely,

W. Perry Pearce

WPP:mp  
#9831-86-01

Enclosures

cc w/enclosures: All Counsel of Record

Handwritten notes or initials in the bottom left corner.



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

DISSENTING OPINION REGARDING FINDINGS AND ORDERS CONTAINED  
IN NEW MEXICO OIL AND GAS CONSERVATION COMMISSION CASES AND  
ORDERS:

CASE NO. 9412  
ORDER NO. R-8712;

CASES NOS. 7890, 8946 and 8950  
ORDER NO. R-7407-F  
ORDER NO. R-6469-F

CASE NO. 9111  
ORDER NO. R-3401-B

AS APPROVED AND SIGNED BY NEW MEXICO OIL CONSERVATION  
COMMISSIONERS WILLIAM J. LEMAY, CHAIRMAN, AND WILLIAM R.  
HUMPHRIES, MEMBER, DATED AUGUST 4, 1988 AND AUGUST 5, 1988.

The above described cases and orders are all closely related.  
They affect the West Puerto Chiquito Mancos Pool and the  
Galivan Mancos Pool both located in Rio Arriba County,  
New Mexico.

Central to all issues in the above cases and orders is the  
determination of the existence of a permeability barrier  
or permeability restriction, and the effectiveness thereof,  
separating the two pools. By Order No. R-8711 in Case No.  
9412, dated August 4, 1988, Commission Members LeMay and  
Humphries have determined that there was not substantial  
evidence presented to show that two separate sources of  
supply exist. As dissenting Commission Member, I take  
the position that the preponderance of the evidence  
demonstrates that the Gavilan Mancos Pool and the West  
Puerto Chiquito Mancos Pools are separate sources of  
supply.

In the findings and orders issued in the above cases, there  
are areas of concurrence and non-concurrence between  
Commission Members LeMay and Humphries and myself. The  
cases will be discussed below in the order presented above  
with areas of concurrence noted and areas of non-concurrence  
indicated with reasons therefore.

-2-

Dissenting Opinion  
Cases Nos. 9412, 7890,  
8946, 8950, 9111

CASE NO. 9412  
ORDER NO. R-8712

FINDINGS:

(1), (2), (3). I concur.

(4) I do not concur. The preponderance of evidence demonstrates that the Gavilan Mancos Pool and the West Puerto Chiquito Mancos Pool are two separate sources of supply that are effectively separated by a permeability restriction or barrier approximately two miles east of the line separating Range 1 West from Range 2 West, the present common boundary between the two pools.

Compelling evidence of the presence of the barrier include: -

- ° The lack of well interference and frac pulse response between wells on either side of the barrier. Opponents to Mesa Grande Resources request and the consultant to the Commission from the New Mexico Petroleum Recovery Research Center discussed such well interference and frac pulse response evidence, however, the only communication demonstrated between wells was limited to wells on either side of the barrier and communication was not demonstrated between wells across the barrier. The opponents attempted to demonstrate communication by frac pulse response between the COU B-32 and the COU C-34 wells, the COU B-29 and the COU C-34 wells, the COU B-32 and the COU A-16 wells, and the COU A-20 and the COU D-17 wells by Horner Plot analysis. The proponents effectively demonstrated, utilizing accepted petroleum engineering practices, that the opponents were in error and that in fact proper analysis indicated the presence of and distance from the postulated barrier. The calculated distances to the barrier very closely approximated the scaled distances between the wells and the barrier. See proponents exhibits 42 and 43.
- ° The isobaric contouring of pressure gradients presented in proponents exhibits demonstrated the presence of the barrier and two separate sources of supply. See proponents exhibits 48, 49 and 50.

Dissenting Opinion  
Case Nos. 9412, 7890,  
8946, 8950, 9111

- ° Proponents exhibit 20 consisting of a comparison of Canada Ojitos Unit field pressure history and Gavilan Mancos Pool field pressure history over a 25 year period clearly demonstrates the lack of communication between the two pools. Initial static reservoir pressure in Canada Ojitos Unit was approximately 1900 psi corrected to +370 feet. The initial static reservoir pressure for Gavilan Mancos Pool nearly 20 years following the discovery of production in Canada Ojitos Unit was approximately 1800 psi corrected to +370 feet. Pressure declines for the two pools show no relationship in the five years following discovery of Gavilan Mancos Pool. The 25 year interference test shows no communication between the two pools.
  - ° The presence of non-productive wells along the barrier. In properly developed pools, pool boundaries are commonly delineated by the presence of dry holes. Wells which do not exhibit the presence of economically recoverable reserves are commonly plugged and abandoned as dry holes. Benson, Montin, Greer Drilling Corp. is the operator of the COU F-20 and the COU G-32 wells located in Sections 20 and 32 respectively in Township 26 North Range 1 West, the COU J-8 well in Section 8, Township 25 North, Range 1 West, and the COU D-17 well in Section 17, Township 25 North Range 1 West. These wells are non-productive and do not exhibit the presence of economically recoverable reserves. They are located on or adjacent to the postulated barrier and are further evidence of the barriers existence and effectiveness. The COU K-8 well located in Section 8, Township 24 North, Range 1 West is also located on or adjacent to the barrier and as of April 1988 was capable of producing less than 2 barrels of oil per day.
- (5) I do not concur. Approval of the requested change in field boundaries should be granted. The tracts in question are in communication with the Gavilan Mancos Pool, and are not in communication with the West Puerto Chiquito Mancos Pool. Approval of the requested action would protect the correlative rights of any working interest owner or royalty interest owner that may have been included in the Canada Ojitos Unit through the New Mexico Statutory Unitization Act, 70-7-1 NMSA 1978.

-4-

Dissenting Opinion  
Case Nos. 9412, 7890,  
8946, 8950, 9111

ORDER:

- (1) I do not concur. The application in Case No. 9412 should be approved.
- (2) I concur. Jurisdiction in this matter should be retained by the Commission.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION



ERLING A. BROSTUEN, Member

Dissenting Opinion

Case Nos. 9412, 7890  
8946, 8950, 9111

CASES NOS. 7890, 8946 and 8950  
ORDER NO. R-7405-F  
ORDER NO. R-6469-F

FINDINGS:

- (1), (2), (3), (4) I concur. Typographical error in (4), line 3, "provide" should be changed to "prevent".
- (5) I concur. The incorporation of "to prevent waste and protect correlative rights" in the finding would be proper.
- (6), (7), (8), (9), (10), (11), (12) I concur.
- (13) I do not concur. The preponderance of evidence demonstrates that Gavilan Mancos Pool and West Puerto Chiquito Mancos Pool are separate sources of supply and are separate and distinct pools. For reasons for non-concurrence, I refer you to my comments on finding (4), Case No. 9412, Order No. R-8712 above.
- (14), (15) I concur.
- (16) I concur in part. I concur in that wells within the two individual pools exhibit a high degree of communication between wells, particularly in a north-south direction, however, communication between wells is not exhibited across pool boundaries. It is also my position that the two rows of sections immediately to the east of the present common boundary separating the pools are in communication with the Gavilan Mancos pool, are not in communication with the West Puerto Chiquito Mancos Pool and are by definition of a pool, part of the Gavilan Mancos Pool. I concur that 72 hour shut in periods for the purpose of static reservoir pressure testing are insufficient. The dual porosity nature of the pools require a longer shut in period. Pressures taken during the previous testing periods were related essentially to the high capacity fracture system. Longer shut in periods are necessary to stabilize reservoir pressures due to the decreased build up rate of the low capacity matrix system. The lower capacity matrix system

has been attested to by the proponents in testimony and by exhibit. It has also been attested to by Benson, Montin, Greer Drilling Corp. through a paper co-authored by Albert R. Greer. The paper "Fracture Permability in Cretaceous Rocks of the San Juan Basin" by Frank D. Gorham, Jr, Lee A. Woodward, J. F. Callender, and Albert R. Greer; New Mexico Geol. Soc. Guidebook, 28th Field Conf., San Juan Basin III, 1977, discusses the contribution of the lower capacity matrix system. The paper states that Benson, Montin, Greer Drilling Corp. continued to produce a suitable well (Canada Ojitos Unit C-34) after the high-capacity system was essentially swept (gas to oil ratio increased from an initial ratio of 300 to about 10,000). The paper continues that after reaching the 10,000 to 1 GOR, the well continued to produce at a rate of approximately 100 BOPD for 3 years with no further increase in GOR. The subject well reached a 10,000 to 1 GOR in May, 1974. Cumulative production at that time was 296.0 MBO. Cumulative production to May, 1988 is 609.5 MBO. It follows that the lower capacity matrix porosity system has contributed 313.5 MBO of production to the well. It is also probable that the lower capacity matrix system was contributing to production prior to the well reaching a 10,000 to 1 GOR. It is apparent that the tight blocks or lower capacity matrix system play a major role in production from the Gavilan Mancos Pool and the West Puerto Chiquito Pool. It is also apparent that pressures recorded following a 72 hour shut in period are not representative of reservoir static pressures and that evaluations and calculations based thereon will be erroneous.

(17) I concur.

(18) I concur with the first sentence. I do not concur with the remainder of the finding. Evidence presented by the opponents based upon pressures and production recorded during the testing periods indicate a higher production per pound pressure drop at the lower production allowable rate. The consultant to the Commission also calculated a higher production per pound pressure drop at the lower production allowable rate. Proponents, however, contend that the opponents and the consultant to the Commission erred in their analysis due to invalid reservoir pressure data.

Dissenting Opinion  
Case Nos. 9412, 7890,  
8946, 8950, 9111


The proponents utilized field wide average pressure differential rather than the 72 hour shut in pressures. Their analysis indicated that higher production per pound pressure drop was achieved during the higher production allowable rate. In view of my discussion of the relative importance of the lower capacity matrix contribution to cumulative production in finding (16) above, it is my opinion that a top oil allowable and limiting gas oil ratio will have little or no effect in the prevention of waste and the protection of correlative rights.

- (19) I concur in part. I concur that a higher top oil allowable and a higher limiting gas oil ratio will enable high productivity wells to produce at more efficient rates without significantly impairing correlative rights. I am concerned that the recommended top oil allowable of 800 barrels per day with a limiting gas oil ratio of 2000 to 1 may be achieved in some better wells without the desired effect of increasing the pressure differential between the high capacity fracture system and the lower capacity matrix system.

ORDERS:

- (1) I concur.
- (2) I concur in part. I am in agreement that the top oil allowable and limiting gas oil ratio must be increased for reasons stated in comments on finding (19) above. No conclusive evidence was presented that would justify a top oil allowable or limiting gas oil ratio.
- (3) I concur in part. Refer to my comments in (2) above.
- (4) I concur.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
ERLING A. BROSTUEN, Member

Dissenting Opinion  
Case Nos. 9412, 7890,  
8946, 8950, 9111

CASE NO. 9111  
ORDER NO. R-3401-B

FINDINGS:

- (1), (2), (3), (4), (5), (6) I concur.
- (7) I concur in part. I concur that the area east of the proposed expansion area exhibits a significantly greater pressure than the proposed expansion area and the adjacent Gavilan Mancos Pool. While this greater pressure is no doubt related to gas injection in the structurally higher and more easterly part of the unit, it is also related to the presence of a permeability barrier which separates the proposed expansion area and Gavilan Mancos Pool from West Puerto Chiquito Mancos Pool.
- (8) I do not concur. The pressure differential discussed here in no way indicates limited pressure communication between the injection wells and the proposed expansion area. This finding is absurd.
- (9) I do not concur. (1) Transmission of a pressure pulse from a hydraulically fracture well to wells across the permeability barrier has not been demonstrated. Refer to my comments in Case No. 9412, Order No. R-8712, Finding (4). (2) Failure to increase the average pressure east of the zone by overinjection of gas is not related to transmissibility across the permeability barrier. The Canada Ojitos Unit has been so poorly monitored by the operator as regards pressure measurements. From 1971 until pressure measurements were required by order of the Commission in 1987, no pressure measurements were taken or if taken were not reported to the Commission or Division. I assume that such pressure measurements if taken and if they would be beneficial to the opponents case, would have been furnished to the Division or to the Commission in hearing. (3) The variation in gas oil ratios across Gavilan Mancos Pool has no relationship to proximity to the Canada Ojitos Unit. Structural position is generally the governing factor with higher gas oil ratios in wells that are higher structurally and lower gas oil ratios in wells that are lower structurally. Variations in permeability in different areas of a pool will also affect gas oil ratios. In tighter areas gas oil ratios will generally be higher due to the preferential permeability to gas relative to oil.



Dissenting Opinion  
Case Nos. 9412, 7890,  
8946, 8950, 9111

- (10) I concur.
- (11) I do not concur. The permeability restriction is an effective barrier to any significant movement of fluids. In addition, there has been no demonstration that the pressure maintenance project in Canada Ojitos Unit has had any beneficial effect on production. To the contrary, Gavilan Mancos Pool and that area in communication therewith west of the permeability barrier in West Puerto Chiquito Field have performed far better than has the Canada Ojitos Pressure Maintenance Area. In addition, the Canada Ojitos Pressure Maintenance Area has performed more poorly than other fractured Mancos pools in spite of its pressure maintenance program. See proponents exhibits 25 and 26.
- (12) I concur in part. Both pools are still being defined. Boundaries are still being delineated. Only Gavilan Mancos Pool is being developed in an orderly manner.
- (13) I do not concur. There has been no evidence presented that demonstrates any movement of fluids between the present pressure maintenance unit and the proposed expansion area. There is no justification for any injection credit in the proposed expansion area. There has been no evidence presented that has demonstrated that any gas injection program has been successful in a solution gas drive fractured reservoir. The example presented in opponents exhibit 6 has no relationship to fractured Mancos reservoirs. The reservoir in the cited example consists of a sucrosic limestone with low dip, limited fractures and high porosity and permeability. If communication did exist across the permeability barrier or restriction it is highly questionable whether gas injection should be allowed to continue in Canada Ojitos Unit in view of reimbibition effects. Any gas injection credit as proposed in would seriously adversely affect the correlative rights of owners in the Gavilan Mancos Pool.
- (14) I do not concur. No evidence has been presented that demonstrates that gas injection in Canada Ojitos Unit has had any beneficial effect on production, prevention of waste and the protection of correlative rights. Refer to comments under (11) above.
- (15) I do not concur. There is no justification for any expansion of the pressure maintenance area or for injection credit in the proposed expansion area recommended in (15).


Dissenting Opinion  
Case Nos. 9412, 7890,  
8946, 8950, 9111

- (16) I do not concur. The assigning of a 50% injection gas credit to the proposed expansion area is arbitrary and capricious and has no basis in any evidence demonstrated in Case No. 9111.
- (17) I do not concur. No gas credit should be allowed. Refer to comments on (11), (13) and (14) above.
- (18) I do not concur. The reservoir pressure testing will not provide any indication of movement of fluids across the permeability barrier or restriction the will justify injection gas credit. It has already been established that the two rows of sections immediately to the east of the common boundary of the Gavilan Mancos Pool and the West Puerto Chiquitos Mancos Pool are in communication and are one common source of supply and by definition part of the same pool.

ORDER:

- (1) I do not concur. There has been no evidence presented that determines the movement of fluids across the permeability barrier or restriction into the proposed expansion area. Refer to comments on findings and orders relating to all cases discussed above.
- (2) I do not concur. No evidence has been presented that would demonstrate justification of enlargement of the injection credit area.
- (3) I do not concur. Refer to comments on (1) above.
- (4) Omitted.
- (5) I concur. This order is badly in need of modification.
- (6) I concur.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
ERLING A. BROSTUEN, Member



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

TONEY ANAYA  
GOVERNOR

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

M-E-M-O-R-A-D-U-M (3-86-68)

TO: OPERATORS OF WELLS IN THE GAVILAN MANCOS AND  
GAVILAN GREENHORN GRANEROS DAKOTA OIL POOLS

FROM: Ernie Busch, District Geologist *EB*

SUBJECT: Meeting to discuss operation of wells in the two  
pools

DATE: February 10, 1986

You are invited to participate in an informal meeting held  
at the Land office conference room #105 on the first floor  
(Note: This is not the OCD conference room) in Santa Fe  
March 5th 1986 at 10:00 A.M. to discuss the following:

- 1) Bubble Point Pressure *no pv+ data now  
McHugh is sampling  
nature son 3*
- 2) Limiting G.O.R. s
- 3) Estimated oil recoverable by primary recovery
- 4) Estimated oil in place
- 5) Estimated recovery by pressure maintenance and the  
feasibility thereof.
- 6) How much and what kind of information is needed?
- 7) Should a study committee be formed?

Please bring any available data with you to the meeting.

Please notify me by February 28 with a list of personnel  
from your office, who plan to attend.

EB/dj

# MALLON OIL COMPANY

2850 Security Life Building, Denver, Colorado 80202

(303) 572-1511

July 21, 1986

Benson-Montin-Greer Drilling Corp.  
221 Petroleum Center Building  
Farmington, NM 87401

Attn: Al Greer

Dear Al:

I appreciate your letter of July 11, 1986, and the comments therein; however, I have experienced over the years that most crisis are artificially created by man and in fact are not crisis at all.

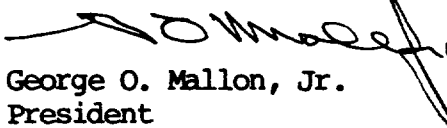
Based on my discussion with Kevin and Engineers from at least three other corporations there is serious question if pressure maintenance will work in this area; therefore, why discuss unitization. As you know, we do not have strong benefit of gravity drainage in our area as you do yours.

We, at Mallon, are concerned with maximizing recoveries and have since initial production voluntarily restricted each of our wells by at least 50%. As you know, the pressure drops in our area are less than the pressure drops that are being experienced in the McHugh area. I find it rather self-serving that McHugh after 3 years of producing at maximum rates now realizes he has a problem and that the solution to the problem is his application for reduced allowables to 200 bbls per day. (Case #8946).

This solution punishes Mallon substantially greater than any other producer in the area and as I stated we are already voluntarily cutting back at least 50%. Quite frankly, it disappoints me that you support this application and the group cannot come up with a more equitable solution. I personally feel the Gavilan-Mancos pool should be divided into two separate pools; a south pool and a north pool. Evidence indicates this may be the case and under this structure Mr. McHugh could work with the commission and yourself to proceed as you think best and this is the area with the most immediate problems. Mallon could then proceed with a more logical and orderly plan in its area, that may result in unitization if the data indicates pressure maintenance works. Your letter assumes that pressure maintenance works and that unitization is the only solution. Why have the engineering committee accumulate, analyze, and interpret the data if certain members already have pre-conceived notions as to the problem and the solutions thereof, if any.

Sincerely,

MALLON OIL COMPANY

  
George O. Mallon, Jr.  
President

GOM:sb

**BENSON-MONTIN-GREER DRILLING CORP.**

221 PETROLEUM CENTER BUILDING, FARMINGTON, NM. 87401 505-325-8874

July 11, 1986

*Discussion w/ K...  
to respond*

FEDERAL EXPRESS

Mr. George Mallon  
Mallon Oil Co.  
1616 Glenarm, Suite 2850  
Denver, CO 80202

Re: GAVILAN IN CRISIS

Dear George:

I know it is difficult for one not intimately familiar with engineering matters to look at a production report that says the wells are making 800 to 1000 barrels per day and realize that the reservoir is in a critical condition; however that's exactly the situation in Gavilan right now.

Information which came to light the last day and a half of our engineering committee meeting this week shows that Gavilan is indeed in a crisis situation. Particularly alarming are the rising gas-oil ratios of the downdip wells. This, of course, had been anticipated - only I had hoped that we had a few more months before it would take place, and that perhaps gas injection could be started before this point in the reservoir depletion was reached.

Also I had hoped for a slowing down of the rate of pressure decline as the bubble point was reached before the gas-oil ratios started up - or at least a concurrent levelling off with rising gas-oil ratios. I still have some hope for that but even if it does come about now, it is not in time to afford the needed relief.

Our only hope now is to immediately stop the drilling of additional wells and work out a partial pressure maintenance program.

To accomplish either means unitization; and I think it absolutely necessary that at the next engineering committee meeting that the matter of equities be thoroughly explored.

In the meantime if there is some way that you can see your way clear to simply set surface pipe on your next location and give

...

*BENSON-MONTIN-GREER DRILLING CORP.*

Mr. George Mallon  
Mallon Oil Co.

Page No. 2  
July 11, 1986

the parties a few weeks to try to get unitized, I am sure you will be ahead economically. In Gavilan, at this stage of reservoir depletion, any type of reasonable participation formula under unitization will give enough equity to undrilled tracts that the economic benefit for undrilled tracts will be greater by far to not drill as opposed to drilling.

The only way future recoveries from existing wells can be maximized is for there to be a minimum of additional wells drilled. To minimize future drilling means giving the proper equity to undeveloped spacing units - and an operator can best understand this point if he owns undeveloped acreage within the unit (another reason for you to own some undeveloped acreage).

At our engineering committee meeting, although the other engineers seem to recognize that the reservoir is different from what they had anticipated before the meeting started this week, I had the feeling that Kevin Fitzgerald was the only one who recognized the seriousness of the rising gas-oil ratios of the downdip wells; so the task before us is not easy, but it is one that is essential that we embark on immediately.

Regards,

A handwritten signature in cursive script, appearing to read "A. Greer".

ARG/tlp

ERNIE BUSCH	NMOC D	AZTEC	
STEVE DUNN	MERRION OIL & GAS	FARMINGTON	325-5093
KEVIN McCORD	KM PRODUCTION CO	PO Box 2406 FARMINGTON	325-6900
Doug Endsley	MERRION OIL & GAS	FARMINGTON	225-5093
Bob Stovall	DUGAN PRODUCTION	FARMINGTON	325-1821
John Roe	" "	" "	" "
MIRGIL L. STUBBS	BENSON-MONTAN-GREER	"	325-8874
GARY Johnson	McHugh 650 S. Cherry St.	STE 1225 Denver	80222 303-321-2111
Tom Olle	Meridian Oil	Farmington	327-0251
JOHN BIRCHER	" "	" "	" "
DICK ELLIS	McHUGH	DENVER	321-2111
Carl Pomeroy	Koch Exploration	P.O. Box 2256 Wichita, KS 67201	316-832-6865
Alan Emmendorf	Mesa Grande Resources	1400 Philtown Tulsa, OK 74103	918-587-5494
Greg Phillips	Mesa Grande Resources	1200 Philtown Bldg, Tulsa OK 74103	(918) 587-8494
Tom Dugan	Dugan Prod Corp.	Box 268, Farmington, N.M.	325-1821
Jerry McHugh Jr.	McHugh		
Kent CRAIG	McHugh	Denver	321-2111
AL GREER	BENSON-MONTAN-GREER	FTN	325-8874
VIC LYON	NMOC D	SANTA FE	

**MESA GRANDE RESOURCES, INC.**

**1200 PHILTOWER BUILDING**

**TULSA, OKLAHOMA 74103**

**(918) 587-8494**

JUL 18 1986

July 16, 1986

Mr. Richard Ellis  
Jerome P. McHugh & Associates  
650 South Cherry, Suite 1225  
Denver, Colorado 80222

Re: Gavilan Pools Study Committee  
Rio Arriba County, New Mexico

Dear Mr. Ellis:

In reviewing your minutes of the meeting held in Denver on June 26, 1986, I found that several important issues were not adequately covered. It is critical that the minutes reflect what was actually discussed and decided at all of our meetings since all working interest owners, the BLM and the NMOCD are being kept informed.

One item that was virtually overlooked in the minutes was the lengthy debate concerning the need for an independent study. Mesa Grande and Meridian and several working interest owners strongly voiced the opinion that a third-party study is the only way an unbiased analysis of the reservoir can be conducted.

There are several other topics of discussion which were omitted from your minutes. The issue of where the work committees should meet was argued heavily. As in previous meetings, Mesa Grande and Meridian, with the agreement of several working interest owners, supported the idea of a neutral site. Neither do the minutes reflect the discussion of over 30 minutes in which several companies strongly opposed the involvement of Al Greer from Benson-Montin-Greer in our study. Also, much discussion focused on the subject of cost allocation. Many of the working interest owners advocated the sharing of costs on an acreage basis as the fairest method available at this time.

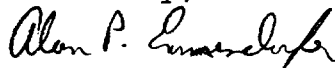
Finally, the most important detail of the meeting was not even mentioned in the minutes. At the May 1 meeting it was agreed that each working interest owner would have one vote in deciding matters discussed by the committee. However, at subsequent meetings there have been no votes taken on any of the issues discussed. Instead, after lengthy discussion on almost every topic, there usually has been an impasse, which was lightly dismissed, and then we moved on to the next agenda item. Without voting on any of the matters being considered, we believe that



Richard Ellis  
July 16, 1986  
Page 2

none of the "decisions" of the committee can be represented as reflecting the wishes or opinions of the Gavilan Area working interest owners. In future meetings, each topic discussed should be brought to a vote and an accurate count made and recorded so that the interests of all owners will be protected.

Sincerely,



Alan P. Emmendorfer  
Mesa Grande Resources, Inc.

APE/kam

cc: Working Interest Owners  
BLM  
NMOCD

Case 8946

JUL 17 1986

July 14, 1986

To: Gavilan Working Interest Owners

Gentlemen:

Enclosed herewith is a revised page 6 for the "Gavilan Technical Committee June 26 Meeting Minutes".

Very Truly Yours,

R. Ellis

by R. Martin

Richard K. Ellis

RE/rm

enclosure

None with my copy  
th Bll

Gavilan Working Interest Owners  
July 3, 1986  
Page Six

It was noted that minutes of the Subcommittees' work sessions will be distributed to apprise all working interest owners and Committee members of progress. The meeting was adjourned at approximately 4:20 p.m.

Please note that any interpretations and/or estimates of reservoir characteristics or performance presented at the June 26 meeting are based on preliminary review of the available data and analogies similar to the Gavilan Pool.

Respectfully submitted,

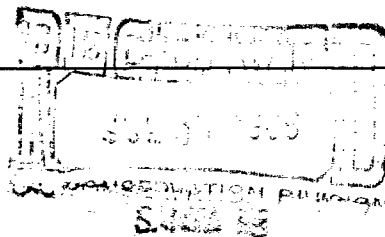


Richard K. Ellis

RE/rm

cc: Technical Committee  
Working Interest Owners  
OCD  
BLM

Case 8946



July 3, 1986

To: Gavilan Working Interest Owners

Re: Gavilan Technical Committee  
June 26 Meeting  
Minutes

The meeting was called to order at 9:20 a.m. at McHugh's office in Denver with 30 representatives of Operators and Working Interest Owners present (see attached list).

Dick Ellis (McHugh) briefly noted the changes in productive capacity of the Gavilan Pool since the previous meeting (May 1): The existing wells were capable of a producing rate of approximately 140,000 BOPM on May 1. With additional testing and drilling, that figure now exceeds 200,000 BOPM.

John Roe (Dugan) reviewed the May 1 meeting. The important elements of that meeting include: 1) a decision to notify and solicit the participation of all Gavilan Pool working interest owners in the Technical Committee Study of Unitized Operations, 2) discussion of methods of sharing Study Committee costs (no agreement reached), 3) the exchange of "basic data" (log, completion, and survey data) between Operators, 4) discussion of pressure and fluid data, 5) discussion of the use of an independent consultant to conduct a reservoir study.

Gary Johnson (McHugh) reviewed static bottomhole pressure data collected over time in several McHugh wells. All wells, including several that have yet to produce oil, have experienced pressure declines.

Al Greer (B-M-G) provided a summary review of the economics B-M-G, as operator of the Canada Ojitos Unit, prepared for its boundary wells offsetting Gavilan Pool wells. Assuming an original oil-in-place figure of 3000 BO/acre, the expected 5.6% recovery by solution gas drive would yield approximately 175 BO/acre. A combination solution gas-gravity drainage mechanism might yield up to 300 BO/acre, providing for an ultimate per well recovery, on 320-acre spacing, of approximately 100,000 BO. At \$10-12/BO prices, the economics of drilling offsets on the Unit boundary and additional Gavilan Pool wells is marginal at best.

Al Greer presented the bottomhole pressure data gathered in various Pool and Unit wells using the sensitive GRC bellows-type instrument. The GRC bomb was selected for its reliability, sensitivity (to .01 PSI), and repeatability (observed fluctuations between runs of less than 0.5 PSI). From mid-December, 1985 to mid-May, 1986, 24 runs of varying duration were made in the Unit E-6 well (6-25N-1W), chronicling an average decline in reservoir pressure of approximately .6 PSI/day. Rapid and significant changes in this average gradient can be correlated with fracing, swabbing, shut-in, and turn-on of

Gavilan Working Interest Owners  
July 3, 1986  
Page Two

nearby wells.

Al summarized the pressure data collected in several McHugh wells from May 20 to June 23. Again, rapid changes in gradient can be attributed to changes in production and/or fracing wells. More significant, however, is the apparent increase in pressure decline observed in McHugh's Loddy well from approximately .8-1.0 PSI/day in late May to 2.3-2.9 PSI/day in late June. Similar gradients in the range of 2.0-2.8 PSI/day were observed in the Native Son #3.

Dick Ellis presented in chart form the observed pressures in the Unit E-6, Loddy #1, and Native Son #3, and the production data nearest the observation wells. The smoothed production data (v. time) from wells within a 2-mile radius of the E-6 show a rough correlation with a plot of the pressure gradients (first derivative of observed data), suggesting the discernible transients in the data are of local origin. It is notable that the E-6 and its "production group" (essentially the Mallon wells: 800-2000 BOPD) are approximately 5 miles from the "heart" of the historical Gavilan production. The gradient plot shows a strong correlation with the smoothed production plot (within 2-mile radius) for the Native Son #3. This well is in the high withdrawal ( 2500-3500 BOPD + gas) area of the Pool. The Loddy well gradients were compared to the smoothed curve of production within 4 miles ( 2500-3500 BOPD) and found to exhibit a rough correlation. Because of its distance from the principal pool production areas (3 miles from the McHugh area, 5 miles from the Mallon area), the gradients observed in the Loddy are thought to be indicative of a pool-wide pressure decline.

Gary Johnson summarized the reservoir pressure data, its implications, and noted the urgency for completing the Technical Study.

Dick Ellis opened discussion of Item III by showing a map of the proposed study outline, which includes the Gavilan Pool and a buffer zone up to 1 mile outside the pool. K. C. Bowman (Mesa Grande, Ltd.) suggested we consider including Amoco's Jicarilla development (Secs. 25, 26, 35, 36; T26N-R3W) in our study area. Mr. Stone (Amoco) stated Amoco would need a written proposal concerning inclusion of its wells in the Gavilan study area. The subject of B-M-G's participation in both the study effort (the Unit's boundary sections with the Gavilan Pool are included in the proposed Study outline) and the unit, if established, was discussed. John Roe suggested Al Greer could provide the Study Committee with an invaluable experience factor, the Canada Ojitos Unit having been the result of a similar study effort of the same reservoir some 20 years earlier. Dick Ellis mentioned that Greer's interest in the Gavilan Study is apparently motivated by the need to preserve the efficiency of Unit operations and to create a mutually acceptable boundary agreement. Richard Fraley (Meridian) pointed out the importance of maintaining a Study environ-

Gavilan Working Interest Owners  
July 3, 1986  
Page Three

ment free of preconceived notions. Dick Ellis mentioned that it would be difficult for a single individual or a set or preconceived ideas espoused by an individual to dominate a forum of diverse interests. Other than the proposed addition of Amoco's Jicarilla area, no disagreement was expressed on the shape of the Study Outline.

Al Greer discussed a potential type of boundary agreement between 2 adjacent units that presents no regulatory hurdles, allows wells on one unit that are effectively part of the other unit's reservoir to receive an equity without a "physical" transfer of acreage, and reduces the transfer between units to an accounting transaction.

Dick Ellis proposed changes in the make-up and format of the Engineering and Geological Subcommittees (Item IV). McHugh proposed that both subcommittees be composed of 1 representative from each of the 6 Operators who collectively account for 95-98 percent of Gavilan's daily production: Mallon, Mesa Grande, Meridian, Dugan, Canada Ojitos Unit, and McHugh. Furthermore, McHugh proposed the subcommittees embark on an intensive program of study, meeting 3-4 consecutive days every other week in a sequestered location free from daily office hassles. Larry Sweet (Mesa Grande, Ltd.) indicated that Mesa Grande, Ltd. would want a separate representative on each group because of the size of its interest vis-a-vis its operator, Mesa Grande Resources. Rick Luce (Koch) indicated Koch would feel the same need because of its substantial interest in the Mallon-operated production. Several comments were heard, essentially in support of Koch and Mesa Grande, Ltd. representation, but comments were also heard opposed for the following reasons: 1) the small size of the committees enhances efficiency and maximizes work output, 2) all interests will be represented fairly in a forum where all major operators are involved, 3) a precedent may be established which would allow other working interests to demand representation, and 4) even without actual representation on the working committees, all working interest owners will have the opportunity to accept, reject, or amend the Final Report in the Technical Committee.

Mesa Grande and Meridian both expressed concern over B-M-G's representation on the Study Committees, proposing instead that representation be restricted to Gavilan Pool Operators only. Mallon, Dugan, and McHugh expressed support for B-M-G's involvement since the Unit boundary wells appear connected to the Gavilan Pool.

McHugh proposed the first working meeting of the Engineering and Geological Subcommittees be held July 8, 9, and 10 (Tuesday, Wednesday, and Thursday) at McHugh's townhouse in Farmington. Mesa Grande proposed a more neutral site, but it was generally felt the use of the (empty) townhouse would allow us to store a working data base for the duration of the Study in relative security and minimize meeting room costs. Dick Ellis will get an agenda to

Gavilan Working Interest Owners  
July 3, 1986  
Page Four

representatives the week of June 30.

Item VI, concerning the Gavilan base map for use by the Committee and all owners, was discussed. Dick Ellis reported on the cost to generate a base map covering the following area: E/2 T24-26N, R3W; all of T24-26N, R2W; W/2 T24-26N, R1W; Rio Arriba County, N.M. Bids from 2 Denver firms range from \$600-1000 for a 40" x 60" mylar original. The base map will be generated from the cadastral survey notes of the GLO and set up in a file that will allow the Committee to later add all tract data. All well locations (footages) will be incorporated into the file. The file will be plotted on mylar using a flat bed plotter. The result will be a highly accurate base map, acceptable to all government agencies, that will allow us to calculate tract areas by machine, without round-off and human error. The subject of cost allocation was raised, McHugh and Dugan again recommending sharing costs on a "net well" ownership basis. No disagreement was heard, at least as this method of cost sharing relates to base map costs. Dick Ellis will proceed with the base map project, and create a sepia mylar copy for all Study participants.

McHugh opened discussion of the need for "stop gap" measures to reduce the rate of reservoir pressure decline while the Committee studies feasibility of unitization, by proposing a reduction of allowables for the Gavilan Pool and the Canada Ojitos Unit boundary wells. Specifically, McHugh proposed a temporary rule (90-day minimum duration) limiting GOR's to 1000:1 and oil production to a maximum 200 BOPD.

John Roe presented a summary of existing pool capacity - proven and potential (completed wells-producing, tested and awaiting hookup) - and the effect of the proposed allowable reduction on each Operator's wells. John used fluid data (PVT) from the Loddy well to estimate a voidage factor of 1.78 reservoir barrels per MCF. For a preliminary estimate of reservoir voidage, John applied this factor pool-wide and calculated a total current voidage (59 wells, excluding Unit wells), based on April production and potential, of 26,305 reservoir barrels per day. From the 35 active wells, the total voidage in April was estimated to be 17,177 reservoir barrels per day. This is the figure believed responsible for the observed pressure gradients in the 0.6-1.0 PSI/day range. Under the proposed allowable reduction, the pool-wide voidage, assuming all 59 wells are hooked up, is estimated to be 16,323 reservoir barrels per day, in approximate parity with the April figure. If such a reduction in voidage is accomplished, the pool-wide pressure gradients are expected to settle in the 1.0 PSI/day range, well below the 2.0+ PSI/day observed in the Loddy well.

John Roe summarized the results of the PVT data from the Loddy well in a solubility curve showing gas liberated versus reservoir pressure. Based on a solution GOR of 588 SCF/STB, a pressure reduction of approximately 750 PSI

(approx. 1 year at 2.0 PSI/day) will result in 30-40% of the gas in solution being liberated. Discussing a graph of relative permeabilities as a function of total liquid saturation, John noted that a 10% reduction in liquid saturation of pore space (development of a free gas phase?) results in a 20-fold increase in  $K_g/K_o$ . John presented pressure GOR data plotted as a function of % recovery of oil in place for the West Puerto Chiquito (Canada Ojitos) reservoir, solution gas drive. For small recoveries (2-5% of OOIP) the GOR increases exponentially (7X) for decreases in pressure of approximately 80%. Finally, John presented production and GOR data on 3 representative McHugh wells - E.T. #1, Native Son #2, and Wright Way #1 - documenting dramatic increases in GOR's in recent months.

Kevin Fitzgerald (Mallon) observed that the proposed allowable reduction disproportionately affects Mallon, which operates 6 wells with a combined (estimated) daily oil rate of 1810 BOPD (or 20.5% of the total pool oil production). Under the proposed change, Mallon's daily rate would be 937 BOPD (or 15.8% of the total pool oil production), for a net drop of 4.7% of total pool oil production. It was also noted that McHugh, operating 23 wells, is disproportionately affected, dropping from 46.8% of total oil (estimated at 4,141 BOPD) to 42.3% of total oil (estimated at 2,506 BOPD), or a net drop of 4.5% of total oil. All other Operators experience a net increase in percentage of total pool oil production rate.

Kevin expressed concern that the allowable reduction would reduce the equity accorded tracts with high volume wells, and increase the equity given low volume tracts. Kevin proposed that any kind of reduction in allowables be an equal proportionate reduction on all wells. Based on John Roe's voidage figures, Kevin recommended a 35% proportionate reduction for each well. Tom Olle (Meridian) indicated it would be difficult and costly to ascertain what production figure would be subject to reduction. Furthermore, the "proportionate reductions" rule would have to provide exceptions for low volume wells which, by virtue of the reduction, would be below an economic limit and shut-in. The legal arguments by working interest and royalty owners against such an outcome may well prevent the use of this type of formula.

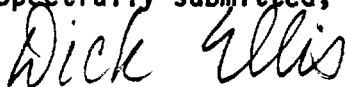
A suggestion was also made to consider a reduction based solely on GOR limits. Dick Ellis stated that McHugh will file a petition for the July 23 docket, using language that will allow minor changes from the proposed 200 BOPD, 1000 GOR formula. Dick suggested that the Study representatives consider other methods and prepare to discuss them on July 8. It is McHugh's intent to arrive at a consensus on the allowable reduction formula that will minimize opposition in the hearing and speed the Commission Order.



Gavilan Working Interest Owners  
July 3, 1986  
Page Six

It was noted that minutes of the Subcommittees' work sessions will be distributed to apprise all working interest owners and Committee members of progress. The meeting was adjourned at approximately 4:20 p.m.

Respectfully submitted,

A handwritten signature in cursive script that reads "Dick Ellis".

Richard K. Ellis

RE/rm

cc: Technical Committee  
Working Interest Owners  
OCD  
BLM

DUGAN PRODUCTION CORP.  
EXHIBITS IN CASE NOS. 7980, 8946, 8950 AND 9111  
BEFORE THE OIL CONSERVATION COMMISSION OF THE  
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

JUNE 13, 1988

GAVILAN MANCOS OIL POOL PRODUCTION STATISTICS

BEFORE THE OIL CONSERVATION COMMISSION Santa Fe, New Mexico 7980, 8946, 8950 Case No. <u>9111, 9412</u> Exhibit No. _____ Submitted by <u>DUGAN PRODUCTION CORP.</u> Hearing Date <u>JUNE 13, 1988</u>
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PRODUCTION STATISTICS  
FOR  
GAVILAN-MANCOS OIL POOL

RIO ARRIBA COUNTY, NEW MEXICO

The enclosed statistics are taken from Operators' monthly production reports (C-115's) filed with the Aztec office of the New Mexico Oil Conservation Division, except some of Amoco's production for the following wells and months, which production is estimated from field reports:

Bear Canyon #1: August 1987 through March 1988  
Bear Canyon #2: February 1988  
Hill Trust #1: February 1988  
Oso Canyon Fed. B #1: February 1988  
Siefert Gas Com. #1: January and February 1988

A few wells in Gavilan have been authorized to commingle Dakota and Mancos production downhole.

For these wells, production presented is total production from both zones.

SAVILAN MANCOS POOL,, RIO ARRIBA CD., NM  
SAVILAN MANCOS POOL TOTAL.

YR	MO	NO PROD WELLS	WELL DAYS PROD	OIL				GAS			GDR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBD	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW
1980	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	3	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	4	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	5	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	6	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	7	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	8	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	9	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	10	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	11	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	12	1	1	60.0	60.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		1	1	60.0	60.0	1.0		0.0				0.0		
1981	1	0	0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	2	0	0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	3	1	2	36.0	18.0	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	4	1	4	6.0	1.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	5	1	5	12.0	2.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	6	1	24	56.0	2.3	1.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	7	1	31	56.0	1.8	1.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	8	1	4	16.0	4.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	9	1	13	9.0	0.7	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	10	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	11	1	15	2.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	12	1	10	4.0	0.4	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		9	108	197.0	1.8	0.1		0.0				0.0		
1982	1	1	11	2.0	0.2	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	2	1	12	4.0	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	3	2	13	1082.0	83.2	17.5	1.3	1135.0	87.3	1.1	1049.0	0.0	0.0	0.0
1982	4	0	3	0.0	0.0	0.0	1.3	0.0	0.0	1.1	0.0	0.0	0.0	0.0
1982	5	2	32	75.0	2.3	1.2	1.4	0.0	0.0	1.1	0.0	96.0	3.0	0.1
1982	6	1	30	1197.0	39.9	39.9	2.6	9129.0	304.3	10.3	7626.6	57.0	1.9	0.2
1982	7	1	24	547.0	22.8	17.6	3.2	10293.0	428.9	20.6	18817.2	3.0	0.1	0.2
1982	8	2	24	883.0	36.8	14.2	4.0	8249.0	343.7	28.8	9342.0	13.0	0.5	0.2
1982	9	1	25	971.0	38.8	32.4	5.0	8116.0	324.6	36.9	8358.4	23.0	0.9	0.2
1982	10	1	31	878.0	28.3	28.3	5.9	8847.0	285.4	45.8	10076.3	31.0	1.0	0.2
1982	11	1	15	778.0	51.9	25.9	6.7	7733.0	515.5	53.5	9939.6	3.0	0.2	0.2
1982	12	1	14	761.0	54.4	24.5	7.4	8606.0	614.7	62.1	11308.8	0.0	0.0	0.2
Subtotal		14	234	7178.0	30.7	1.4		62108.0				226.0		

\* BOPPD:- BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL,, RIO ARRIBA CO., NM  
 GAVILAN MANCOS POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL				GAS			GOR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1983	1	2	48	2042.0	42.5	32.9	9.5	15098.0	314.5	77.2	7393.7	4.0	0.1	0.2
1983	2	2	48	1776.0	37.0	31.7	11.3	12591.0	262.3	89.8	7089.5	16.0	0.3	0.2
1983	3	1	5	206.0	41.2	6.6	11.5	4061.0	812.2	93.9	19713.6	0.0	0.0	0.2
1983	4	1	16	1073.0	67.1	35.8	12.5	8552.0	534.5	102.4	7970.2	2.0	0.1	0.2
1983	5	1	31	1575.0	50.8	50.8	14.1	18790.0	606.1	121.2	11930.2	60.0	1.9	0.3
1983	6	2	31	1756.0	56.6	29.3	15.9	17836.0	575.4	139.0	10157.2	5.0	0.2	0.3
1983	7	2	50	2723.0	54.5	43.9	18.6	12996.0	259.9	152.0	4772.7	6.0	0.1	0.3
1983	8	4	58	6924.0	119.4	55.8	25.5	18643.0	321.4	170.7	2692.5	420.0	7.2	0.7
1983	9	6	81	8205.0	101.3	45.6	33.7	17956.0	221.7	188.6	2188.4	98.0	1.2	0.8
1983	10	5	81	10112.0	124.8	65.2	43.8	15568.0	192.2	204.2	1539.6	96.0	1.2	0.9
1983	11	9	200	21375.0	106.9	79.2	65.2	12761.0	63.8	217.0	597.0	427.0	2.1	1.4
1983	12	5	255	31627.0	124.0	204.0	96.8	25297.0	99.2	242.3	799.9	287.0	1.1	1.6
Subtotal		40	904	89394.0	98.9	6.1		180149.0				1421.0		
1984	1	10	278	29448.0	105.9	95.0	126.3	22374.0	80.5	264.6	759.8	279.0	1.0	1.9
1984	2	10	250	29380.0	117.5	101.3	155.7	20990.0	84.0	285.6	714.4	231.0	0.9	2.2
1984	3	10	240	35279.0	147.0	113.8	190.9	23521.0	98.0	309.1	666.7	217.0	0.9	2.4
1984	4	10	241	30826.0	127.9	102.8	221.8	29178.0	121.1	338.3	946.5	269.0	1.1	2.6
1984	5	12	313	48106.0	153.7	129.3	269.9	52385.0	167.4	390.7	1088.9	172.0	0.5	2.8
1984	6	11	287	37533.0	130.8	113.7	307.4	43143.0	150.3	433.8	1149.5	186.0	0.6	3.0
1984	7	10	293	35510.0	121.2	114.5	342.9	40491.0	138.2	474.3	1140.3	183.0	0.6	3.2
1984	8	13	390	48575.0	124.6	120.5	391.5	50402.0	129.2	524.7	1037.6	254.0	0.7	3.4
1984	9	13	385	53177.0	138.1	136.4	444.7	55346.0	143.8	580.1	1040.8	181.0	0.5	3.6
1984	10	14	389	49721.0	127.8	114.6	494.4	56561.0	145.4	636.6	1137.6	103.0	0.3	3.7
1984	11	16	412	53438.0	129.7	111.3	547.8	56307.0	136.7	693.0	1053.7	192.0	0.5	3.9
1984	12	16	453	50865.0	112.3	102.6	598.7	58255.0	128.6	751.2	1145.3	106.0	0.2	4.0
Subtotal		145	3931	501858.0	127.7	9.5		508953.0				2373.0		
1985	1	18	494	44806.0	90.7	80.3	643.5	54837.0	111.0	806.0	1223.9	639.0	1.3	4.7
1985	2	19	412	46740.0	113.4	87.9	690.2	68213.0	165.6	874.3	1459.4	193.0	0.5	4.9
1985	3	20	420	51713.0	123.1	83.4	741.9	77613.0	184.8	951.9	1500.8	154.0	0.4	5.0
1985	4	24	597	66737.0	111.8	92.7	808.7	104172.0	174.5	1056.0	1560.9	559.0	0.9	5.6
1985	5	24	572	73684.0	128.8	99.0	882.4	102511.0	179.2	1158.6	1391.2	201.0	0.4	5.8
1985	6	27	611	85109.0	139.3	105.1	967.5	124827.0	204.3	1283.4	1466.7	191.0	0.3	6.0
1985	7	28	698	86253.0	123.6	99.4	1053.7	123932.0	177.6	1407.3	1436.8	179.0	0.3	6.1
1985	8	27	658	88588.0	134.6	105.8	1142.3	135181.0	205.4	1542.5	1526.0	188.0	0.3	6.3
1985	9	24	585	77586.0	132.6	107.8	1219.9	114295.0	195.4	1656.8	1473.1	154.0	0.3	6.5
1985	10	27	669	92111.0	137.7	110.0	1312.0	128199.0	191.6	1785.0	1391.8	442.0	0.7	6.9
1985	11	29	737	104089.0	141.2	119.6	1416.1	133530.0	181.2	1918.5	1282.8	353.0	0.5	7.3
1985	12	27	729	104623.0	143.5	125.0	1520.7	131884.0	180.9	2050.4	1260.6	650.0	0.9	7.9
Subtotal		294	7182	922039.0	128.4	8.6		1299194				3903.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL., RIO ARRIBA CO., NM  
 GAVILAN MANCOS POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR		WATER		
				BOPM	AVE	AVE	CUM	MCF/D	CUM	SCF/BBL	Month	AVE	CUM	
					BOPPD	BOPCD	MBO		MCF				MCF	MBW
1986	1	34	822	131246.0	159.7	124.5	1652.0	137475.0	167.2	2187.9	1047.5	310.0	0.4	8.2
1986	2	32	739	112110.0	151.7	125.1	1764.1	149927.0	202.9	2337.8	1337.3	978.0	1.3	9.2
1986	3	30	772	128971.0	167.1	138.7	1893.1	160597.0	208.0	2498.4	1245.2	379.0	0.5	9.6
1986	4	27	734	109425.0	149.1	135.1	2002.5	173543.0	236.4	2671.9	1586.0	172.0	0.2	9.8
1986	5	37	775	128752.0	166.1	112.3	2131.2	166917.0	215.4	2838.9	1296.4	223.0	0.3	10.0
1986	6	44	1126	163219.0	145.0	123.7	2294.4	258691.0	229.7	3097.6	1584.9	976.0	0.9	11.0
1986	7	43	1065	151941.0	142.7	114.0	2446.4	314718.0	295.5	3412.3	2071.3	1004.0	0.9	12.0
1986	8	41	1030	132257.0	128.4	104.1	2578.6	284554.0	276.3	3696.8	2151.5	831.0	0.8	12.8
1986	9	41	716	86793.0	121.2	70.6	2665.4	184219.0	257.3	3881.0	2122.5	532.0	0.7	13.3
1986	10	46	1129	101728.0	90.1	68.4	2767.2	284917.0	252.4	4166.0	2800.8	658.0	0.6	14.0
1986	11	50	1187	99292.0	83.6	66.2	2866.5	316441.0	266.6	4482.4	3187.0	657.0	0.6	14.6
1986	12	49	1242	98042.0	78.9	64.5	2964.5	321674.0	259.0	4804.1	3281.0	875.0	0.7	15.5
Subtotal		476	11337	1443776	127.4	8.3		2753673				7595.0		
1987	1	53	1200	81304.0	67.8	49.5	3045.8	238322.0	198.6	5042.4	2931.2	832.0	0.7	16.4
1987	2	51	974	65774.0	67.5	46.1	3111.6	245676.0	252.2	5288.1	3735.2	659.0	0.7	17.0
1987	3	51	1037	67219.0	64.8	42.5	3178.8	259377.0	250.1	5547.5	3858.7	653.0	0.6	17.7
1987	4	57	1133	87024.0	76.8	50.9	3265.8	273856.0	241.7	5821.3	3146.9	1606.0	1.4	19.3
1987	5	56	1322	63542.0	48.1	36.6	3329.4	304889.0	230.6	6126.2	4798.2	1826.0	1.4	21.1
1987	6	55	1117	45798.0	41.0	27.8	3375.2	296850.0	265.8	6423.0	6481.7	1096.0	1.0	22.2
1987	7	59	1667	99567.0	59.7	54.4	3474.7	528027.0	316.8	6951.1	5303.2	1021.0	0.6	23.2
1987	8	56	1544	102190.0	66.2	58.9	3576.9	482706.0	312.6	7433.8	4723.6	1194.0	0.8	24.4
1987	9	56	1491	103028.0	69.1	61.3	3679.9	475335.0	318.8	7909.1	4613.6	909.0	0.6	25.3
1987	10	57	1467	100093.0	68.2	56.6	3780.0	475281.0	324.0	8384.4	4748.4	1212.0	0.8	26.5
1987	11	56	1319	63952.0	48.5	38.1	3844.0	370030.0	280.5	8754.4	5786.1	734.0	0.6	27.3
1987	12	57	1217	42215.0	34.7	23.9	3886.2	296820.0	243.9	9051.2	7031.2	1136.0	0.9	28.4
Subtotal		664	15488	921706.0	59.5	3.8		4247169				12878.0		
1988	1	56	1298	40924.0	31.5	23.6	3927.1	297725.0	229.4	9349.0	7275.1	688.0	0.5	29.1
1988	2	60	1242	46274.0	37.3	27.5	3973.4	274203.0	220.8	9623.2	5925.6	631.0	0.5	29.7
1988	3	61	1462	44170.0	30.2	23.4	4017.6	328781.0	224.9	9952.0	7443.5	701.0	0.5	30.4

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCO POOL TOTAL.

YR	MO	NO WELLS	WELL DAYS PROD	OIL				GAS			GDR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BOPD	CUM MBW
1984	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	9	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	10	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	11	1	30	680.0	22.7	22.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	12	1	31	275.0	8.9	8.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		2	61	955.0	15.7	7.8		0.0				0.0		
1985	1	1	31	219.0	7.1	7.1	1.2	0.0	0.0	0.0	0.0	100.0	3.2	0.1
1985	2	2	28	2500.0	89.3	44.6	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	3	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	4	1	1	1.0	1.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	5	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	6	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	7	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	8	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	9	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	10	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	11	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	12	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Subtotal		4	60	2720.0	45.3	1.9		0.0				100.0		
1986	1	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	2	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	3	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	4	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	5	0	0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	6	1	30	126.0	4.2	4.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	7	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	8	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	9	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	10	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	11	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	12	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Subtotal		1	30	126.0	4.2	0.3		0.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCO POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR		WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1987	1	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	2	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	3	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	4	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	5	0	0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	6	1	0	1930.0	0.0	64.3	5.7	0.0	0.0	0.0	0.0	38.0	0.0	0.1
1987	7	0	0	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	8	1	28	3240.0	115.7	104.5	9.0	1490.0	0.0	1.5	459.9	466.0	16.6	0.6
1987	9	1	17	7692.0	452.5	256.4	16.7	3018.0	177.5	4.5	392.4	0.0	0.0	0.6
1987	10	1	0	1024.0	0.0	33.0	17.7	399.0	0.0	4.9	389.6	50.0	0.0	0.7
1987	11	0	0	0.0	0.0	0.0	17.7	0.0	0.0	4.9	0.0	0.0	0.0	0.7
1987	12	1	0	305.0	0.0	9.8	18.0	119.0	0.0	5.0	390.2	5.0	0.0	0.7
Subtotal		5	45	14191.0	315.4	7.8		5026.0				559.0		
1988	1	2	32	8366.0	261.4	134.9	26.4	4109.0	128.4	9.1	491.2	10.0	0.3	0.7
1988	2	3	81	11716.0	144.6	139.5	38.1	6297.0	77.7	15.4	537.5	96.0	1.2	0.8
1988	3	3	87	10885.0	125.1	117.0	49.0	0.0	0.0	15.4	0.0	45.0	0.5	0.8

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.



BAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 DUGAN PRODUCTION CORP. POOL TOTAL.

YR	MO	NO PROD WELLS	WELL DAYS PROD	OIL			GAS			GOR	WATER			
				AVE BOPM	AVE BOPPD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW	
1980	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	3	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	4	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	5	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	6	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	7	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	8	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	9	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	10	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	11	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	12	1	1	60.0	60.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		1	1	60.0	60.0	1.9		0.0				0.0		
1981	1	0	0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	2	0	0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	3	1	2	36.0	18.0	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	4	1	4	6.0	1.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	5	1	5	12.0	2.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	6	1	24	56.0	2.3	1.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	7	1	31	56.0	1.8	1.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	8	1	4	16.0	4.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	9	1	13	9.0	0.7	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	10	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	11	1	15	2.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	12	1	10	4.0	0.4	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		9	108	197.0	1.8	0.1		0.0				0.0		
1982	1	1	11	2.0	0.2	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	2	1	12	4.0	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	3	1	10	3.0	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	4	0	3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	5	1	31	10.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	6	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	7	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	8	1	6	1.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	9	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	10	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	11	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	12	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		5	73	20.0	0.3	0.0		0.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 DUGAN PRODUCTION CORP. POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBD	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW
1983	1	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	2	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	3	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	7	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	8	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	9	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	10	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	11	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	12	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0	0	0.0	0.0	0.0		0.0				0.0		
1984	1	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	1	31	1321.0	42.6	42.6	1.6	835.0	26.9	0.8	632.1	16.0	0.5	0.0
1984	9	1	30	1288.0	42.9	42.9	2.9	814.0	27.1	1.6	632.0	15.0	0.5	0.0
1984	10	1	22	984.0	44.7	31.7	3.9	622.0	28.3	2.3	632.1	11.0	0.5	0.0
1984	11	2	35	1604.0	45.8	26.7	5.5	992.0	28.3	3.3	618.5	75.0	2.1	0.1
1984	12	2	51	1658.0	32.5	26.7	7.1	2072.0	40.6	5.3	1249.7	26.0	0.5	0.1
Subtotal		7	169	6955.0	40.6	2.7		5335.0				143.0		
1985	1	2	58	1668.0	28.8	26.9	8.8	2079.0	35.8	7.4	1246.4	29.0	0.5	0.2
1985	2	2	33	1145.0	34.7	20.4	9.9	1274.0	38.6	8.7	1112.7	16.0	0.5	0.2
1985	3	1	4	74.0	18.5	2.4	10.0	306.0	76.5	9.0	4135.1	2.0	0.5	0.2
1985	4	2	48	1503.0	31.3	25.1	11.5	2245.0	46.8	11.2	1493.7	24.0	0.5	0.2
1985	5	2	58	1735.0	29.9	28.0	13.3	2128.0	36.7	13.4	1226.5	30.0	0.5	0.2
1985	6	2	47	1652.0	35.1	27.5	14.9	1952.0	41.5	15.3	1181.6	24.0	0.5	0.3
1985	7	2	54	1603.0	29.7	25.9	16.5	1700.0	31.5	17.0	1060.5	28.0	0.5	0.3
1985	8	2	42	1512.0	36.0	24.4	18.0	1749.0	41.6	18.8	1156.7	13.0	0.3	0.3
1985	9	2	59	1519.0	25.7	25.3	19.5	2809.0	47.6	21.6	1849.2	22.0	0.4	0.3
1985	10	2	62	1463.0	23.6	23.6	21.0	2803.0	45.2	24.4	1915.9	24.0	0.4	0.4
1985	11	2	60	1393.0	23.2	23.2	22.4	2647.0	44.1	27.0	1900.2	23.0	0.4	0.4
1985	12	2	59	1246.0	21.1	20.1	23.6	2233.0	37.8	29.3	1792.1	23.0	0.4	0.4
Subtotal		23	584	16513.0	28.3	2.0		23925.0				258.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
DUGAN PRODUCTION CORP. POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL				GAS			GOR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1986	1	2	62	1251.0	20.2	20.2	24.9	2350.0	37.9	31.6	1878.5	24.0	0.4	0.4
1986	2	3	59	1116.0	18.9	13.3	26.0	2128.0	36.1	33.7	1906.8	421.0	7.1	0.8
1986	3	3	60	777.0	13.0	8.4	26.8	1818.0	30.3	35.6	2339.8	172.0	2.9	1.0
1986	4	1	53	604.0	11.4	20.1	27.4	1124.0	21.2	36.7	1860.9	21.0	0.4	1.0
1986	5	3	82	3173.0	38.7	34.1	30.6	3177.0	38.7	39.9	1001.3	29.0	0.4	1.1
1986	6	3	89	5468.0	61.4	60.8	36.0	5444.0	61.2	45.3	995.6	23.0	0.3	1.1
1986	7	3	70	3916.0	55.9	42.1	39.9	4510.0	64.4	49.8	1151.7	29.0	0.4	1.1
1986	8	3	65	3863.0	59.4	41.5	43.8	3882.0	59.7	53.7	1004.9	11.0	0.2	1.1
1986	9	2	8	1077.0	134.6	18.0	44.9	834.0	104.3	54.5	774.4	3.0	0.4	1.1
1986	10	4	67	3362.0	50.2	27.1	48.3	3993.0	59.6	58.5	1187.7	24.0	0.4	1.2
1986	11	4	109	5069.0	46.5	42.2	53.3	7139.0	65.5	65.7	1408.4	30.0	0.3	1.2
1986	12	3	105	5067.0	48.3	54.5	58.4	7347.0	70.0	73.0	1450.0	95.0	0.9	1.3
Subtotal		34	829	34743.0	41.9	2.8		43746.0				882.0		
1987	1	1	28	187.0	6.7	6.0	58.6	1204.0	43.0	74.2	6438.5	14.0	0.5	1.3
1987	2	1	15	81.0	5.4	2.9	58.7	1039.0	69.3	75.2	12827.2	8.0	0.5	1.3
1987	3	1	7	31.0	4.4	1.0	58.7	222.0	31.7	75.5	7161.3	4.0	0.6	1.3
1987	4	1	30	115.0	3.8	3.8	58.8	1743.0	58.1	77.2	15156.5	15.0	0.5	1.3
1987	5	1	31	27.0	0.9	0.9	58.8	1549.0	50.0	78.8	57370.4	16.0	0.5	1.3
1987	6	1	27	0.0	0.0	0.0	58.8	1267.0	46.9	80.0	0.0	0.0	0.0	1.3
1987	7	1	31	126.0	4.1	4.1	59.0	1539.0	49.6	81.6	12214.3	0.0	0.0	1.3
1987	8	1	26	123.0	4.7	4.0	59.1	1007.0	38.7	82.6	8187.0	0.0	0.0	1.3
1987	9	1	24	105.0	4.4	3.5	59.2	727.0	30.3	83.3	6923.8	0.0	0.0	1.3
1987	10	1	31	122.0	3.9	3.9	59.3	1007.0	32.5	84.3	8254.1	0.0	0.0	1.3
1987	11	1	18	48.0	2.7	1.6	59.4	551.0	30.6	84.9	11479.2	0.0	0.0	1.3
1987	12	1	28	60.0	2.1	1.9	59.4	986.0	35.2	85.8	16433.3	0.0	0.0	1.3
Subtotal		12	296	1025.0	3.5	0.2		12841.0				57.0		
1988	1	1	4	13.0	3.3	0.4	59.4	654.0	163.5	86.5	50307.7	0.0	0.0	1.3
1988	2	1	24	34.0	1.4	1.2	59.5	490.0	20.4	87.0	14411.8	0.0	0.0	1.3
1988	3	1	31	18.0	0.6	0.6	59.5	573.0	18.5	87.6	31833.3	0.0	0.0	1.3

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CD., NM  
 HIXON DEVELOPMENT CORP. POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL				GAS			GOR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1987	1	4	124	8303.0	67.0	67.0	8.0	7181.0	57.9	7.0	864.9	63.0	0.5	0.0
1987	2	4	67	4949.0	73.9	44.2	12.9	6202.0	92.6	13.2	1253.2	25.0	0.4	0.0
1987	3	3	67	4551.0	67.9	48.9	17.5	5543.0	82.7	18.7	1218.0	28.0	0.4	0.1
1987	4	4	94	8022.0	85.3	66.9	25.5	6709.0	71.4	25.5	836.3	46.0	0.5	0.1
1987	5	3	92	8246.0	89.6	88.7	33.8	8459.0	91.9	33.9	1025.8	50.0	0.5	0.1
1987	6	4	89	6222.0	69.9	51.9	40.0	7181.0	80.7	41.1	1154.1	0.0	0.0	0.1
1987	7	4	106	7290.0	68.8	58.8	47.3	7420.0	70.0	48.5	1017.8	0.0	0.0	0.1
1987	8	3	82	7674.0	93.6	82.5	55.0	6457.0	78.7	55.0	841.4	0.0	0.0	0.1
1987	9	3	89	7819.0	87.9	86.9	62.8	7297.0	82.0	62.3	933.2	0.0	0.0	0.1
1987	10	3	90	7562.0	84.0	81.3	70.3	7175.0	79.7	69.4	948.8	0.0	0.0	0.1
1987	11	4	79	6340.0	80.3	52.8	76.7	5428.0	68.7	74.9	856.2	0.0	0.0	0.1
1987	12	4	101	7059.0	69.9	56.9	83.7	6864.0	68.0	81.7	972.4	0.0	0.0	0.1
Subtotal		43	1080	84037.0	77.8	5.4		81916.0				212.0		
1988	1	3	58	4912.0	84.7	52.8	8.0	6402.0	110.4	7.0	1303.3	0.0	0.0	0.1
1988	2	3	66	4120.0	62.4	49.0	12.1	7913.0	119.9	14.9	1920.6	45.0	0.7	0.1
1988	3	3	82	3506.0	42.8	37.7	15.6	8591.0	104.8	23.5	2450.4	50.0	0.6	0.2

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO. POOL TOTAL.

				OIL				GAS			GOR		WATER	
YR	MO	NO WELLS	WELL PROD DAYS	BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1985	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	1	12	429.0	35.8	13.8	0.4	257.0	21.4	0.3	599.1	0.0	0.0	0.0
1985	4	1	19	1734.0	91.3	57.8	2.1	1040.0	54.7	1.3	599.8	0.0	0.0	0.0
1985	5	1	2	249.0	124.5	8.0	2.4	149.0	74.5	1.5	598.4	0.0	0.0	0.0
1985	6	1	18	2733.0	151.8	91.1	5.1	1399.0	77.7	2.9	511.9	0.0	0.0	0.0
1985	7	3	42	9958.0	237.1	107.1	15.1	5055.0	120.4	7.9	507.6	0.0	0.0	0.0
1985	8	3	44	14693.0	333.9	158.0	29.8	10441.0	237.3	18.4	710.6	0.0	0.0	0.0
1985	9	2	35	9620.0	274.9	160.3	39.4	6877.0	196.5	25.3	714.9	0.0	0.0	0.0
1985	10	3	40	13483.0	337.1	145.0	52.9	8121.0	203.0	33.4	602.3	0.0	0.0	0.0
1985	11	3	55	18068.0	328.5	200.8	70.9	13487.0	245.2	46.9	746.5	0.0	0.0	0.0
1985	12	3	47	9144.0	194.6	98.3	80.1	7012.0	149.2	53.9	766.8	0.0	0.0	0.0
Subtotal	21	314	80111.0	255.1	12.5			53838.0				0.0		
1986	1	5	137	42758.0	312.1	275.9	122.8	21020.0	153.4	74.9	491.6	0.0	0.0	0.0
1986	2	4	111	33749.0	304.0	301.3	156.6	34274.0	308.8	109.2	1015.6	0.0	0.0	0.0
1986	3	5	121	36624.0	302.7	236.3	193.2	26656.0	220.3	135.8	727.8	0.0	0.0	0.0
1986	4	5	112	34343.0	306.6	229.0	227.6	34100.0	304.5	169.9	992.9	0.0	0.0	0.0
1986	5	4	74	29265.0	395.5	236.0	256.8	31556.0	426.4	201.4	1078.3	0.0	0.0	0.0
1986	6	4	115	46196.0	401.7	412.5	303.0	60005.0	521.8	261.4	1298.9	0.0	0.0	0.0
1986	7	5	99	36151.0	365.2	233.2	339.1	63026.0	636.6	324.4	1743.4	0.0	0.0	0.0
1986	8	5	138	37512.0	271.8	250.1	376.7	58931.0	427.0	383.4	1571.0	0.0	0.0	0.0
1986	9	6	148	38525.0	260.3	207.1	415.2	78996.0	533.8	462.4	2050.5	0.0	0.0	0.0
1986	10	6	162	29799.0	183.9	177.4	445.0	69528.0	429.2	531.9	2333.2	0.0	0.0	0.0
1986	11	6	162	31215.0	192.7	167.8	476.2	71680.0	442.5	603.6	2296.3	0.0	0.0	0.0
1986	12	6	166	28371.0	170.9	157.6	504.6	73804.0	444.6	677.4	2601.4	0.0	0.0	0.0
Subtotal	61	1545	424508.0	274.8	19.1			623576.0				0.0		
1987	1	7	131	14523.0	110.9	66.9	519.1	36464.0	278.4	713.9	2510.8	0.0	0.0	0.0
1987	2	6	64	11135.0	174.0	66.3	530.2	34089.0	532.6	748.0	3061.4	0.0	0.0	0.0
1987	3	7	90	11065.0	122.9	51.0	541.3	25470.0	283.0	773.4	2301.9	0.0	0.0	0.0
1987	4	7	58	5248.0	90.5	25.0	546.6	31130.0	536.7	804.6	5931.8	0.0	0.0	0.0
1987	5	5	70	6037.0	86.2	38.9	552.6	19012.0	271.6	823.6	3149.2	0.0	0.0	0.0
1987	6	1	1	118.0	118.0	3.9	552.7	11985.0	11985.0	835.6	101567.8	0.0	0.0	0.0
1987	7	6	203	27306.0	134.5	146.8	580.0	81790.0	402.9	917.4	2995.3	0.0	0.0	0.0
1987	8	6	195	28315.0	145.2	152.2	608.3	92420.0	473.9	1009.8	3264.0	0.0	0.0	0.0
1987	9	7	199	29543.0	148.5	140.7	637.9	90848.0	456.5	1100.6	3075.1	0.0	0.0	0.0
1987	10	7	203	30676.0	151.1	141.4	668.6	96908.0	477.4	1197.5	3159.1	0.0	0.0	0.0
1987	11	6	132	16057.0	121.6	89.2	684.6	81410.0	616.7	1278.9	5070.1	0.0	0.0	0.0
1987	12	7	103	5089.0	49.4	23.5	689.7	46900.0	455.3	1325.8	9216.0	0.0	0.0	0.0
Subtotal	72	1449	185112.0	127.8	7.0			648426.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO. POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1988	1	6	84	1824.0	21.7	10.1	691.5	41755.0	497.1	1367.6	22892.0	0.0	0.0	0.0
1988	2	7	80	2604.0	32.6	12.0	694.1	33068.0	413.4	1400.7	12698.9	0.0	0.0	0.0
1988	3	7	100	2225.0	22.3	10.3	696.4	47675.0	476.8	1448.3	21427.0	0.0	0.0	0.0

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1984	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	1	18	1806.0	100.3	58.3	1.8	0.0	0.0	0.0	0.0	16.0	0.9	0.0
1984	6	0	0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0	0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	0	0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	9	0	0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	10	0	0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	11	0	0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	12	1	30	0.0	0.0	0.0	1.8	1621.0	54.0	1.6	0.0	0.0	0.0	0.0
Subtotal		2	48	1806.0	37.6	3.7		1621.0				16.0		
1985	1	1	31	735.0	23.7	23.7	2.5	1600.0	51.6	3.2	2176.9	430.0	13.9	0.4
1985	2	1	28	3984.0	142.3	142.3	6.5	12689.0	453.2	15.9	3185.0	97.0	3.5	0.5
1985	3	1	31	5110.0	164.8	164.8	11.6	21515.0	694.0	37.4	4210.4	16.0	0.5	0.6
1985	4	2	44	7952.0	180.7	132.5	19.6	11401.0	259.1	48.8	1433.7	30.0	0.7	0.6
1985	5	2	61	10976.0	179.9	177.0	30.6	19199.0	314.7	68.0	1749.2	20.0	0.3	0.6
1985	6	2	58	11369.0	196.0	189.5	41.9	17056.0	294.1	85.1	1500.2	62.0	1.1	0.7
1985	7	2	61	12860.0	210.8	207.4	54.8	20156.0	330.4	105.2	1567.3	17.0	0.3	0.7
1985	8	2	62	11844.0	191.0	191.0	66.6	23224.0	374.6	128.5	1960.8	8.0	0.1	0.7
1985	9	2	51	11285.0	221.3	188.1	77.9	20820.0	408.2	149.3	1844.9	7.0	0.1	0.7
1985	10	3	78	14050.0	180.1	151.1	92.0	22327.0	286.2	171.6	1589.1	246.0	3.2	0.9
1985	11	4	87	13812.0	158.8	115.1	105.8	32464.0	373.1	204.1	2350.4	108.0	1.2	1.1
1985	12	3	61	11493.0	188.4	123.6	117.3	22894.0	375.3	227.0	1992.0	10.0	0.2	1.1
Subtotal		25	653	115470.0	176.8	12.7		225345.0				1051.0		
1986	1	5	49	8622.0	176.0	55.6	125.9	17907.0	365.4	244.9	2076.9	58.0	1.2	1.1
1986	2	4	74	12194.0	164.8	108.9	138.1	15602.0	210.8	260.5	1279.5	379.0	5.1	1.5
1986	3	3	63	13861.0	220.0	149.0	152.0	16330.0	259.2	276.8	1178.1	49.0	0.8	1.6
1986	4	2	56	12252.0	218.8	204.2	164.2	18499.0	330.3	295.3	1509.9	18.0	0.3	1.6
1986	5	2	62	11071.0	178.6	178.6	175.3	15757.0	254.1	311.1	1423.3	9.0	0.1	1.6
1986	6	2	60	10841.0	180.7	180.7	186.1	16321.0	272.0	327.4	1505.5	40.0	0.7	1.6
1986	7	2	62	10642.0	171.6	171.6	196.8	20739.0	334.5	348.1	1948.8	29.0	0.5	1.6
1986	8	2	62	10763.0	173.6	173.6	207.5	18684.0	301.4	366.8	1735.9	22.0	0.4	1.7
1986	9	2	51	7522.0	147.5	125.4	215.0	15911.0	312.0	382.7	2115.3	6.0	0.1	1.7
1986	10	5	88	9536.0	108.4	61.5	224.6	18162.0	206.4	400.9	1904.6	32.0	0.4	1.7
1986	11	5	122	9766.0	80.0	65.1	234.3	41440.0	339.7	442.3	4243.3	49.0	0.4	1.8
1986	12	5	130	12205.0	93.9	78.7	246.6	47523.0	365.6	489.8	3893.7	58.0	0.4	1.8
Subtotal		39	879	129275.0	147.1	9.1		262875.0				749.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL POOL TOTAL.

YR	MO	NO PROD WELLS	WELL DAYS PROD	OIL			GAS			GOR	WATER				
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW	
1987	1	5	100	9368.0	93.7	60.4	255.9	25020.0	250.2	514.9	2670.8	103.0	1.0	1.9	
1987	2	4	81	6720.0	83.0	60.0	262.6	23893.0	295.0	538.8	3555.5	81.0	1.0	2.0	
1987	3	4	87	6670.0	76.7	53.8	269.3	20174.0	231.9	558.9	3024.6	102.0	1.2	2.1	
1987	4	5	99	6436.0	65.0	42.9	275.7	22337.0	225.6	581.3	3470.6	155.0	1.6	2.3	
1987	5	5	134	7180.0	53.6	46.3	282.9	38371.0	286.4	619.6	5344.2	227.0	1.7	2.5	
1987	6	5	113	5550.0	49.1	37.0	288.5	35146.0	311.0	654.8	6332.6	190.0	1.7	2.7	
1987	7	5	148	6443.0	43.5	41.6	294.9	67730.0	457.6	722.5	10512.2	220.0	1.5	2.9	
1987	8	5	129	4335.0	33.6	28.0	299.3	41254.0	319.8	763.8	9516.5	172.0	1.3	3.1	
1987	9	5	146	6319.0	43.3	42.1	305.6	55606.0	380.9	819.4	8799.8	231.0	1.6	3.3	
1987	10	5	118	5046.0	42.8	32.6	310.6	37471.0	317.6	856.8	7425.9	98.0	0.8	3.4	
1987	11	5	105	2934.0	27.9	19.6	313.6	37083.0	353.2	893.9	12639.1	158.0	1.5	3.6	
1987	12	5	123	2037.0	16.6	13.1	315.6	33789.0	274.7	927.7	16587.6	145.0	1.2	3.7	
Subtotal				58 1383	69038.0	49.9	3.3		437874.0				1882.0		
1988	1	5	120	1343.0	11.2	8.7	316.9	30071.0	250.6	957.8	22390.9	143.0	1.2	3.8	
1988	2	5	93	2244.0	24.1	16.0	319.2	29077.0	312.7	986.9	12957.7	126.0	1.4	4.0	
1988	3	5	107	1700.0	15.9	11.0	320.9	27673.0	258.6	1014.5	16278.2	141.0	1.3	4.1	

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.



GAVILAN MANCDS POOL, RIO ARRIBA CO., NM  
MERRION OIL & GAS CORP. POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL				GAS			GOR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW
1985	1	3	56	871.0	15.6	9.4	0.9	2411.0	43.1	2.4	2768.1	0.0	0.0	0.0
1985	2	3	35	531.0	15.2	6.3	1.4	1670.0	47.7	4.1	3145.0	0.0	0.0	0.0
1985	3	3	27	370.0	13.7	4.0	1.8	2307.0	85.4	6.4	6235.1	0.0	0.0	0.0
1985	4	3	71	1313.0	18.5	14.6	3.1	4213.0	59.3	10.6	3208.7	158.0	2.2	0.2
1985	5	3	67	737.0	11.0	7.9	3.8	5612.0	83.8	16.2	7614.7	13.0	0.2	0.2
1985	6	3	69	739.0	10.7	8.2	4.6	4347.0	63.0	20.6	5882.3	0.0	0.0	0.2
1985	7	3	53	463.0	8.7	5.0	5.0	2184.0	41.2	22.7	4717.1	0.0	0.0	0.2
1985	8	3	68	523.0	7.7	5.6	5.5	2205.0	32.4	24.9	4216.1	0.0	0.0	0.2
1985	9	2	36	246.0	6.8	4.1	5.8	1222.0	33.9	26.2	4967.5	0.0	0.0	0.2
1985	10	2	32	247.0	7.7	4.0	6.0	1181.0	36.9	27.4	4781.4	0.0	0.0	0.2
1985	11	2	52	698.0	13.4	11.6	6.7	2434.0	46.8	29.8	3487.1	0.0	0.0	0.2
1985	12	1	31	565.0	18.2	18.2	7.3	1695.0	54.7	31.5	3000.0	0.0	0.0	0.2
Subtotal		31	597	7303.0	12.2	0.6		31481.0				171.0		
1986	1	2	40	422.0	10.6	6.8	7.7	2423.0	60.6	33.9	5741.7	0.0	0.0	0.2
1986	2	3	37	600.0	16.2	7.1	8.3	4395.0	118.8	38.3	7325.0	0.0	0.0	0.2
1986	3	2	30	170.0	5.7	2.7	8.5	1188.0	39.6	39.5	6988.2	0.0	0.0	0.2
1986	4	2	34	188.0	5.5	3.1	8.7	1165.0	34.3	40.7	6196.8	0.0	0.0	0.2
1986	5	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1986	6	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1986	7	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1986	8	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1986	9	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1986	10	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1986	11	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1986	12	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
Subtotal		9	141	1380.0	9.8	0.4		9171.0				0.0		
1987	1	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1987	2	0	0	0.0	0.0	0.0	8.7	0.0	0.0	40.7	0.0	0.0	0.0	0.2
1987	3	1	2	4.0	2.0	0.1	8.7	274.0	137.0	40.9	68500.0	0.0	0.0	0.2
1987	4	1	7	135.0	19.3	4.5	8.8	875.0	125.0	41.8	6481.5	0.0	0.0	0.2
1987	5	2	26	90.0	3.5	1.5	8.9	1590.0	61.2	43.4	17666.7	0.0	0.0	0.2
1987	6	2	31	57.0	1.8	1.0	9.0	2325.0	75.0	45.7	40789.5	0.0	0.0	0.2
1987	7	2	38	104.0	2.7	1.7	9.1	1757.0	46.2	47.5	16894.2	0.0	0.0	0.2
1987	8	1	25	28.0	1.1	0.9	9.1	1179.0	47.2	48.7	42107.1	0.0	0.0	0.2
1987	9	1	30	34.0	1.1	1.1	9.1	1131.0	37.7	49.8	33264.7	0.0	0.0	0.2
1987	10	1	31	37.0	1.2	1.2	9.2	928.0	29.9	50.7	25081.1	0.0	0.0	0.2
1987	11	1	26	28.0	1.1	0.9	9.2	799.0	30.7	51.5	28535.7	0.0	0.0	0.2
1987	12	1	27	27.0	1.0	0.9	9.2	1135.0	42.0	52.6	42037.0	0.0	0.0	0.2
Subtotal		13	243	544.0	2.2	0.1		11993.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MERRION OIL & GAS CORP. POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BHPD	CUM MBW
1988	1	3	46	110.0	2.4	1.2	9.3	2094.0	45.5	ERR	19036.4	0.0	0.0	ERR
1988	2	2	54	93.0	1.7	1.5	9.4	2900.0	53.7	ERR	31182.8	0.0	0.0	ERR
1988	3	2	62	88.0	1.4	1.4	9.5	1579.0	25.5	ERR	17943.2	0.0	0.0	ERR

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES POOL TOTAL.

				OIL				GAS			GOR		WATER	
YR	MO	NO	WELL	BOPM	AVE	AVE	CUM	MCF/M	AVE	CUM	SCF/BBL	Month	AVE	CUM
		PRDD	DAYS											
1982	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	3	1	3	1079.0	359.7	34.8	1.1	1135.0	378.3	1.1	1051.9	0.0	0.0	0.0
1982	4	0	0	0.0	0.0	0.0	1.1	- 0.0	0.0	1.1	0.0	0.0	0.0	0.0
1982	5	1	1	65.0	65.0	2.1	1.1	0.0	0.0	1.1	0.0	96.0	96.0	0.1
1982	6	1	30	1197.0	39.9	39.9	2.3	9129.0	304.3	10.3	7626.6	57.0	1.9	0.2
1982	7	1	24	547.0	22.8	17.6	2.9	10293.0	428.9	20.6	18817.2	3.0	0.1	0.2
1982	8	1	18	882.0	49.0	28.5	3.8	8249.0	458.3	28.8	9352.6	13.0	0.7	0.2
1982	9	1	25	971.0	38.8	32.4	4.7	8116.0	324.6	36.9	8358.4	23.0	0.9	0.1
1982	10	1	31	878.0	28.3	28.3	5.6	8847.0	285.4	45.8	10076.3	31.0	1.0	0.2
1982	11	1	15	778.0	51.9	25.9	6.4	7733.0	515.5	53.5	9939.6	3.0	0.2	0.2
1982	12	1	14	761.0	54.4	24.5	7.2	8606.0	614.7	62.1	11308.8	0.0	0.0	0.2
Subtotal		9	161	7158.0	44.5	2.2		62108.0				226.0		
1983	1	1	25	1563.0	62.5	50.4	8.7	14408.0	576.3	76.5	9218.2	4.0	0.2	0.2
1983	2	1	20	989.0	49.5	35.3	9.7	12591.0	629.6	89.1	12731.0	1.0	0.1	0.2
1983	3	1	5	206.0	41.2	6.6	9.9	4061.0	812.2	93.2	19713.6	0.0	0.0	0.2
1983	4	1	16	1073.0	67.1	35.8	11.0	8552.0	534.5	101.7	7970.2	2.0	0.1	0.2
1983	5	1	31	1575.0	50.8	50.8	12.6	18790.0	606.1	120.5	11930.2	60.0	1.9	0.3
1983	6	1	30	1523.0	50.8	50.8	14.1	17829.0	594.3	138.3	11706.5	5.0	0.2	0.3
1983	7	1	19	1173.0	61.7	37.8	15.3	10568.0	556.2	148.9	9009.4	6.0	0.3	0.3
1983	8	3	56	5954.0	106.3	64.0	21.2	16253.0	290.2	165.2	2729.8	420.0	7.5	0.7
1983	9	4	74	7122.0	96.2	59.4	28.3	16039.0	216.7	181.2	2252.0	98.0	1.3	0.8
1983	10	4	76	9151.0	120.4	73.8	37.5	14439.0	190.0	195.6	1577.9	96.0	1.3	0.9
1983	11	4	72	7086.0	98.4	59.1	44.6	8904.0	123.7	204.5	1256.6	0.0	0.0	0.9
1983	12	4	97	7329.0	75.6	59.1	51.9	19281.0	198.8	223.8	2630.8	37.0	0.4	1.0
Subtotal		26	521	44744.0	85.9	4.7		161715.0				729.0		
1984	1	4	115	10389.0	90.3	83.8	62.3	17633.0	153.3	241.5	1697.3	11.0	0.1	1.0
1984	2	4	103	11530.0	111.9	102.9	73.8	17416.0	169.1	258.9	1510.5	11.0	0.1	1.0
1984	3	4	124	11739.0	94.7	94.7	85.6	18304.0	147.6	277.2	1559.2	89.0	0.7	1.1
1984	4	4	118	12253.0	103.8	102.1	97.8	19131.0	162.1	296.3	1561.3	100.0	0.8	1.2
1984	5	5	141	12941.0	91.8	83.5	110.8	34211.0	242.6	330.5	2643.6	24.0	0.2	1.2
1984	6	5	125	11588.0	92.7	77.3	122.3	24871.0	199.0	355.4	2146.3	2.0	0.0	1.2
1984	7	4	119	11102.0	93.3	89.5	133.4	27882.0	234.3	383.3	2511.4	0.0	0.0	1.2
1984	8	4	124	10255.0	82.7	82.7	143.7	31579.0	254.7	414.8	3079.4	0.0	0.0	1.2
1984	9	4	120	10278.0	85.7	85.7	154.0	32247.0	268.7	447.1	3137.5	0.0	0.0	1.2
1984	10	4	120	10030.0	83.6	80.9	164.0	33207.0	276.7	480.3	3310.8	0.0	0.0	1.2
1984	11	4	120	9111.0	75.9	75.9	173.1	32553.0	271.3	512.9	3572.9	0.0	0.0	1.2
1984	12	4	123	9390.0	76.3	75.7	182.5	31763.0	258.2	544.6	3382.6	0.0	0.0	1.2
Subtotal		50	1452	130606.0	89.9	7.2		320797.0				237.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES POOL TOTAL.

YR	MO	NO WELLS	WELL PRODD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW
1985	1	4	106	8613.0	81.3	69.5	191.1	26699.0	251.9	571.3	3099.8	0.0	0.0	1.2
1985	2	4	104	7825.0	75.2	69.9	198.9	30869.0	296.8	602.2	3944.9	0.0	0.0	1.2
1985	3	6	134	8940.0	66.7	48.1	207.9	36609.0	273.2	638.8	4095.0	50.0	0.4	1.3
1985	4	6	174	13270.0	76.3	73.7	221.2	54517.0	313.3	693.3	4108.3	247.0	1.4	1.5
1985	5	6	142	16014.0	112.8	86.1	237.2	48974.0	344.9	742.3	3058.2	66.0	0.5	1.6
1985	6	6	150	16754.0	111.7	93.1	253.9	64922.0	432.8	807.2	3875.0	35.0	0.2	1.6
1985	7	6	150	14873.0	99.2	80.0	268.8	56346.0	375.6	863.6	3788.5	9.0	0.1	1.6
1985	8	6	116	12730.0	109.7	68.4	281.5	54125.0	466.6	917.7	4251.8	30.0	0.3	1.7
1985	9	5	82	9322.0	113.7	62.1	290.8	41626.0	507.6	959.3	4465.4	0.0	0.0	1.6
1985	10	5	107	10170.0	95.0	65.6	301.0	746839.0	6979.8	1706.1	73435.5	32.0	0.3	1.6
1985	11	6	168	12340.0	73.5	68.6	313.4	39736.0	236.5	1745.9	3220.1	104.0	0.6	1.7
1985	12	6	178	19651.0	110.4	105.7	333.0	45924.0	258.0	1791.8	2337.0	481.0	2.7	2.2
Subtotal		66	1611	150502.0	93.4	6.2		547186.0				1054.0		
1986	1	7	190	24804.0	130.5	114.3	357.8	46811.0	246.4	1838.6	1887.2	11.0	0.1	2.3
1986	2	6	154	17529.0	113.8	104.3	375.3	43790.0	284.4	1882.4	2498.1	0.0	0.0	2.3
1986	3	5	149	15852.0	106.4	102.3	391.2	46971.0	315.2	1929.4	2963.1	2.0	0.0	2.3
1986	4	5	139	10871.0	78.2	72.5	402.1	49011.0	352.6	1978.4	4508.4	3.0	0.0	2.3
1986	5	8	124	12469.0	100.6	50.3	414.5	24029.0	193.8	2002.4	1927.1	43.0	0.3	2.3
1986	6	9	213	17572.0	82.5	65.1	432.1	46827.0	219.8	2049.2	2664.9	0.0	0.0	2.3
1986	7	8	187	15557.0	83.2	62.7	447.7	42359.0	226.5	2091.6	2722.8	0.0	0.0	2.3
1986	8	7	157	11171.0	71.2	51.5	458.8	33178.0	211.3	2124.8	2970.0	0.0	0.0	2.3
1986	9	7	181	13862.0	76.6	66.0	472.7	32490.0	179.5	2157.3	2343.8	0.0	0.0	2.3
1986	10	9	222	17769.0	80.0	63.7	490.5	48989.0	220.7	2206.3	2757.0	10.0	0.0	2.3
1986	11	9	242	15941.0	65.9	59.0	506.4	79254.0	327.5	2285.5	4971.7	3.0	0.0	2.3
1986	12	9	222	13271.0	59.8	47.6	519.7	58135.0	261.9	2343.7	4380.6	15.0	0.1	2.3
Subtotal		89	2180	186668.0	85.6	5.7		551844.0				87.0		
1987	1	10	226	12533.0	55.5	40.4	532.2	48563.0	214.9	2392.2	3874.8	0.0	0.0	2.3
1987	2	10	172	8960.0	52.1	32.0	541.2	44857.0	260.8	2437.1	5006.4	0.0	0.0	2.3
1987	3	10	268	11385.0	42.5	36.7	552.6	72323.0	269.9	2509.4	6352.5	0.0	0.0	2.3
1987	4	9	191	8483.0	44.4	31.4	561.0	55810.0	292.2	2565.2	6579.0	0.0	0.0	2.3
1987	5	10	273	8150.0	29.9	26.3	569.2	66175.0	242.4	2631.4	8119.6	0.0	0.0	2.3
1987	6	10	214	5381.0	25.1	17.9	574.6	58575.0	273.7	2690.0	10885.5	0.0	0.0	2.3
1987	7	10	252	9203.0	36.5	29.7	583.8	69688.0	276.5	2759.6	7572.3	0.0	0.0	2.3
1987	8	10	255	9468.0	37.1	30.5	593.2	62081.0	243.5	2821.7	6556.9	0.0	0.0	2.3
1987	9	10	192	8571.0	44.6	28.6	601.8	48991.0	255.2	2870.7	5715.9	30.0	0.2	2.3
1987	10	11	218	7864.0	36.1	23.1	609.7	52997.0	243.1	2923.7	6739.2	80.0	0.4	2.4
1987	11	11	198	5022.0	25.4	15.2	614.7	47507.0	239.9	2971.2	9459.8	0.0	0.0	2.4
1987	12	11	177	5163.0	29.2	15.1	619.9	47549.0	268.6	3018.8	9209.6	470.0	2.7	2.9
Subtotal		122	2636	100183.0	38.0	2.2		675116.0				580.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

SAVILAN MANCOS POOL, RIO ARRIBA CD., NM  
 MESA GRANDE RESOURCES POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1988	1	10	257	3462.0	13.5	11.2	623.3	47605.0	185.2	3066.4	13750.7	0.0	0.0	2.9
1988	2	12	260	4394.0	16.9	13.1	627.7	47761.0	183.7	3114.1	10869.6	9.0	0.0	2.9
1988	3	11	260	3140.0	12.1	9.2	630.9	58906.0	226.6	3173.0	18759.9	0.0	0.0	2.9

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MOBIL POOL TOTAL.

				OIL				GAS			GOR		WATER	
NO		WELL		-----				-----			-----		-----	
PRODD		DAYS												
YR	MO	WELLS	PROD	BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1986	1	2	6	1020.0	170.0	16.5	1.0	0.0	0.0	0.0	0.0	48.0	8.0	0.0
1986	2	0	0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0	0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0	0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0	0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	3	56	7253.0	129.5	80.6	8.3	15273.0	272.7	15.3	2105.7	721.0	12.9	0.7
1986	7	3	89	10199.0	114.6	109.7	18.5	31318.0	351.9	46.6	3070.7	723.0	8.1	1.4
1986	8	3	87	9334.0	107.3	100.4	27.8	31293.0	359.7	77.9	3352.6	617.0	7.1	2.1
1986	9	3	60	6088.0	101.5	67.6	33.9	16964.0	282.7	94.8	2786.5	420.0	7.0	2.5
1986	10	3	77	4677.0	60.7	50.3	38.6	26707.0	346.8	121.6	5710.3	443.0	5.8	2.9
1986	11	3	76	4296.0	56.5	47.7	42.8	22876.0	301.0	144.4	5325.0	426.0	5.6	3.4
1986	12	3	79	4118.0	52.1	44.3	47.0	21141.0	267.6	165.6	5133.8	506.0	6.4	3.9
Subtotal		23	530	46985.0	88.7	5.6		165572.0				3904.0		
1987	1	3	83	3609.0	43.5	38.8	50.6	23433.0	282.3	189.0	6492.9	455.0	5.5	4.3
1987	2	3	81	3729.0	46.0	44.4	54.3	21601.0	266.7	210.6	5792.7	412.0	5.1	4.7
1987	3	3	76	5137.0	67.6	55.2	59.4	25095.0	330.2	235.7	4885.1	389.0	5.1	5.1
1987	4	6	153	4986.0	32.6	27.7	64.4	23066.0	150.8	258.8	4626.2	1227.0	8.0	6.3
1987	5	6	159	3936.0	24.8	21.2	68.4	38368.0	241.3	297.1	9748.0	1437.0	9.0	7.8
1987	6	6	141	3838.0	27.2	21.3	72.2	34460.0	244.4	331.6	8978.6	371.0	2.6	8.1
1987	7	6	185	4753.0	25.7	25.6	77.0	45495.0	245.9	377.1	9571.8	456.0	2.5	8.6
1987	8	6	168	9932.0	59.1	53.4	86.9	52836.0	314.5	429.9	5319.8	420.0	2.5	9.0
1987	9	6	179	9904.0	55.3	55.0	96.8	50580.0	282.6	480.5	5107.0	366.0	2.0	9.4
1987	10	6	155	9243.0	59.6	49.7	106.0	52288.0	337.3	532.8	5657.0	282.0	1.8	9.7
1987	11	6	142	6789.0	47.8	37.7	112.8	39780.0	280.1	572.6	5859.5	224.0	1.6	9.9
1987	12	5	124	5360.0	43.2	34.6	118.2	31128.0	251.0	603.7	5807.5	187.0	1.5	10.1
Subtotal		62	1646	71216.0	43.3	3.1		438130.0				6226.0		
1988	1	5	118	4649.0	39.4	30.0	122.8	31440.0	266.4	635.1	6762.7	175.0	1.5	10.3
1988	2	5	117	4549.0	38.9	32.5	127.4	29472.0	251.9	664.6	6478.8	185.0	1.6	10.4
1988	3	5	135	4717.0	34.9	30.4	132.1	31579.0	233.9	696.2	6694.7	208.0	1.5	10.7

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 READING & BATES POOL TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1986	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	1	0	1056.0	0.0	34.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0	0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0	0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0	0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	1	5	160.0	32.0	5.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	1	30	407.0	13.6	13.1	1.6	11497.0	383.2	11.5	28248.2	0.0	0.0	0.0
Subtotal		3	35	1623.0	46.4	2.9		11497.0				0.0		
1987	1	1	18	150.0	8.3	4.8	1.8	7828.0	434.9	19.3	52186.7	0.0	0.0	0.0
1987	2	1	25	332.0	13.3	11.9	2.1	8920.0	356.8	28.2	26867.5	8.0	0.3	0.0
1987	3	0	0	0.0	0.0	0.0	2.1	0.0	0.0	28.2	0.0	0.0	0.0	0.0
1987	4	1	23	113.0	4.9	3.8	2.2	7839.0	340.8	36.1	69371.7	0.0	0.0	0.0
1987	5	1	31	133.0	4.3	4.3	2.4	7242.0	233.6	43.3	54451.1	0.0	0.0	0.0
1987	6	1	22	103.0	4.7	3.4	2.5	8504.0	386.5	51.8	82563.1	4.0	0.2	0.0
1987	7	1	29	446.0	15.4	14.4	2.9	12784.0	440.8	64.6	28663.7	226.0	7.8	0.2
1987	8	1	31	351.0	11.3	11.3	3.3	14318.0	461.9	78.9	40792.0	8.0	0.3	0.2
1987	9	1	4	73.0	18.3	2.4	3.3	2120.0	530.0	81.1	29041.1	105.0	26.3	0.4
1987	10	2	32	1479.0	46.2	23.9	4.8	9443.0	295.1	90.5	6384.7	330.0	10.3	0.7
1987	11	2	51	1342.0	26.3	22.4	6.1	26208.0	513.9	116.7	19529.1	46.0	0.9	0.7
1987	12	2	42	1216.0	29.0	19.6	7.4	12376.0	294.7	129.1	10177.6	62.0	1.5	0.8
Subtotal		14	308	5738.0	18.6	1.1		117582.0				789.0		
1988	1	2	55	1804.0	32.8	29.1	9.2	12321.0	224.0	141.4	6829.8	53.0	1.0	0.3
1988	2	2	50	2147.0	42.9	38.3	11.3	11754.0	235.1	153.2	5474.6	31.0	0.6	0.9
1988	3	2	62	2870.0	46.3	46.3	14.2	14751.0	237.9	167.9	5139.7	29.0	0.5	0.9

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION POOL TOTAL.

		OIL						GAS			GOR	WATER		
YR	MO	NO	WELL											
		PROD	DAYS	BOPM	AVE	AVE	CUM	MCF/M	AVE	CUM	SCF/BBL	Month	AVE	CUM
		WELLS	PROD	BOPM	BOPPD	BOPCD	MBO	MCF/M	MCF/D	MNCF	SCF/BBL	Month	BWPD	MBW
1983	1	1	23	479.0	20.8	15.5	0.0	690.0	30.0	0.0	1440.5	0.0	0.0	0.0
1983	2	1	28	787.0	28.1	28.1	0.8	0.0	0.0	0.0	0.0	15.0	0.5	0.0
1983	3	0	0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0	0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0	0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	1	1	233.0	233.0	7.8	1.0	7.0	7.0	0.0	30.0	0.0	0.0	0.0
1983	7	1	31	1550.0	50.0	50.0	2.6	2428.0	78.3	2.4	1566.5	0.0	0.0	0.0
1983	8	1	2	970.0	485.0	31.3	3.5	2390.0	1195.0	4.8	2463.9	0.0	0.0	0.0
1983	9	2	7	1083.0	154.7	18.1	4.6	1917.0	273.9	6.7	1770.1	0.0	0.0	0.0
1983	10	1	5	961.0	192.2	31.0	5.6	1129.0	225.8	7.9	1174.8	0.0	0.0	0.0
1983	11	5	128	14289.0	111.6	95.3	19.9	3857.0	30.1	11.7	269.9	427.0	3.3	0.4
1983	12	6	158	24298.0	153.8	130.6	44.2	6016.0	38.1	17.7	247.6	250.0	1.6	0.7
Subtotal		19	383	44650.0	116.6	6.4		18434.0				692.0		
1984	1	6	163	19059.0	116.9	102.5	63.2	4741.0	29.1	22.5	248.8	268.0	1.6	1.0
1984	2	6	147	17850.0	121.4	102.6	81.1	3574.0	24.3	26.1	200.2	220.0	1.5	1.2
1984	3	6	116	23540.0	202.9	126.6	104.6	5217.0	45.0	31.3	221.6	128.0	1.1	1.3
1984	4	6	123	18573.0	151.0	103.2	123.2	10047.0	81.7	41.3	540.9	169.0	1.4	1.5
1984	5	6	154	33359.0	216.6	179.3	156.6	18174.0	118.0	59.5	544.8	132.0	0.9	1.6
1984	6	6	162	25945.0	160.2	144.1	182.5	18272.0	112.8	77.8	704.3	184.0	1.1	1.8
1984	7	6	174	24408.0	140.3	131.2	206.9	12609.0	72.5	90.4	516.6	183.0	1.1	2.0
1984	8	8	235	36999.0	157.4	149.2	243.9	17988.0	76.5	108.4	486.2	238.0	1.0	2.2
1984	9	8	235	41611.0	177.1	173.4	285.5	22285.0	94.8	130.7	535.6	166.0	0.7	2.4
1984	10	8	244	38668.0	158.5	155.9	324.2	22132.0	90.7	152.8	572.4	92.0	0.4	2.5
1984	11	8	220	41857.0	190.3	174.4	366.0	21562.0	98.0	174.3	515.1	117.0	0.5	2.6
1984	12	8	218	39542.0	181.4	159.4	405.6	22799.0	104.6	197.1	576.6	80.0	0.4	2.7
Subtotal		82	2191	361411.0	165.0	12.0		179400.0				1977.0		
1985	1	7	212	32700.0	154.2	150.7	438.3	22048.0	104.0	219.2	674.3	80.0	0.4	2.7
1985	2	7	184	30755.0	167.1	156.9	469.0	21711.0	118.0	240.9	705.9	80.0	0.4	2.8
1985	3	8	212	36790.0	173.5	148.3	505.8	16619.0	78.4	257.5	451.7	86.0	0.4	2.9
1985	4	9	240	40964.0	170.7	151.7	546.8	30756.0	128.2	288.3	750.8	100.0	0.4	3.0
1985	5	10	242	43973.0	181.7	141.8	590.8	26449.0	109.3	314.7	601.5	72.0	0.3	3.1
1985	6	13	269	51862.0	192.8	133.0	642.6	35151.0	130.7	349.9	677.8	70.0	0.3	3.2
1985	7	12	338	46496.0	137.6	125.0	689.1	38491.0	113.9	388.4	827.8	125.0	0.4	3.3
1985	8	11	326	47286.0	145.0	138.7	736.4	43437.0	133.2	431.8	918.6	137.0	0.4	3.4
1985	9	11	322	45594.0	141.6	138.2	782.0	40941.0	127.1	472.7	897.9	125.0	0.4	3.5
1985	10	12	350	52698.0	150.6	141.7	834.7	46928.0	134.1	519.7	890.5	140.0	0.4	3.7
1985	11	12	315	57778.0	183.4	160.5	892.5	42762.0	135.8	562.4	740.1	118.0	0.4	3.8
1985	12	12	353	62524.0	177.1	168.1	955.0	52126.0	147.7	614.6	833.7	136.0	0.4	3.9
Subtotal		124	3363	549420.0	163.4	12.1		417419.0				1269.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION POOL TOTAL.

		OIL						GAS			GOR		WATER	
NO WELL		-----		-----		-----		-----		-----		-----		
YR	MO	PRGD WELLS	DAYS PROD	AVE BOPM	AVE BOPPD	AVE BOPCD	CUM MBD	MCF/M	AVE MCF/D	CUM MCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1986	1	11	338	52367.0	154.9	153.6	1007.4	46964.0	138.9	661.5	896.8	169.0	0.5	4.1
1986	2	11	300	46804.0	156.0	152.0	1054.2	48525.0	161.8	710.1	1036.8	178.0	0.6	4.3
1986	3	11	319	61199.0	191.8	179.5	1115.4	60800.0	190.6	770.9	993.5	149.0	0.5	4.4
1986	4	11	320	51072.0	159.6	154.8	1166.4	66301.0	207.2	837.2	1298.2	130.0	0.4	4.6
1986	5	19	403	72570.0	180.1	123.2	1239.0	86196.0	213.9	923.3	1187.8	142.0	0.4	4.7
1986	6	21	550	75686.0	137.6	120.1	1314.7	109644.0	199.4	1033.0	1448.7	192.0	0.3	4.9
1986	7	20	527	74354.0	141.1	119.9	1389.1	148786.0	282.3	1181.8	2001.0	223.0	0.4	5.1
1986	8	20	490	59590.0	121.6	96.1	1448.6	134571.0	274.6	1316.4	2258.3	181.0	0.4	5.3
1986	9	20	264	19673.0	74.5	32.8	1468.3	37030.0	140.3	1353.4	1882.3	103.0	0.4	5.4
1986	10	20	487	36479.0	74.9	58.8	1504.8	112970.0	232.0	1466.4	3096.9	149.0	0.3	5.6
1986	11	21	441	32744.0	74.2	52.0	1537.5	89267.0	202.4	1555.6	2726.2	149.0	0.3	5.7
1986	12	21	479	34498.0	72.0	53.0	1572.0	98197.0	205.0	1653.8	2846.5	178.0	0.4	5.9
Subtotal		206	4918	617038.0	125.5	8.2		1039251				1943.0		
1987	1	22	490	32631.0	66.6	47.8	1604.7	88629.0	180.9	1742.4	2716.1	197.0	0.4	6.1
1987	2	22	469	29868.0	63.7	48.5	1634.5	105075.0	224.0	1847.5	3518.0	125.0	0.3	6.2
1987	3	22	440	28376.0	64.5	41.6	1662.9	110276.0	250.6	1957.8	3886.2	130.0	0.3	6.3
1987	4	23	478	53486.0	111.9	77.5	1716.4	124347.0	260.1	2082.1	2324.9	163.0	0.3	6.5
1987	5	23	506	29743.0	58.8	41.7	1746.1	124123.0	245.3	2206.3	4173.2	96.0	0.2	6.6
1987	6	24	479	22599.0	47.2	31.4	1768.7	137407.0	286.9	2343.7	6080.2	493.0	1.0	7.1
1987	7	24	675	43896.0	65.0	59.0	1812.6	239824.0	355.3	2583.5	5463.5	119.0	0.2	7.2
1987	8	22	605	38724.0	64.0	56.8	1851.4	209664.0	346.6	2793.2	5414.3	128.0	0.2	7.3
1987	9	21	611	32968.0	54.0	52.3	1884.3	215017.0	351.9	3008.2	6522.0	177.0	0.3	7.5
1987	10	20	589	37040.0	62.9	59.7	1921.4	216665.0	367.9	3224.8	5849.5	372.0	0.6	7.9
1987	11	20	568	25392.0	44.7	42.3	1946.8	131264.0	231.1	3356.1	5169.5	306.0	0.5	8.2
1987	12	20	492	15899.0	32.3	25.6	1962.7	115974.0	235.7	3472.1	7294.4	267.0	0.5	8.5
Subtotal		263	6402	390622.0	61.0	4.1		1818265				2573.0		
1988	1	19	524	14441.0	27.6	24.5	1977.1	124944.0	238.4	3597.0	8652.0	307.0	0.6	8.8
1988	2	20	381	14373.0	37.7	25.7	1991.5	105471.0	276.8	3702.5	7338.1	139.0	0.4	8.9
1988	3	22	536	15021.0	28.0	22.0	2006.5	137454.0	256.4	3839.9	9150.8	228.0	0.4	9.1

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMCCO, BEAR CANYON UNIT #1. (NE 15-26N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GDR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	28.0	3240.0	115.7	104.5	3.2	1490.0	0.0	1.5	0.0	466.0	0.0	0.5
1987	9	17.0	7692.0	452.5	256.4	10.9	3018.0	0.0	4.5	0.0	NR	0.0	0.5
1987	10	0.0	1024.0	0.0	33.0	12.0	399.0	0.0	4.9	0.0	50.0	0.0	0.5
1987	11	0.0	0.0	0.0	0.0	12.0	0.0	0.0	4.9	0.0	0.0	0.0	0.5
1987	12	0.0	305.0	0.0	9.8	12.3	119.0	0.0	5.0	0.0	5.0	0.0	0.5
Subtotal		45.0	12261.0	568.2	33.6		5026.0				521.0		
1988	1	21.0	8196.0	390.3	264.4	20.5	2721.0	129.6	7.7	332.0	NR	0.0	0.5
1988	2	29.0	7265.0	250.5	250.5	27.7	2935.0	101.2	10.7	404.0	80.0	2.8	0.6
1988	3	31.0	9940.0	320.6	320.6	37.7	NR	0.0	10.7	0.0	30.0	0.0	0.6

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCO, BEAR CANYON UNIT #2. (NW 10-26N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1988	1	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	2	15.0	3421.0	228.1	118.0	3.4	938.0	62.5	0.9	0.0	NR	0.0	0.0
1988	3	NR	NR	0.0	0.0	3.4	NR	0.0	0.9	0.0	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCO, BEAR CANYON UNIT #3. (SW 11-26N-2W)

		DIL				GAS			BDR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1988	1	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	2	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	3	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

BAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCO, HILL TRUST FED. COM. #1. (NW 5-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	10	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	11	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	12	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1988	1	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	2	7.0	83.0	11.9	2.9	0.1	140.0	0.0	0.1	0.0	NR	0.0	0.0
1988	3	NR	NR	0.0	0.0	0.1	NR	NR	0.1	0.0	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCO, OSO CANYON FED. #1. (NW 24-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1984	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	11	30.0	680.0	22.7	22.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	12	31.0	275.0	8.9	8.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		61.0	955.0	15.7	15.4		0.0				0.0		
1985	1	31.0	219.0	7.1	7.1	1.2	0.0	0.0	0.0	0.0	100.0	0.5	0.1
1985	2	28.0	333.0	11.9	11.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	3	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	4	1.0	1.0	1.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	5	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	6	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	7	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	8	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	9	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	10	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	11	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1985	12	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Subtotal		60.0	553.0	9.2	1.5		0.0				100.0		
1986	1	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	2	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	3	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	4	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	5	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	6	30.0	126.0	4.2	4.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	7	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	8	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	9	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	10	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	11	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	12	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Subtotal		30.0	126.0	4.2	0.3		0.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCD, OSO CANYON FED. #1. (NW 24-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	2	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	3	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	4	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	5	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	6	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	7	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	8	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	9	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	10	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	11	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1987	12	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1988	1	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1988	2	NR	NR	0.0	0.0	1.6	NR	0.0	0.0	0.0	NR	0.0	0.1
1988	3	NR	NR	0.0	0.0	1.6	NR	0.0	0.0	0.0	NR	0.0	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCCO, OSO CANYON FED. A #1. (NW 14-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	7	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	8	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	9	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	10	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	11	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	12	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMOCO, OSD CANYON FED. A #1. (NW 14-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBG	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MSW
1988	1	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	2	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	3	NR	NR	0.0	0.0	0.0	NR	0.0	0.0	0.0	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
 AMOCO, OSO CANYON FED. B #1. (NW 11-24N-2W)

		OIL				GAS				BDR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	2167.0	0.0	77.4	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	2167.0	0.0	6.5		0.0				0.0		
1986	1	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1987	1	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	10	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	11	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	12	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 AMDCO, OSO CANYON FED. B #1. (NW 11-24N-2W)

YR	MO	DAYS PRODUCED	OIL				GAS			GOR	WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	NR	NR	0.0	0.0	2.2	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	2	7.0	75.0	10.7	2.6	2.2	994.0	142.0	1.0	13253.3	15.0	2.1	0.0
1988	3	31.0	233.0	7.5	7.5	2.5	NR	0.0	1.0	0.0	10.0	0.3	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 ANOCD, SIEFERT GAS COM. #1. (SE 22-26N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	1930.0	0.0	64.3	1.9	0.0	0.0	0.0	0.0	38.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	10	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	11	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	12	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	1930.0	0.0	5.3		0.0				38.0		
1988	1	11.0	170.0	15.5	5.5	2.1	1388.0	126.2	1.4	8164.7	10.0	0.9	0.0
1988	2	23.0	872.0	37.9	30.1	3.0	3362.0	146.2	4.8	3855.5	1.0	0.0	0.0
1988	3	25.0	712.0	28.5	23.0	3.7	NR	0.0	4.8	0.0	5.0	0.2	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 DUGAN PRODUCTION CORP., LINDRITH #1. (SE 36-25N-2W)

YR	MO	OIL				GAS			GOR	WATER			
		DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1984	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	11	5.0	162.0	32.4	5.4	0.2	81.0	16.2	0.1	500.0	60.0	12.0	0.1
1984	12	20.0	292.0	14.6	9.4	0.5	1209.0	60.5	1.3	4140.4	10.0	0.5	0.1
Subtotal		25.0	454.0	18.2	7.4		1290.0				70.0		
1985	1	27.0	292.0	10.8	9.4	0.7	1209.0	44.8	2.5	4140.4	14.0	0.5	0.1
1985	2	12.0	157.0	13.1	5.6	0.9	650.0	54.2	3.1	4140.1	6.0	0.5	0.1
1985	3	4.0	74.0	18.5	2.4	1.0	306.0	76.5	3.5	4135.1	2.0	0.5	0.1
1985	4	26.0	369.0	14.2	12.3	1.3	1528.0	58.8	5.0	4140.9	13.0	0.5	0.1
1985	5	27.0	294.0	10.9	9.5	1.6	1217.0	45.1	6.2	4139.5	14.0	0.5	0.1
1985	6	17.0	259.0	15.2	8.6	1.9	1072.0	63.1	7.3	4139.0	9.0	0.5	0.1
1985	7	23.0	196.0	8.5	6.3	2.1	811.0	35.3	8.1	4137.8	12.0	0.5	0.1
1985	8	11.0	226.0	20.5	7.3	2.3	936.0	85.1	9.0	4141.6	5.0	0.5	0.1
1985	9	30.0	286.0	9.5	9.5	2.6	1826.0	60.9	10.8	6384.6	15.0	0.5	0.2
1985	10	31.0	293.0	9.5	9.5	2.9	1871.0	60.4	12.7	6385.7	16.0	0.5	0.2
1985	11	30.0	275.0	9.2	9.2	3.2	1756.0	58.5	14.5	6385.5	15.0	0.5	0.2
1985	12	31.0	274.0	8.8	8.8	3.4	1458.0	47.0	15.9	5321.2	16.0	0.5	0.2
Subtotal		269.0	2995.0	11.1	8.2		14640.0				137.0		
1986	1	31.0	308.0	9.9	9.9	3.8	1598.0	51.5	17.5	5188.3	16.0	0.5	0.2
1986	2	27.0	228.0	8.4	8.1	4.0	1500.0	55.6	19.0	6578.9	14.0	0.5	0.2
1986	3	31.0	8.0	0.3	0.3	4.0	1281.0	41.3	20.3	160125.0	16.0	0.5	0.3
1986	4	30.0	0.0	0.0	0.0	4.0	643.0	21.4	21.0	0.0	15.0	0.5	0.3
1986	5	31.0	335.0	10.8	10.8	4.3	1006.0	32.5	22.0	3003.0	16.0	0.5	0.3
1986	6	30.0	238.0	7.9	7.9	4.6	1480.0	49.3	23.4	6218.5	15.0	0.5	0.3
1986	7	31.0	227.0	7.3	7.3	4.8	1718.0	55.4	25.2	7568.3	16.0	0.5	0.3
1986	8	20.0	158.0	7.9	5.1	5.0	1078.0	53.9	26.2	6822.8	0.0	0.0	0.3
1986	9	2.0	11.0	5.5	0.4	5.0	33.0	16.5	26.3	3000.0	1.0	0.5	0.3
1986	10	31.0	254.0	8.2	8.2	5.2	1814.0	58.5	28.1	7141.7	16.0	0.5	0.3
1986	11	30.0	76.0	2.5	2.5	5.3	1371.0	45.7	29.5	18039.5	15.0	0.5	0.3
1986	12	31.0	0.0	0.0	0.0	5.3	1266.0	40.8	30.7	0.0	16.0	0.5	0.4
Subtotal		325.0	1843.0	5.7	5.0		14788.0				156.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 DUGAN PRODUCTION CORP., LINDRITH #1. (SE 36-25N-2W)

		OIL				GAS			GDR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	28.0	187.0	6.7	6.0	5.5	1204.0	43.0	31.9	6438.5	14.0	0.5	0.4
1987	2	15.0	81.0	5.4	2.9	5.6	1039.0	69.3	33.0	12827.2	8.0	0.5	0.4
1987	3	7.0	31.0	4.4	1.0	5.6	222.0	31.7	33.2	7161.3	4.0	0.6	0.4
1987	4	30.0	115.0	3.8	3.8	5.7	1743.0	58.1	34.9	15156.5	15.0	0.5	0.4
1987	5	31.0	27.0	0.9	0.9	5.7	1549.0	50.0	36.5	57370.4	16.0	0.5	0.4
1987	6	27.0	0.0	0.0	0.0	5.7	1267.0	46.9	37.7	0.0	0.0	0.0	0.4
1987	7	31.0	126.0	4.1	4.1	5.9	1539.0	49.6	39.3	12214.3	0.0	0.0	0.4
1987	8	26.0	123.0	4.7	4.0	6.0	1007.0	38.7	40.3	8187.0	0.0	0.0	0.4
1987	9	24.0	105.0	4.4	3.5	6.1	727.0	30.3	41.0	6923.8	0.0	0.0	0.4
1987	10	31.0	122.0	3.9	3.9	6.2	1007.0	32.5	42.0	8254.1	0.0	0.0	0.4
1987	11	18.0	48.0	2.7	1.6	6.3	551.0	30.6	42.6	11479.2	0.0	0.0	0.4
1987	12	28.0	60.0	2.1	1.9	6.3	986.0	35.2	43.6	16433.3	0.0	0.0	0.4
Subtotal		296.0	1025.0	3.5	2.8		12841.0				57.0		
1988	1	4.0	13.0	3.3	0.4	6.3	654.0	163.5	44.2	50307.7	0.0	0.0	0.4
1988	2	24.0	34.0	1.4	1.2	6.4	490.0	20.4	44.7	14411.8	0.0	0.0	0.4
1988	3	31.0	18.0	0.6	0.6	6.4	573.0	18.5	45.3	31833.3	0.0	0.0	0.4

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
 HIXON DEVELOPMENT CORP., DIVIDE #1. (NE 35-26N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	4.0	41.0	10.3	1.3	0.0	2.0	0.5	0.0	48.8	0.0	0.0	0.0
1986	11	19.0	13.0	0.7	0.4	0.1	121.0	6.4	0.1	9307.7	3.0	0.2	0.0
1986	12	8.0	0.0	0.0	0.0	0.1	14.0	1.8	0.1	0.0	4.0	0.5	0.0
Subtotal		31.0	54.0	1.7	0.6		137.0				7.0		
1987	1	31.0	0.0	0.0	0.0	0.1	29.0	0.9	0.2	0.0	16.0	0.5	0.0
1987	2	7.0	0.0	0.0	0.0	0.1	89.0	12.7	0.3	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0
1987	4	4.0	2.0	0.5	0.1	0.1	103.0	25.8	0.4	51500.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.1	14.0	0.0	0.4	0.0	0.0	0.0	0.0
1987	6	12.0	0.0	0.0	0.0	0.1	39.0	3.3	0.4	0.0	0.0	0.0	0.0
1987	7	28.0	0.0	0.0	0.0	0.1	38.0	1.4	0.4	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.1	22.0	0.0	0.5	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1987	10	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1987	11	6.0	22.0	3.7	0.7	0.1	107.0	0.0	0.6	0.0	0.0	0.0	0.0
1987	12	10.0	9.0	0.9	0.3	0.1	275.0	27.5	0.9	30555.6	0.0	0.0	0.0
Subtotal		98.0	33.0	0.3	0.1		716.0				16.0		
1988	1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.9	0.0	0.0	0.0	0.0
1988	2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.9	0.0	0.0	0.0	0.0
1988	3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.9	0.0	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 HIXON DEVELOPMENT CORP., DIVIDE #3. (5W 35-26N-2W)

		DIL				GAS				GDR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	6.0	157.0	26.2	5.1	0.2	230.0	38.3	0.2	1465.0	60.0	10.0	0.1
Subtotal		6.0	157.0	26.2	5.1		230.0				60.0		
1987	1	31.0	2397.0	77.3	77.3	2.6	1187.0	38.3	1.4	495.2	31.0	1.0	0.1
1987	2	13.0	1348.0	103.7	48.1	3.9	787.0	60.5	2.2	583.8	13.0	1.0	0.1
1987	3	15.0	1289.0	85.9	41.6	5.2	1816.0	121.1	4.0	1408.8	15.0	1.0	0.1
1987	4	30.0	3009.0	100.3	100.3	8.2	1873.0	62.4	5.9	622.5	30.0	1.0	0.1
1987	5	31.0	3277.0	105.7	105.7	11.5	1453.0	46.9	7.3	443.4	33.0	1.1	0.2
1987	6	26.0	2574.0	99.0	85.8	14.1	2047.0	78.7	9.4	795.3	0.0	0.0	0.2
1987	7	19.0	2563.0	134.9	82.7	16.6	1650.0	86.8	11.0	643.8	0.0	0.0	0.2
1987	8	26.0	3107.0	119.5	100.2	19.7	1397.0	53.7	12.4	449.6	0.0	0.0	0.2
1987	9	30.0	3254.0	108.5	108.5	23.0	1740.0	58.0	14.2	534.7	0.0	0.0	0.2
1987	10	30.0	3208.0	106.9	103.5	26.2	1075.0	35.8	15.3	335.1	0.0	0.0	0.2
1987	11	25.0	2854.0	114.2	95.1	29.0	1193.0	47.7	16.4	418.0	0.0	0.0	0.2
1987	12	30.0	3097.0	103.2	99.9	32.1	890.0	29.7	17.3	287.4	0.0	0.0	0.2
Subtotal		306.0	31977.0	104.5	87.6		17108.0				122.0		
1988	1	30.0	3022.0	100.7	97.5	35.2	2221.0	74.0	19.6	734.9	0.0	0.0	0.2
1988	2	25.0	2200.0	88.0	75.9	37.4	1190.0	47.6	20.7	540.9	0.0	0.0	0.2
1988	3	31.0	2104.0	67.9	67.9	39.5	1421.0	45.8	22.2	675.4	0.0	0.0	0.2

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 HIXON DEVELOPMENT CORP., TAPACITOS #2. (SW 25-26N-2W)

		OIL				GAS			GDR	WATER			
YR	MO	DAYS				CUM			CUM			CUM	
		PRODUCED	BOPM	BOPPD	BOPCD	MBG	MCF/M	MCF/D	MMCF	SCF/BBL	Month	BWPD	MBW
1984	1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	31.0	1321.0	42.6	42.6	1.6	835.0	26.9	0.8	632.1	16.0	0.5	0.0
1984	9	30.0	1288.0	42.9	42.9	2.9	814.0	27.1	1.6	632.0	15.0	0.5	0.0
1984	10	22.0	984.0	44.7	31.7	3.9	622.0	28.3	2.3	632.1	11.0	0.5	0.0
1984	11	30.0	1442.0	48.1	48.1	5.3	911.0	30.4	3.2	631.8	15.0	0.5	0.1
1984	12	31.0	1366.0	44.1	44.1	6.7	863.0	27.8	4.0	631.8	16.0	0.5	0.1
Subtotal		144.0	6401.0	44.5	17.5		4045.0				73.0		
1985	1	31.0	1376.0	44.4	44.4	8.1	870.0	28.1	4.9	632.3	15.0	0.5	0.1
1985	2	21.0	988.0	47.0	35.3	9.0	624.0	29.7	5.5	631.6	10.0	0.5	0.1
1985	3	0.0	0.0	0.0	0.0	9.0	0.0	0.0	5.5	0.0	0.0	0.0	0.1
1985	4	22.0	1134.0	51.5	37.8	10.2	717.0	32.6	6.3	632.3	11.0	0.5	0.1
1985	5	31.0	1441.0	46.5	46.5	11.6	911.0	29.4	7.2	632.2	16.0	0.5	0.1
1985	6	30.0	1393.0	46.4	46.4	13.0	880.0	29.3	8.0	631.7	15.0	0.5	0.1
1985	7	31.0	1407.0	45.4	45.4	14.4	889.0	28.7	8.9	631.8	16.0	0.5	0.2
1985	8	31.0	1286.0	41.5	41.5	15.7	813.0	26.2	9.7	632.2	8.0	0.3	0.2
1985	9	29.0	1233.0	42.5	41.1	16.9	983.0	33.9	10.7	797.2	7.0	0.2	0.2
1985	10	31.0	1170.0	37.7	37.7	18.1	932.0	30.1	11.7	796.6	8.0	0.3	0.2
1985	11	30.0	1118.0	37.3	37.3	19.2	891.0	29.7	12.6	797.0	8.0	0.3	0.2
1985	12	28.0	972.0	34.7	31.4	20.2	775.0	27.7	13.3	797.3	7.0	0.3	0.2
Subtotal		315.0	13518.0	42.9	37.0		9285.0				121.0		
1986	1	31.0	943.0	30.4	30.4	21.1	752.0	24.3	14.1	797.5	8.0	0.3	0.2
1986	2	28.0	788.0	28.1	28.1	21.9	628.0	22.4	14.7	797.0	7.0	0.3	0.2
1986	3	25.0	674.0	27.0	21.7	22.6	537.0	21.5	15.2	796.7	6.0	0.2	0.2
1986	4	23.0	604.0	26.3	20.1	23.2	481.0	20.9	15.7	796.4	6.0	0.3	0.2
1986	5	31.0	866.0	27.9	27.9	24.1	690.0	22.3	16.4	796.8	8.0	0.3	0.2
1986	6	30.0	806.0	26.9	26.9	24.9	642.0	21.4	17.1	796.5	8.0	0.3	0.2
1986	7	18.0	455.0	25.3	14.7	25.3	363.0	20.2	17.4	797.8	5.0	0.3	0.2
1986	8	20.0	463.0	23.2	14.9	25.8	369.0	18.5	17.8	797.0	5.0	0.3	0.2
1986	9	0.0	0.0	0.0	0.0	25.8	0.0	0.0	17.8	0.0	0.0	0.0	0.2
1986	10	16.0	290.0	18.1	9.4	26.1	1083.0	67.7	18.9	3734.5	4.0	0.3	0.3
1986	11	30.0	430.0	14.3	14.3	26.5	2886.0	96.2	21.8	6711.6	4.0	0.1	0.3
1986	12	31.0	486.0	15.7	15.7	27.0	2777.0	89.6	24.5	5714.0	8.0	0.3	0.3
Subtotal		283.0	6805.0	24.0	18.6		11208.0				69.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 HIXON DEVELOPMENT CORP., TAPACITOS #2. (SN 25-26N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR		WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	31.0	528.0	17.0	17.0	27.5	2678.0	86.4	27.2	5072.0	8.0	0.3	0.3
1987	2	28.0	435.0	15.5	15.5	28.0	2017.0	72.0	29.2	4636.8	7.0	0.3	0.3
1987	3	31.0	427.0	13.8	13.8	28.4	1511.0	48.7	30.7	3538.6	8.0	0.3	0.3
1987	4	30.0	419.0	14.0	14.0	28.8	2066.0	68.9	32.8	4930.8	8.0	0.3	0.3
1987	5	31.0	421.0	13.6	13.6	29.2	2430.0	78.4	35.2	5772.0	8.0	0.3	0.3
1987	6	27.0	328.0	12.1	10.9	29.6	2047.0	75.8	37.3	6240.9	0.0	0.0	0.3
1987	7	31.0	377.0	12.2	12.2	29.9	2056.0	66.3	39.3	5453.6	0.0	0.0	0.3
1987	8	31.0	327.0	10.5	10.5	30.3	2031.0	65.5	41.4	6211.0	0.0	0.0	0.3
1987	9	30.0	261.0	8.7	8.7	30.5	1850.0	61.7	43.2	7088.1	0.0	0.0	0.3
1987	10	31.0	209.0	6.7	6.7	30.7	1634.0	52.7	44.9	7818.2	0.0	0.0	0.3
1987	11	25.0	149.0	6.0	5.0	30.9	982.0	39.3	45.8	6590.6	0.0	0.0	0.3
1987	12	30.0	141.0	4.7	4.5	31.0	1099.0	36.6	46.9	7794.3	0.0	0.0	0.3
Subtotal		356.0	4022.0	11.3	11.0		22401.0				39.0		
1988	1	11.0	8.0	0.7	0.3	31.0	439.0	39.9	47.4	54875.0	0.0	0.0	0.3
1988	2	16.0	52.0	3.3	1.8	31.1	370.0	23.1	47.7	7115.4	45.0	2.8	0.3
1988	3	28.0	155.0	5.5	5.0	31.2	787.0	28.1	48.5	5077.4	50.0	1.8	0.4

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

BAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 HIXON DEVELOPMENT CORP., TAPACITOS #4. (SE 36-26N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	4.0	100.0	25.0	3.6	0.1	0.0	0.0	0.0	0.0	400.0	100.0	0.4
1986	3	4.0	95.0	23.8	3.1	0.2	0.0	0.0	0.0	0.0	150.0	37.5	0.6
1986	4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6
1986	5	20.0	1972.0	98.6	63.6	2.2	1481.0	74.1	1.5	751.0	5.0	0.3	0.6
1986	6	29.0	4424.0	152.6	147.5	6.6	3322.0	114.6	4.8	750.9	0.0	0.0	0.6
1986	7	21.0	3234.0	154.0	104.3	9.8	2429.0	115.7	7.2	751.1	8.0	0.4	0.6
1986	8	25.0	3242.0	129.7	104.6	13.1	2435.0	97.4	9.7	751.1	6.0	0.2	0.6
1986	9	6.0	1066.0	177.7	35.5	14.1	801.0	133.5	10.5	751.4	2.0	0.3	0.6
1986	10	16.0	2777.0	173.6	89.6	16.9	1094.0	68.4	11.6	394.0	4.0	0.3	0.6
1986	11	30.0	4550.0	151.7	151.7	21.5	2761.0	92.0	14.3	606.8	8.0	0.3	0.6
1986	12	29.0	4424.0	152.6	142.7	25.9	3060.0	105.5	17.4	691.7	7.0	0.2	0.6
Subtotal		184.0	25884.0	140.7	77.5		17383.0				590.0		
1987	1	31.0	5378.0	173.5	173.5	31.3	3287.0	106.0	20.7	611.2	8.0	0.3	0.6
1987	2	19.0	3166.0	166.6	113.1	34.4	3309.0	174.2	24.0	1045.2	5.0	0.3	0.6
1987	3	21.0	2835.0	135.0	91.5	37.3	2216.0	105.5	26.2	781.7	5.0	0.2	0.6
1987	4	30.0	4592.0	153.1	153.1	41.9	2667.0	88.9	28.9	580.8	8.0	0.3	0.6
1987	5	30.0	4548.0	151.6	146.7	46.4	4562.0	152.1	33.4	1003.1	9.0	0.3	0.6
1987	6	24.0	3320.0	138.3	110.7	49.7	3048.0	127.0	36.5	918.1	0.0	0.0	0.6
1987	7	28.0	4350.0	155.4	140.3	54.1	3676.0	131.3	40.1	845.1	0.0	0.0	0.6
1987	8	25.0	4240.0	169.6	136.8	58.3	3007.0	120.3	43.2	709.2	0.0	0.0	0.6
1987	9	29.0	4304.0	148.4	143.5	62.6	3707.0	127.8	46.9	861.3	0.0	0.0	0.6
1987	10	29.0	4145.0	142.9	133.7	66.8	4466.0	154.0	51.3	1077.4	0.0	0.0	0.6
1987	11	23.0	3315.0	144.1	110.5	70.1	3146.0	136.8	54.5	949.0	0.0	0.0	0.6
1987	12	31.0	3812.0	123.0	123.0	73.9	4600.0	148.4	59.1	1206.7	0.0	0.0	0.6
Subtotal		320.0	48005.0	150.0	131.5		41691.0				35.0		
1988	1	17.0	1882.0	110.7	60.7	75.8	3742.0	220.1	62.8	1988.3	0.0	0.0	0.6
1988	2	25.0	1868.0	74.7	64.4	77.6	6353.0	254.1	69.2	3401.0	0.0	0.0	0.6
1988	3	23.0	1247.0	54.2	40.2	78.9	6383.0	277.5	75.6	5118.7	0.0	0.0	0.6

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., DAVIS FEDERAL #3-15. (SE 3-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR		WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MEW
1987	1	23.0	98.0	4.3	3.2	0.1	1021.0	44.4	1.0	10418.4	0.0	0.0	0.0
1987	2	6.0	0.0	0.0	0.0	0.1	162.0	27.0	1.2	0.0	0.0	0.0	0.0
1987	3	18.0	34.0	1.9	1.1	0.1	843.0	46.8	2.0	24794.1	0.0	0.0	0.0
1987	4	12.0	27.0	2.3	0.9	0.2	867.0	72.3	2.9	32111.1	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.2	0.0	0.0	2.9	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.2	0.0	0.0	2.9	0.0	0.0	0.0	0.0
1987	7	31.0	0.0	0.0	0.0	0.2	8.0	0.3	2.9	0.0	0.0	0.0	0.0
1987	8	31.0	0.0	0.0	0.0	0.2	8.0	0.3	2.9	0.0	0.0	0.0	0.0
1987	9	30.0	0.0	0.0	0.0	0.2	415.0	13.8	3.3	0.0	0.0	0.0	0.0
1987	10	18.0	0.0	0.0	0.0	0.2	1027.0	57.1	4.4	0.0	0.0	0.0	0.0
1987	11	0.0	0.0	0.0	0.0	0.2	0.0	0.0	4.4	0.0	0.0	0.0	0.0
1987	12	11.0	42.0	3.8	1.4	0.2	924.0	84.0	5.3	22000.0	0.0	0.0	0.0
Subtotal		180.0	201.0	1.1	0.6		5275.0				0.0		
1988	1	22.0	65.0	3.0	2.1	0.3	780.0	35.5	6.1	12000.0	0.0	0.0	0.0
1988	2	19.0	60.0	3.2	2.1	0.3	693.0	36.5	6.8	11550.0	0.0	0.0	0.0
1988	3	23.0	157.0	6.8	5.1	0.5	1722.0	74.9	8.5	10968.2	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., FISHER FEDERAL #2-1. (NE 2-25N-2W)

		OIL				GAS				BDR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	NCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	10.0	3632.0	0.0	117.2	3.6	1816.0	181.6	1.8	500.0	0.0	0.0	0.0
1985	8	14.0	4749.0	0.0	153.2	8.4	3980.0	284.3	5.8	838.1	0.0	0.0	0.0
1985	9	16.0	5986.0	374.1	199.5	14.4	5016.0	313.5	10.8	838.0	0.0	0.0	0.0
1985	10	13.0	5796.0	445.8	187.0	20.2	3478.0	267.5	14.3	600.1	0.0	0.0	0.0
1985	11	17.0	5591.0	328.9	186.4	25.8	3355.0	197.4	17.6	600.1	0.0	0.0	0.0
1985	12	11.0	4423.0	402.1	142.7	30.2	3706.0	336.9	21.4	837.9	0.0	0.0	0.0
Subtotal		81.0	30177.0	372.6	164.0		21351.0				0.0		
1986	1	30.0	12302.0	410.1	396.8	42.5	5452.0	181.7	26.8	443.2	0.0	0.0	0.0
1986	2	28.0	10239.0	365.7	365.7	52.7	6155.0	219.8	33.0	601.1	0.0	0.0	0.0
1986	3	31.0	12253.0	395.3	395.3	65.0	6163.0	198.8	39.1	503.0	0.0	0.0	0.0
1986	4	25.0	12914.0	516.6	430.5	77.9	8950.0	358.0	48.1	693.0	0.0	0.0	0.0
1986	5	23.0	10114.0	439.7	326.3	88.0	9381.0	407.9	57.5	927.5	0.0	0.0	0.0
1986	6	25.0	11376.0	455.0	379.2	99.4	14389.0	575.6	71.8	1264.9	0.0	0.0	0.0
1986	7	15.0	2704.0	180.3	87.2	102.1	2934.0	195.6	74.8	1085.1	0.0	0.0	0.0
1986	8	23.0	10091.0	438.7	325.5	112.2	9565.0	415.9	84.3	947.9	0.0	0.0	0.0
1986	9	28.0	11755.0	419.8	391.8	123.9	12743.0	455.1	97.1	1084.0	0.0	0.0	0.0
1986	10	21.0	5665.0	266.9	180.8	129.5	8120.0	386.7	105.2	1448.7	0.0	0.0	0.0
1986	11	24.0	2405.0	100.2	80.2	131.9	1580.0	65.8	106.8	657.0	0.0	0.0	0.0
1986	12	31.0	9359.0	301.9	301.9	141.3	9933.0	320.4	116.7	1061.3	0.0	0.0	0.0
Subtotal		304.0	111117.0	365.5	304.4		95365.0				0.0		
1987	1	31.0	6408.0	206.7	206.7	147.7	8319.0	268.4	125.0	1298.2	0.0	0.0	0.0
1987	2	17.0	6239.0	367.0	222.8	153.9	9053.0	532.5	134.1	1451.0	0.0	0.0	0.0
1987	3	21.0	5641.0	268.6	182.0	159.6	6253.0	297.8	140.3	1108.5	0.0	0.0	0.0
1987	4	13.0	2539.0	195.3	84.6	162.1	5353.0	411.8	145.7	2108.3	0.0	0.0	0.0
1987	5	21.0	4231.0	201.5	136.5	166.4	3786.0	180.3	149.5	894.8	0.0	0.0	0.0
1987	6	1.0	118.0	118.0	3.9	166.5	3037.0	3037.0	152.5	25737.3	0.0	0.0	0.0
1987	7	31.0	9593.0	309.5	309.5	176.1	9816.0	316.6	162.3	1023.2	0.0	0.0	0.0
1987	8	31.0	8076.0	260.5	260.5	184.1	10118.0	326.4	172.5	1252.8	0.0	0.0	0.0
1987	9	27.0	6767.0	250.6	225.6	190.9	8408.0	311.4	180.9	1242.5	0.0	0.0	0.0
1987	10	31.0	8302.0	267.8	267.8	199.2	10701.0	345.2	191.6	1289.0	0.0	0.0	0.0
1987	11	24.0	4474.0	186.4	149.1	203.7	11149.0	464.5	202.7	2492.0	0.0	0.0	0.0
1987	12	12.0	1061.0	98.4	34.2	204.7	8124.0	677.0	210.8	7656.9	0.0	0.0	0.0
Subtotal		260.0	63449.0	244.0	173.8		94117.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS OIL PER CALENDAR DAY.

NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MALLON OIL CO., FISHER FEDERAL #2-1. (NE 2-25N-2W)

YR	MO	DAYS PRODUCED	OIL				GAS			GOR	WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	5.0	364.0	72.8	11.7	205.1	6197.0	1239.4	217.0	17024.7	0.0	0.0	0.0
1988	2	10.0	1003.0	100.3	34.6	206.1	3683.0	368.3	220.7	3672.0	0.0	0.0	0.0
1988	3	8.0	657.0	82.1	21.2	206.8	8517.0	1064.6	229.2	12963.5	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS OIL PER CALENDAR DAY.

NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., HOWARD FEDERAL #1-8, (NE 1-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	5.0	1856.0	371.2	59.9	1.9	950.0	190.0	1.0	511.9	0.0	0.0	0.0
1985	8	20.0	8402.0	420.1	271.0	10.3	5671.0	283.6	6.6	675.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	10.3	0.0	0.0	6.6	0.0	0.0	0.0	0.0
1985	10	9.0	4207.0	467.4	135.7	14.5	2861.0	317.9	9.5	680.1	0.0	0.0	0.0
1985	11	19.0	8999.0	473.6	300.0	23.5	8351.0	439.5	17.8	928.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	23.5	0.0	0.0	17.8	0.0	0.0	0.0	0.0
Subtotal		53.0	23464.0	442.7	127.5		17833.0				0.0		
1986	1	30.0	16538.0	551.3	533.5	40.0	8231.0	274.4	26.1	497.7	0.0	0.0	0.0
1986	2	0.0	-5.0	0.0	-0.2	40.0	2297.0	0.0	28.4	0.0	0.0	0.0	0.0
1986	3	23.0	10310.0	448.3	332.6	50.3	7430.0	323.0	35.8	720.7	0.0	0.0	0.0
1986	4	19.0	6605.0	347.6	220.2	56.9	7615.0	400.8	43.4	1152.9	0.0	0.0	0.0
1986	5	10.0	1162.0	116.2	37.5	58.1	1445.0	144.5	44.9	1243.5	0.0	0.0	0.0
1986	6	30.0	12537.0	417.9	417.9	70.6	12792.0	426.4	57.6	1020.3	0.0	0.0	0.0
1986	7	30.0	14657.0	488.6	472.8	85.3	19699.0	656.6	77.3	1344.0	0.0	0.0	0.0
1986	8	26.0	11160.0	429.2	360.0	96.4	19505.0	750.2	96.8	1747.8	0.0	0.0	0.0
1986	9	28.0	10214.0	364.8	340.5	106.6	17956.0	641.3	114.8	1758.0	0.0	0.0	0.0
1986	10	25.0	7544.0	301.8	243.4	114.2	17989.0	719.6	132.8	2384.5	0.0	0.0	0.0
1986	11	29.0	8044.0	277.4	268.1	122.2	18188.0	627.2	151.0	2261.1	0.0	0.0	0.0
1986	12	22.0	5326.0	242.1	171.8	127.6	16894.0	767.9	167.9	3172.0	0.0	0.0	0.0
Subtotal		272.0	104092.0	382.7	285.2		150041.0				0.0		
1987	1	3.0	523.0	174.3	16.9	128.1	720.0	240.0	168.6	1376.7	0.0	0.0	0.0
1987	2	4.0	982.0	245.5	35.1	129.1	4648.0	1162.0	173.2	4733.2	0.0	0.0	0.0
1987	3	5.0	1288.0	257.6	41.5	130.3	2940.0	588.0	176.2	2282.6	0.0	0.0	0.0
1987	4	2.0	363.0	181.5	12.1	130.7	2240.0	1120.0	178.4	6170.8	0.0	0.0	0.0
1987	5	11.0	1177.0	107.0	38.0	131.9	2438.0	221.6	180.9	2071.4	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	131.9	2595.0	0.0	183.5	0.0	0.0	0.0	0.0
1987	7	31.0	7697.0	248.3	248.3	139.6	20686.0	667.3	204.1	2687.5	0.0	0.0	0.0
1987	8	31.0	8596.0	277.3	277.3	148.2	27795.0	896.6	231.9	3233.5	0.0	0.0	0.0
1987	9	30.0	9345.0	311.5	311.5	157.5	32554.0	1085.1	264.5	3483.6	0.0	0.0	0.0
1987	10	31.0	8196.0	264.4	264.4	165.7	29576.0	954.1	294.1	3608.6	0.0	0.0	0.0
1987	11	22.0	4647.0	211.2	154.9	170.4	21036.0	956.2	315.1	4526.8	0.0	0.0	0.0
1987	12	7.0	895.0	127.9	28.9	171.3	7993.0	1141.9	323.1	8930.7	0.0	0.0	0.0
Subtotal		177.0	43709.0	246.9	119.8		155221.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MALLON OIL CO., HOWARD FEDERAL #1-8. (NE 1-25N-2W)

YR	MO	DAYS PRODUCED	DIL			GAS			GDR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	6.0	709.0	118.2	22.9	172.0	8366.0	1394.3	331.5	11799.7	0.0	0.0	0.0
1988	2	7.0	712.0	101.7	24.6	172.7	3436.0	490.9	334.9	4825.8	0.0	0.0	0.0
1988	3	9.0	636.0	70.7	20.5	173.3	7752.0	861.3	342.6	12188.7	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., HOWARD #1-11. (SW 1-25N-2W)

		OIL				GAS			GOR	WATER			
YR	NO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	15.0	5474.0	364.9	176.6	5.5	3642.0	242.8	3.6	665.3	0.0	0.0	0.0
1986	2	28.0	16109.0	575.3	575.3	21.6	13659.0	487.8	17.3	847.9	0.0	0.0	0.0
1986	3	8.0	5043.0	630.4	162.7	26.6	4391.0	548.9	21.7	870.7	0.0	0.0	0.0
1986	4	13.0	7826.0	602.0	260.9	34.5	4729.0	363.8	26.4	604.3	0.0	0.0	0.0
1986	5	24.0	14314.0	596.4	461.7	48.8	18675.0	778.1	45.1	1304.7	0.0	0.0	0.0
1986	6	30.0	17494.0	583.1	583.1	66.3	27418.0	913.9	72.5	1567.3	0.0	0.0	0.0
1986	7	25.0	14961.0	598.4	482.6	81.2	33131.0	1325.2	105.6	2214.5	0.0	0.0	0.0
1986	8	27.0	8032.0	297.5	259.1	89.3	15565.0	576.5	121.2	1937.9	0.0	0.0	0.0
1986	9	30.0	9635.0	321.2	321.2	98.9	23512.0	783.7	144.7	2440.3	0.0	0.0	0.0
1986	10	25.0	7087.0	283.5	228.6	106.0	17968.0	718.7	162.7	2535.3	0.0	0.0	0.0
1986	11	26.0	11791.0	453.5	393.0	117.8	27515.0	1058.3	190.2	2333.6	0.0	0.0	0.0
1986	12	22.0	5808.0	264.0	187.4	123.6	23599.0	1072.7	213.8	4063.2	0.0	0.0	0.0
Subtotal		273.0	123574.0	452.7	338.6		213804.0				0.0		
1987	1	5.0	639.0	127.8	20.6	124.2	0.0	0.0	213.8	0.0	0.0	0.0	0.0
1987	2	3.0	504.0	168.0	18.0	124.7	5682.0	1894.0	219.5	11273.8	0.0	0.0	0.0
1987	3	4.0	924.0	231.0	29.8	125.6	4169.0	1042.3	223.7	4511.9	0.0	0.0	0.0
1987	4	3.0	815.0	271.7	27.2	126.5	5901.0	1967.0	229.6	7240.5	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	126.5	0.0	0.0	229.6	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	126.5	0.0	0.0	229.6	0.0	0.0	0.0	0.0
1987	7	30.0	5419.0	180.6	174.8	131.9	27947.0	931.6	257.5	5157.2	0.0	0.0	0.0
1987	8	22.0	5400.0	245.5	174.2	137.3	31760.0	1443.6	289.3	5881.5	0.0	0.0	0.0
1987	9	22.0	6037.0	274.4	201.2	143.3	25878.0	1176.3	315.1	4286.6	0.0	0.0	0.0
1987	10	31.0	7408.0	239.0	239.0	150.7	29721.0	958.7	344.9	4012.0	0.0	0.0	0.0
1987	11	15.0	3716.0	247.7	123.9	154.4	27296.0	1819.7	372.2	7345.5	0.0	0.0	0.0
1987	12	8.0	1307.0	163.4	42.2	155.7	5087.0	635.9	377.2	3892.1	0.0	0.0	0.0
Subtotal		143.0	32169.0	225.0	88.1		163441.0				0.0		
1988	1	0.0	0.0	0.0	0.0	155.7	5768.0	0.0	383.0	0.0	0.0	0.0	0.0
1988	2	5.0	642.0	128.4	22.1	156.4	6771.0	1354.2	389.8	10546.7	0.0	0.0	0.0
1988	3	9.0	509.0	56.6	16.4	156.9	7168.0	796.4	397.0	14082.5	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., JOHNSON FEDERAL #12-5. (NW 12-25N-2W)

YR	MO	DAYS PRODUCED	OIL				GAS			GOR	WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	12	12.0	1026.0	85.5	33.1	1.0	666.0	55.5	0.7	649.1	0.0	0.0	0.0
Subtotal		12.0	1026.0	85.5	33.1		666.0				0.0		
1986	1	31.0	3385.0	109.2	109.2	4.4	2669.0	86.1	3.3	788.5	0.0	0.0	0.0
1986	2	28.0	2715.0	97.0	97.0	7.1	9781.0	349.3	13.1	3602.6	0.0	0.0	0.0
1986	3	30.0	3487.0	116.2	112.5	10.6	6343.0	211.4	19.5	1819.0	0.0	0.0	0.0
1986	4	25.0	2401.0	96.0	80.0	13.0	10244.0	409.8	29.7	4266.6	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	13.0	337.0	0.0	30.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	13.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	13.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	13.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0
1986	9	17.0	1620.0	95.3	54.0	14.6	6606.0	388.6	36.6	4077.8	0.0	0.0	0.0
1986	10	31.0	2748.0	88.6	88.6	17.4	10832.0	349.4	47.5	3941.8	0.0	0.0	0.0
1986	11	27.0	2211.0	81.9	73.7	19.6	11406.0	422.4	58.9	5158.8	0.0	0.0	0.0
1986	12	30.0	2448.0	81.6	79.0	22.0	11792.0	393.1	70.7	4817.0	0.0	0.0	0.0
Subtotal		219.0	21015.0	96.0	57.6		70010.0				0.0		
1987	1	15.0	1192.0	79.5	38.5	23.2	9806.0	653.7	80.5	8226.5	0.0	0.0	0.0
1987	2	3.0	178.0	59.3	6.4	23.4	889.0	296.3	81.4	4994.4	0.0	0.0	0.0
1987	3	3.0	122.0	40.7	3.9	23.5	1483.0	494.3	82.9	12155.7	0.0	0.0	0.0
1987	4	6.0	161.0	26.8	5.4	23.7	2660.0	443.3	85.5	16521.7	0.0	0.0	0.0
1987	5	16.0	251.0	15.7	8.1	23.9	6705.0	419.1	92.2	26713.1	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	23.9	4439.0	0.0	96.7	0.0	0.0	0.0	0.0
1987	7	18.0	214.0	11.9	6.9	24.2	8643.0	480.2	105.3	40387.9	0.0	0.0	0.0
1987	8	18.0	1051.0	58.4	33.9	25.2	3380.0	187.8	108.7	3216.0	0.0	0.0	0.0
1987	9	30.0	1715.0	57.2	57.2	26.9	9525.0	317.5	118.2	5553.9	0.0	0.0	0.0
1987	10	31.0	1613.0	52.0	52.0	28.5	9451.0	304.9	127.7	5859.3	0.0	0.0	0.0
1987	11	26.0	818.0	31.5	27.3	29.4	8872.0	341.2	136.5	10846.0	0.0	0.0	0.0
1987	12	26.0	211.0	8.1	6.8	29.6	10231.0	393.5	146.8	48488.2	0.0	0.0	0.0
Subtotal		192.0	7526.0	39.2	20.6		76084.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., JOHNSON FEDERAL #12-5. (NW 12-25N-2N)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	11.0	98.0	8.9	3.2	29.7	4275.0	388.6	151.0	43622.4	0.0	0.0	0.0
1988	2	15.0	115.0	7.7	4.0	29.8	6907.0	460.5	157.9	60060.9	0.0	0.0	0.0
1988	3	17.0	141.0	8.3	4.5	29.9	7304.0	429.6	165.2	51801.4	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., POST FEDERAL #13-6. (NW 13-25N-2W)

		OIL				GAS			GDR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	565.0	0.0	0.6	0.0	0.0	0.0	0.0
1986	7	1.0	159.0	159.0	5.1	0.2	0.0	0.0	0.6	0.0	0.0	0.0	0.0
1986	8	31.0	4127.0	133.1	133.1	4.3	4617.0	148.9	5.2	1118.7	0.0	0.0	0.0
1986	9	18.0	2755.0	153.1	91.8	7.0	11065.0	614.7	16.2	4016.3	0.0	0.0	0.0
1986	10	29.0	3658.0	126.1	118.0	10.7	5735.0	197.8	22.0	1567.8	0.0	0.0	0.0
1986	11	26.0	3828.0	147.2	127.6	14.5	4193.0	161.3	26.2	1095.4	0.0	0.0	0.0
1986	12	30.0	2714.0	90.5	87.5	17.2	3230.0	107.7	29.4	1190.1	0.0	0.0	0.0
Subtotal		135.0	17241.0	127.7	80.6		29405.0				0.0		
1987	1	26.0	3232.0	124.3	104.3	20.5	7747.0	298.0	37.2	2397.0	0.0	0.0	0.0
1987	2	15.0	1865.0	124.3	66.6	22.3	8241.0	549.4	45.4	4418.8	0.0	0.0	0.0
1987	3	16.0	1372.0	85.8	44.3	23.7	4528.0	283.0	49.9	3300.3	0.0	0.0	0.0
1987	4	9.0	702.0	78.0	23.4	24.4	7139.0	793.2	57.1	10169.5	0.0	0.0	0.0
1987	5	8.0	118.0	14.8	3.8	24.5	4352.0	544.0	61.4	36881.4	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	24.5	446.0	0.0	61.9	0.0	0.0	0.0	0.0
1987	7	31.0	2092.0	67.5	67.5	26.6	9136.0	294.7	71.0	4367.1	0.0	0.0	0.0
1987	8	31.0	2563.0	82.7	82.7	29.2	12628.0	407.4	83.6	4927.0	0.0	0.0	0.0
1987	9	30.0	3203.0	106.8	106.8	32.4	7600.0	253.3	91.2	2372.8	0.0	0.0	0.0
1987	10	31.0	2621.0	84.5	84.5	35.0	9231.0	297.8	100.5	3521.9	0.0	0.0	0.0
1987	11	26.0	1654.0	63.6	55.1	36.7	9297.0	357.6	109.7	5620.9	0.0	0.0	0.0
1987	12	14.0	896.0	64.0	28.9	37.6	7112.0	508.0	116.9	7937.5	0.0	0.0	0.0
Subtotal		237.0	20318.0	85.7	55.7		87457.0				0.0		
1988	1	16.0	247.0	15.4	8.0	37.8	7600.0	475.0	124.5	30769.2	0.0	0.0	0.0
1988	2	17.0	52.0	3.1	1.8	37.9	6818.0	401.1	131.3	131115.4	0.0	0.0	0.0
1988	3	10.0	68.0	6.8	2.2	37.9	8432.0	843.2	139.7	124000.0	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

BAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MALLON OIL CO., RIBEYOWIDS #2-16. (SE 2-25N-2W)

		OIL				GAS				GOR		WATER	
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	12.0	429.0	35.8	13.8	0.4	257.0	21.4	0.3	599.1	0.0	0.0	0.0
1985	4	19.0	1734.0	91.3	57.8	2.1	1040.0	54.7	1.3	599.8	0.0	0.0	0.0
1985	5	2.0	249.0	124.5	8.0	2.4	149.0	74.5	1.5	598.4	0.0	0.0	0.0
1985	6	18.0	2733.0	151.8	91.1	5.1	1399.0	77.7	2.9	511.9	0.0	0.0	0.0
1985	7	27.0	4470.0	165.6	144.2	9.6	2289.0	84.8	5.2	512.1	0.0	0.0	0.0
1985	8	10.0	1542.0	154.2	49.7	11.1	790.0	79.0	6.0	512.3	0.0	0.0	0.0
1985	9	19.0	3634.0	191.3	121.1	14.8	1861.0	97.9	7.8	512.1	0.0	0.0	0.0
1985	10	18.0	3480.0	193.3	112.3	18.2	1782.0	99.0	9.6	512.1	0.0	0.0	0.0
1985	11	19.0	3478.0	183.1	115.9	21.7	1781.0	93.7	11.4	512.1	0.0	0.0	0.0
1985	12	24.0	3695.0	154.0	119.2	25.4	2640.0	110.0	14.0	714.5	0.0	0.0	0.0
Subtotal		168.0	25444.0	151.5	83.2		13988.0				0.0		
1986	1	31.0	5059.0	163.2	163.2	30.5	1026.0	33.1	15.1	202.8	0.0	0.0	0.0
1986	2	27.0	4691.0	173.7	161.8	35.2	2382.0	88.2	17.4	507.8	0.0	0.0	0.0
1986	3	29.0	5531.0	190.7	178.4	40.7	2329.0	80.3	19.8	421.1	0.0	0.0	0.0
1986	4	30.0	4597.0	153.2	153.2	45.3	2562.0	85.4	22.3	557.3	0.0	0.0	0.0
1986	5	17.0	3675.0	216.2	118.5	49.0	1718.0	101.1	24.0	467.5	0.0	0.0	0.0
1986	6	30.0	4789.0	159.6	159.6	53.8	4841.0	161.4	28.9	1010.9	0.0	0.0	0.0
1986	7	28.0	3670.0	131.1	118.4	57.4	7262.0	259.4	36.2	1978.7	0.0	0.0	0.0
1986	8	31.0	4102.0	132.3	132.3	61.5	9679.0	312.2	45.8	2359.6	0.0	0.0	0.0
1986	9	27.0	2546.0	94.3	84.9	64.1	7114.0	263.5	52.9	2794.2	0.0	0.0	0.0
1986	10	31.0	3157.0	101.8	101.8	67.2	8884.0	286.6	61.8	2814.1	0.0	0.0	0.0
1986	11	30.0	2936.0	97.9	97.9	70.2	8798.0	293.3	70.6	2996.6	0.0	0.0	0.0
1986	12	31.0	2716.0	87.6	87.6	72.9	8356.0	269.5	79.0	3076.6	0.0	0.0	0.0
Subtotal		342.0	47469.0	138.8	129.7		64951.0				0.0		
1987	1	28.0	2431.0	86.8	78.4	75.3	8851.0	316.1	87.8	3640.9	0.0	0.0	0.0
1987	2	16.0	1367.0	85.4	47.1	76.7	5414.0	338.4	93.2	3960.5	0.0	0.0	0.0
1987	3	23.0	1684.0	73.2	54.3	78.4	5254.0	228.4	98.5	3120.0	0.0	0.0	0.0
1987	4	13.0	641.0	49.3	21.4	79.0	6970.0	536.2	105.5	10873.6	0.0	0.0	0.0
1987	5	14.0	260.0	18.6	8.4	79.3	1731.0	123.6	107.2	6657.7	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	79.3	1468.0	0.0	108.7	0.0	0.0	0.0	0.0
1987	7	31.0	2291.0	73.9	73.9	81.6	5554.0	179.2	114.2	2424.3	0.0	0.0	0.0
1987	8	31.0	2629.0	84.8	84.8	84.2	6731.0	217.1	121.0	2560.3	0.0	0.0	0.0
1987	9	30.0	2476.0	82.5	82.5	86.7	6468.0	215.6	127.4	2612.3	0.0	0.0	0.0
1987	10	30.0	2536.0	84.5	81.8	89.2	7201.0	240.0	134.6	2839.5	0.0	0.0	0.0
1987	11	19.0	748.0	39.4	24.9	89.9	3760.0	197.9	138.4	5026.7	0.0	0.0	0.0
1987	12	25.0	677.0	27.1	21.8	90.6	7429.0	297.2	145.8	10973.4	0.0	0.0	0.0
Subtotal		260.0	17740.0	68.2	48.5		66831.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MALLON GIL CO., RIBEYOWIDS #2-16. (SE 2-25N-2W)

YR	MO	DAYS PRODUCED	DIL			CUM MBO	GAS		CUM MMCF	GOR		WATER	
			BOPM	BOPPD	BOPCD		MCF/M	MCF/D		SCF/BBL	Month	BWPD	CUM MBW
1988	1	24.0	341.0	14.2	11.0	91.0	8769.0	365.4	154.6	25715.5	0.0	0.0	0.0
1988	2	7.0	20.0	2.9	0.7	91.0	4760.0	680.0	159.3	238000.0	0.0	0.0	0.0
1988	3	24.0	57.0	2.4	1.8	91.0	6780.0	282.5	166.1	118947.4	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HAWK FED #2. (NW 35-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1984	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	18.0	1806.0	100.3	58.3	1.8	0.0	0.0	0.0	0.0	16.0	0.9	0.0
1984	6	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	9	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	10	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	11	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	12	30.0	0.0	0.0	0.0	1.8	1621.0	54.0	1.6	0.0	0.0	0.0	0.0
Subtotal		48.0	1806.0	37.6	7.4		1621.0				16.0		
1985	1	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.6	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.6	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.6	0.0	0.0	0.0	0.0
1985	4	23.0	5683.0	247.1	189.4	7.5	10770.0	468.3	12.4	1895.1	23.0	1.0	0.0
1985	5	31.0	3718.0	119.9	119.9	11.2	11325.0	365.3	23.7	3046.0	10.0	0.3	0.0
1985	6	28.0	3963.0	141.5	132.1	15.2	8512.0	304.0	32.2	2147.9	59.0	2.1	0.1
1985	7	31.0	5399.0	174.2	174.2	20.6	10550.0	340.3	42.8	1954.1	9.0	0.3	0.1
1985	8	31.0	4635.0	149.5	149.5	25.2	13897.0	448.3	56.7	2998.3	4.0	0.1	0.1
1985	9	22.0	3922.0	178.3	130.7	29.1	10495.0	477.0	67.2	2675.9	2.0	0.1	0.1
1985	10	31.0	5178.0	167.0	167.0	34.3	13919.0	449.0	81.1	2688.1	0.0	0.0	0.1
1985	11	26.0	4147.0	159.5	138.2	38.5	12097.0	465.3	93.2	2917.0	0.0	0.0	0.1
1985	12	27.0	4763.0	176.4	153.6	43.2	13978.0	517.7	107.2	2934.7	0.0	0.0	0.1
Subtotal		250.0	41408.0	165.6	113.4		105543.0				107.0		
1986	1	21.0	3345.0	159.3	107.9	46.6	9304.0	443.0	116.5	2781.5	20.0	1.0	0.1
1986	2	20.0	3910.0	195.5	139.6	50.5	7832.0	391.6	124.3	2003.1	101.0	5.1	0.2
1986	3	27.0	5372.0	199.0	173.3	55.8	10578.0	391.8	134.9	1969.1	27.0	1.0	0.3
1986	4	28.0	4662.0	166.5	155.4	60.5	12183.0	435.1	147.1	2613.3	13.0	0.5	0.3
1986	5	31.0	4112.0	132.6	132.6	64.6	9326.0	300.8	156.4	2268.0	6.0	0.2	0.3
1986	6	30.0	4247.0	141.6	141.6	68.9	10617.0	353.9	167.0	2499.9	9.0	0.3	0.3
1986	7	31.0	3381.0	109.1	109.1	72.2	11698.0	377.4	178.7	3459.9	9.0	0.3	0.3
1986	8	31.0	3865.0	124.7	124.7	76.1	10515.0	339.2	189.2	2720.6	10.0	0.3	0.3
1986	9	29.0	2982.0	102.8	99.4	79.1	9902.0	341.4	199.1	3320.6	0.0	0.0	0.3
1986	10	22.0	2152.0	97.8	69.4	81.2	6933.0	315.1	206.1	3221.7	1.0	0.0	0.3
1986	11	22.0	2704.0	122.9	90.1	83.9	7187.0	326.7	213.2	2657.9	1.0	0.0	0.3
1986	12	20.0	2196.0	109.8	70.8	86.1	7780.0	389.0	221.0	3542.8	8.0	0.4	0.3
Subtotal		312.0	42928.0	137.6	117.6		113855.0				205.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HAWK FED #2. (NW 35-25N-2W)

		OIL				GAS			GDR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	19.0	1779.0	93.6	57.4	87.9	7134.0	375.5	228.2	4010.1	7.0	0.4	0.3
1987	2	17.0	1248.0	73.4	44.6	89.2	6965.0	409.7	235.1	5580.9	6.0	0.4	0.3
1987	3	16.0	1057.0	66.1	34.1	90.2	7286.0	455.4	242.4	6893.1	6.0	0.4	0.3
1987	4	15.0	904.0	60.3	30.1	91.1	7557.0	503.8	250.0	8359.5	5.0	0.3	0.4
1987	5	14.0	668.0	47.7	21.5	91.8	7676.0	548.3	257.6	11491.0	5.0	0.4	0.4
1987	6	18.0	529.0	29.4	17.6	92.3	9136.0	507.6	266.8	17270.3	6.0	0.3	0.4
1987	7	32.0	854.0	26.7	27.5	93.2	14008.0	437.8	280.8	16402.8	11.0	0.3	0.4
1987	8	31.0	342.0	11.0	11.0	93.5	9226.0	297.6	290.0	26976.6	11.0	0.4	0.4
1987	9	29.0	1980.0	68.3	66.0	95.5	8640.0	297.9	298.6	4363.6	10.0	0.3	0.4
1987	10	31.0	1352.0	43.6	43.6	96.9	10617.0	342.5	309.3	7852.8	11.0	0.4	0.4
1987	11	23.0	731.0	31.8	24.4	97.6	8484.0	368.9	317.7	11606.0	8.0	0.3	0.4
1987	12	29.0	377.0	13.0	12.2	98.0	5915.0	204.0	323.7	15689.7	11.0	0.4	0.4
Subtotal		274.0	11821.0	43.1	32.4		102644.0				97.0		
1988	1	20.0	303.0	15.2	9.8	98.3	7429.0	371.5	331.1	24518.2	7.0	0.4	0.4
1988	2	17.0	178.0	10.5	6.1	98.4	7016.0	412.7	338.1	39415.7	6.0	0.4	0.4
1988	3	20.0	309.0	15.5	10.0	98.8	7089.0	354.5	345.2	22941.7	7.0	0.4	0.4

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HAWK FED #3. (SM 35-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	31.0	735.0	23.7	23.7	0.7	1600.0	51.6	1.6	2176.9	430.0	13.9	0.4
1985	2	28.0	3984.0	142.3	142.3	4.7	12689.0	453.2	14.3	3185.0	97.0	3.5	0.5
1985	3	31.0	5110.0	164.8	164.8	9.8	21515.0	694.0	35.8	4210.4	16.0	0.5	0.5
1985	4	21.0	2269.0	108.0	75.6	12.1	631.0	30.0	36.4	278.1	7.0	0.3	0.6
1985	5	30.0	7258.0	241.9	234.1	19.4	7874.0	262.5	44.3	1084.9	10.0	0.3	0.6
1985	6	30.0	7406.0	246.9	246.9	26.8	8544.0	284.8	52.9	1153.7	3.0	0.1	0.6
1985	7	30.0	7461.0	248.7	240.7	34.2	9606.0	320.2	62.5	1287.5	8.0	0.3	0.6
1985	8	31.0	7209.0	232.5	232.5	41.4	9327.0	300.9	71.8	1293.8	4.0	0.1	0.6
1985	9	29.0	7363.0	253.9	245.4	48.8	10325.0	356.0	82.1	1402.3	5.0	0.2	0.6
1985	10	31.0	7662.0	247.2	247.2	56.5	8325.0	268.5	90.4	1086.5	0.0	0.0	0.6
1985	11	26.0	6238.0	239.9	207.9	62.7	8097.0	311.4	98.5	1298.0	0.0	0.0	0.6
1985	12	30.0	6036.0	201.2	194.7	68.7	6333.0	211.1	104.9	1049.2	0.0	0.0	0.6
Subtotal		348.0	68731.0	197.5	188.3		104866.0				580.0		
1986	1	25.0	4702.0	188.1	151.7	73.4	7949.0	318.0	112.8	1690.6	24.0	1.0	0.6
1986	2	25.0	7539.0	301.6	269.3	81.0	7414.0	296.6	120.2	983.4	41.0	1.6	0.6
1986	3	29.0	7468.0	257.5	240.9	88.4	5725.0	197.4	126.0	766.6	15.0	0.5	0.7
1986	4	28.0	7590.0	271.1	253.0	96.0	6316.0	225.6	132.3	832.1	5.0	0.2	0.7
1986	5	31.0	6959.0	224.5	224.5	103.0	6431.0	207.5	138.7	924.1	3.0	0.1	0.7
1986	6	30.0	6594.0	219.8	219.8	109.6	5704.0	190.1	144.4	865.0	31.0	1.0	0.7
1986	7	31.0	7261.0	234.2	234.2	116.8	9041.0	291.6	153.4	1245.1	20.0	0.6	0.7
1986	8	31.0	6898.0	222.5	222.5	123.7	8169.0	263.5	161.6	1184.3	12.0	0.4	0.7
1986	9	22.0	4540.0	206.4	151.3	128.3	6009.0	273.1	167.6	1323.6	6.0	0.3	0.7
1986	10	25.0	4705.0	188.2	151.8	133.0	6571.0	262.8	174.2	1396.6	3.0	0.1	0.7
1986	11	18.0	2347.0	130.4	78.2	135.3	3383.0	187.9	177.6	1441.4	2.0	0.1	0.7
1986	12	29.0	4151.0	143.1	133.9	139.5	8770.0	302.4	186.3	2112.7	4.0	0.1	0.7
Subtotal		324.0	70754.0	218.4	193.8		81482.0				166.0		
1987	1	23.0	3094.0	134.5	99.8	142.6	8069.0	350.8	194.4	2608.0	9.0	0.4	0.8
1987	2	19.0	2034.0	107.1	72.6	144.6	7074.0	372.3	201.5	3477.9	8.0	0.4	0.8
1987	3	9.0	1078.0	119.8	34.8	145.7	2997.0	333.0	204.5	2780.1	3.0	0.3	0.8
1987	4	10.0	1130.0	113.0	37.7	146.8	4399.0	439.9	208.9	3892.9	4.0	0.4	0.8
1987	5	28.0	1845.0	65.9	59.5	148.7	10819.0	386.4	219.7	5864.0	11.0	0.4	0.8
1987	6	15.0	336.0	22.4	11.2	149.0	6715.0	447.7	226.4	19985.1	6.0	0.4	0.8
1987	7	31.0	1176.0	37.9	37.9	150.2	14465.0	466.6	240.9	12300.2	12.0	0.4	0.8
1987	8	31.0	1318.0	42.5	42.5	151.5	8199.0	264.5	249.1	6220.8	12.0	0.4	0.8
1987	9	28.0	1744.0	62.3	58.1	153.2	9656.0	344.9	258.7	5536.7	12.0	0.4	0.8
1987	10	13.0	713.0	54.8	23.0	154.0	4414.0	339.5	263.2	6190.7	5.0	0.4	0.8
1987	11	15.0	647.0	43.1	21.6	154.6	4536.0	302.4	267.7	7010.8	6.0	0.4	0.8
1987	12	29.0	237.0	8.2	7.6	154.8	7571.0	261.1	275.3	31945.1	11.0	0.4	0.8
Subtotal		251.0	15352.0	61.2	42.1		88914.0				99.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HAWK FED #3. (SW 35-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	30.0	171.0	5.7	5.5	155.0	1374.0	45.8	276.6	8035.1	11.0	0.4	0.9
1988	2	19.0	367.0	19.3	12.7	155.4	4235.0	222.9	280.9	11539.5	7.0	0.4	0.9
1988	3	17.0	57.0	3.4	1.8	155.4	587.0	34.5	281.5	10298.2	6.0	0.4	0.9

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HILL FED #1. (NW 24-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MSW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	10	16.0	1210.0	75.6	39.0	1.2	83.0	5.2	0.1	68.6	246.0	15.4	0.2
1985	11	19.0	2867.0	150.9	95.6	4.1	12270.0	645.8	12.4	4279.7	108.0	5.7	0.4
1985	12	4.0	694.0	173.5	22.4	4.8	2583.0	645.8	14.9	3721.9	10.0	2.5	0.4
Subtotal		39.0	4771.0	122.3	51.9		14936.0				364.0		
1986	1	1.0	209.0	209.0	6.7	5.0	646.0	646.0	15.6	3090.9	2.0	2.0	0.4
1986	2	24.0	6.0	0.3	0.2	5.0	337.0	14.0	15.9	56166.7	50.0	2.1	0.4
1986	3	0.0	0.0	0.0	0.0	5.0	0.0	0.0	15.9	0.0	0.0	0.0	0.4
1986	4	0.0	0.0	0.0	0.0	5.0	0.0	0.0	15.9	0.0	0.0	0.0	0.4
1986	5	0.0	0.0	0.0	0.0	5.0	0.0	0.0	15.9	0.0	0.0	0.0	0.4
1986	6	0.0	0.0	0.0	0.0	5.0	0.0	0.0	15.9	0.0	0.0	0.0	0.4
1986	7	0.0	0.0	0.0	0.0	5.0	0.0	0.0	15.9	0.0	0.0	0.0	0.4
1986	8	0.0	0.0	0.0	0.0	5.0	0.0	0.0	15.9	0.0	0.0	0.0	0.4
1986	9	0.0	0.0	0.0	0.0	5.0	0.0	0.0	15.9	0.0	0.0	0.0	0.4
1986	10	7.0	542.0	77.4	17.5	5.5	4522.0	646.0	20.4	8343.2	3.0	0.4	0.4
1986	11	30.0	1102.0	36.7	36.7	6.6	19927.0	664.2	40.4	18082.6	12.0	0.4	0.4
1986	12	24.0	612.0	25.5	19.7	7.2	21984.0	916.0	62.4	35921.6	10.0	0.4	0.4
Subtotal		86.0	2471.0	28.7	6.8		47416.0				77.0		
1987	1	1.0	44.0	44.0	1.4	7.3	761.0	761.0	63.1	17295.5	4.0	4.0	0.4
1987	2	1.0	0.0	0.0	0.0	7.3	1527.0	1527.0	64.6	0.0	4.0	4.0	0.4
1987	3	0.0	0.0	0.0	0.0	7.3	0.0	0.0	64.6	0.0	0.0	0.0	0.4
1987	4	14.0	59.0	4.2	2.0	7.3	2214.0	158.1	66.9	37525.4	56.0	4.0	0.5
1987	5	29.0	316.0	10.9	10.2	7.7	9679.0	333.8	76.5	30629.7	116.0	4.0	0.6
1987	6	23.0	209.0	9.1	7.0	7.9	8595.0	373.7	85.1	41124.4	92.0	4.0	0.7
1987	7	30.0	683.0	22.8	22.0	8.6	30626.0	1020.9	115.8	44840.4	120.0	4.0	0.8
1987	8	17.0	634.0	37.3	20.5	9.2	17413.0	1024.3	133.2	27465.3	68.0	4.0	0.9
1987	9	30.0	528.0	17.6	17.6	9.7	27471.0	915.7	160.6	52028.4	120.0	4.0	1.0
1987	10	13.0	340.0	26.2	11.0	10.1	11254.0	865.7	171.9	33100.0	52.0	4.0	1.1
1987	11	18.0	0.0	0.0	0.0	10.1	14144.0	785.8	186.0	0.0	72.0	4.0	1.1
1987	12	11.0	243.0	22.1	7.8	10.3	8670.0	788.2	194.7	35679.0	44.0	4.0	1.2
Subtotal		187.0	3056.0	16.3	8.4		132354.0				748.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HILL FED #1. (NW 24-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	8.0	105.0	13.1	3.4	10.4	7530.0	941.3	202.2	71714.3	32.0	4.0	1.2
1988	2	11.0	87.0	7.9	3.0	10.5	8733.0	793.9	211.0	100379.3	44.0	4.0	1.3
1988	3	9.0	55.0	6.1	1.8	10.5	6947.0	771.9	217.9	126309.1	36.0	4.0	1.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

YR	MO	DAYS	DIL			GAS			SOR			Month	BWP	MBM
			BOPPD	BOPCD	CUM	MCF/M	MCF/D	CUM	SCF/BBL	MCF/D	CUM			
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	11	3.0	210.0	70.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		3.0	210.0	70.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	1	1.0	176.0	5.7	0.4	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	11.0	400.0	36.4	0.8	44.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	22.0	1550.0	70.5	2.3	7274.0	330.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	26.0	2229.0	85.7	4.6	6163.0	237.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		60.0	4355.0	72.6	11.9	13485.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	1	26.0	1638.0	63.0	6.2	6177.0	237.6	19.7	3771.1	52.0	2.0	0.1	0.1	0.1
1987	2	19.0	1507.0	79.3	7.7	5234.0	275.5	24.9	3473.1	38.0	2.0	0.1	0.1	0.1
1987	3	31.0	2263.0	73.0	10.0	5810.0	187.4	30.7	2567.4	62.0	2.0	0.2	0.2	0.2
1987	4	30.0	2519.0	84.0	12.5	6059.0	202.0	36.8	2405.3	60.0	2.0	0.2	0.2	0.2
1987	5	32.0	2104.0	65.8	14.6	5906.0	184.6	42.7	2807.0	64.0	2.0	0.3	0.3	0.3
1987	6	29.0	2327.0	80.2	16.9	7683.0	264.9	50.4	3301.7	58.0	2.0	0.4	0.4	0.4
1987	7	22.0	1447.0	65.8	18.4	3514.0	159.7	53.9	2428.5	44.0	2.0	0.4	0.4	0.4
1987	8	31.0	664.0	21.4	19.0	3625.0	116.9	57.5	5459.3	62.0	2.0	0.5	0.5	0.5
1987	9	30.0	1438.0	47.9	20.5	7068.0	235.6	64.6	4915.2	60.0	2.0	0.5	0.5	0.5
1987	10	31.0	1180.0	38.1	21.7	7234.0	233.4	71.8	6130.5	0.0	0.0	0.5	0.5	0.5
1987	11	23.0	593.0	25.8	22.2	5390.0	234.3	77.2	9089.4	46.0	2.0	0.6	0.6	0.6
1987	12	25.0	683.0	27.3	22.9	5578.0	223.1	82.8	8166.9	50.0	2.0	0.6	0.6	0.6
Subtotal		329.0	18363.0	55.8	50.3	69278.0	596.0	596.0	596.0	596.0	2.0	0.6	0.6	0.6

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HILL FED #2Y. (NE 25-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	31.0	759.0	24.5	24.5	23.7	6889.0	222.2	89.7	9076.4	62.0	2.0	0.7
1988	2	23.0	928.0	40.3	32.0	24.6	4970.0	216.1	94.6	5355.6	46.0	2.0	0.7
1988	3	31.0	775.0	25.0	25.0	25.4	7448.0	240.3	102.1	9610.3	62.0	2.0	0.8

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HILL FED. #3. (NW 36-25N-2W)

		OIL				GAS				GOR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	11	13.0	350.0	26.9	11.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		13.0	350.0	26.9	5.7		0.0				0.0		
1986	1	1.0	190.0	190.0	6.1	0.5	4.0	4.0	0.0	21.1	7.0	7.0	0.0
1986	2	5.0	739.0	147.8	26.4	1.3	19.0	3.8	0.0	25.7	187.0	37.4	0.2
1986	3	7.0	1021.0	145.9	32.9	2.3	27.0	3.9	0.1	26.4	7.0	1.0	0.2
1986	4	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2
1986	5	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2
1986	6	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2
1986	7	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2
1986	8	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2
1986	9	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2
1986	10	23.0	1737.0	75.5	56.0	4.0	92.0	4.0	0.1	53.0	23.0	1.0	0.2
1986	11	30.0	2063.0	68.8	68.8	6.1	3669.0	122.3	3.8	1778.5	30.0	1.0	0.3
1986	12	31.0	3017.0	97.3	97.3	9.1	2826.0	91.2	6.6	936.7	31.0	1.0	0.3
Subtotal		97.0	8767.0	90.4	24.0		6637.0				295.0		
1987	1	31.0	2813.0	90.7	90.7	11.9	2879.0	92.9	9.5	1023.5	31.0	1.0	0.3
1987	2	25.0	1931.0	77.2	69.0	13.9	3093.0	123.7	12.6	1601.8	25.0	1.0	0.3
1987	3	31.0	2272.0	73.3	73.3	16.1	4081.0	131.6	16.7	1796.2	31.0	1.0	0.4
1987	4	30.0	1824.0	60.8	60.8	18.0	2108.0	70.3	18.8	1155.7	30.0	1.0	0.4
1987	5	31.0	2247.0	72.5	72.5	20.2	4291.0	138.4	23.1	1909.7	31.0	1.0	0.4
1987	6	28.0	2149.0	76.8	71.6	22.4	3017.0	107.8	26.1	1403.9	28.0	1.0	0.5
1987	7	33.0	2283.0	69.2	73.6	24.6	5117.0	155.1	31.2	2241.3	33.0	1.0	0.5
1987	8	19.0	1377.0	72.5	44.4	26.0	2791.0	146.9	34.0	2026.9	19.0	1.0	0.5
1987	9	29.0	629.0	21.7	21.0	26.6	2771.0	95.6	36.8	4405.4	29.0	1.0	0.5
1987	10	30.0	1461.0	48.7	47.1	28.1	3952.0	131.7	40.7	2705.0	30.0	1.0	0.6
1987	11	26.0	963.0	37.0	32.1	29.1	4529.0	174.2	45.3	4703.0	26.0	1.0	0.6
1987	12	29.0	497.0	17.1	16.0	29.6	6055.0	208.8	51.3	12183.1	29.0	1.0	0.6
Subtotal		342.0	20446.0	59.8	56.0		44684.0				342.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERIDIAN OIL, HILL FED. #3. (NW 36-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	31.0	5.0	0.2	0.2	29.6	4074.0	131.4	55.4	814800.0	31.0	1.0	0.7
1988	2	23.0	684.0	29.7	23.6	30.3	4123.0	179.3	59.5	6027.8	23.0	1.0	0.7
1988	3	30.0	504.0	16.8	16.3	30.8	5602.0	186.7	65.1	11115.1	30.0	1.0	0.7

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERRION OIL & GAS CORP., KRYSITINA #1. (SW 14-24N-2W)

YR	MO	OIL				GAS			GDR		WATER		
		DAYS PRODUCED	BOPM	BOPFD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	25.0	420.0	16.8	13.5	0.4	1544.0	61.8	1.5	3676.2	0.0	0.0	0.0
1985	2	15.0	333.0	22.2	11.9	0.8	1224.0	81.6	2.8	3675.7	0.0	0.0	0.0
1985	3	17.0	72.0	4.2	2.3	0.8	1537.0	90.4	4.3	21347.2	0.0	0.0	0.0
1985	4	23.0	847.0	36.8	28.2	1.7	3114.0	135.4	7.4	3676.5	33.0	1.4	0.0
1985	5	11.0	253.0	23.0	8.2	1.9	928.0	84.4	8.3	3668.0	0.0	0.0	0.0
1985	6	12.0	263.0	21.9	8.8	2.2	964.0	80.3	9.3	3665.4	0.0	0.0	0.0
1985	7	10.0	235.0	23.5	7.6	2.4	862.0	86.2	10.2	3668.1	0.0	0.0	0.0
1985	8	12.0	250.0	20.8	8.1	2.7	917.0	76.4	11.1	3668.0	0.0	0.0	0.0
1985	9	6.0	125.0	20.8	4.2	2.8	375.0	62.5	11.5	3000.0	0.0	0.0	0.0
1985	10	3.0	137.0	45.7	4.4	2.9	411.0	137.0	11.9	3000.0	0.0	0.0	0.0
1985	11	28.0	613.0	21.9	20.4	3.5	1839.0	65.7	13.7	3000.0	0.0	0.0	0.0
1985	12	31.0	565.0	18.2	18.2	4.1	1695.0	54.7	15.4	3000.0	0.0	0.0	0.0
Subtotal		193.0	4113.0	21.3	11.3		15410.0				33.0		
1986	1	12.0	314.0	26.2	10.1	4.4	2085.0	173.8	17.5	6640.1	0.0	0.0	0.0
1986	2	25.0	517.0	20.7	18.5	4.9	3433.0	137.3	20.9	6640.2	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
Subtotal		37.0	831.0	22.5	2.3		5518.0				0.0		
1987	1	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	4.9	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1987	3	2.0	4.0	2.0	0.1	4.9	274.0	137.0	21.2	68500.0	0.0	0.0	0.0
1987	4	7.0	135.0	19.3	4.5	5.1	875.0	125.0	22.1	6481.5	0.0	0.0	0.0
1987	5	2.0	6.0	3.0	0.2	5.1	250.0	125.0	22.3	41666.7	0.0	0.0	0.0
1987	6	6.0	31.0	5.2	1.0	5.1	750.0	125.0	23.1	24193.5	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	5.1	0.0	0.0	23.1	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	5.1	0.0	0.0	23.1	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	5.1	0.0	0.0	23.1	0.0	0.0	0.0	0.0
1987	10	0.0	0.0	0.0	0.0	5.1	0.0	0.0	23.1	0.0	0.0	0.0	0.0
1987	11	0.0	0.0	0.0	0.0	5.1	0.0	0.0	23.1	0.0	0.0	0.0	0.0
1987	12	0.0	0.0	0.0	0.0	5.1	0.0	0.0	23.1	0.0	0.0	0.0	0.0
Subtotal		17.0	176.0	10.4	0.5		2149.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 HERRION OIL & GAS CORP., KRISTINA #1. (SW 14-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	21.0	90.0	4.3	2.9	5.2	1248.0	59.4	24.3	13866.7	0.0	0.0	0.0
1988	2	25.0	57.0	2.3	2.0	5.3	2095.0	83.8	26.4	36754.4	0.0	0.0	0.0
1988	3	31.0	57.0	1.8	1.8	5.3	896.0	28.9	27.3	15719.3	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MERRION OIL & GAS CORP., OSD CANYON GAS COM #1. (NW 13-24N-2W)

		OIL				GAS				GOR		WATER	
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	20.0	312.0	15.6	10.1	0.3	690.0	34.5	0.7	2211.5	0.0	0.0	0.0
1985	2	18.0	188.0	10.4	6.7	0.5	416.0	23.1	1.1	2212.8	0.0	0.0	0.0
1985	3	5.0	163.0	32.6	5.3	0.7	360.0	72.0	1.5	2208.6	0.0	0.0	0.0
1985	4	25.0	383.0	15.3	12.8	1.0	847.0	33.9	2.3	2211.5	125.0	5.0	0.1
1985	5	25.0	149.0	6.0	4.8	1.2	329.0	13.2	2.6	2208.1	13.0	0.5	0.1
1985	6	30.0	260.0	8.7	8.7	1.5	575.0	19.2	3.2	2211.5	0.0	0.0	0.1
1985	7	31.0	162.0	5.2	5.2	1.6	464.0	15.0	3.7	2864.2	0.0	0.0	0.1
1985	8	28.0	130.0	4.6	4.2	1.7	287.0	10.3	4.0	2207.7	0.0	0.0	0.1
1985	9	30.0	121.0	4.0	4.0	1.9	847.0	28.2	4.8	7000.0	0.0	0.0	0.1
1985	10	29.0	110.0	3.8	3.5	2.0	770.0	26.6	5.6	7000.0	0.0	0.0	0.1
1985	11	24.0	85.0	3.5	2.8	2.1	595.0	24.8	6.2	7000.0	0.0	0.0	0.1
1985	12	0.0	0.0	0.0	0.0	2.1	0.0	0.0	6.2	0.0	0.0	0.0	0.1
Subtotal		265.0	2063.0	7.8	5.7		6180.0				138.0		
1986	1	28.0	108.0	3.9	3.5	2.2	338.0	12.1	6.5	3129.6	0.0	0.0	0.1
1986	2	0.0	2.0	0.0	0.1	2.2	0.0	0.0	6.5	0.0	0.0	0.0	0.1
1986	3	5.0	95.0	19.0	3.1	2.3	297.0	59.4	6.8	3126.3	0.0	0.0	0.1
1986	4	13.0	122.0	9.4	4.1	2.4	381.0	29.3	7.2	3123.0	0.0	0.0	0.1
1986	5	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1986	6	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1986	7	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1986	8	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1986	9	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1986	10	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1986	11	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1986	12	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
Subtotal		46.0	327.0	7.1	0.9		1016.0				0.0		
1987	1	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	2	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	3	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	4	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	5	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	6	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	7	7.0	59.0	8.4	1.9	2.4	35.0	5.0	7.2	593.2	0.0	0.0	0.1
1987	8	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	9	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	10	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	11	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
1987	12	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.2	0.0	0.0	0.0	0.1
Subtotal		7.0	59.0	8.4	0.2		35.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERRION OIL & GAS CORP., OSD CANYON GAS COM #1. (NW 13-24N-2W)

YR	MO	DAYS PRODUCED	DIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	1.0	0.0	0.0	0.0	2.4	68.0	68.0	7.3	0.0	0.0	0.0	0.1
1988	2	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.3	0.0	0.0	0.0	0.1
1988	3	0.0	0.0	0.0	0.0	2.4	0.0	0.0	7.3	0.0	0.0	0.0	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MERRION OIL & GAS CORP., ROCKY MTN #1. (SW 24-24N-2W)

YR	MO	OIL				GAS			GOR	WATER			
		DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM M&W
1985	1	11.0	139.0	12.6	4.5	0.1	177.0	16.1	0.2	1273.4	0.0	0.0	0.0
1985	2	2.0	10.0	5.0	0.4	0.1	30.0	15.0	0.2	3000.0	0.0	0.0	0.0
1985	3	5.0	135.0	27.0	4.4	0.3	410.0	82.0	0.6	3037.0	0.0	0.0	0.0
1985	4	23.0	83.0	3.6	2.8	0.4	252.0	11.0	0.9	3036.1	0.0	0.0	0.0
1985	5	31.0	335.0	10.8	10.8	0.7	4355.0	140.5	5.2	13000.0	0.0	0.0	0.0
1985	6	27.0	216.0	8.0	7.2	0.9	2808.0	104.0	8.0	13000.0	0.0	0.0	0.0
1985	7	12.0	66.0	5.5	2.1	1.0	858.0	71.5	8.9	13000.0	0.0	0.0	0.0
1985	8	28.0	143.0	5.1	4.6	1.1	1001.0	35.8	9.9	7000.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	1.1	0.0	0.0	9.9	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	1.1	0.0	0.0	9.9	0.0	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	1.1	0.0	0.0	9.9	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	1.1	0.0	0.0	9.9	0.0	0.0	0.0	0.0
Subtotal		139.0	1127.0	8.1	3.1		9891.0				0.0		
1986	1	0.0	0.0	0.0	0.0	1.1	0.0	0.0	9.9	0.0	0.0	0.0	0.0
1986	2	12.0	81.0	6.8	2.9	1.2	962.0	80.2	10.9	11876.5	0.0	0.0	0.0
1986	3	25.0	75.0	3.0	2.4	1.3	891.0	35.6	11.7	11880.0	0.0	0.0	0.0
1986	4	21.0	66.0	3.1	2.2	1.3	784.0	37.3	12.5	11878.8	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
Subtotal		58.0	222.0	3.8	0.6		2637.0				0.0		
1987	1	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	1.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1987	5	24.0	84.0	3.5	2.7	1.4	1340.0	55.8	13.9	15952.4	0.0	0.0	0.0
1987	6	25.0	26.0	1.0	0.9	1.5	1575.0	63.0	15.4	60576.9	0.0	0.0	0.0
1987	7	31.0	45.0	1.5	1.5	1.5	1722.0	55.5	17.2	38266.7	0.0	0.0	0.0
1987	8	25.0	28.0	1.1	0.9	1.5	1179.0	47.2	18.3	42107.1	0.0	0.0	0.0
1987	9	30.0	34.0	1.1	1.1	1.6	1131.0	37.7	19.5	33264.7	0.0	0.0	0.0
1987	10	31.0	37.0	1.2	1.2	1.6	928.0	29.9	20.4	25081.1	0.0	0.0	0.0
1987	11	26.0	28.0	1.1	0.9	1.6	799.0	30.7	21.2	28535.7	0.0	0.0	0.0
1987	12	27.0	27.0	1.0	0.9	1.7	1135.0	42.0	22.3	42037.0	0.0	0.0	0.0
Subtotal		219.0	309.0	1.4	0.8		9809.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MERRION OIL & GAS CORP., ROCKY MTN #1. (SW 24-24N-2W)

YR	MO	DAYS PRODUCED	OIL				GAS			GOR	WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF		SCF/BBL	Month	BWPD
1988	1	24.0	20.0	0.8	0.6	1.7	778.0	32.4	23.1	38900.0	0.0	0.0	0.0
1988	2	29.0	36.0	1.2	1.2	1.7	805.0	27.8	23.9	22361.1	0.0	0.0	0.0
1988	3	31.0	31.0	1.0	1.0	1.7	683.0	22.0	24.6	22032.3	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, BEARCAT #1. (SE 22-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	8.0	215.0	26.9	6.9	0.2	230.0	28.8	0.2	1069.8	0.0	0.0	0.0
1986	6	23.0	2374.0	103.2	79.1	2.6	3750.0	163.0	4.0	1579.6	0.0	0.0	0.0
1986	7	11.0	891.0	81.0	28.7	3.5	3435.0	312.3	7.4	3855.2	0.0	0.0	0.0
1986	8	3.0	247.0	82.3	8.0	3.7	376.0	125.3	7.8	1522.3	0.0	0.0	0.0
1986	9	26.0	2330.0	89.6	77.7	6.1	4754.0	182.8	12.5	2040.3	0.0	0.0	0.0
1986	10	30.0	4042.0	134.7	130.4	10.1	7906.0	263.5	20.5	1956.0	1.0	0.0	0.0
1986	11	30.0	2600.0	86.7	86.7	12.7	9023.0	300.8	29.5	3470.4	0.0	0.0	0.0
1986	12	27.0	2340.0	86.7	75.5	15.0	6444.0	238.7	35.9	2753.8	0.0	0.0	0.0
Subtotal		158.0	15039.0	95.2	61.4		35918.0				1.0		
1987	1	28.0	3336.0	119.1	107.6	18.4	6203.0	221.5	42.1	1859.4	0.0	0.0	0.0
1987	2	27.0	2537.0	94.0	90.6	20.9	6029.0	223.3	48.2	2376.4	0.0	0.0	0.0
1987	3	31.0	1968.0	63.5	63.5	22.9	8187.0	264.1	56.3	4160.1	0.0	0.0	0.0
1987	4	27.0	1199.0	44.4	40.0	24.1	9300.0	344.4	65.6	7756.5	0.0	0.0	0.0
1987	5	27.0	1348.0	49.9	43.5	25.4	6252.0	231.6	71.9	4638.0	0.0	0.0	0.0
1987	6	20.0	899.0	45.0	30.0	26.3	6983.0	349.2	78.9	7767.5	0.0	0.0	0.0
1987	7	31.0	1486.0	47.9	47.9	27.8	9304.0	300.1	88.2	6261.1	0.0	0.0	0.0
1987	8	24.0	1309.0	54.5	42.2	29.1	6935.0	289.0	95.1	5297.9	0.0	0.0	0.0
1987	9	2.0	128.0	64.0	4.3	29.2	436.0	218.0	95.5	3406.3	0.0	0.0	0.0
1987	10	2.0	20.0	10.0	0.6	29.3	413.0	206.5	96.0	20650.0	0.0	0.0	0.0
1987	11	25.0	486.0	19.4	16.2	29.8	4800.0	192.0	100.8	9876.5	0.0	0.0	0.0
1987	12	22.0	251.0	11.4	8.1	30.0	5198.0	236.3	106.0	20709.2	0.0	0.0	0.0
Subtotal		266.0	14967.0	56.3	41.0		70040.0				0.0		
1988	1	25.0	98.0	3.9	3.2	30.1	4227.0	169.1	110.2	43132.7	0.0	0.0	0.0
1988	2	23.0	101.0	4.4	3.5	30.2	4353.0	189.3	114.5	43099.0	0.0	0.0	0.0
1988	3	29.0	106.0	3.7	3.4	30.3	6200.0	213.8	120.7	58490.6	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, BROWN #1. (SW 17-25N-2W)

		OIL				GAS			GOR		WATER		
YR	MO	DAYS	CUM			CUM			SCF/BBL	Month	CUM		
		PRODUCED	BOPM	BOPPD	BOPCD	MBO	MCF/M	MCF/D			MMCF	BWPD	MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	10.0	517.0	51.7	16.7	0.5	700.0	70.0	0.7	1354.0	48.0	4.8	0.0
1985	4	24.0	1220.0	50.8	40.7	1.7	1185.0	49.4	1.9	971.3	231.0	9.6	0.3
1985	5	9.0	576.0	64.0	18.6	2.3	440.0	48.9	2.3	763.9	47.0	5.2	0.3
1985	6	12.0	1023.0	85.3	34.1	3.3	265.0	22.1	2.6	259.0	33.0	2.8	0.4
1985	7	18.0	977.0	54.3	31.5	4.3	435.0	24.2	3.0	445.2	7.0	0.4	0.4
1985	8	8.0	1170.0	146.3	37.7	5.5	200.0	25.0	3.2	170.9	30.0	3.8	0.4
1985	9	0.0	0.0	0.0	0.0	5.5	0.0	0.0	3.2	0.0	0.0	0.0	0.4
1985	10	0.0	0.0	0.0	0.0	5.5	0.0	0.0	3.2	0.0	0.0	0.0	0.4
1985	11	30.0	968.0	32.3	32.3	6.5	810.0	27.0	4.0	836.8	88.0	2.9	0.5
1985	12	24.0	3119.0	130.0	100.6	9.6	2610.0	108.8	6.6	836.8	476.0	19.8	1.0
Subtotal		135.0	9570.0	70.9	31.3		6645.0				960.0		
1986	1	30.0	7326.0	244.2	236.3	16.9	2610.0	87.0	9.3	356.3	5.0	0.2	1.0
1986	2	15.0	3563.0	237.5	127.3	20.5	1260.0	84.0	10.5	353.6	0.0	0.0	1.0
1986	3	0.0	0.0	0.0	0.0	20.5	0.0	0.0	10.5	0.0	0.0	0.0	1.0
1986	4	0.0	0.0	0.0	0.0	20.5	0.0	0.0	10.5	0.0	0.0	0.0	1.0
1986	5	2.0	102.0	51.0	3.3	20.6	110.0	55.0	10.6	1078.4	0.0	0.0	1.0
1986	6	2.0	144.0	72.0	4.8	20.7	524.0	262.0	11.1	3638.9	0.0	0.0	1.0
1986	7	0.0	0.0	0.0	0.0	20.7	0.0	0.0	11.1	0.0	0.0	0.0	1.0
1986	8	0.0	0.0	0.0	0.0	20.7	0.0	0.0	11.1	0.0	0.0	0.0	1.0
1986	9	0.0	0.0	0.0	0.0	20.7	0.0	0.0	11.1	0.0	0.0	0.0	1.0
1986	10	17.0	1948.0	114.6	62.8	22.7	6080.0	357.6	17.2	3121.1	7.0	0.4	1.0
1986	11	24.0	2533.0	105.5	84.4	25.2	23690.0	987.1	40.9	9352.5	0.0	0.0	1.0
1986	12	20.0	1170.0	58.5	37.7	26.4	8765.0	438.3	49.7	7491.5	0.0	0.0	1.0
Subtotal		110.0	16786.0	152.6	46.0		43039.0				12.0		
1987	1	6.0	230.0	38.3	7.4	26.6	3255.0	542.5	52.9	14152.2	0.0	0.0	1.0
1987	2	10.0	316.0	31.6	11.3	26.9	3430.0	343.0	56.4	10854.4	0.0	0.0	1.0
1987	3	25.0	708.0	28.3	22.8	27.6	7496.0	299.8	63.9	10587.6	0.0	0.0	1.0
1987	4	25.0	1004.0	40.2	33.5	28.6	12599.0	504.0	76.5	12548.8	0.0	0.0	1.0
1987	5	29.0	799.0	27.6	25.8	29.4	9809.0	338.2	86.3	12276.6	0.0	0.0	1.0
1987	6	23.0	413.0	18.0	13.8	29.8	8645.0	375.9	94.9	20932.2	0.0	0.0	1.0
1987	7	31.0	1662.0	53.6	53.6	31.5	17435.0	562.4	112.4	10490.4	0.0	0.0	1.0
1987	8	24.0	2735.0	114.0	88.2	34.2	21773.0	907.2	134.1	7960.9	0.0	0.0	1.0
1987	9	30.0	3469.0	115.6	115.6	37.7	25981.0	866.0	160.1	7489.5	30.0	1.0	1.0
1987	10	31.0	3752.0	121.0	121.0	41.4	27169.0	876.4	187.3	7241.2	80.0	2.6	1.1
1987	11	24.0	2448.0	102.0	81.6	43.9	19006.0	791.9	206.3	7763.9	0.0	0.0	1.1
1987	12	21.0	2185.0	104.0	70.5	46.1	17984.0	856.4	224.3	8230.7	0.0	0.0	1.1
Subtotal		279.0	19721.0	70.7	54.0		174582.0				110.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, BROWN #1. (SW 17-25N-2W)

YR	MO	DAYS PRODUCED	OIL				GAS			GOR	WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	18.0	1887.0	104.8	60.9	48.0	14848.0	824.9	239.1	7868.6	0.0	0.0	1.1
1988	2	17.0	1648.0	96.9	56.8	49.6	11818.0	695.2	250.9	7171.1	0.0	0.0	1.1
1988	3	11.0	955.0	86.8	30.8	50.6	10767.0	978.8	261.7	11274.3	0.0	0.0	1.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, GAVILAN FED #1. (NE 26-25N-2W)

YR	MO	DAYS PRODUCED	DIL			CUM MBO	GAS			GOR	WATER		
			BOPM	BOPPD	BOPCD		MCF/M	MCF/D	CUM MMCF		SCF/BBL	Month	BWPD
1982	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	3	3.0	1079.0	359.7	34.8	1.1	1135.0	378.3	1.1	1051.9	0.0	0.0	0.0
1982	4	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	0.0	0.0	0.0	0.0
1982	5	1.0	65.0	65.0	2.1	1.1	0.0	0.0	1.1	0.0	96.0	96.0	0.1
1982	6	30.0	1197.0	39.9	39.9	2.3	9129.0	304.3	10.3	7626.6	57.0	1.9	0.2
1982	7	24.0	547.0	22.8	17.6	2.9	10293.0	428.9	20.6	18817.2	3.0	0.1	0.2
1982	8	18.0	882.0	49.0	28.5	3.8	8249.0	458.3	28.8	9352.6	13.0	0.7	0.2
1982	9	25.0	971.0	38.8	32.4	4.7	8116.0	324.6	36.9	8358.4	23.0	0.9	0.2
1982	10	31.0	878.0	28.3	28.3	5.6	8847.0	285.4	45.8	10076.3	31.0	1.0	0.2
1982	11	15.0	778.0	51.9	25.9	6.4	7733.0	515.5	53.5	9939.6	3.0	0.2	0.2
1982	12	14.0	761.0	54.4	24.5	7.2	8606.0	614.7	62.1	11308.8	0.0	0.0	0.2
Subtotal		161.0	7158.0	44.5	23.4		62108.0				226.0		
1983	1	25.0	1563.0	62.5	50.4	8.7	14408.0	576.3	76.5	9218.2	4.0	0.2	0.2
1983	2	20.0	989.0	49.5	35.3	9.7	12591.0	629.6	89.1	12731.0	1.0	0.1	0.2
1983	3	5.0	206.0	41.2	6.6	9.9	4061.0	812.2	93.2	19713.6	0.0	0.0	0.2
1983	4	16.0	1073.0	67.1	35.8	11.0	8552.0	534.5	101.7	7970.2	2.0	0.1	0.2
1983	5	31.0	1575.0	50.8	50.8	12.6	18790.0	606.1	120.5	11930.2	60.0	1.9	0.3
1983	6	30.0	1523.0	50.8	50.8	14.1	17829.0	594.3	138.3	11706.5	5.0	0.2	0.3
1983	7	19.0	1173.0	61.7	37.8	15.3	10568.0	556.2	148.9	9009.4	6.0	0.3	0.3
1983	8	31.0	3030.0	97.7	97.7	18.3	15119.0	487.7	164.0	4989.8	60.0	1.9	0.4
1983	9	30.0	3254.0	108.5	108.5	21.5	11560.0	385.3	175.6	3552.6	40.0	1.3	0.4
1983	10	24.0	447.0	18.6	14.4	22.0	3888.0	162.0	179.5	8698.0	92.0	3.8	0.5
1983	11	30.0	171.0	5.7	5.7	22.2	1329.0	44.3	180.8	7771.9	0.0	0.0	0.5
1983	12	30.0	2477.0	82.6	79.9	24.6	10970.0	365.7	191.8	4428.7	4.0	0.1	0.5
Subtotal		291.0	17481.0	60.1	47.9		129665.0				274.0		
1984	1	27.0	2707.0	100.3	87.3	27.3	8640.0	320.0	200.4	3191.7	0.0	0.0	0.5
1984	2	22.0	2613.0	118.8	90.1	30.0	6452.0	293.3	206.9	2469.2	0.0	0.0	0.5
1984	3	31.0	2849.0	91.9	91.9	32.8	7526.0	242.8	214.4	2641.6	3.0	0.1	0.5
1984	4	28.0	2886.0	103.1	96.2	35.7	7006.0	250.2	221.4	2427.6	6.0	0.2	0.5
1984	5	31.0	2933.0	94.6	94.6	38.6	7639.0	246.4	229.0	2604.5	2.0	0.1	0.5
1984	6	30.0	2457.0	81.9	81.9	41.1	5462.0	182.1	234.5	2223.0	1.0	0.0	0.5
1984	7	28.0	2648.0	94.6	85.4	43.7	6519.0	232.8	241.0	2461.9	0.0	0.0	0.5
1984	8	31.0	2533.0	81.7	81.7	46.3	10243.0	330.4	251.3	4043.8	0.0	0.0	0.5
1984	9	30.0	2223.0	74.1	74.1	48.5	11991.0	399.7	263.3	5394.1	0.0	0.0	0.5
1984	10	31.0	2263.0	73.0	73.0	50.8	11742.0	378.8	275.0	5188.7	0.0	0.0	0.5
1984	11	30.0	2385.0	79.5	79.5	53.1	11354.0	378.5	286.3	4760.6	0.0	0.0	0.5
1984	12	31.0	2489.0	80.3	80.3	55.6	10298.0	332.2	296.6	4137.4	0.0	0.0	0.5
Subtotal		350.0	30986.0	88.5	84.7		104872.0				12.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, GAVILAN FED #1. (NE 26-25N-2W)

		OIL				GAS			GOR		WATER		
YR	MO	DAYS	BOPM	BOPPD	BOPCD	CUM	MCF/M	MCF/D	CUM	SCF/BBL	Month	BWPD	CUM
		PRODUCED											
1985	1	23.0	1268.0	55.1	40.9	56.9	9593.0	417.1	306.2	7565.5	0.0	0.0	0.5
1985	2	23.0	1551.0	67.4	55.4	58.4	11506.0	500.3	317.7	7418.4	0.0	0.0	0.5
1985	3	28.0	1835.0	65.5	59.2	60.3	13183.0	470.8	330.9	7184.2	0.0	0.0	0.5
1985	4	30.0	1710.0	57.0	57.0	62.0	15959.0	532.0	346.9	9332.7	3.0	0.1	0.5
1985	5	31.0	1649.0	53.2	53.2	63.6	15007.0	484.1	361.9	9100.7	15.0	0.5	0.5
1985	6	30.0	2210.0	73.7	73.7	65.8	13702.0	456.7	375.6	6200.0	2.0	0.1	0.5
1985	7	31.0	2010.0	64.8	64.8	67.9	12196.0	393.4	387.8	6067.7	2.0	0.1	0.5
1985	8	31.0	1904.0	61.4	61.4	69.8	11546.0	372.5	399.3	6064.1	0.0	0.0	0.5
1985	9	17.0	1297.0	76.3	43.2	71.1	6079.0	357.6	405.4	4687.0	0.0	0.0	0.5
1985	10	31.0	567.0	18.3	18.3	71.6	8375.0	270.2	413.8	14770.7	0.0	0.0	0.5
1985	11	30.0	1033.0	34.4	34.4	72.7	6047.0	201.6	419.8	5853.8	13.0	0.4	0.5
1985	12	31.0	1287.0	41.5	41.5	73.9	6524.0	210.5	426.4	5069.2	5.0	0.2	0.6
Subtotal		336.0	18321.0	54.5	50.2		129717.0				40.0		
1986	1	31.0	1469.0	47.4	47.4	75.4	8101.0	261.3	434.5	5514.6	6.0	0.2	0.6
1986	2	27.0	1330.0	49.3	47.5	76.7	12677.0	469.5	447.1	9531.6	0.0	0.0	0.6
1986	3	29.0	1407.0	48.5	45.4	78.2	14630.0	504.5	461.8	10398.0	2.0	0.1	0.6
1986	4	29.0	972.0	33.5	32.4	79.1	14393.0	496.3	476.2	14807.6	0.0	0.0	0.6
1986	5	19.0	596.0	31.4	19.2	79.7	9686.0	509.8	485.8	16251.7	7.0	0.4	0.6
1986	6	30.0	1090.0	36.3	36.3	80.8	15914.0	530.5	501.8	14600.0	0.0	0.0	0.6
1986	7	31.0	1031.0	33.3	33.3	81.8	14962.0	482.6	516.7	14512.1	0.0	0.0	0.6
1986	8	31.0	1109.0	35.8	35.8	82.9	12700.0	409.7	529.4	11451.8	0.0	0.0	0.6
1986	9	24.0	291.0	12.1	9.7	83.2	5584.0	232.7	535.0	19189.0	0.0	0.0	0.6
1986	10	19.0	461.0	24.3	14.9	83.7	4420.0	232.6	539.4	9587.9	0.0	0.0	0.6
1986	11	30.0	281.0	9.4	9.4	84.0	5600.0	186.7	545.0	19928.8	0.0	0.0	0.6
1986	12	13.0	306.0	23.5	9.9	84.3	4652.0	357.8	549.7	15202.6	0.0	0.0	0.6
Subtotal		313.0	10343.0	33.0	28.3		123319.0				15.0		
1987	1	7.0	263.0	37.6	8.5	84.6	2845.0	406.4	552.5	10817.5	0.0	0.0	0.6
1987	2	16.0	399.0	24.9	14.3	85.0	4603.0	287.7	557.1	11536.3	0.0	0.0	0.6
1987	3	31.0	458.0	14.8	14.8	85.4	7607.0	245.4	564.7	16609.2	0.0	0.0	0.6
1987	4	2.0	19.0	9.5	0.6	85.4	77.0	38.5	564.8	4052.6	0.0	0.0	0.6
1987	5	31.0	152.0	4.9	4.9	85.6	6112.0	197.2	570.9	40210.5	0.0	0.0	0.6
1987	6	30.0	205.0	6.8	6.8	85.8	6078.0	202.6	577.0	29648.8	0.0	0.0	0.6
1987	7	31.0	352.0	11.4	11.4	86.1	6964.0	224.6	584.0	19784.1	0.0	0.0	0.6
1987	8	27.0	237.0	8.8	7.6	86.4	4585.0	169.8	588.6	19346.0	0.0	0.0	0.6
1987	9	29.0	174.0	6.0	5.8	86.5	3968.0	136.8	592.5	22804.6	0.0	0.0	0.6
1987	10	31.0	101.0	3.3	3.3	86.6	3016.0	97.3	595.5	29861.4	0.0	0.0	0.6
1987	11	25.0	77.0	3.1	2.6	86.7	1543.0	61.7	597.1	20039.0	0.0	0.0	0.6
1987	12	12.0	38.0	3.2	1.2	86.8	66.0	5.5	597.1	1736.8	0.0	0.0	0.6
Subtotal		272.0	2475.0	9.1	6.8		47464.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, GAVILAN FED #1. (NE 26-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	29.0	97.0	3.3	3.1	86.9	3041.0	104.9	600.2	31350.5	0.0	0.0	0.6
1988	2	25.0	79.0	3.2	2.7	86.9	2244.0	89.8	602.4	28405.1	9.0	0.4	0.6
1988	3	31.0	192.0	6.2	6.2	87.1	5595.0	180.5	608.0	29140.6	0.0	0.0	0.6

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS PDDL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, GAVILAN FED #2. (SE 26-25N-2W)

		DIL				GAS			GOR		WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1984	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	10	3.0	39.0	13.0	1.3	0.0	600.0	200.0	0.6	15384.6	0.0	0.0	0.0
1984	11	7.0	186.0	26.6	6.2	0.2	1200.0	171.4	1.8	6451.6	0.0	0.0	0.0
1984	12	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Subtotal		10.0	225.0	22.5	2.4		1800.0				0.0		
1985	1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1986	1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1986	2	4.0	118.0	29.5	4.2	0.3	1213.0	303.3	3.0	10279.7	0.0	0.0	0.0
1986	3	30.0	488.0	16.3	15.7	0.8	6834.0	227.8	9.8	14004.1	7.0	0.2	0.0
1986	4	20.0	95.0	4.8	3.2	0.9	3343.0	167.2	13.2	35189.5	0.0	0.0	0.0
1986	5	30.0	204.0	6.8	6.6	1.1	6202.0	206.7	19.4	30402.0	0.0	0.0	0.0
1986	6	13.0	77.0	5.9	2.6	1.2	5177.0	398.2	24.6	67233.8	0.0	0.0	0.0
1986	7	31.0	66.0	2.1	2.1	1.3	3980.0	128.4	28.5	60303.0	0.0	0.0	0.0
1986	8	31.0	24.0	0.8	0.8	1.3	4015.0	129.5	32.6	167291.7	0.0	0.0	0.0
1986	9	4.0	46.0	11.5	1.5	1.3	1994.0	498.5	34.6	43347.8	0.0	0.0	0.0
1986	10	26.0	106.0	4.1	3.4	1.4	4568.0	175.7	39.1	43094.3	0.0	0.0	0.0
1986	11	30.0	101.0	3.4	3.4	1.6	4785.0	159.5	43.9	47376.2	0.0	0.0	0.0
1986	12	31.0	105.0	3.4	3.4	1.7	4030.0	130.0	47.9	38381.0	23.0	0.7	0.0
Subtotal		250.0	1430.0	5.7	3.9		46141.0				30.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, GAVILAN FED #2. (SE 26-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	31.0	108.0	3.5	3.5	1.8	4139.0	133.5	52.1	38324.1	0.0	0.0	0.0
1987	2	11.0	25.0	2.3	0.9	1.8	4212.0	382.9	56.3	168480.0	0.0	0.0	0.0
1987	3	31.0	110.0	3.5	3.5	1.9	5488.0	177.0	61.8	49890.9	0.0	0.0	0.0
1987	4	7.0	69.0	9.9	2.3	2.0	3215.0	459.3	65.0	46594.2	0.0	0.0	0.0
1987	5	31.0	107.0	3.5	3.5	2.1	5174.0	166.9	70.2	48355.1	0.0	0.0	0.0
1987	6	13.0	55.0	4.2	1.8	2.1	2030.0	156.2	72.2	36909.1	0.0	0.0	0.0
1987	7	2.0	0.0	0.0	0.0	2.1	70.0	35.0	72.3	0.0	0.0	0.0	0.0
1987	8	24.0	205.0	8.5	6.6	2.3	444.0	18.5	72.7	2165.9	0.0	0.0	0.0
1987	9	12.0	45.0	3.8	1.5	2.4	529.0	44.1	73.2	11755.6	0.0	0.0	0.0
1987	10	24.0	0.0	0.0	0.0	2.4	738.0	30.8	74.0	0.0	0.0	0.0	0.0
1987	11	8.0	0.0	0.0	0.0	2.4	316.0	39.5	74.3	0.0	0.0	0.0	0.0
1987	12	16.0	0.0	0.0	0.0	2.4	710.0	44.4	75.0	0.0	0.0	0.0	0.0
Subtotal		210.0	724.0	3.4	2.0		27065.0				0.0		
1988	1	31.0	0.0	0.0	0.0	2.4	921.0	29.7	75.9	0.0	0.0	0.0	0.0
1988	2	29.0	0.0	0.0	0.0	2.4	220.0	7.6	76.1	0.0	0.0	0.0	0.0
1988	3	2.0	-26.0	-13.0	-0.8	2.4	115.0	57.5	76.3	-4423.1	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

BAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, BAVILAN FEE #3. (NW 26-25N-2W) DUAL COMPLETION: GAV GREENHORN-BRANEROS-DAKOTA + GAV MANCOS.

		OIL				GAS			GOR		WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	8	18.0	1239.0	68.8	40.0	1.2	604.0	33.6	0.6	487.5	360.0	20.0	0.4
1983	9	25.0	1149.0	46.0	38.3	2.4	2217.0	88.7	2.8	1929.5	58.0	2.3	0.4
1983	10	26.0	1330.0	51.2	42.9	3.7	5417.0	208.3	8.2	4072.9	4.0	0.2	0.4
1983	11	15.0	916.0	61.1	30.5	4.6	3456.0	230.4	11.7	3772.9	0.0	0.0	0.4
1983	12	30.0	1056.0	35.2	34.1	5.7	5316.0	177.2	17.0	5034.1	33.0	1.1	0.5
Subtotal		114.0	5690.0	49.9	37.2		17010.0				455.0		
1984	1	26.0	1131.0	43.5	36.5	6.8	2958.0	113.8	20.0	2615.4	11.0	0.4	0.5
1984	2	23.0	1129.0	49.1	38.9	8.0	2657.0	115.5	22.6	2353.4	11.0	0.5	0.5
1984	3	31.0	1252.0	40.4	40.4	9.2	2804.0	90.5	25.4	2239.6	86.0	2.8	0.6
1984	4	30.0	1165.0	38.8	38.8	10.4	4817.0	160.6	30.2	4134.8	94.0	3.1	0.7
1984	5	31.0	833.0	26.9	26.9	11.2	7339.0	236.7	37.6	8810.3	22.0	0.7	0.7
1984	6	30.0	611.0	20.4	20.4	11.8	10071.0	335.7	47.7	16482.8	1.0	0.0	0.7
1984	7	29.0	507.0	17.5	16.4	12.3	14204.0	489.8	61.9	28015.8	0.0	0.0	0.7
1984	8	31.0	537.0	17.3	17.3	12.9	14701.0	474.2	76.6	27376.2	0.0	0.0	0.7
1984	9	30.0	648.0	21.6	21.6	13.5	14752.0	491.7	91.3	22765.4	0.0	0.0	0.7
1984	10	31.0	641.0	20.7	20.7	14.1	15144.0	488.5	106.5	23625.6	0.0	0.0	0.7
1984	11	30.0	575.0	19.2	19.2	14.7	16144.0	538.1	122.6	28076.5	0.0	0.0	0.7
1984	12	31.0	514.0	16.6	16.6	15.2	17740.0	572.3	140.3	34513.6	0.0	0.0	0.7
Subtotal		353.0	9543.0	27.0	26.1		123331.0				225.0		
1985	1	22.0	392.0	17.8	12.6	15.6	13960.0	634.5	154.3	35612.2	0.0	0.0	0.7
1985	2	25.0	365.0	14.6	13.0	16.0	15939.0	637.6	170.2	43668.5	0.0	0.0	0.7
1985	3	29.0	732.0	25.2	23.6	16.7	19483.0	671.8	189.7	26616.1	0.0	0.0	0.7
1985	4	30.0	687.0	22.9	22.9	17.4	6430.0	214.3	196.2	9359.5	13.0	0.4	0.7
1985	5	9.0	304.0	33.8	9.8	17.7	1369.0	152.1	197.5	4503.3	4.0	0.4	0.7
1985	6	18.0	469.0	26.1	15.6	18.2	3465.0	192.5	201.0	7388.1	0.0	0.0	0.7
1985	7	8.0	246.0	30.8	7.9	18.4	339.0	42.4	201.3	1378.0	0.0	0.0	0.7
1985	8	8.0	947.0	118.4	30.5	19.4	2531.0	316.4	203.9	2672.7	0.0	0.0	0.7
1985	9	9.0	280.0	31.1	9.3	19.7	2712.0	301.3	206.6	9685.7	0.0	0.0	0.7
1985	10	31.0	1054.0	34.0	34.0	20.7	4248.0	137.0	210.8	4030.4	32.0	1.0	0.7
1985	11	26.0	877.0	33.7	29.2	21.6	3397.0	130.7	214.2	3873.4	0.0	0.0	0.7
1985	12	31.0	1108.0	35.7	35.7	22.7	4524.0	145.9	218.7	4083.0	0.0	0.0	0.7
Subtotal		246.0	7461.0	30.3	20.4		78397.0				49.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM

MESA GRANDE RESOURCES, GAVILAN FEE #3. (NW 26-25N-2W) DUAL COMPLETION: GAV GREENHORN-GRANEROS-DAKOTA + GAV MANCOS.

		OIL				GAS			GOR		WATER		
YR	MC	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	31.0	1057.0	34.1	34.1	23.8	3459.0	111.6	222.2	3272.5	0.0	0.0	0.7
1986	2	28.0	786.0	28.1	28.1	24.5	2913.0	104.0	225.1	3706.1	0.0	0.0	0.7
1986	3	31.0	998.0	32.2	32.2	25.5	3425.0	110.5	228.5	3431.9	0.0	0.0	0.7
1986	4	29.0	790.0	27.2	26.3	26.3	4420.0	152.4	233.0	5594.9	0.0	0.0	0.7
1986	5	26.0	1540.0	59.2	49.7	27.9	3130.0	120.4	236.1	2032.5	0.0	0.0	0.7
1986	6	30.0	1284.0	42.8	42.8	29.1	3304.0	110.1	239.4	2573.2	0.0	0.0	0.7
1986	7	31.0	918.0	29.6	29.6	30.1	2486.0	80.2	241.9	2708.1	0.0	0.0	0.7
1986	8	31.0	1119.0	36.1	36.1	31.2	3098.0	99.9	245.0	2768.5	0.0	0.0	0.7
1986	9	30.0	1117.0	37.2	37.2	32.3	2598.0	86.6	247.6	2325.9	0.0	0.0	0.7
1986	10	27.0	922.0	34.1	29.7	33.2	2957.0	109.5	250.5	3207.2	0.0	0.0	0.7
1986	11	29.0	795.0	27.4	26.5	34.0	3438.0	118.6	254.0	4324.5	0.0	0.0	0.7
1986	12	30.0	638.0	21.3	20.6	34.7	4114.0	137.1	258.1	6448.3	15.0	0.5	0.7
Subtotal		353.0	11964.0	33.9	32.8		39342.0				15.0		
1987	1	24.0	389.0	16.2	12.5	35.0	4627.0	192.8	262.7	11894.6	0.0	0.0	0.7
1987	2	16.0	162.0	10.1	5.8	35.2	2886.0	180.4	265.6	17814.8	0.0	0.0	0.7
1987	3	27.0	227.0	8.4	7.3	35.4	3249.0	120.3	268.8	14312.8	0.0	0.0	0.7
1987	4	10.0	133.0	13.3	4.4	35.6	2186.0	218.6	271.0	16436.1	0.0	0.0	0.7
1987	5	12.0	35.0	2.9	1.1	35.6	2280.0	190.0	273.3	65142.9	0.0	0.0	0.7
1987	6	21.0	109.0	5.2	3.6	35.7	3861.0	183.9	277.2	35422.0	0.0	0.0	0.7
1987	7	31.0	179.0	5.8	5.8	35.9	5435.0	175.3	282.6	30363.1	0.0	0.0	0.7
1987	8	27.0	279.0	10.3	9.0	36.2	2666.0	98.7	285.3	9555.6	0.0	0.0	0.7
1987	9	26.0	242.0	8.6	8.1	36.4	4444.0	158.7	289.7	18363.6	0.0	0.0	0.7
1987	10	31.0	167.0	5.4	5.4	36.6	5787.0	186.7	295.5	34652.7	0.0	0.0	0.7
1987	11	16.0	4.0	0.3	0.1	36.6	2055.0	128.4	297.6	513750.0	0.0	0.0	0.7
1987	12	9.0	53.0	5.9	1.7	36.6	1622.0	180.2	299.2	30603.8	0.0	0.0	0.7
Subtotal		252.0	1979.0	7.9	5.4		41098.0				0.0		
1988	1	31.0	28.0	0.9	0.9	36.7	2017.0	65.1	301.2	72035.7	0.0	0.0	0.7
1988	2	18.0	43.0	2.4	1.5	36.7	2397.0	133.2	303.6	55744.2	0.0	0.0	0.7
1988	3	4.0	9.0	2.3	0.3	36.7	2196.0	549.0	305.8	244000.0	0.0	0.0	0.7

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, GAVILAN HOWARD #1 (NW 23-25N-2W) DUAL COMPLETION: GAVILAN MANCOS.

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1984	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	17.0	1845.0	108.5	59.5	1.8	12240.0	720.0	12.2	6634.1	0.0	0.0	0.0
1984	6	5.0	380.0	76.0	12.7	2.2	2750.0	550.0	15.0	7236.8	0.0	0.0	0.0
1984	7	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
1984	8	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
1984	9	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
1984	10	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
1984	11	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
1984	12	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
Subtotal		22.0	2225.0	101.1	9.1		14990.0				0.0		
1985	1	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	15.0	0.0	0.0	0.0	0.0
1985	3	5.0	59.0	11.8	1.9	2.3	0.0	0.0	15.0	0.0	2.0	0.4	0.0
1985	4	30.0	3611.0	120.4	120.4	5.9	27260.0	908.7	42.3	7549.2	0.0	0.0	0.0
1985	5	31.0	6273.0	202.4	202.4	12.2	28763.0	927.8	71.0	4585.2	0.0	0.0	0.0
1985	6	30.0	6337.0	211.2	211.2	18.5	44141.0	1471.4	115.2	6965.6	0.0	0.0	0.0
1985	7	31.0	6250.0	201.6	201.6	24.8	39724.0	1281.4	154.9	6355.8	0.0	0.0	0.0
1985	8	31.0	5369.0	173.2	173.2	30.1	37512.0	1210.1	192.4	6986.8	0.0	0.0	0.0
1985	9	26.0	4893.0	188.2	163.1	35.0	31052.0	1194.3	223.4	6346.2	0.0	0.0	0.0
1985	10	31.0	6182.0	199.4	199.4	41.2	32933.0	1062.4	256.4	5327.2	0.0	0.0	0.0
1985	11	26.0	4512.0	173.5	150.4	45.7	25921.0	997.0	282.3	5744.9	0.0	0.0	0.0
1985	12	30.0	5550.0	185.0	179.0	51.3	27645.0	921.5	309.9	4981.1	0.0	0.0	0.0
Subtotal		271.0	49036.0	180.9	134.3		294951.0				2.0		
1986	1	31.0	5724.0	184.6	184.6	57.0	27739.0	894.8	337.7	4846.1	0.0	0.0	0.0
1986	2	28.0	4472.0	159.7	159.7	61.5	22122.0	790.1	359.8	4946.8	0.0	0.0	0.0
1986	3	29.0	4912.0	169.4	158.5	66.4	23754.0	819.1	383.6	4835.9	0.0	0.0	0.0
1986	4	29.0	2870.0	99.0	95.7	69.2	23859.0	822.7	407.4	8313.2	0.0	0.0	0.0
1986	5	10.0	2048.0	204.8	66.1	71.3	1155.0	115.5	408.6	564.0	0.0	0.0	0.0
1986	6	30.0	3665.0	122.2	122.2	75.0	4191.0	139.7	412.8	1143.5	0.0	0.0	0.0
1986	7	31.0	3931.0	126.8	126.8	78.9	5919.0	190.9	418.7	1505.7	0.0	0.0	0.0
1986	8	26.0	2582.0	99.3	83.3	81.5	6920.0	266.2	425.6	2680.1	0.0	0.0	0.0
1986	9	26.0	2605.0	100.2	86.8	84.1	4443.0	170.9	430.0	1705.6	0.0	0.0	0.0
1986	10	26.0	3441.0	132.3	111.0	87.5	6055.0	232.9	436.1	1759.7	0.0	0.0	0.0
1986	11	25.0	1963.0	78.5	65.4	89.5	10505.0	420.2	446.6	5351.5	0.0	0.0	0.0
1986	12	18.0	987.0	54.8	31.8	90.5	8899.0	494.4	455.5	9016.2	0.0	0.0	0.0
Subtotal		309.0	39200.0	126.9	107.4		145561.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM

MESA GRANDE RESOURCES, GAVILAN HOWARD #1 (NW 23-25N-2W) DUAL COMPLETION: GAVILAN MANCOS.

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	12.0	787.0	65.6	25.4	91.2	6146.0	512.2	461.6	7809.4	0.0	0.0	0.0
1987	2	7.0	180.0	25.7	6.4	91.4	6018.0	859.7	467.7	33433.3	0.0	0.0	0.0
1987	3	3.0	725.0	241.7	23.4	92.2	16033.0	5344.3	483.7	22114.5	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	92.2	0.0	0.0	483.7	0.0	0.0	0.0	0.0
1987	5	23.0	238.0	10.3	7.7	92.4	8412.0	365.7	492.1	35344.5	0.0	0.0	0.0
1987	6	27.0	467.0	17.3	15.6	92.9	7944.0	294.2	500.1	17010.7	0.0	0.0	0.0
1987	7	31.0	451.0	14.5	14.5	93.3	10390.0	335.2	510.4	23037.7	0.0	0.0	0.0
1987	8	27.0	426.0	15.8	13.7	93.7	9252.0	342.7	519.7	21718.3	0.0	0.0	0.0
1987	9	2.0	55.0	27.5	1.8	93.8	669.0	334.5	520.4	12163.6	0.0	0.0	0.0
1987	10	2.0	21.0	10.5	0.7	93.8	692.0	346.0	521.1	32952.4	0.0	0.0	0.0
1987	11	25.0	185.0	7.4	6.2	94.0	7430.0	297.2	528.5	40162.2	0.0	0.0	0.0
1987	12	27.0	153.0	5.7	4.9	94.1	9639.0	357.0	538.1	63000.0	0.0	0.0	0.0
Subtotal		186.0	3688.0	19.8	10.1		82625.0				0.0		
1988	1	25.0	117.0	4.7	3.8	94.3	10406.0	416.2	548.5	88940.2	0.0	0.0	0.0
1988	2	12.0	25.0	2.1	0.9	94.3	2734.0	227.8	551.3	109360.0	0.0	0.0	0.0
1988	3	31.0	92.0	3.0	3.0	94.4	10344.0	333.7	561.6	112434.8	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, HELLCAT #1. (NW 22-25N-2W)

YR	MO	DAYS PRODUCED	OIL				GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW	
1986	1	5.0	533.0	106.6	17.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	4.0	226.0	56.5	7.3	0.8	494.0	123.5	0.5	2185.8	0.0	0.0	0.0	0.0
1986	9	24.0	1149.0	47.9	38.3	1.9	7001.0	291.7	7.5	6093.1	0.0	0.0	0.0	0.0
1986	10	26.0	825.0	31.7	26.6	2.7	7105.0	273.3	14.6	8612.1	0.0	0.0	0.0	0.0
1986	11	25.0	716.0	28.6	23.9	3.4	6930.0	277.2	21.5	9678.8	0.0	0.0	0.0	0.0
1986	12	30.0	719.0	24.0	23.2	4.2	6560.0	218.7	28.1	9123.8	0.0	0.0	0.0	0.0
Subtotal		114.0	4168.0	36.6	11.4		28090.0				0.0			
1987	1	28.0	644.0	23.0	20.8	4.8	5300.0	189.3	33.4	8229.8	0.0	0.0	0.0	0.0
1987	2	17.0	432.0	25.4	15.4	5.2	3900.0	229.4	37.3	9027.8	0.0	0.0	0.0	0.0
1987	3	30.0	592.0	19.7	19.1	5.8	5515.0	183.8	42.8	9315.9	0.0	0.0	0.0	0.0
1987	4	30.0	527.0	17.6	17.6	6.4	4874.0	162.5	47.7	9248.6	0.0	0.0	0.0	0.0
1987	5	31.0	417.0	13.5	13.5	6.8	4572.0	147.5	52.3	10964.0	0.0	0.0	0.0	0.0
1987	6	20.0	257.0	12.9	8.6	7.0	3368.0	168.4	55.6	13105.1	0.0	0.0	0.0	0.0
1987	7	2.0	1.0	0.5	0.0	7.0	385.0	192.5	56.0	38500.0	0.0	0.0	0.0	0.0
1987	8	24.0	368.0	15.3	11.9	7.4	3022.0	125.9	59.0	8212.0	0.0	0.0	0.0	0.0
1987	9	1.0	0.0	0.0	0.0	7.4	110.0	110.0	59.1	0.0	0.0	0.0	0.0	0.0
1987	10	1.0	25.0	25.0	0.8	7.4	105.0	105.0	59.2	4200.0	0.0	0.0	0.0	0.0
1987	11	22.0	179.0	8.1	6.0	7.6	1950.0	88.6	61.2	10893.9	0.0	0.0	0.0	0.0
1987	12	20.0	90.0	4.5	2.9	7.7	1370.0	68.5	62.6	15222.2	0.0	0.0	0.0	0.0
Subtotal		226.0	3532.0	15.6	9.7		34471.0				0.0			
1988	1	20.0	164.0	8.2	5.3	7.9	1950.0	97.5	64.5	11890.2	0.0	0.0	0.0	0.0
1988	2	23.0	127.0	5.5	4.4	8.0	2753.0	119.7	67.3	21677.2	NR	0.0	0.0	0.0
1988	3	31.0	136.0	4.4	4.4	8.1	2940.0	94.8	70.2	21617.6	NR	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, INVADER #1. (NW 1-24N-2W)

		OIL				GAS			GOR		WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	3.0	498.0	166.0	16.1	0.5	370.0	123.3	0.4	743.0	33.0	11.0	0.0
1986	6	19.0	459.0	24.2	15.3	1.0	1008.0	53.1	1.4	2196.1	0.0	0.0	0.0
1986	7	9.0	114.0	12.7	3.7	1.1	907.0	100.8	2.3	7956.1	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Subtotal		31.0	1071.0	34.5	4.4		2285.0				33.0		
1987	1	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1987	10	3.0	0.0	0.0	0.0	1.1	247.0	82.3	2.5	0.0	0.0	0.0	0.0
1987	11	3.0	0.0	0.0	0.0	1.1	300.0	100.0	2.8	0.0	0.0	0.0	0.0
1987	12	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Subtotal		6.0	0.0	0.0	0.0		547.0				0.0		
1988	1	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.8	0.0	0.0	0.0	0.0
1988	2	19.0	213.0	11.2	7.3	1.3	1938.0	102.0	4.8	9098.6	0.0	0.0	0.0
1988	3	30.0	255.0	8.5	8.2	1.5	726.0	24.2	5.5	2847.1	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, MARAUDER #1. (SW 8-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GDR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	19.0	1756.0	92.4	58.5	1.8	4847.0	255.1	4.8	2760.3	0.0	0.0	0.0
1986	7	12.0	1298.0	108.2	41.9	3.1	3060.0	255.0	7.9	2357.5	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	3.1	0.0	0.0	7.9	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	3.1	0.0	0.0	7.9	0.0	0.0	0.0	0.0
1986	10	18.0	866.0	48.1	27.9	3.9	3757.0	208.7	11.7	4338.3	0.0	0.0	0.0
1986	11	21.0	1559.0	74.2	52.0	5.5	7245.0	345.0	18.9	4647.2	0.0	0.0	0.0
1986	12	22.0	1768.0	80.4	57.0	7.2	6823.0	310.1	25.7	3859.2	0.0	0.0	0.0
Subtotal		92.0	7247.0	78.8	33.9		25732.0				0.0		
1987	1	28.0	2846.0	101.6	91.8	10.1	6105.0	218.0	31.8	2145.1	0.0	0.0	0.0
1987	2	20.0	1390.0	69.5	49.6	11.5	7540.0	377.0	39.4	5424.5	0.0	0.0	0.0
1987	3	31.0	2695.0	86.9	86.9	14.2	7247.0	233.8	46.6	2689.1	0.0	0.0	0.0
1987	4	30.0	2898.0	96.6	96.6	17.1	8850.0	295.0	55.5	3053.8	0.0	0.0	0.0
1987	5	31.0	2750.0	88.7	88.7	19.8	8693.0	280.4	64.2	3161.1	0.0	0.0	0.0
1987	6	25.0	1415.0	56.6	47.2	21.2	10147.0	405.9	74.3	7171.0	0.0	0.0	0.0
1987	7	31.0	2411.0	77.8	77.8	23.7	8846.0	285.4	83.2	3669.0	0.0	0.0	0.0
1987	8	25.0	1469.0	58.8	47.4	25.1	6318.0	252.7	89.5	4300.9	0.0	0.0	0.0
1987	9	30.0	1906.0	63.5	63.5	27.0	6654.0	221.8	96.1	3491.1	0.0	0.0	0.0
1987	10	31.0	1403.0	45.3	45.3	28.4	7730.0	249.4	103.9	5509.6	0.0	0.0	0.0
1987	11	22.0	826.0	37.5	27.5	29.3	5150.0	234.1	109.0	6234.9	0.0	0.0	0.0
1987	12	11.0	246.0	22.4	7.9	29.5	2030.0	184.5	111.0	8252.0	0.0	0.0	0.0
Subtotal		315.0	22255.0	70.7	61.0		85310.0				0.0		
1988	1	16.0	455.0	28.4	14.7	30.0	2620.0	163.8	113.7	5758.2	0.0	0.0	0.0
1988	2	24.0	782.0	32.6	27.0	30.7	8059.0	335.8	121.7	10305.6	0.0	0.0	0.0
1988	3	29.0	863.0	29.8	27.8	31.6	5836.0	201.2	127.6	6762.5	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, PROWLER #2. (NE 5-25N-2W)

YR	MO	DAYS PRODUCED	DIL			CUM MBO	GAS		CUM MMCF	GOR SCF/BBL	WATER		CUM MBW
			BOPM	BOPPD	BOPCD		MCF/M	MCF/D			Month	BWPD	
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	12	0.0	822.0	0.0	26.5	0.8	2010.0	0.0	2.0	2445.3	470.0	0.0	0.5
Subtotal		0.0	822.0	0.0	2.3		2010.0				470.0		
1988	1	NR	NR	0.0	0.0	0.8	NR	0.0	2.0	0.0	NR	0.0	0.5
1988	2	20.0	510.0	25.5	17.6	1.3	1600.0	80.0	3.6	3137.3	0.0	0.0	0.5
1988	3	0.0	0.0	0.0	0.0	1.3	0.0	0.0	3.6	0.0	0.0	0.0	0.5

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, RUCKER LAKE #2. (SW 24-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	9	5.0	1602.0	320.4	53.4	1.6	1358.0	271.6	1.4	847.7	0.0	0.0	0.0
1983	10	12.0	4839.0	403.3	156.1	6.4	3231.0	269.3	4.6	667.7	0.0	0.0	0.0
1983	11	18.0	3470.0	192.8	115.7	9.9	2317.0	128.7	6.9	667.7	0.0	0.0	0.0
1983	12	6.0	1162.0	193.7	37.5	11.1	178.0	29.7	7.1	153.2	0.0	0.0	0.0
Subtotal		41.0	11073.0	270.1	90.8		7084.0				0.0		
1984	1	31.0	2756.0	88.9	88.9	13.8	1175.0	37.9	8.3	426.3	0.0	0.0	0.0
1984	2	29.0	4752.0	163.9	163.9	18.6	3464.0	119.4	11.7	729.0	0.0	0.0	0.0
1984	3	31.0	5044.0	162.7	162.7	23.6	3495.0	112.7	15.2	692.9	0.0	0.0	0.0
1984	4	30.0	4547.0	151.6	151.6	28.2	2876.0	95.9	18.1	632.5	0.0	0.0	0.0
1984	5	31.0	4101.0	132.3	132.3	32.3	2661.0	85.8	20.8	648.9	0.0	0.0	0.0
1984	6	30.0	4778.0	159.3	159.3	37.1	2591.0	86.4	23.3	542.3	0.0	0.0	0.0
1984	7	31.0	4776.0	154.1	154.1	41.8	3103.0	100.1	26.4	649.7	0.0	0.0	0.0
1984	8	31.0	4298.0	138.6	138.6	46.1	2824.0	91.1	29.3	657.0	0.0	0.0	0.0
1984	9	30.0	4208.0	140.3	140.3	50.3	2187.0	72.9	31.5	519.7	0.0	0.0	0.0
1984	10	29.0	4150.0	143.1	133.9	54.5	2477.0	85.4	33.9	596.9	0.0	0.0	0.0
1984	11	30.0	3667.0	122.2	122.2	58.2	2233.0	74.4	36.2	608.9	0.0	0.0	0.0
1984	12	31.0	3633.0	117.2	117.2	61.8	1576.0	50.8	37.7	433.8	0.0	0.0	0.0
Subtotal		364.0	50710.0	139.3	138.6		30662.0				0.0		
1985	1	31.0	3871.0	124.9	124.9	65.7	1481.0	47.8	39.2	382.6	0.0	0.0	0.0
1985	2	28.0	3346.0	119.5	119.5	69.0	1816.0	64.9	41.0	542.7	0.0	0.0	0.0
1985	3	31.0	3299.0	106.4	106.4	72.3	1693.0	54.6	42.7	513.2	0.0	0.0	0.0
1985	4	30.0	3375.0	112.5	112.5	75.7	1820.0	60.7	44.6	539.3	0.0	0.0	0.0
1985	5	31.0	4056.0	130.8	130.8	79.7	1584.0	51.1	46.1	390.5	0.0	0.0	0.0
1985	6	30.0	4007.0	133.6	133.6	83.7	1533.0	51.1	47.7	382.6	0.0	0.0	0.0
1985	7	31.0	3570.0	115.2	115.2	87.3	1701.0	54.9	49.4	476.5	0.0	0.0	0.0
1985	8	19.0	1814.0	95.5	58.5	89.1	1144.0	60.2	50.5	630.7	0.0	0.0	0.0
1985	9	18.0	1904.0	105.8	63.5	91.0	810.0	45.0	51.3	425.4	0.0	0.0	0.0
1985	10	7.0	1250.0	178.6	40.3	92.3	491.0	70.1	51.8	392.8	0.0	0.0	0.0
1985	11	26.0	2524.0	97.1	84.1	94.8	1697.0	65.3	53.5	672.3	0.0	0.0	0.0
1985	12	31.0	5456.0	176.0	176.0	100.3	2667.0	86.0	56.2	488.8	0.0	0.0	0.0
Subtotal		313.0	38472.0	122.9	105.4		18437.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

JAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MESA GRANDE RESOURCES, RUCKER LAKE #2. (SW 24-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	MMCF	SCF/BBL	Month	EWPD	CUM MBW
1986	1	31.0	5418.0	174.8	174.8	105.7	2963.0	95.6	59.1	546.9	0.0	0.0	0.0
1986	2	28.0	4693.0	167.6	167.6	110.4	2920.0	104.3	62.1	622.2	0.0	0.0	0.0
1986	3	29.0	5647.0	194.7	182.2	116.0	2835.0	97.8	64.9	502.0	0.0	0.0	0.0
1986	4	29.0	4002.0	138.0	133.4	120.0	4604.0	158.8	69.5	1150.4	0.0	0.0	0.0
1986	5	25.0	3717.0	148.7	119.9	123.7	5748.0	229.9	75.3	1546.4	0.0	0.0	0.0
1986	6	30.0	3539.0	118.0	118.0	127.3	10322.0	344.1	85.6	2916.6	0.0	0.0	0.0
1986	7	31.0	4713.0	152.0	152.0	132.0	7738.0	249.6	93.3	1641.8	0.0	0.0	0.0
1986	8	31.0	3251.0	104.9	104.9	135.2	6047.0	195.1	99.4	1860.0	0.0	0.0	0.0
1986	9	26.0	4022.0	154.7	134.1	139.3	4898.0	188.4	104.3	1217.8	0.0	0.0	0.0
1986	10	29.0	2751.0	94.9	88.7	142.0	6540.0	225.5	110.8	2377.3	0.0	0.0	0.0
1986	11	28.0	2921.0	104.3	97.4	144.9	9431.0	336.8	120.2	3228.7	0.0	0.0	0.0
1986	12	31.0	2623.0	84.6	84.6	147.6	8757.0	282.5	129.0	3338.5	0.0	0.0	0.0
Subtotal		348.0	47297.0	135.9	129.6		72803.0				0.0		
1987	1	31.0	1949.0	62.9	62.9	149.5	7453.0	240.4	136.4	3824.0	0.0	0.0	0.0
1987	2	23.0	1651.0	71.8	59.0	151.2	3720.0	161.7	140.2	2253.2	0.0	0.0	0.0
1987	3	31.0	2297.0	74.1	74.1	153.4	7779.0	250.9	147.9	3386.6	0.0	0.0	0.0
1987	4	30.0	1861.0	62.0	62.0	155.3	8904.0	296.8	156.8	4784.5	0.0	0.0	0.0
1987	5	27.0	1945.0	72.0	62.7	157.3	8130.0	301.1	165.0	4179.9	0.0	0.0	0.0
1987	6	25.0	1471.0	58.8	49.0	158.7	7314.0	292.6	172.3	4972.1	0.0	0.0	0.0
1987	7	31.0	1756.0	56.6	56.6	160.5	8857.0	285.7	181.1	5043.8	0.0	0.0	0.0
1987	8	26.0	1241.0	47.7	40.0	161.7	5465.0	210.2	186.6	4403.7	0.0	0.0	0.0
1987	9	29.0	1457.0	50.2	48.6	163.2	4705.0	162.2	191.3	3229.2	0.0	0.0	0.0
1987	10	31.0	1448.0	46.7	46.7	164.6	5520.0	178.1	196.8	3812.2	0.0	0.0	0.0
1987	11	23.0	785.0	34.1	26.2	165.4	3577.0	155.5	200.4	4556.7	0.0	0.0	0.0
1987	12	24.0	1130.0	47.1	36.5	166.5	4950.0	206.3	205.4	4380.5	0.0	0.0	0.0
Subtotal		331.0	18991.0	57.4	52.0		76374.0				0.0		
1988	1	31.0	521.0	16.8	16.8	167.1	4213.0	135.9	209.6	8086.4	0.0	0.0	0.0
1988	2	25.0	500.0	20.0	17.2	167.6	6495.0	259.8	216.1	12990.0	0.0	0.0	0.0
1988	3	31.0	428.0	13.8	13.8	168.0	9369.0	302.2	225.4	21890.2	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCDS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, RUCKER LAKE #3. (SW 25-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GDR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	8	7.0	1685.0	240.7	54.4	1.7	530.0	75.7	0.5	314.5	0.0	0.0	0.0
1983	9	14.0	1117.0	79.8	37.2	2.8	904.0	64.6	1.4	809.3	0.0	0.0	0.0
1983	10	14.0	2535.0	181.1	81.8	5.3	1903.0	135.9	3.3	750.7	0.0	0.0	0.0
1983	11	9.0	2529.0	281.0	84.3	7.9	1802.0	200.2	5.1	712.5	0.0	0.0	0.0
1983	12	31.0	2634.0	85.0	85.0	10.5	2817.0	90.9	8.0	1069.5	0.0	0.0	0.0
Subtotal		75.0	10500.0	140.0	68.6		7956.0				0.0		
1984	1	31.0	3795.0	122.4	122.4	14.3	4860.0	156.8	12.8	1280.6	0.0	0.0	0.0
1984	2	29.0	3036.0	104.7	104.7	17.3	4843.0	167.0	17.7	1595.2	0.0	0.0	0.0
1984	3	31.0	2594.0	83.7	83.7	19.9	4479.0	144.5	22.1	1726.7	0.0	0.0	0.0
1984	4	30.0	3655.0	121.8	121.8	23.6	4432.0	147.7	26.6	1212.6	0.0	0.0	0.0
1984	5	31.0	3229.0	104.2	104.2	26.8	4332.0	139.7	30.9	1341.6	0.0	0.0	0.0
1984	6	30.0	3362.0	112.1	112.1	30.2	3997.0	133.2	34.9	1188.9	0.0	0.0	0.0
1984	7	31.0	3171.0	102.3	102.3	33.3	4056.0	130.8	39.0	1279.1	0.0	0.0	0.0
1984	8	31.0	2887.0	93.1	93.1	36.2	3811.0	122.9	42.8	1320.1	0.0	0.0	0.0
1984	9	30.0	3199.0	106.6	106.6	39.4	3317.0	110.6	46.1	1036.9	0.0	0.0	0.0
1984	10	29.0	2976.0	102.6	96.0	42.4	3844.0	132.6	49.9	1291.7	0.0	0.0	0.0
1984	11	30.0	2484.0	82.8	82.8	44.9	2822.0	94.1	52.7	1136.1	0.0	0.0	0.0
1984	12	30.0	2754.0	91.8	88.8	47.6	2149.0	71.6	54.9	780.3	0.0	0.0	0.0
Subtotal		363.0	37142.0	102.3	101.5		46942.0				0.0		
1985	1	30.0	3082.0	102.7	99.4	50.7	1665.0	55.5	56.6	540.2	0.0	0.0	0.0
1985	2	28.0	2563.0	91.5	91.5	53.3	1608.0	57.4	58.2	627.4	0.0	0.0	0.0
1985	3	31.0	2498.0	80.6	80.6	55.8	1550.0	50.0	59.7	620.5	0.0	0.0	0.0
1985	4	30.0	2667.0	88.9	88.9	58.5	1863.0	62.1	61.6	698.5	0.0	0.0	0.0
1985	5	31.0	3156.0	101.8	101.8	61.6	1811.0	58.4	63.4	573.8	0.0	0.0	0.0
1985	6	30.0	2708.0	90.3	90.3	64.3	1816.0	60.5	65.2	670.6	0.0	0.0	0.0
1985	7	31.0	1820.0	58.7	58.7	66.1	1951.0	62.9	67.2	1072.0	0.0	0.0	0.0
1985	8	19.0	1526.0	80.3	49.2	67.7	1192.0	62.7	68.4	781.1	0.0	0.0	0.0
1985	9	12.0	948.0	79.0	31.6	68.6	973.0	81.1	69.3	1026.4	0.0	0.0	0.0
1985	10	7.0	1117.0	159.6	36.0	69.7	792.0	113.1	70.1	709.0	0.0	0.0	0.0
1985	11	30.0	2426.0	80.9	80.9	72.2	1864.0	62.1	72.0	768.3	3.0	0.1	0.0
1985	12	31.0	3131.0	101.0	101.0	75.3	1954.0	63.0	73.9	624.1	0.0	0.0	0.0
Subtotal		310.0	27642.0	89.2	75.7		19039.0				3.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MESA GRANDE RESOURCES, RUCKER LAKE #3. (SW 25-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	31.0	3277.0	105.7	105.7	78.6	1939.0	62.5	75.9	591.7	0.0	0.0	0.0
1986	2	28.0	2685.0	95.9	95.9	81.2	1898.0	67.8	77.8	706.9	0.0	0.0	0.0
1986	3	31.0	2888.0	93.2	93.2	84.1	2327.0	75.1	80.1	805.7	0.0	0.0	0.0
1986	4	23.0	2237.0	97.3	74.6	86.4	1735.0	75.4	81.8	775.6	3.0	0.1	0.0
1986	5	31.0	3753.0	121.1	121.1	90.1	3600.0	116.1	85.4	959.2	3.0	0.1	0.0
1986	6	30.0	3261.0	108.7	108.7	93.4	2967.0	98.9	88.4	909.8	0.0	0.0	0.0
1986	7	31.0	2661.0	85.8	85.8	96.0	3852.0	124.3	92.3	1447.6	0.0	0.0	0.0
1986	8	31.0	2637.0	85.1	85.1	98.7	3543.0	114.3	95.8	1343.6	0.0	0.0	0.0
1986	9	25.0	2348.0	93.9	78.3	101.0	3212.0	128.5	99.0	1368.0	0.0	0.0	0.0
1986	10	30.0	2513.0	83.8	81.1	103.5	4169.0	139.0	103.2	1659.0	2.0	0.1	0.0
1986	11	30.0	2573.0	85.8	85.8	106.1	3392.0	113.1	106.6	1318.3	3.0	0.1	0.0
1986	12	31.0	2720.0	87.7	87.7	108.8	3121.0	100.7	109.7	1147.4	0.0	0.0	0.0
Subtotal		352.0	33553.0	95.3	91.9		35755.0				11.0		
1987	1	31.0	1981.0	63.9	63.9	110.8	2490.0	80.3	112.2	1256.9	0.0	0.0	0.0
1987	2	25.0	1868.0	74.7	66.7	112.7	2519.0	100.8	114.7	1348.5	0.0	0.0	0.0
1987	3	28.0	1605.0	57.3	51.8	114.3	3722.0	132.9	118.4	2319.0	0.0	0.0	0.0
1987	4	30.0	773.0	25.8	25.8	115.1	5805.0	193.5	124.2	7509.7	0.0	0.0	0.0
1987	5	31.0	359.0	11.6	11.6	115.4	6741.0	217.5	131.0	18777.2	0.0	0.0	0.0
1987	6	10.0	90.0	9.0	3.0	115.5	2296.0	229.6	133.3	25511.1	0.0	0.0	0.0
1987	7	31.0	905.0	29.2	29.2	116.4	2002.0	64.6	135.3	2212.2	0.0	0.0	0.0
1987	8	27.0	1199.0	44.4	38.7	117.6	1621.0	60.0	136.9	1352.0	0.0	0.0	0.0
1987	9	29.0	1095.0	37.8	36.5	118.7	1495.0	51.6	138.4	1365.3	0.0	0.0	0.0
1987	10	31.0	927.0	29.9	29.9	119.6	1580.0	51.0	140.0	1704.4	0.0	0.0	0.0
1987	11	5.0	32.0	6.4	1.1	119.7	1380.0	276.0	141.3	43125.0	0.0	0.0	0.0
1987	12	15.0	195.0	13.0	6.3	119.9	1970.0	131.3	143.3	10102.6	0.0	0.0	0.0
Subtotal		293.0	11029.0	37.6	30.2		33621.0				0.0		
1988	1	31.0	95.0	3.1	3.1	120.0	3362.0	108.5	146.7	35389.5	0.0	0.0	0.0
1988	2	25.0	366.0	14.6	12.6	120.3	3150.0	126.0	149.8	8606.6	0.0	0.0	0.0
1988	3	31.0	130.0	4.2	4.2	120.5	4818.0	155.4	154.6	37061.5	0.0	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MOBIL, LINDRITH B UNIT #34. (NE 32-25N-2W)

		OIL				GAS				GOR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	3.0	349.0	116.3	11.3	0.3	0.0	0.0	0.0	0.0	24.0	8.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	18.0	2005.0	111.4	66.8	2.4	5531.0	307.3	5.5	2758.6	180.0	10.0	0.2
1986	7	31.0	3840.0	123.9	123.9	6.2	11046.0	356.3	16.6	2876.6	252.0	8.1	0.4
1986	8	29.0	3207.0	110.6	103.5	9.4	10845.0	374.0	27.4	3381.7	232.0	8.0	0.7
1986	9	20.0	2238.0	111.9	74.6	11.6	6164.0	308.2	33.6	2754.2	160.0	8.0	0.8
1986	10	22.0	2246.0	102.1	72.5	13.9	9132.0	415.1	42.7	4065.9	138.0	6.3	1.0
1986	11	23.0	2215.0	96.3	73.8	16.1	7631.0	331.8	50.3	3445.1	138.0	6.0	1.1
1986	12	25.0	2335.0	93.4	75.3	18.4	7443.0	297.7	57.8	3187.6	178.0	7.1	1.3
Subtotal		171.0	18435.0	107.8	50.4		57792.0				1302.0		
1987	1	29.0	2258.0	77.9	72.8	20.7	7434.0	256.3	65.2	3292.3	180.0	6.2	1.5
1987	2	27.0	2478.0	91.8	88.5	23.2	7596.0	281.3	72.8	3065.4	150.0	5.6	1.7
1987	3	27.0	2349.0	87.0	75.8	25.5	7989.0	295.9	80.8	3401.0	148.0	5.5	1.8
1987	4	28.0	2132.0	76.1	71.1	27.7	7222.0	257.9	88.0	3387.4	154.0	5.5	2.0
1987	5	29.0	2047.0	70.6	66.0	29.7	7528.0	259.6	95.5	3677.6	157.0	5.4	2.1
1987	6	27.0	1987.0	73.6	66.2	31.7	7130.0	264.1	102.7	3588.3	64.0	2.4	2.2
1987	7	31.0	2144.0	69.2	69.2	33.8	7265.0	234.4	109.9	3388.5	62.0	2.0	2.2
1987	8	28.0	2731.0	97.5	88.1	36.6	5659.0	202.1	115.6	2072.1	56.0	2.0	2.3
1987	9	30.0	1453.0	48.4	48.4	38.0	4988.0	166.3	120.6	3432.9	33.0	1.1	2.3
1987	10	28.0	888.0	31.7	28.6	38.9	4403.0	157.3	125.0	4958.3	28.0	1.0	2.4
1987	11	26.0	843.0	32.4	28.1	39.8	3702.0	142.4	128.7	4391.5	26.0	1.0	2.4
1987	12	29.0	1000.0	34.5	32.3	40.8	5385.0	185.7	134.1	5385.0	29.0	1.0	2.4
Subtotal		339.0	22310.0	65.8	61.1		76301.0				1087.0		
1988	1	24.0	621.0	25.9	20.0	41.4	3222.0	134.3	137.3	5188.4	24.0	1.0	2.4
1988	2	26.0	711.0	27.3	24.5	42.1	3608.0	138.8	140.9	5074.5	26.0	1.0	2.5
1988	3	31.0	781.0	25.2	25.2	42.9	3984.0	128.5	144.9	5101.2	31.0	1.0	2.5

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
 MOBIL, LINDRITH B UNIT #37. (NE 4-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GDR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	3.0	671.0	223.7	21.6	0.7	0.0	0.0	0.0	0.0	24.0	8.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	19.0	4440.0	233.7	148.0	5.1	7072.0	372.2	7.1	1592.8	171.0	9.0	0.2
1986	7	27.0	5194.0	192.4	167.5	10.3	10379.0	384.4	17.5	1998.3	143.0	5.3	0.3
1986	8	29.0	5118.0	176.5	165.1	15.4	13184.0	454.6	30.6	2576.0	145.0	5.0	0.5
1986	9	20.0	3512.0	175.6	117.1	18.9	5888.0	294.4	36.5	1676.5	100.0	5.0	0.6
1986	10	31.0	1973.0	63.6	63.6	20.9	10071.0	324.9	46.6	5104.4	155.0	5.0	0.7
1986	11	30.0	1682.0	56.1	56.1	22.6	8473.0	282.4	55.1	5037.5	150.0	5.0	0.9
1986	12	31.0	1340.0	43.2	43.2	23.9	9740.0	314.2	64.8	7268.7	155.0	5.0	1.0
Subtotal		190.0	23930.0	125.9	65.4		64807.0				1043.0		
1987	1	31.0	1003.0	32.4	32.4	24.9	7965.0	256.9	72.8	7941.2	129.0	4.2	1.2
1987	2	28.0	760.0	27.1	26.2	25.7	6984.0	249.4	79.8	9189.5	112.0	4.0	1.3
1987	3	23.0	2271.0	98.7	73.3	28.0	7712.0	335.3	87.5	3395.9	92.0	4.0	1.4
1987	4	27.0	1172.0	43.4	39.1	29.1	6859.0	254.0	94.3	5852.4	108.0	4.0	1.5
1987	5	28.0	941.0	33.6	30.4	30.1	10097.0	360.6	104.4	10730.1	112.0	4.0	1.6
1987	6	26.0	1067.0	41.0	35.6	31.1	8690.0	334.2	113.1	8144.3	58.0	2.2	1.7
1987	7	31.0	1744.0	56.3	56.3	32.9	18261.0	589.1	131.4	10470.8	62.0	2.0	1.7
1987	8	28.0	6213.0	221.9	200.4	39.1	22129.0	790.3	153.5	3561.7	56.0	2.0	1.8
1987	9	30.0	7059.0	235.3	235.3	46.2	22118.0	737.3	175.6	3133.3	33.0	1.1	1.8
1987	10	31.0	6921.0	223.3	223.3	53.1	18404.0	593.7	194.0	2659.2	31.0	1.0	1.8
1987	11	26.0	5135.0	197.5	171.2	58.2	21273.0	818.2	215.3	4142.7	26.0	1.0	1.9
1987	12	20.0	3845.0	192.3	124.0	62.1	14592.0	729.6	229.9	3795.1	20.0	1.0	1.9
Subtotal		329.0	38131.0	115.9	104.2		165084.0				839.0		
1988	1	19.0	3604.0	189.7	116.3	65.7	14924.0	785.5	244.8	4141.0	19.0	1.0	1.9
1988	2	18.0	3513.0	195.2	121.1	69.2	16366.0	909.2	261.2	4658.7	18.0	1.0	1.9
1988	3	21.0	3555.0	169.3	114.7	72.7	16729.0	796.6	277.9	4705.8	21.0	1.0	1.9

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MOBIL, LINDRITH B UNIT #38. (SW 4-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MEW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	19.0	808.0	42.5	26.9	0.8	2670.0	140.5	2.7	3304.5	370.0	19.5	0.4
1986	7	31.0	1165.0	37.6	37.6	2.0	9893.0	319.1	12.6	8491.8	328.0	10.6	0.7
1986	8	29.0	1009.0	34.8	32.5	3.0	7264.0	250.5	19.9	7199.2	240.0	8.3	1.0
1986	9	20.0	338.0	16.9	11.3	3.3	4912.0	245.6	24.8	14532.5	160.0	8.0	1.1
1986	10	24.0	458.0	19.1	14.8	3.8	7504.0	312.7	32.3	16384.3	150.0	6.3	1.3
1986	11	23.0	399.0	17.3	13.3	4.2	6772.0	294.4	39.0	16972.4	138.0	6.0	1.4
1986	12	23.0	443.0	19.3	14.3	4.6	3958.0	172.1	43.0	8934.5	173.0	7.5	1.6
Subtotal		169.0	4620.0	27.3	12.6		42973.0				1559.0		
1987	1	23.0	348.0	15.1	11.2	5.0	8034.0	349.3	51.0	23086.2	146.0	6.3	1.7
1987	2	26.0	491.0	18.9	16.9	5.5	7021.0	270.0	58.1	14299.4	150.0	5.8	1.9
1987	3	26.0	517.0	19.9	16.7	6.0	9394.0	361.3	67.5	18170.2	149.0	5.7	2.0
1987	4	26.0	436.0	16.8	14.5	6.4	7717.0	296.8	75.2	17699.5	149.0	5.7	2.2
1987	5	27.0	410.0	15.2	13.2	6.8	9858.0	365.1	85.0	24043.9	151.0	5.6	2.3
1987	6	21.0	349.0	16.6	11.6	7.2	7197.0	342.7	92.2	20621.8	52.0	2.5	2.4
1987	7	31.0	405.0	13.1	13.1	7.6	5921.0	191.0	98.1	14619.8	62.0	2.0	2.4
1987	8	28.0	471.0	16.8	15.2	8.0	6794.0	242.6	104.9	14424.6	56.0	2.0	2.5
1987	9	30.0	240.0	8.0	8.0	8.3	5920.0	197.3	110.9	24666.7	33.0	1.1	2.5
1987	10	31.0	228.0	7.4	7.4	8.5	8951.0	288.7	119.8	39258.8	31.0	1.0	2.6
1987	11	16.0	90.0	5.6	3.0	8.6	1684.0	105.3	121.5	18711.1	16.0	1.0	2.6
1987	12	NR	0.0	0.0	0.0	8.6	0.0	0.0	121.5	0.0	0.0	0.0	2.6
Subtotal		285.0	3985.0	14.0	10.9		78491.0				995.0		
1988	1	NR	0.0	0.0	0.0	8.6	0.0	0.0	121.5	0.0	0.0	0.0	2.6
1988	2	0.0	0.0	0.0	0.0	8.6	0.0	0.0	121.5	0.0	0.0	0.0	2.6
1988	3	0.0	0.0	0.0	0.0	8.6	0.0	0.0	121.5	0.0	0.0	0.0	2.6

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
MOBIL, LINDRITH B UNIT #72. (NE 8-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR		WATER		
			BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	22.0	454.0	20.6	15.1	0.5	1103.0	50.1	1.1	2429.5	433.0	0.0	0.4
1987	5	31.0	142.0	4.6	4.6	0.6	2032.0	65.5	3.1	14309.9	532.0	17.2	1.0
1987	6	24.0	111.0	4.6	3.7	0.7	1980.0	82.5	5.1	17837.8	98.0	4.1	1.1
1987	7	31.0	106.0	3.4	3.4	0.8	2291.0	73.9	7.4	21613.2	93.0	3.0	1.2
1987	8	28.0	120.0	4.3	3.9	0.9	1811.0	64.7	9.2	15091.7	84.0	3.0	1.2
1987	9	29.0	74.0	2.6	2.5	1.0	1861.0	64.2	11.1	25148.6	87.0	3.0	1.3
1987	10	3.0	5.0	1.7	0.2	1.0	1347.0	449.0	12.4	269400.0	6.0	2.0	1.3
1987	11	22.0	49.0	2.2	1.6	1.1	849.0	38.6	13.3	17326.5	0.0	0.0	1.3
1987	12	29.0	76.0	2.6	2.5	1.1	1494.0	51.5	14.8	19657.9	0.0	0.0	1.3
Subtotal		219.0	1137.0	5.2	3.1		14768.0				1333.0		
1988	1	31.0	80.0	2.6	2.6	1.2	1560.0	50.3	16.3	19500.0	0.0	0.0	1.3
1988	2	26.0	60.0	2.3	2.1	1.3	1199.0	46.1	17.5	19983.3	0.0	0.0	1.3
1988	3	31.0	75.0	2.4	2.4	1.4	1415.0	45.6	18.9	18866.7	0.0	0.0	1.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 MOBIL, LINDRITH B UNIT #73. (NE 6-24N-2W)

		OIL				GAS			GDR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	25.0	518.0	20.7	17.3	0.5	57.0	2.3	0.1	110.0	133.0	0.0	0.1
1987	5	31.0	250.0	8.1	8.1	0.8	4007.0	129.3	4.1	16028.0	355.0	11.5	0.5
1987	6	27.0	190.0	7.0	6.3	1.0	3752.0	139.0	7.8	19747.4	75.0	2.8	0.6
1987	7	30.0	167.0	5.6	5.4	1.1	3622.0	120.7	11.4	21688.6	88.0	2.9	0.7
1987	8	28.0	246.0	8.8	7.9	1.4	2691.0	96.1	14.1	10939.0	84.0	3.0	0.7
1987	9	30.0	186.0	6.2	6.2	1.6	3093.0	103.1	17.2	16629.0	90.0	3.0	0.8
1987	10	31.0	193.0	6.2	6.2	1.8	3596.0	116.0	20.8	18632.1	93.0	3.0	0.9
1987	11	26.0	112.0	4.3	3.7	1.9	2973.0	114.3	23.8	26544.6	78.0	3.0	1.0
1987	12	26.0	291.0	11.2	9.4	2.2	2386.0	91.8	26.2	8199.3	78.0	3.0	1.1
Subtotal		254.0	2153.0	8.5	5.9		26177.0				1074.0		
1988	1	23.0	238.0	10.3	7.7	2.4	4348.0	189.0	30.5	18268.9	69.0	3.0	1.1
1988	2	26.0	113.0	4.3	3.9	2.5	2192.0	84.3	32.7	19398.2	78.0	3.0	1.2
1988	3	30.0	126.0	4.2	4.1	2.6	2410.0	80.3	35.1	19127.0	90.0	3.0	1.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CD., NM  
MOBIL, LINDRITH B UNIT #74. (NE 9-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	25.0	274.0	11.0	9.1	0.3	108.0	4.3	0.1	394.2	250.0	0.0	0.3
1987	5	13.0	146.0	11.2	4.7	0.4	4846.0	372.8	5.0	33191.8	130.0	10.0	0.4
1987	6	16.0	134.0	8.4	4.5	0.6	5711.0	356.9	10.7	42619.4	24.0	1.5	0.4
1987	7	31.0	187.0	6.0	6.0	0.7	8135.0	262.4	18.8	43502.7	89.0	2.9	0.5
1987	8	28.0	151.0	5.4	4.9	0.9	13752.0	491.1	32.6	91072.8	84.0	3.0	0.6
1987	9	30.0	892.0	29.7	29.7	1.8	12600.0	420.0	45.2	14125.6	90.0	3.0	0.7
1987	10	31.0	1008.0	32.5	32.5	2.8	15587.0	502.8	60.7	15463.3	93.0	3.0	0.8
1987	11	26.0	560.0	21.5	18.7	3.4	9299.0	357.7	70.0	16605.4	78.0	3.0	0.8
1987	12	20.0	148.0	7.4	4.8	3.5	7271.0	363.6	77.3	49128.4	60.0	3.0	0.9
Subtotal		220.0	3500.0	15.9	9.6		77309.0				898.0		
1988	1	21.0	106.0	5.0	3.4	3.6	7386.0	351.7	84.7	69679.2	63.0	3.0	1.0
1988	2	21.0	152.0	7.2	5.2	3.8	6107.0	290.8	90.8	40177.6	63.0	3.0	1.0
1988	3	22.0	180.0	8.2	5.8	3.9	7041.0	320.0	97.8	39116.7	66.0	3.0	1.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 READING & BATES, HOWARD FED #43-15. (SE 15-25N-2W)  
 DUAL COMPLETION: GAVILAN MANCOS.

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	NCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	1056.0	0.0	34.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	5.0	160.0	32.0	5.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	30.0	407.0	13.6	13.1	1.6	11497.0	383.2	11.5	28248.2	0.0	0.0	0.0
Subtotal		35.0	1623.0	46.4	8.8		11497.0				0.0		
1987	1	18.0	150.0	8.3	4.8	1.8	7828.0	434.9	19.3	52186.7	0.0	0.0	0.0
1987	2	25.0	332.0	13.3	11.9	2.1	8920.0	356.8	28.2	26867.5	8.0	0.3	0.0
1987	3	0.0	0.0	0.0	0.0	2.1	0.0	0.0	28.2	0.0	0.0	0.0	0.0
1987	4	23.0	113.0	4.9	3.8	2.2	7839.0	340.8	36.1	69371.7	0.0	0.0	0.0
1987	5	31.0	133.0	4.3	4.3	2.4	7242.0	233.6	43.3	54451.1	0.0	0.0	0.0
1987	6	22.0	103.0	4.7	3.4	2.5	8504.0	386.5	51.8	82563.1	4.0	0.2	0.0
1987	7	29.0	446.0	15.4	14.4	2.9	12784.0	440.8	64.6	28663.7	226.0	7.8	0.2
1987	8	31.0	351.0	11.3	11.3	3.3	14318.0	461.9	78.9	40792.0	8.0	0.3	0.2
1987	9	0.0	0.0	0.0	0.0	3.3	0.0	0.0	78.9	0.0	0.0	0.0	0.2
1987	10	6.0	117.0	19.5	3.8	3.4	2676.0	446.0	81.6	22871.8	0.0	0.0	0.2
1987	11	25.0	197.0	7.9	6.6	3.6	10256.0	410.2	91.9	52060.9	2.0	0.1	0.2
1987	12	26.0	70.0	2.7	2.3	3.6	9007.0	346.4	100.9	128671.4	19.0	0.7	0.3
Subtotal		236.0	2012.0	8.5	5.5		89374.0				267.0		
1988	1	31.0	119.0	3.8	3.8	3.8	8436.0	272.1	109.3	70890.8	20.0	0.6	0.3
1988	2	25.0	96.0	3.8	3.3	3.9	5948.0	237.9	115.3	61958.3	2.0	0.1	0.3
1988	3	31.0	111.0	3.6	3.6	4.0	8280.0	267.1	123.5	74594.6	0.0	0.0	0.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\*BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 READING & BATES, INGRAM FED #43-16. (SE 16-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	NCF/M	NCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	4.0	73.0	18.3	2.4	0.1	2120.0	530.0	2.1	29041.1	105.0	26.3	0.1
1987	10	26.0	1362.0	52.4	43.9	1.4	6767.0	260.3	8.9	4968.4	330.0	12.7	0.4
1987	11	26.0	1145.0	44.0	38.2	2.6	15952.0	613.5	24.8	13931.9	44.0	1.7	0.5
1987	12	16.0	1146.0	71.6	37.0	3.7	3369.0	210.6	28.2	2939.8	43.0	2.7	0.5
Subtotal		72.0	3726.0	51.8	10.2		28208.0				522.0		
1988	1	24.0	1685.0	70.2	54.4	5.4	3885.0	161.9	32.1	2305.6	33.0	1.4	0.6
1988	2	25.0	2051.0	82.0	70.7	7.5	5806.0	232.2	37.9	2830.8	29.0	1.2	0.6
1988	3	31.0	2759.0	89.0	89.0	10.2	6471.0	208.7	44.4	2345.4	29.0	0.9	0.6

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, BEEK'S BABBIT #1. (NE 17-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MBCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	5.0	14.0	2.8	0.5	0.0	17.0	3.4	0.0	1214.3	0.0	0.0	0.0
1986	12	24.0	3800.0	158.3	122.6	3.8	4487.0	187.0	4.5	1180.8	7.0	0.3	0.0
Subtotal		29.0	3814.0	131.5	11.4		4504.0				7.0		
1987	1	20.0	3776.0	188.8	121.8	7.6	4017.0	200.9	8.5	1063.8	6.0	0.3	0.0
1987	2	12.0	1896.0	158.0	67.7	9.5	7848.0	654.0	16.4	4139.2	1.0	0.1	0.0
1987	3	11.0	1359.0	123.5	43.8	10.8	884.0	80.4	17.3	650.5	2.0	0.2	0.0
1987	4	15.0	2760.0	184.0	92.0	13.6	9831.0	655.4	27.1	3562.0	5.0	0.3	0.0
1987	5	18.0	3126.0	173.7	100.8	16.7	5708.0	317.1	32.8	1826.0	5.0	0.3	0.0
1987	6	15.0	2346.0	156.4	78.2	19.1	8092.0	539.5	40.9	3449.3	0.0	0.0	0.0
1987	7	31.0	3536.0	114.1	114.1	22.6	11675.0	376.6	52.6	3301.8	0.0	0.0	0.0
1987	8	27.0	3289.0	121.8	106.1	25.9	10082.0	373.4	62.6	3065.4	0.0	0.0	0.0
1987	9	30.0	3151.0	105.0	105.0	29.1	11144.0	371.5	73.8	3536.7	0.0	0.0	0.0
1987	10	31.0	3470.0	111.9	111.9	32.5	12266.0	395.7	86.1	3534.9	0.0	0.0	0.0
1987	11	24.0	1972.0	82.2	65.7	34.5	6050.0	252.1	92.1	3068.0	0.0	0.0	0.0
1987	12	28.0	2026.0	72.4	65.4	36.5	7650.0	273.2	99.8	3775.9	0.0	0.0	0.0
Subtotal		262.0	32707.0	124.8	89.6		95247.0				19.0		
1988	1	25.0	1641.0	65.6	52.9	38.2	6165.0	246.6	105.9	3756.9	0.0	0.0	0.0
1988	2	25.0	1643.0	65.7	56.7	39.8	6833.0	273.3	112.7	4158.9	NR	0.0	0.0
1988	3	31.0	1663.0	53.6	53.6	41.5	6604.0	213.0	119.4	3971.1	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, BOYT & LOLA #1. (SE 11-24N-2W)

		OIL				GAS				GDR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	NCF/M	NCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	7.0	298.0	42.6	9.9	0.3	248.0	35.4	0.2	832.2	0.0	0.0	0.0
1985	7	31.0	361.0	11.6	11.6	0.7	2611.0	84.2	2.9	7232.7	15.0	0.5	0.0
1985	8	31.0	475.0	15.3	15.3	1.1	3436.0	110.8	6.3	7233.7	15.0	0.5	0.0
1985	9	30.0	679.0	22.6	22.6	1.8	4912.0	163.7	11.2	7234.2	10.0	0.3	0.0
1985	10	31.0	617.0	19.9	19.9	2.4	4463.0	144.0	15.7	7233.4	10.0	0.3	0.1
1985	11	29.0	348.0	12.0	11.6	2.8	2517.0	86.8	18.2	7232.8	5.0	0.2	0.1
1985	12	27.0	262.0	9.7	8.5	3.0	1895.0	70.2	20.1	7232.8	8.0	0.3	0.1
Subtotal		186.0	3040.0	16.3	14.2		20082.0				63.0		
1986	1	31.0	282.0	9.1	9.1	3.3	2040.0	65.8	22.1	7234.0	10.0	0.3	0.1
1986	2	28.0	328.0	11.7	11.7	3.7	2373.0	84.8	24.5	7234.8	10.0	0.4	0.1
1986	3	31.0	331.0	10.7	10.7	4.0	1205.0	38.9	25.7	3640.5	10.0	0.3	0.1
1986	4	30.0	181.0	6.0	6.0	4.2	656.0	21.9	26.4	3624.3	3.0	0.1	0.1
1986	5	28.0	292.0	10.4	9.4	4.5	1061.0	37.9	27.4	3633.6	8.0	0.3	0.1
1986	6	30.0	194.0	6.5	6.5	4.6	704.0	23.5	28.1	3628.9	8.0	0.3	0.1
1986	7	24.0	79.0	3.3	2.5	4.7	459.0	19.1	28.6	5810.1	5.0	0.2	0.1
1986	8	2.0	32.0	16.0	1.0	4.8	115.0	57.5	28.7	3593.8	0.0	0.0	0.1
1986	9	9.0	44.0	4.9	1.5	4.8	161.0	17.9	28.9	3659.1	0.0	0.0	0.1
1986	10	31.0	109.0	3.5	3.5	4.9	394.0	12.7	29.2	3614.7	0.0	0.0	0.1
1986	11	30.0	76.0	2.5	2.5	5.0	275.0	9.2	29.5	3618.4	3.0	0.1	0.1
1986	12	31.0	69.0	2.2	2.2	5.1	250.0	8.1	29.8	3623.2	3.0	0.1	0.1
Subtotal		305.0	2017.0	6.6	5.5		9693.0				60.0		
1987	1	28.0	35.0	1.3	1.1	5.1	130.0	4.6	29.9	3714.3	2.0	0.1	0.1
1987	2	23.0	35.0	1.5	1.3	5.1	124.0	5.4	30.0	3542.9	2.0	0.1	0.1
1987	3	0.0	0.0	0.0	0.0	5.1	0.0	0.0	30.0	0.0	0.0	0.0	0.1
1987	4	0.0	0.0	0.0	0.0	5.1	0.0	0.0	30.0	0.0	0.0	0.0	0.1
1987	5	0.0	0.0	0.0	0.0	5.1	0.0	0.0	30.0	0.0	0.0	0.0	0.1
1987	6	3.0	25.0	8.3	0.8	5.2	2.0	0.7	30.0	80.0	0.0	0.0	0.1
1987	7	31.0	71.0	2.3	2.3	5.2	258.0	8.3	30.3	3633.8	0.0	0.0	0.1
1987	8	31.0	42.0	1.4	1.4	5.3	140.0	4.5	30.4	3333.3	0.0	0.0	0.1
1987	9	12.0	11.0	0.9	0.4	5.3	19.0	1.6	30.4	1727.3	0.0	0.0	0.1
1987	10	NR	NR	0.0	0.0	5.3	NR	0.0	30.4	0.0	NR	0.0	0.1
1987	11	NR	NR	0.0	0.0	5.3	NR	0.0	30.4	0.0	NR	0.0	0.1
1987	12	NR	NR	0.0	0.0	5.3	NR	0.0	30.4	0.0	NR	0.0	0.1
Subtotal		128.0	219.0	1.7	0.6		673.0				4.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, BOYT & LOLA #1. (SE 11-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BMPD	CUM MBW
1988	1	NR	0.0	0.0	0.0	5.3	NR	0.0	30.4	0.0	NR	0.0	0.1
1988	2	NR	0.0	0.0	0.0	5.3	NR	0.0	30.4	0.0	NR	0.0	0.1
1988	3	NR	0.0	0.0	0.0	5.3	NR	0.0	30.4	0.0	NR	0.0	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANDOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, BOYT & LOLA #2. (NW 12-24N-2W)

		OIL				GAS			GOR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM			SCF/BBL	Month	BWPD	CUM MBW
						MBO	MCF/M	MCF/D				
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	12.0	424.0	35.3	14.1	0.4	254.0	21.2	0.3	599.1	0.0	0.0
1985	7	31.0	931.0	30.0	30.0	1.4	1647.0	53.1	1.9	1769.1	20.0	0.6
1985	8	31.0	622.0	20.1	20.1	2.0	1100.0	35.5	3.0	1768.5	20.0	0.6
1985	9	30.0	916.0	30.5	30.5	2.9	1620.0	54.0	4.6	1768.6	20.0	0.7
1985	10	31.0	1035.0	33.4	33.4	3.9	1830.0	59.0	6.5	1768.1	20.0	0.6
1985	11	24.0	828.0	34.5	27.6	4.8	1465.0	61.0	7.9	1769.3	16.0	0.7
1985	12	27.0	587.0	21.7	18.9	5.3	1038.0	38.4	9.0	1768.3	13.0	0.5
Subtotal		186.0	5343.0	28.7	25.0		8954.0				109.0	
1986	1	29.0	620.0	21.4	20.0	6.0	1097.0	37.8	10.1	1769.4	15.0	0.5
1986	2	28.0	480.0	17.1	17.1	6.4	849.0	30.3	10.9	1768.8	15.0	0.5
1986	3	31.0	428.0	13.8	13.8	6.9	832.0	26.8	11.7	1943.9	15.0	0.5
1986	4	30.0	438.0	14.6	14.6	7.3	853.0	28.4	12.6	1947.5	15.0	0.5
1986	5	31.0	456.0	14.7	14.7	7.8	887.0	28.6	13.5	1945.2	15.0	0.5
1986	6	30.0	519.0	17.3	17.3	8.3	1010.0	33.7	14.5	1946.1	15.0	0.5
1986	7	31.0	509.0	16.4	16.4	8.8	989.0	31.9	15.5	1943.0	15.0	0.5
1986	8	31.0	212.0	6.8	6.8	9.0	413.0	13.3	15.9	1948.1	5.0	0.2
1986	9	30.0	246.0	8.2	8.2	9.3	477.0	15.9	16.4	1939.0	5.0	0.2
1986	10	31.0	255.0	8.2	8.2	9.5	498.0	16.1	16.9	1952.9	31.0	1.0
1986	11	30.0	189.0	6.3	6.3	9.7	367.0	12.2	17.2	1941.8	5.0	0.2
1986	12	31.0	155.0	5.0	5.0	9.9	350.0	11.3	17.6	2258.1	5.0	0.2
Subtotal		363.0	4507.0	12.4	12.3		8622.0				156.0	
1987	1	31.0	175.0	5.6	5.6	10.0	341.0	11.0	17.9	1948.6	5.0	0.2
1987	2	28.0	145.0	5.2	5.2	10.2	281.0	10.0	18.2	1937.9	5.0	0.2
1987	3	29.0	142.0	4.9	4.6	10.3	276.0	9.5	18.5	1943.7	10.0	0.3
1987	4	29.0	176.0	6.1	5.9	10.5	341.0	11.8	18.8	1937.5	12.0	0.4
1987	5	28.0	126.0	4.5	4.1	10.6	245.0	8.8	19.1	1944.4	10.0	0.4
1987	6	27.0	115.0	4.3	3.8	10.7	763.0	28.3	19.8	6634.8	0.0	0.0
1987	7	10.0	36.0	3.6	1.2	10.8	225.0	22.5	20.0	6250.0	0.0	0.0
1987	8	NR	NR	0.0	0.0	10.8	NR	0.0	20.0	0.0	NR	0.0
1987	9	NR	NR	0.0	0.0	10.8	NR	0.0	20.0	0.0	NR	0.0
1987	10	NR	NR	0.0	0.0	10.8	NR	0.0	20.0	0.0	NR	0.0
1987	11	NR	NR	0.0	0.0	10.8	NR	0.0	20.0	0.0	NR	0.0
1987	12	NR	NR	0.0	0.0	10.8	NR	0.0	20.0	0.0	NR	0.0
Subtotal		182.0	915.0	5.0	2.5		2472.0				42.0	

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, BOYT & LOLA #2. (NW 12-24N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	NR	NR	0.0	0.0	10.8	NR	0.0	20.0	0.0	NR	0.0	0.3
1988	2	NR	NR	0.0	0.0	10.8	NR	0.0	20.0	0.0	NR	0.0	0.3
1988	3	31.0	144.0	4.6	4.6	10.9	1702.0	54.9	21.8	11819.4	0.0	0.0	0.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, DR. DADDY-0 #1. (NW 33-25N-2W)

YR	MO	DAYS PRODUCED	DIL			GAS				GOR		WATER	
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	5.0	1035.0	207.0	34.5	1.0	479.0	95.8	0.5	462.8	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Subtotal		5.0	1035.0	207.0	4.8		479.0				0.0		
1986	1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1986	5	19.0	783.0	41.2	25.3	1.8	118.0	6.2	0.6	150.7	10.0	0.5	0.0
1986	6	7.0	69.0	9.9	2.3	1.9	32.0	4.6	0.6	463.8	1.0	0.1	0.0
1986	7	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.6	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.6	0.0	0.0	0.0	0.0
1986	9	6.0	339.0	56.5	11.3	2.2	147.0	24.5	0.8	433.6	3.0	0.5	0.0
1986	10	31.0	2558.0	82.5	82.5	4.8	5808.0	187.4	6.6	2270.5	10.0	0.3	0.0
1986	11	30.0	2437.0	81.2	81.2	7.2	5300.0	176.7	11.9	2174.8	10.0	0.3	0.0
1986	12	31.0	2818.0	90.9	90.9	10.0	3510.0	113.2	15.4	1245.6	10.0	0.3	0.0
Subtotal		124.0	9004.0	72.6	24.7		14915.0				44.0		
1987	1	31.0	2543.0	82.0	82.0	12.6	3984.0	128.5	19.4	1566.7	15.0	0.5	0.1
1987	2	28.0	2324.0	83.0	83.0	14.9	3350.0	119.6	22.7	1441.5	10.0	0.4	0.1
1987	3	31.0	2597.0	83.8	83.8	17.5	4952.0	159.7	27.7	1906.8	15.0	0.5	0.1
1987	4	30.0	2639.0	88.0	88.0	20.1	5433.0	181.1	33.1	2058.7	10.0	0.3	0.1
1987	5	31.0	2567.0	82.8	82.8	22.7	7104.0	229.2	40.2	2767.4	10.0	0.3	0.1
1987	6	27.0	2181.0	80.8	72.7	24.9	7604.0	281.6	47.8	3486.5	324.0	12.0	0.4
1987	7	30.0	2064.0	68.8	66.6	27.0	6881.0	229.4	54.7	3333.8	0.0	0.0	0.4
1987	8	27.0	1018.0	37.7	32.8	28.0	6541.0	242.3	61.2	6425.3	0.0	0.0	0.4
1987	9	30.0	903.0	30.1	30.1	28.9	8627.0	287.6	69.9	9553.7	0.0	0.0	0.4
1987	10	31.0	709.0	22.9	22.9	29.6	8756.0	282.5	78.6	12349.8	0.0	0.0	0.4
1987	11	24.0	359.0	15.0	12.0	29.9	5876.0	244.8	84.5	16367.7	0.0	0.0	0.4
1987	12	28.0	684.0	24.4	22.1	30.6	7561.0	270.0	92.1	11054.1	0.0	0.0	0.4
Subtotal		348.0	20588.0	59.2	56.4		76669.0				384.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



SAVILAN MANCOS POOL, RIO ARRISA CO., NM  
 SUN EXPLORATION & PRODUCTION, DR. DADDY-0 #1. (NW 33-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GDR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	31.0	1135.0	36.6	36.6	31.8	6462.0	208.5	98.5	5693.4	0.0	0.0	0.4
1988	2	25.0	695.0	27.8	24.0	32.5	4428.0	177.1	103.0	6371.2	NR	0.0	0.4
1988	3	31.0	579.0	18.7	18.7	33.0	7247.0	233.8	110.2	12516.4	NR	0.0	0.4

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, DEWEY BARTLETT #1. (SE 4-25N-2W)

		OIL				GAS			GDR	WATER			
YR	NO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	62.0	0.0	2.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	NR	NR	0.0	0.0	0.1	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	10	NR	NR	0.0	0.0	0.1	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	11	NR	NR	0.0	0.0	0.1	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	12	NR	NR	0.0	0.0	0.1	NR	0.0	0.0	0.0	NR	0.0	0.0
Subtotal		0.0	62.0	0.0	0.2		0.0				0.0		
1988	1	NR	NR	0.0	0.0	0.1	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	2	NR	NR	0.0	0.0	0.1	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	3	NR	NR	0.0	0.0	0.1	NR	0.0	0.0	0.0	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, E.T. #1. (NW 28-25N-2W)

		OIL				GAS				GOR	WATER		
DAYS		BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW	
YR	MO												PRODUCED
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	11	30.0	249.0	8.3	8.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	
1983	12	31.0	2408.0	84.1	84.1	2.9	0.0	0.0	0.0	0.0	16.0	0.5	
Subtotal		61.0	2857.0	46.8	46.8		0.0				16.0		
1984	1	31.0	3759.0	121.3	121.3	6.6	0.0	0.0	0.0	0.0	16.0	0.5	
1984	2	29.0	3491.0	120.4	120.4	10.1	0.0	0.0	0.0	0.0	15.0	0.5	
1984	3	9.0	964.0	107.1	31.1	11.1	314.0	34.9	0.3	325.7	10.0	1.1	
1984	4	8.0	1235.0	154.4	41.2	12.3	224.0	28.0	0.5	181.4	4.0	0.5	
1984	5	31.0	2675.0	86.3	86.3	15.0	1042.0	33.6	1.6	389.5	16.0	0.5	
1984	6	30.0	2408.0	80.3	80.3	17.4	1135.0	37.8	2.7	471.3	15.0	0.5	
1984	7	31.0	2475.0	79.8	79.8	19.9	1000.0	32.3	3.7	404.0	16.0	0.5	
1984	8	31.0	2544.0	82.1	82.1	22.4	926.0	29.9	4.6	364.0	10.0	0.3	
1984	9	30.0	2480.0	82.7	82.7	24.9	1066.0	35.5	5.7	429.8	15.0	0.5	
1984	10	28.0	2245.0	80.2	72.4	27.1	1113.0	39.8	6.8	495.8	12.0	0.4	
1984	11	30.0	2616.0	87.2	87.2	29.7	1094.0	36.5	7.9	418.2	15.0	0.5	
1984	12	31.0	2854.0	92.1	92.1	32.6	1215.0	39.2	9.1	425.7	5.0	0.2	
Subtotal		319.0	29746.0	93.2	81.3		9129.0				149.0		
1985	1	31.0	2791.0	90.0	90.0	35.4	1257.0	40.5	10.4	450.4	5.0	0.2	
1985	2	28.0	2513.0	89.8	89.8	37.9	1101.0	39.3	11.5	438.1	5.0	0.2	
1985	3	29.0	2484.0	85.7	80.1	40.4	1089.0	37.6	12.6	438.4	10.0	0.3	
1985	4	30.0	2328.0	77.6	77.6	42.7	959.0	32.0	13.5	411.9	10.0	0.3	
1985	5	30.0	2264.0	75.5	73.0	45.0	912.0	30.4	14.4	402.8	5.0	0.2	
1985	6	30.0	2371.0	79.0	79.0	47.4	938.0	31.3	15.4	395.6	5.0	0.2	
1985	7	31.0	2296.0	74.1	74.1	49.7	926.0	29.9	16.3	403.3	10.0	0.3	
1985	8	31.0	2320.0	74.8	74.8	52.0	1020.0	32.9	17.3	439.7	5.0	0.2	
1985	9	30.0	2298.0	76.6	76.6	54.3	893.0	29.8	18.2	388.6	5.0	0.2	
1985	10	31.0	2347.0	75.7	75.7	56.6	888.0	28.6	19.1	378.4	5.0	0.2	
1985	11	30.0	2226.0	74.2	74.2	58.8	883.0	29.4	20.0	396.7	5.0	0.2	
1985	12	31.0	2232.0	72.0	72.0	61.1	933.0	30.1	20.9	418.0	10.0	0.3	
Subtotal		362.0	28470.0	78.6	78.0		11799.0				80.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, E.T. #1. (NW 28-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/88L	Month	BWPD	CUM MBW
1986	1	31.0	2259.0	72.9	72.9	63.3	1031.0	33.3	22.0	456.4	10.0	0.3	0.3
1986	2	27.0	5405.0	200.2	193.0	68.7	2371.0	87.8	24.3	438.7	8.0	0.3	0.3
1986	3	31.0	7313.0	235.9	235.9	76.1	3883.0	125.3	28.2	531.0	5.0	0.2	0.3
1986	4	30.0	6000.0	200.0	200.0	82.1	4170.0	139.0	32.4	695.0	5.0	0.2	0.3
1986	5	31.0	5168.0	166.7	166.7	87.2	7473.0	241.1	39.9	1446.0	15.0	0.5	0.3
1986	6	30.0	3128.0	104.3	104.3	90.3	10223.0	340.8	50.1	3268.2	10.0	0.3	0.3
1986	7	31.0	2074.0	66.9	66.9	92.4	13464.0	434.3	63.5	6491.8	10.0	0.3	0.3
1986	8	29.0	1146.0	39.5	37.0	93.6	12877.0	444.0	76.4	11236.5	10.0	0.3	0.3
1986	9	2.0	264.0	132.0	8.8	93.8	1569.0	784.5	78.0	5943.2	1.0	0.5	0.3
1986	10	19.0	527.0	27.7	17.0	94.4	7741.0	407.4	85.7	14688.8	6.0	0.3	0.3
1986	11	18.0	660.0	36.7	22.0	95.0	5599.0	311.1	91.3	8483.3	6.0	0.3	0.3
1986	12	20.0	665.0	33.3	21.5	95.7	9116.0	455.8	100.4	13708.3	6.0	0.3	0.3
Subtotal		299.0	34609.0	115.7	94.8		79517.0				92.0		
1987	1	24.0	785.0	32.7	25.3	96.5	7139.0	297.5	107.6	9094.3	7.0	0.3	0.3
1987	2	26.0	572.0	22.0	20.4	97.0	8089.0	311.1	115.7	14141.6	10.0	0.4	0.4
1987	3	19.0	435.0	22.9	14.0	97.5	9578.0	504.1	125.3	22016.4	6.0	0.3	0.4
1987	4	18.0	449.0	24.9	15.0	97.9	7478.0	415.4	132.7	16654.8	6.0	0.3	0.4
1987	5	19.0	339.0	17.8	10.9	98.3	7199.0	378.9	139.9	21236.0	6.0	0.3	0.4
1987	6	19.0	300.0	15.8	10.0	98.6	7212.0	379.6	147.1	24040.0	0.0	0.0	0.4
1987	7	30.0	405.0	13.5	13.1	99.0	11197.0	373.2	158.3	27646.9	0.0	0.0	0.4
1987	8	27.0	169.0	6.3	5.5	99.1	8523.0	315.7	166.9	50432.0	0.0	0.0	0.4
1987	9	30.0	154.0	5.1	5.1	99.3	8436.0	281.2	175.3	54779.2	0.0	0.0	0.4
1987	10	31.0	98.0	3.2	3.2	99.4	6948.0	224.1	182.2	70898.0	0.0	0.0	0.4
1987	11	30.0	69.0	2.3	2.3	99.5	4025.0	134.2	186.3	58333.3	0.0	0.0	0.4
1987	12	27.0	72.0	2.7	2.3	99.5	4364.0	161.6	190.6	60611.1	0.0	0.0	0.4
Subtotal		300.0	3847.0	12.8	10.5		90188.0				35.0		
1988	1	19.0	13.0	0.7	0.4	99.5	3092.0	162.7	193.7	237846.2	0.0	0.0	0.4
1988	2	29.0	62.0	2.1	2.1	99.6	1654.0	57.0	195.4	26677.4	0.0	0.0	0.4
1988	3	9.0	34.0	3.8	1.1	99.6	2865.0	318.3	198.2	84264.7	NR	0.0	0.4

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCDS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, FULL SAIL #1. (SE 29-25N-2W)

		OIL				GAS				GDR	WATER		
YR	NO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM		CUM		SCF/BBL	Month	BWPD	CUM MBW
						MBO	MCF/M	MCF/D	MMCF				
1984	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	8	31.0	2337.0	75.4	75.4	2.3	862.0	27.8	0.9	368.8	47.0	1.5	0.0
1984	9	25.0	1938.0	77.5	64.6	4.3	834.0	33.4	1.7	430.3	12.0	0.5	0.1
1984	10	31.0	3424.0	110.5	110.5	7.7	862.0	27.8	2.6	251.8	10.0	0.3	0.1
1984	11	21.0	2873.0	136.8	95.8	10.6	584.0	27.8	3.1	203.3	10.0	0.5	0.1
1984	12	31.0	5434.0	175.3	175.3	16.0	862.0	27.8	4.0	158.6	20.0	0.6	0.1
Subtotal		139.0	16006.0	115.2	43.7		4004.0				99.0		
1985	1	26.0	4814.0	185.2	155.3	20.8	723.0	27.8	4.7	150.2	20.0	0.8	0.1
1985	2	16.0	3445.0	215.3	118.8	24.3	445.0	27.8	5.2	129.2	20.0	1.3	0.1
1985	3	31.0	6513.0	210.1	210.1	30.8	111.0	3.6	5.3	17.0	15.0	0.5	0.2
1985	4	30.0	6782.0	226.1	226.1	37.6	4947.0	164.9	10.2	729.4	20.0	0.7	0.2
1985	5	24.0	5350.0	222.9	172.6	42.9	5680.0	236.7	15.9	1061.7	15.0	0.6	0.2
1985	6	30.0	6369.0	212.3	212.3	49.3	5783.0	192.8	21.7	908.0	10.0	0.3	0.2
1985	7	31.0	6007.0	193.8	193.8	55.3	6152.0	198.5	27.8	1024.1	5.0	0.2	0.2
1985	8	31.0	6324.0	204.0	204.0	61.6	6846.0	220.8	34.7	1082.5	12.0	0.4	0.2
1985	9	30.0	5903.0	196.8	196.8	67.5	5900.0	196.7	40.6	999.5	10.0	0.3	0.2
1985	10	31.0	5716.0	184.4	184.4	73.2	6090.0	196.5	46.7	1065.4	10.0	0.3	0.2
1985	11	26.0	4515.0	173.7	150.5	77.7	3374.0	129.8	50.1	747.3	4.0	0.2	0.2
1985	12	31.0	4055.0	130.8	130.8	81.8	3125.0	100.8	53.2	770.7	1.0	0.0	0.2
Subtotal		337.0	65793.0	195.2	179.8		49176.0				142.0		
1986	1	31.0	3915.0	126.3	126.3	85.7	3511.0	113.3	56.7	896.8	5.0	0.2	0.2
1986	2	28.0	2426.0	86.6	83.7	88.1	4575.0	163.4	61.3	1885.8	5.0	0.2	0.3
1986	3	31.0	5410.0	174.5	174.5	93.6	7451.0	240.4	68.7	1377.3	10.0	0.3	0.3
1986	4	24.0	3675.0	153.1	122.5	97.2	6652.0	277.2	75.4	1810.1	8.0	0.3	0.3
1986	5	31.0	4673.0	150.7	150.7	101.9	7501.0	242.0	82.9	1605.2	5.0	0.2	0.3
1986	6	30.0	4250.0	141.7	141.7	106.1	8833.0	294.4	91.7	2078.4	10.0	0.3	0.3
1986	7	31.0	4141.0	133.6	133.6	110.3	7366.0	237.6	99.1	1778.8	10.0	0.3	0.3
1986	8	29.0	3489.0	120.3	112.5	113.8	7899.0	272.4	107.0	2264.0	10.0	0.3	0.3
1986	9	13.0	1418.0	109.1	47.3	115.2	2616.0	201.2	109.6	1844.9	2.0	0.2	0.3
1986	10	28.0	3086.0	110.2	99.5	118.3	7741.0	276.5	117.3	2508.4	9.0	0.3	0.3
1986	11	27.0	2591.0	96.0	86.4	120.9	5433.0	201.2	122.8	2096.9	9.0	0.3	0.3
1986	12	31.0	2523.0	81.4	81.4	123.4	5185.0	167.3	127.9	2055.1	10.0	0.3	0.3
Subtotal		334.0	41597.0	124.5	113.7		74763.0				93.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, FULL SAIL #1. (SE 29-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	31.0	2115.0	68.2	68.2	125.5	5535.0	178.5	133.5	2617.0	7.0	0.2	0.3
1987	2	28.0	889.0	31.8	30.7	126.4	1165.0	41.6	134.6	1310.5	1.0	0.0	0.3
1987	3	27.0	1387.0	51.4	44.7	127.8	3705.0	137.2	138.3	2671.2	4.0	0.1	0.3
1987	4	20.0	586.0	29.3	19.5	128.4	1639.0	82.0	140.0	2796.9	3.0	0.2	0.3
1987	5	23.0	890.0	38.7	28.7	129.3	2133.0	92.7	142.1	2396.6	0.0	0.0	0.3
1987	6	23.0	466.0	20.3	15.5	129.7	3012.0	131.0	145.1	6463.5	0.0	0.0	0.3
1987	7	26.0	1380.0	53.1	44.5	131.1	NR	0.0	145.1	0.0	0.0	0.0	0.3
1987	8	27.0	1894.0	70.1	61.1	133.0	4348.0	161.0	149.5	2295.7	0.0	0.0	0.3
1987	9	30.0	1901.0	63.4	63.4	134.9	4400.0	146.7	153.9	2314.6	30.0	1.0	0.4
1987	10	31.0	1782.0	57.5	57.5	136.7	5188.0	167.4	159.1	2911.3	31.0	1.0	0.4
1987	11	24.0	1151.0	48.0	38.4	137.8	3981.0	165.9	163.0	3458.7	24.0	1.0	0.4
1987	12	28.0	1365.0	48.8	44.0	139.2	1004.0	35.9	164.1	735.5	28.0	1.0	0.5
Subtotal		318.0	15806.0	49.7	43.2		36110.0				128.0		
1988	1	31.0	1435.0	46.3	46.3	140.6	2361.0	76.2	166.4	1645.3	31.0	1.0	0.5
1988	2	25.0	1101.0	44.0	38.0	141.7	3236.0	129.4	169.7	2939.1	25.0	1.0	0.5
1988	3	31.0	1298.0	41.9	41.9	143.0	3462.0	111.7	173.1	2667.2	31.0	1.0	0.5

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, FULL SAIL #2. (SE 28-26N-2W)

		OIL				GAS			GOR	WATER		
YR	MO	DAYS PRODUCED	BOP			CUM			SCF/BBL	Month	CUM	
			BOPM	BOPPD	BOPCD	MBG	MCF/M	MCF/D			MCF	MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	3.0	1249.0	416.3	41.6	1.2	1223.0	407.7	1.2	979.2	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
Subtotal		3.0	1249.0	416.3	3.4		1223.0				0.0	
1986	1	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0
1986	6	15.0	2570.0	171.3	85.7	3.8	6618.0	441.2	7.8	2575.1	8.0	0.5
1986	7	17.0	2839.0	167.0	91.6	6.7	8170.0	480.6	16.0	2877.8	10.0	0.6
1986	8	15.0	2281.0	152.1	73.6	8.9	7934.0	528.9	23.9	3478.3	4.0	0.3
1986	9	6.0	569.0	94.8	19.0	9.5	548.0	91.3	24.5	963.1	3.0	0.5
1986	10	12.0	1313.0	109.4	42.4	10.8	10878.0	906.5	35.4	8284.8	1.0	0.1
1986	11	12.0	976.0	81.3	32.5	11.8	7207.0	600.6	42.6	7384.2	4.0	0.3
1986	12	13.0	1065.0	81.9	34.4	12.9	6741.0	518.5	49.3	6329.6	4.0	0.3
Subtotal		90.0	11613.0	129.0	31.7		48096.0				34.0	
1987	1	12.0	862.0	71.8	27.8	13.7	7408.0	617.3	56.7	8594.0	3.0	0.3
1987	2	17.0	669.0	39.4	23.1	14.4	10164.0	597.9	66.9	15192.8	5.0	0.3
1987	3	11.0	409.0	37.2	13.2	14.8	7676.0	697.8	74.6	18767.7	2.0	0.2
1987	4	12.0	430.0	35.8	14.3	15.2	7674.0	639.5	82.2	17846.5	2.0	0.2
1987	5	11.0	387.0	35.2	12.5	15.6	7574.0	688.5	89.8	19571.1	2.0	0.2
1987	6	11.0	337.0	30.6	11.2	16.0	7066.0	642.4	96.9	20967.4	0.0	0.0
1987	7	30.0	972.0	32.4	31.4	16.9	20240.0	674.7	117.1	20823.0	0.0	0.0
1987	8	26.0	613.0	23.6	19.8	17.5	16565.0	637.1	133.7	27022.8	0.0	0.0
1987	9	30.0	569.0	19.0	19.0	18.1	17159.0	572.0	150.8	30156.4	30.0	1.0
1987	10	31.0	509.0	16.4	16.4	18.6	15971.0	515.2	166.8	31377.2	31.0	1.0
1987	11	24.0	179.0	7.5	6.0	18.8	5996.0	249.8	172.8	33497.2	24.0	1.0
1987	12	25.0	246.0	9.8	7.9	19.0	7404.0	296.2	180.2	30097.6	25.0	1.0
Subtotal		240.0	6182.0	25.8	16.9		130897.0				124.0	

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, FULL SAIL #2. (SE 28-26N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	17.0	95.0	5.6	3.1	19.1	6041.0	355.4	186.3	63589.5	17.0	1.0	0.2
1988	2	9.0	135.0	15.0	4.7	19.3	3674.0	408.2	189.9	27214.8	9.0	1.0	0.2
1988	3	15.0	135.0	9.0	4.4	19.4	6302.0	420.1	196.2	46681.5	15.0	1.0	0.2

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



BAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, FULL SAIL #3. (NW 29-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	OIL			GAS			SCF/BBL	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D		CUM MMCF	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	20.0	1319.0	66.0	42.5	1.3	2047.0	102.4	2.0	1551.9	0.0	0.0	0.0
1986	6	30.0	1095.0	36.5	36.5	2.4	1437.0	47.9	3.5	1312.3	10.0	0.3	0.0
1986	7	31.0	1144.0	36.9	36.9	3.6	4717.0	152.2	8.2	4123.3	10.0	0.3	0.0
1986	8	31.0	526.0	17.0	17.0	4.1	4028.0	129.9	12.2	7657.8	5.0	0.2	0.0
1986	9	6.0	130.0	21.7	4.3	4.2	101.0	16.8	12.3	776.9	1.0	0.2	0.0
1986	10	31.0	723.0	23.3	23.3	4.9	2705.0	87.3	15.0	3741.4	10.0	0.3	0.0
1986	11	30.0	674.0	22.5	22.5	5.6	3768.0	125.6	18.8	5590.5	10.0	0.3	0.0
1986	12	29.0	579.0	20.0	18.7	6.2	3528.0	121.7	22.3	6093.3	0.0	0.0	0.0
Subtotal		208.0	6190.0	29.8	25.3		22331.0				46.0		
1987	1	31.0	677.0	21.8	21.8	6.9	4726.0	152.5	27.1	6980.8	20.0	0.6	0.1
1987	2	28.0	587.0	21.0	21.0	7.5	4755.0	169.8	31.8	8100.5	10.0	0.4	0.1
1987	3	31.0	631.0	20.4	20.4	8.1	5333.0	172.0	37.1	8451.7	10.0	0.3	0.1
1987	4	30.0	569.0	19.0	19.0	8.7	4061.0	135.4	41.2	7137.1	10.0	0.3	0.1
1987	5	31.0	569.0	18.4	18.4	9.2	4332.0	139.7	45.5	7613.4	5.0	0.2	0.1
1987	6	27.0	447.0	16.6	14.9	9.7	13837.0	512.5	59.4	30955.3	0.0	0.0	0.1
1987	7	30.0	449.0	15.0	14.5	10.1	19548.0	651.6	78.9	43536.7	0.0	0.0	0.1
1987	8	27.0	367.0	13.6	11.8	10.5	18132.0	671.6	97.1	49406.0	0.0	0.0	0.1
1987	9	28.0	362.0	12.9	12.1	10.8	20444.0	730.1	117.5	56475.1	28.0	1.0	0.1
1987	10	31.0	439.0	14.2	14.2	11.3	1652.0	53.3	119.2	3763.1	31.0	1.0	0.2
1987	11	24.0	260.0	10.8	8.7	11.5	2328.0	97.0	121.5	8953.8	24.0	1.0	0.2
1987	12	28.0	231.0	8.3	7.5	11.8	4683.0	167.3	126.2	20272.7	28.0	1.0	0.2
Subtotal		346.0	5588.0	16.2	15.3		103831.0				166.0		
1988	1	26.0	137.0	5.3	4.4	11.9	3367.0	129.5	129.5	24576.6	26.0	1.0	0.2
1988	2	21.0	304.0	14.5	10.5	12.2	2151.0	102.4	131.7	7075.7	21.0	1.0	0.3
1988	3	31.0	400.0	12.9	12.9	12.6	3090.0	99.7	134.8	7725.0	31.0	1.0	0.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, FULL SAIL #4. (SE 3-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MSW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	4.0	0.0	0.0	0.0	0.0	3554.0	888.5	3.6	0.0	0.0	0.0	0.0
1987	9	NR	NR	0.0	0.0	0.0	3254.0	0.0	6.8	0.0	0.0	0.0	0.0
1987	10	NR	NR	0.0	0.0	0.0	NR	0.0	6.8	0.0	0.0	0.0	0.0
1987	11	NR	NR	0.0	0.0	0.0	NR	0.0	6.8	0.0	0.0	0.0	0.0
1987	12	NR	NR	0.0	0.0	0.0	NR	0.0	6.8	0.0	0.0	0.0	0.0
Subtotal		4.0	0.0	0.0	0.0		6808.0				0.0		
1988	1	NR	NR	0.0	0.0	0.0	NR	0.0	6.8	0.0	NR	0.0	0.0
1988	2	NR	NR	0.0	0.0	0.0	NR	0.0	6.8	0.0	NR	0.0	0.0
1988	3	NR	NR	0.0	0.0	0.0	NR	0.0	6.8	0.0	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, GREENER GRASS #1. (SE 10-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	3.0	858.0	286.0	27.7	0.9	282.0	94.0	0.3	328.7	0.0	0.0	0.0
1986	6	21.0	1509.0	71.9	50.3	2.4	497.0	23.7	0.8	329.4	0.0	0.0	0.0
1986	7	31.0	1944.0	62.7	62.7	4.3	640.0	20.6	1.4	329.2	10.0	0.3	0.0
1986	8	31.0	2490.0	80.3	80.3	6.8	819.0	26.4	2.2	328.9	10.0	0.3	0.0
1986	9	30.0	2822.0	94.1	94.1	9.6	929.0	31.0	3.2	329.2	10.0	0.3	0.0
1986	10	31.0	2111.0	68.1	68.1	11.7	694.0	22.4	3.9	328.8	10.0	0.3	0.0
1986	11	30.0	2272.0	75.7	75.7	14.0	748.0	24.9	4.6	329.2	10.0	0.3	0.1
1986	12	31.0	2946.0	95.0	95.0	17.0	969.0	31.3	5.6	328.9	10.0	0.3	0.1
Subtotal		208.0	16952.0	81.5	69.2		5578.0				60.0		
1987	1	31.0	2339.0	75.5	75.5	19.3	770.0	24.8	6.3	329.2	10.0	0.3	0.1
1987	2	23.0	1510.0	65.7	53.9	20.8	497.0	21.6	6.8	329.1	7.0	0.3	0.1
1987	3	30.0	2018.0	67.3	65.1	22.8	664.0	22.1	7.5	329.0	10.0	0.3	0.1
1987	4	30.0	1093.0	36.4	36.4	23.9	360.0	12.0	7.9	329.4	10.0	0.3	0.1
1987	5	31.0	1052.0	33.9	33.9	25.0	346.0	11.2	8.2	328.9	5.0	0.2	0.1
1987	6	27.0	738.0	27.3	24.6	25.7	506.0	18.7	8.7	685.6	0.0	0.0	0.1
1987	7	9.0	250.0	27.8	8.1	26.0	187.0	20.8	8.9	748.0	0.0	0.0	0.1
1987	8	NR	NR	0.0	0.0	26.0	NR	0.0	8.9	0.0	NR	0.0	0.1
1987	9	NR	NR	0.0	0.0	26.0	NR	0.0	8.9	0.0	NR	0.0	0.1
1987	10	NR	NR	0.0	0.0	26.0	NR	0.0	8.9	0.0	NR	0.0	0.1
1987	11	NR	NR	0.0	0.0	26.0	NR	0.0	8.9	0.0	NR	0.0	0.1
1987	12	NR	NR	0.0	0.0	26.0	NR	0.0	8.9	0.0	NR	0.0	0.1
Subtotal		181.0	9000.0	49.7	24.7		3330.0				42.0		
1988	1	NR	NR	0.0	0.0	26.0	NR	0.0	8.9	0.0	NR	0.0	0.1
1988	2	NR	NR	0.0	0.0	26.0	NR	0.0	8.9	0.0	NR	0.0	0.1
1988	3	31.0	147.0	4.7	4.7	26.1	2902.0	93.6	11.8	19741.5	NR	0.0	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CG., NM  
 SUN EXPLORATION & PRODUCTION, HIGH ADVENTURE #1. (NE B-25N-2W)

		OIL				GAS				BGR	WATER		
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBG	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	10.0	2412.0	241.2	80.4	2.4	5880.0	588.0	5.9	2437.8	8.0	0.8	0.0
1987	5	14.0	2567.0	183.4	82.8	5.0	7421.0	530.1	13.3	2890.9	7.0	0.5	0.0
1987	6	17.0	2753.0	161.9	91.8	7.7	9935.0	584.4	23.2	3608.8	0.0	0.0	0.0
1987	7	28.0	6192.0	221.1	199.7	13.9	21402.0	764.4	44.6	3456.4	0.0	0.0	0.0
1987	8	27.0	6052.0	224.1	195.2	20.0	18104.0	670.5	62.7	2991.4	0.0	0.0	0.0
1987	9	30.0	6685.0	222.8	222.8	26.7	17835.0	594.5	80.6	2667.9	NR	0.0	0.0
1987	10	31.0	7459.0	240.6	248.6	34.1	21030.0	678.4	101.6	2819.4	NR	0.0	0.0
1987	11	24.0	5479.0	228.3	182.6	39.6	12724.0	530.2	114.3	2322.3	NR	0.0	0.0
1987	12	20.0	3904.0	195.2	130.1	43.5	8116.0	405.8	122.4	2078.9	NR	0.0	0.0
Subtotal		201.0	43503.0	216.4	119.2		122447.0				15.0		
1988	1	16.0	3401.0	212.6	109.7	46.9	6908.0	431.8	129.4	2031.2	NR	0.0	0.0
1988	2	26.0	4916.0	189.1	169.5	51.8	12010.0	461.9	141.4	2443.0	NR	0.0	0.0
1988	3	15.0	5009.0	333.9	161.6	56.8	10806.0	720.4	152.2	2157.3	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, HIGH ADVENTURE #2. (SW 9-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			SOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	14.0	1345.0	96.1	43.4	1.3	288.0	20.6	0.3	214.1	7.0	0.5	0.0
1987	4	24.0	2058.0	85.8	68.6	3.4	11600.0	483.3	11.9	5636.5	24.0	1.0	0.0
1987	5	20.0	1564.0	78.2	50.5	5.0	7932.0	396.6	19.8	5071.6	6.0	0.3	0.0
1987	6	20.0	1394.0	69.7	46.5	6.4	7374.0	368.7	27.2	5289.8	20.0	1.0	0.1
1987	7	30.0	1427.0	47.6	46.0	7.8	7231.0	241.0	34.4	5067.3	30.0	1.0	0.1
1987	8	27.0	795.0	29.4	25.6	8.6	7273.0	269.4	41.7	9148.4	27.0	1.0	0.1
1987	9	30.0	784.0	26.1	26.1	9.4	8562.0	285.4	50.3	10920.9	30.0	1.0	0.1
1987	10	31.0	1586.0	51.2	51.2	11.0	13142.0	423.9	63.4	8286.3	31.0	1.0	0.2
1987	11	24.0	1139.0	47.5	38.0	12.1	7633.0	318.0	71.0	6701.5	24.0	1.0	0.2
1987	12	18.0	946.0	52.6	30.5	13.0	8198.0	455.4	79.2	8666.0	18.0	1.0	0.2
Subtotal		238.0	13038.0	54.8	35.7		79233.0				217.0		
1988	1	25.0	795.0	31.8	25.6	13.8	9159.0	366.4	88.4	11520.8	25.0	1.0	0.2
1988	2	15.0	742.0	49.5	25.6	14.6	5920.0	394.7	94.3	7978.4	NR	0.0	0.2
1988	3	23.0	1147.0	49.9	37.0	15.7	10355.0	450.2	104.7	9027.9	23.0	1.0	0.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCDS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, HOMESTEAD RANCH #2. (SW 34-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	5.0	2667.0	533.4	86.0	2.7	610.0	122.0	0.6	228.7	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0
1985	7	2.0	646.0	323.0	20.8	3.3	240.0	120.0	0.9	371.5	10.0	5.0	0.0
1985	8	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.9	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.9	0.0	0.0	0.0	0.0
1985	10	9.0	4654.0	517.1	150.1	8.0	1727.0	191.9	2.6	371.1	5.0	0.6	0.0
1985	11	30.0	20105.0	670.2	670.2	28.1	7460.0	248.7	10.0	371.1	10.0	0.3	0.0
1985	12	20.0	12973.0	648.7	418.5	41.0	4814.0	240.7	14.9	371.1	10.0	0.5	0.0
Subtotal		66.0	41045.0	621.9	167.5		14851.0				35.0		
1986	1	0.0	0.0	0.0	0.0	41.0	0.0	0.0	14.9	0.0	25.0	0.0	0.1
1986	2	0.0	0.0	0.0	0.0	41.0	0.0	0.0	14.9	0.0	25.0	0.0	0.1
1986	3	0.0	0.0	0.0	0.0	41.0	0.0	0.0	14.9	0.0	25.0	0.0	0.1
1986	4	0.0	0.0	0.0	0.0	41.0	0.0	0.0	14.9	0.0	20.0	0.0	0.1
1986	5	25.0	14249.0	570.0	459.6	55.3	2992.0	119.7	17.8	210.0	20.0	0.8	0.1
1986	6	30.0	18555.0	618.5	618.5	73.8	11212.0	373.7	29.1	604.3	20.0	0.7	0.2
1986	7	31.0	17383.0	560.7	560.7	91.2	16311.0	526.2	45.4	938.3	31.0	1.0	0.2
1986	8	29.0	13841.0	477.3	446.5	105.1	14628.0	504.4	60.0	1056.9	25.0	0.9	0.2
1986	9	6.0	2382.0	397.0	79.4	107.5	1034.0	172.3	61.0	434.1	13.0	2.2	0.2
1986	10	13.0	5340.0	410.8	172.3	112.8	10310.0	793.1	71.3	1930.7	2.0	0.2	0.2
1986	11	11.0	5302.0	482.0	176.7	118.1	6611.0	601.0	77.9	1246.9	15.0	1.4	0.3
1986	12	14.0	3930.0	280.7	126.8	122.0	5918.0	422.7	83.9	1505.9	21.0	1.5	0.3
Subtotal		159.0	80982.0	509.3	221.9		69016.0				242.0		
1987	1	16.0	4378.0	273.6	141.2	126.4	3741.0	233.8	87.6	854.5	0.0	0.0	0.3
1987	2	16.0	5425.0	339.1	193.8	131.8	8213.0	513.3	95.8	1513.9	0.0	0.0	0.3
1987	3	13.0	3310.0	254.6	106.8	135.1	7297.0	561.3	103.1	2204.5	0.0	0.0	0.3
1987	4	13.0	2987.0	229.8	99.6	138.1	3209.0	246.8	106.3	1074.3	0.0	0.0	0.3
1987	5	11.0	3399.0	309.0	109.6	141.5	10124.0	920.4	116.5	2978.5	0.0	0.0	0.3
1987	6	10.0	1751.0	175.1	58.4	143.3	3796.0	379.6	120.2	2167.9	0.0	0.0	0.3
1987	7	31.0	7480.0	241.3	241.3	150.8	17321.0	558.7	137.6	2315.6	0.0	0.0	0.3
1987	8	27.0	6252.0	231.6	201.7	157.0	23974.0	887.9	161.5	3834.6	0.0	0.0	0.3
1987	9	29.0	3111.0	107.3	103.7	160.1	27094.0	934.3	188.6	8709.1	0.0	0.0	0.3
1987	10	31.0	3448.0	111.2	111.2	163.6	32083.0	1034.9	220.7	9304.8	0.0	0.0	0.3
1987	11	24.0	3193.0	133.0	106.4	166.8	17758.0	739.9	238.5	5561.5	0.0	0.0	0.3
1987	12	5.0	364.0	72.8	11.7	167.1	7692.0	1538.4	246.2	21131.9	0.0	0.0	0.3
Subtotal		226.0	45098.0	199.5	123.6		162302.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: ° NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRISA CO., NM  
 SUN EXPLORATION & PRODUCTION, HOMESTEAD RANCH #2. (SW 34-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GDR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	10.0	NR	0.0	0.0	167.1	1664.0	166.4	247.8	0.0	NR	0.0	0.3
1988	2	12.0	237.0	19.8	8.2	167.4	9579.0	798.3	257.4	40417.7	NR	0.0	0.3
1988	3	14.0	NR	0.0	0.0	167.4	5447.0	389.1	262.9	0.0	NR	0.0	0.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, JANET #1. (NE 27-25N-2W)

		OIL				GAS			GOR	WATER			
DAYS		BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWP	CUM MBW	
YR	MO												PRODUCED
1983	1	23.0	479.0	20.8	15.5	0.5	690.0	30.0	0.7	1440.5	0.0	0.0	0.0
1983	2	28.0	787.0	28.1	28.1	1.3	0.0	0.0	0.7	0.0	15.0	0.5	0.0
1983	3	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0
1983	4	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0
1983	5	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0
1983	6	1.0	233.0	233.0	7.8	1.5	7.0	7.0	0.7	30.0	0.0	0.0	0.0
1983	7	31.0	1550.0	50.0	50.0	3.0	2428.0	78.3	3.1	1566.5	0.0	0.0	0.0
1983	8	2.0	970.0	485.0	31.3	4.0	2390.0	1195.0	5.5	2463.9	0.0	0.0	0.0
1983	9	7.0	738.0	105.4	24.6	4.8	1917.0	273.9	7.4	2597.6	0.0	0.0	0.0
1983	10	5.0	961.0	192.2	31.0	5.7	1129.0	225.8	8.6	1174.8	0.0	0.0	0.0
1983	11	17.0	3966.0	233.3	132.2	9.7	2758.0	162.2	11.3	695.4	90.0	5.3	0.1
1983	12	31.0	5317.0	171.5	171.5	15.0	4128.0	133.2	15.4	776.4	30.0	1.0	0.1
Subtotal		145.0	15001.0	103.5	41.1		15447.0				135.0		
1984	1	31.0	4966.0	160.2	160.2	20.0	3272.0	105.5	18.7	658.9	32.0	1.0	0.2
1984	2	24.0	4317.0	179.9	148.9	24.3	2269.0	94.5	21.0	525.6	0.0	0.0	0.2
1984	3	31.0	4578.0	147.7	147.7	28.9	3063.0	98.8	24.1	669.1	15.0	0.5	0.2
1984	4	30.0	2820.0	94.0	94.0	31.7	2041.0	68.0	26.1	723.8	15.0	0.5	0.2
1984	5	31.0	4124.0	133.0	133.0	35.8	2921.0	94.2	29.0	708.3	16.0	0.5	0.2
1984	6	30.0	4134.0	137.8	137.8	39.9	2562.0	85.4	31.6	619.7	15.0	0.5	0.2
1984	7	31.0	4325.0	139.5	139.5	44.3	2480.0	80.0	34.1	573.4	16.0	0.5	0.2
1984	8	31.0	3958.0	127.7	127.7	48.2	2569.0	82.9	36.6	649.1	16.0	0.5	0.3
1984	9	30.0	4183.0	139.4	139.4	52.4	2418.0	80.6	39.0	578.1	30.0	1.0	0.3
1984	10	31.0	4592.0	148.1	148.1	57.0	2528.0	81.5	41.6	550.5	15.0	0.5	0.3
1984	11	20.0	2256.0	112.8	75.2	59.3	1935.0	96.8	43.5	857.7	10.0	0.5	0.3
1984	12	31.0	3998.0	129.0	129.0	63.3	2269.0	73.2	45.8	567.5	15.0	0.5	0.3
Subtotal		351.0	48251.0	137.5	131.8		30327.0				195.0		
1985	1	31.0	3773.0	121.7	121.7	67.0	2688.0	86.7	48.5	712.4	15.0	0.5	0.3
1985	2	28.0	4055.0	144.8	144.8	71.1	3118.0	111.4	51.6	768.9	15.0	0.5	0.4
1985	3	31.0	4639.0	149.6	149.6	75.7	3521.0	113.6	55.1	759.0	20.0	0.6	0.4
1985	4	30.0	3921.0	130.7	130.7	79.6	2359.0	78.6	57.5	601.6	15.0	0.5	0.4
1985	5	30.0	3775.0	125.8	121.8	83.4	2248.0	74.9	59.7	595.5	10.0	0.3	0.4
1985	6	30.0	3615.0	120.5	120.5	87.0	2321.0	77.4	62.0	642.0	15.0	0.5	0.4
1985	7	26.0	2467.0	94.9	79.6	89.5	1753.0	67.4	63.8	710.6	10.0	0.4	0.4
1985	8	31.0	3512.0	113.3	113.3	93.0	1724.0	55.6	65.5	490.9	25.0	0.8	0.5
1985	9	30.0	3779.0	126.0	126.0	96.8	2062.0	68.7	67.6	545.6	20.0	0.7	0.5
1985	10	31.0	3353.0	108.2	108.2	100.1	1709.0	55.1	69.3	509.7	20.0	0.6	0.5
1985	11	14.0	1582.0	113.0	52.7	101.7	953.0	68.1	70.2	602.4	9.0	0.6	0.5
1985	12	31.0	3773.0	121.7	121.7	105.5	2292.0	73.9	72.5	607.5	25.0	0.8	0.5
Subtotal		343.0	42244.0	123.2	115.7		26748.0				199.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, JANET #1. (NE 27-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MSO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	31.0	3555.0	114.7	114.7	109.1	2125.0	68.5	74.6	597.7	25.0	0.8	0.6
1986	2	27.0	3145.0	116.5	112.3	112.2	1979.0	73.3	76.6	629.3	43.0	1.6	0.6
1986	3	31.0	3292.0	106.2	106.2	115.5	2244.0	72.4	78.9	681.7	20.0	0.6	0.6
1986	4	29.0	3183.0	109.8	106.1	118.7	1961.0	67.6	80.8	616.1	20.0	0.7	0.6
1986	5	26.0	2463.0	94.7	79.5	121.1	1722.0	66.2	82.6	699.1	16.0	0.6	0.7
1986	6	30.0	2834.0	94.5	94.5	124.0	2318.0	77.3	84.9	817.9	20.0	0.7	0.7
1986	7	31.0	2310.0	74.5	74.5	126.3	6079.0	196.1	90.9	2631.6	26.0	0.8	0.7
1986	8	29.0	2199.0	75.8	70.9	128.5	5420.0	186.9	96.4	2464.8	22.0	0.8	0.7
1986	9	2.0	1757.0	878.5	58.6	130.2	5781.0	2890.5	102.2	3290.3	23.0	11.5	0.7
1986	10	28.0	1344.0	48.0	43.4	131.6	8499.0	303.5	110.6	6323.7	18.0	0.6	0.8
1986	11	21.0	674.0	32.1	22.5	132.3	8175.0	389.3	118.8	12129.1	11.0	0.5	0.8
1986	12	20.0	639.0	32.0	20.6	132.9	7559.0	378.0	126.4	11829.4	12.0	0.6	0.8
Subtotal		305.0	27395.0	89.8	75.1		53862.0				256.0		
1987	1	23.0	567.0	24.7	18.3	133.5	7381.0	320.9	133.8	13017.6	13.0	0.6	0.8
1987	2	24.0	644.0	26.8	23.0	134.1	8879.0	370.0	142.6	13787.3	11.0	0.5	0.8
1987	3	20.0	444.0	22.2	14.3	134.5	6762.0	338.1	149.4	15229.7	9.0	0.5	0.8
1987	4	19.0	273.0	14.4	9.1	134.8	7967.0	419.3	157.4	29183.2	6.0	0.3	0.8
1987	5	20.0	444.0	22.2	14.3	135.3	7385.0	369.3	164.8	16632.9	6.0	0.3	0.8
1987	6	19.0	300.0	15.8	10.0	135.6	7074.0	372.3	171.8	23580.0	38.0	2.0	0.9
1987	7	29.0	423.0	14.6	13.6	136.0	10879.0	375.1	182.7	25718.7	29.0	1.0	0.9
1987	8	27.0	318.0	11.8	10.3	136.3	8560.0	317.0	191.3	26918.2	27.0	1.0	0.9
1987	9	30.0	387.0	12.9	12.9	136.7	8412.0	280.4	199.7	21736.4	30.0	1.0	1.0
1987	10	31.0	495.0	16.0	16.0	137.2	8233.0	265.6	207.9	16632.3	31.0	1.0	1.0
1987	11	16.0	0.0	0.0	0.0	137.2	4573.0	285.8	212.5	0.0	30.0	1.9	1.0
1987	12	26.0	0.0	0.0	0.0	137.2	3914.0	150.5	216.4	0.0	26.0	1.0	1.0
Subtotal		284.0	4295.0	15.1	11.8		90019.0				256.0		
1988	1	26.0	154.0	5.9	5.0	137.3	7530.0	289.6	223.9	48896.1	26.0	1.0	1.1
1988	2	16.0	259.0	16.2	8.9	137.6	5452.0	340.8	229.4	21050.2	16.0	1.0	1.1
1988	3	24.0	195.0	8.1	6.3	137.8	7734.0	322.3	237.1	39661.5	24.0	1.0	1.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, JANET #2. (SE 21-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM		CUM		SCF/BBL	Month	BWPD	CUM MBW
						MBD	MCF/M	MCF/D	MMCF				
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	9 *	0.0	345.0	0.0	11.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	10	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	11	30.0	1926.0	60.9	60.9	2.2	1099.0	36.6	1.1	601.9	40.0	1.3	0.0
1983	12	31.0	2896.0	93.4	93.4	5.1	1888.0	60.9	3.0	651.9	0.0	0.0	0.0
Subtotal		61.0	5067.0	83.1	41.5		2987.0				40.0		
1984	1	31.0	2522.0	81.4	81.4	7.6	1469.0	47.4	4.5	582.5	0.0	0.0	0.0
1984	2	28.0	2555.0	91.3	88.1	10.1	1305.0	46.6	5.8	510.8	0.0	0.0	0.0
1984	3	17.0	1231.0	72.4	39.7	11.4	982.0	57.8	6.7	797.7	0.0	0.0	0.0
1984	4	8.0	1189.0	148.6	39.6	12.6	718.0	89.8	7.5	603.9	0.0	0.0	0.0
1984	5	31.0	2875.0	92.7	92.7	15.4	1575.0	50.8	9.0	547.8	0.0	0.0	0.0
1984	6	30.0	2440.0	81.3	81.3	17.9	1552.0	51.7	10.6	636.1	0.0	0.0	0.0
1984	7	31.0	2449.0	79.0	79.0	20.3	1449.0	46.7	12.0	591.7	0.0	0.0	0.0
1984	8	31.0	2205.0	71.1	71.1	22.5	1201.0	38.7	13.2	544.7	0.0	0.0	0.0
1984	9	30.0	2248.0	74.9	74.9	24.8	1100.0	36.7	14.3	489.3	5.0	0.2	0.0
1984	10	30.0	2490.0	83.0	80.3	27.3	1152.0	38.4	15.5	462.7	15.0	0.5	0.1
1984	11	31.0	2531.0	81.6	84.4	29.8	1194.0	38.5	16.7	471.8	7.0	0.2	0.1
1984	12	31.0	7075.0	228.2	228.2	36.9	2714.0	87.5	19.4	383.6	10.0	0.3	0.1
Subtotal		329.0	31810.0	96.7	86.9		16411.0				37.0		
1985	1	31.0	2212.0	71.4	71.4	39.1	2163.0	69.8	21.6	977.8	10.0	0.3	0.1
1985	2	28.0	2219.0	79.3	79.3	41.3	1760.0	62.9	23.3	793.2	10.0	0.4	0.1
1985	3	24.0	2004.0	83.5	64.6	43.3	1153.0	48.0	24.5	575.3	10.0	0.4	0.1
1985	4	30.0	2291.0	76.4	76.4	45.6	1590.0	53.0	26.1	694.0	15.0	0.5	0.1
1985	5	30.0	2193.0	73.1	70.7	47.8	1625.0	54.2	27.7	741.0	10.0	0.3	0.1
1985	6	30.0	2219.0	74.0	74.0	50.0	1384.0	46.1	29.1	623.7	10.0	0.3	0.1
1985	7	31.0	2147.0	69.3	69.3	52.2	1593.0	51.4	30.7	742.0	10.0	0.3	0.2
1985	8	31.0	2514.0	81.1	81.1	54.7	1723.0	55.6	32.4	685.4	10.0	0.3	0.2
1985	9	30.0	2953.0	98.4	98.4	57.6	2567.0	85.6	35.0	869.3	10.0	0.3	0.2
1985	10	31.0	2355.0	76.0	76.0	60.0	1939.0	62.5	36.9	823.4	15.0	0.5	0.2
1985	11	28.0	2226.0	79.5	74.2	62.2	2221.0	79.3	39.1	997.8	18.0	0.6	0.2
1985	12	31.0	6706.0	216.3	216.3	68.9	4562.0	147.2	43.7	680.3	20.0	0.6	0.2
Subtotal		355.0	32039.0	90.3	87.8		24280.0				148.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, JANET #2. (SE 21-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	31.0	9668.0	311.9	311.9	78.6	7169.0	231.3	50.8	741.5	20.0	0.6	0.2
1986	2	27.0	7125.0	263.9	254.5	85.7	4671.0	173.0	55.5	655.6	20.0	0.7	0.3
1986	3	31.0	9225.0	297.6	297.6	94.9	9236.0	297.9	64.8	1001.2	15.0	0.5	0.3
1986	4	30.0	7064.0	235.5	235.5	102.0	10059.0	335.3	74.8	1424.0	15.0	0.5	0.3
1986	5	31.0	5125.0	165.3	165.3	107.1	8751.0	282.3	83.6	1707.5	20.0	0.6	0.3
1986	6	30.0	4692.0	156.4	156.4	111.8	10538.0	351.3	94.1	2246.0	20.0	0.7	0.3
1986	7	31.0	5032.0	162.3	162.3	116.8	17325.0	558.9	111.4	3443.0	20.0	0.6	0.4
1986	8	29.0	3065.0	105.7	98.9	119.9	15278.0	526.8	126.7	4984.7	11.0	0.4	0.4
1986	9	16.0	1626.0	101.6	54.2	121.5	8057.0	503.6	134.8	4955.1	7.0	0.4	0.4
1986	10	16.0	1331.0	83.2	42.9	122.9	7411.0	463.2	142.2	5568.0	5.0	0.3	0.4
1986	11	15.0	1163.0	77.5	38.8	124.0	5520.0	368.0	147.7	4746.3	5.0	0.3	0.4
1986	12	15.0	1148.0	76.5	37.0	125.2	6620.0	441.3	154.3	5766.6	4.0	0.3	0.4
Subtotal		302.0	56264.0	186.3	154.1		110635.0				162.0		
1987	1	16.0	1127.0	70.4	36.4	126.3	5135.0	320.9	159.4	4556.3	8.0	0.5	0.4
1987	2	16.0	1057.0	66.1	37.8	127.4	5923.0	370.2	165.4	5603.6	5.0	0.3	0.4
1987	3	17.0	943.0	55.5	30.4	128.3	4757.0	279.8	170.1	5044.5	8.0	0.5	0.4
1987	4	17.0	923.0	54.3	30.8	129.2	7424.0	436.7	177.6	8043.3	9.0	0.5	0.4
1987	5	17.0	805.0	47.4	26.0	130.0	6080.0	357.6	183.6	7552.8	4.0	0.2	0.4
1987	6	30.0	667.0	22.2	22.2	130.7	6037.0	201.2	189.7	9051.0	27.0	0.9	0.4
1987	7	30.0	1118.0	37.3	36.1	131.8	10220.0	340.7	199.9	9141.3	30.0	1.0	0.5
1987	8	27.0	533.0	19.7	17.2	132.4	9138.0	338.4	209.0	17144.5	47.0	1.7	0.5
1987	9	30.0	330.0	11.0	11.0	132.7	10122.0	337.4	219.1	30672.7	0.0	0.0	0.5
1987	10	31.0	303.0	9.8	9.8	133.0	10795.0	348.2	229.9	35627.1	31.0	1.0	0.6
1987	11	30.0	73.0	2.4	2.4	133.1	5003.0	166.8	234.9	68534.2	30.0	1.0	0.6
1987	12	22.0	77.0	3.5	2.5	133.1	6962.0	316.5	241.9	90415.6	22.0	1.0	0.6
Subtotal		283.0	7956.0	28.1	21.8		87596.0				221.0		
1988	1	24.0	48.0	2.0	1.5	133.2	7156.0	298.2	249.1	149083.3	24.0	1.0	0.6
1988	2	29.0	182.0	6.3	6.3	133.4	5758.0	198.6	254.8	31637.4	29.0	1.0	0.7
1988	3	26.0	147.0	5.7	4.7	133.5	7241.0	278.5	262.1	49258.5	26.0	1.0	0.7

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCDS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, JANET #3. (NW 21-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5 *	0.0	135.0	0.0	4.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	24.0	1867.0	77.8	62.2	2.0	1066.0	44.4	1.1	571.0	20.0	0.8	0.0
1986	7	31.0	2124.0	68.5	68.5	4.1	1213.0	39.1	2.3	571.1	10.0	0.3	0.0
1986	8	31.0	2112.0	68.1	68.1	6.2	1206.0	38.9	3.5	571.0	10.0	0.3	0.0
1986	9	30.0	1811.0	60.4	60.4	8.0	934.0	31.1	4.4	515.7	10.0	0.3	0.1
1986	10	31.0	2108.0	68.0	68.0	10.2	1204.0	38.8	5.6	571.2	10.0	0.3	0.1
1986	11	30.0	2113.0	70.4	70.4	12.3	1207.0	40.2	6.8	571.2	10.0	0.3	0.1
1986	12	31.0	2181.0	70.4	70.4	14.5	5340.0	172.3	12.2	2448.4	10.0	0.3	0.1
Subtotal		208.0	14451.0	69.5	59.0		12170.0				80.0		
1987	1	31.0	2086.0	67.3	67.3	16.5	1836.0	59.2	14.0	880.2	10.0	0.3	0.1
1987	2	17.0	1080.0	63.5	38.6	17.6	1236.0	72.7	15.2	1144.4	2.0	0.1	0.1
1987	3	21.0	1164.0	55.4	37.5	18.8	809.0	38.5	16.1	695.0	3.0	0.1	0.1
1987	4	30.0	1559.0	52.0	52.0	20.3	746.0	24.9	16.8	478.5	10.0	0.3	0.1
1987	5	31.0	1503.0	48.5	48.5	21.8	963.0	31.1	17.8	640.7	5.0	0.2	0.1
1987	6	30.0	991.0	33.0	33.0	22.8	1205.0	40.2	19.0	1215.9	0.0	0.0	0.1
1987	7	31.0	1257.0	40.5	40.5	24.1	1461.0	47.1	20.4	1162.3	0.0	0.0	0.1
1987	8	27.0	865.0	32.0	27.9	25.0	939.0	34.8	21.4	1085.5	0.0	0.0	0.1
1987	9	30.0	769.0	25.6	25.6	25.7	1166.0	38.9	22.5	1516.3	0.0	0.0	0.1
1987	10	31.0	620.0	20.0	20.0	26.3	1236.0	39.9	23.8	1993.5	0.0	0.0	0.1
1987	11	30.0	397.0	13.2	13.2	26.7	602.0	20.1	24.4	1516.4	0.0	0.0	0.1
1987	12	28.0	434.0	15.5	14.0	27.2	1094.0	39.1	25.5	2520.7	0.0	0.0	0.1
Subtotal		337.0	12725.0	37.8	34.9		13293.0				30.0		
1988	1	31.0	358.0	11.5	11.5	27.5	1409.0	45.5	26.9	3935.8	0.0	0.0	0.1
1988	2	21.0	279.0	13.3	9.6	27.8	1324.0	63.0	28.2	4745.5	NR	0.0	0.1
1988	3	31.0	409.0	13.2	13.2	28.2	1805.0	58.2	30.0	4413.2	NR	0.0	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, LADY LUCK #1. (NE 5-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5 *	0.0	726.0	0.0	23.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	26.0	1048.0	40.3	34.9	1.8	142.0	5.5	0.1	135.5	10.0	0.4	0.0
1986	7	25.0	1051.0	42.0	33.9	2.8	2461.0	98.4	2.6	2341.6	10.0	0.4	0.0
1986	8	18.0	1088.0	60.4	35.1	3.9	1208.0	67.1	3.8	1110.3	6.0	0.3	0.0
1986	9	0.0	0.0	0.0	0.0	3.9	0.0	0.0	3.8	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	3.9	0.0	0.0	3.8	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	3.9	0.0	0.0	3.8	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	3.9	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Subtotal		69.0	3913.0	56.7	16.0		3811.0				26.0		
1987	1	0.0	0.0	0.0	0.0	3.9	0.0	0.0	3.8	0.0	0.0	0.0	0.0
1987	2	16.0	1074.0	67.1	38.4	5.0	1385.0	86.6	5.2	1289.6	5.0	0.3	0.0
1987	3	31.0	2964.0	95.6	95.6	8.0	4373.0	141.1	9.6	1475.4	10.0	0.3	0.0
1987	4	30.0	4233.0	141.1	141.1	12.2	2693.0	89.8	12.3	636.2	10.0	0.3	0.1
1987	5	31.0	2687.0	86.7	86.7	14.9	4188.0	135.1	16.5	1558.6	5.0	0.2	0.1
1987	6	21.0	1420.0	67.6	47.3	16.3	3221.0	153.4	19.7	2268.3	0.0	0.0	0.1
1987	7	30.0	1895.0	63.2	61.1	18.2	4137.0	137.9	23.8	2183.1	0.0	0.0	0.1
1987	8	27.0	1360.0	50.4	43.9	19.5	3721.0	137.8	27.5	2736.0	0.0	0.0	0.1
1987	9	30.0	1425.0	47.5	47.5	21.0	3800.0	126.7	31.3	2666.7	0.0	0.0	0.1
1987	10	31.0	1312.0	42.3	42.3	22.3	3327.0	107.3	34.7	2535.8	0.0	0.0	0.1
1987	11	24.0	869.0	36.2	29.0	23.2	2195.0	91.5	36.9	2525.9	0.0	0.0	0.1
1987	12	28.0	999.0	35.7	32.2	24.2	2785.0	99.5	39.6	2787.8	0.0	0.0	0.1
Subtotal		299.0	20238.0	67.7	55.4		35825.0				30.0		
1988	1	31.0	1006.0	32.5	32.5	25.2	2541.0	82.0	42.2	2525.8	0.0	0.0	0.1
1988	2	22.0	730.0	33.2	25.2	25.9	2498.0	113.5	44.7	3421.9	NR	0.0	0.1
1988	3	31.0	785.0	25.3	25.3	26.7	2957.0	95.4	47.6	3766.9	NR	0.0	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANGOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, LODDY #1. (NW 20-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	3.0	223.0	74.3	7.2	0.2	87.0	29.0	0.1	390.1	3.0	1.0	0.0
1986	9	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1986	12	16.0	1205.0	75.3	38.9	1.4	4604.0	287.8	4.7	3820.7	2.0	0.1	0.0
Subtotal		19.0	1428.0	75.2	4.3		4691.0				5.0		
1987	1	12.0	924.0	77.0	29.8	2.4	7351.0	612.6	12.0	7955.6	31.0	2.6	0.0
1987	2	13.0	725.0	55.8	25.9	3.1	7848.0	603.7	19.9	10824.8	4.0	0.3	0.0
1987	3	15.0	891.0	59.4	28.7	4.0	7765.0	517.7	27.7	8714.9	3.0	0.2	0.0
1987	4	17.0	1132.0	66.6	37.7	5.1	7178.0	422.2	34.8	6341.0	5.0	0.3	0.0
1987	5	16.0	1056.0	66.0	34.1	6.2	9027.0	564.2	43.9	8548.3	0.0	0.0	0.0
1987	6	15.0	803.0	53.5	26.8	7.0	5987.0	399.1	49.8	7455.8	0.0	0.0	0.0
1987	7	30.0	1313.0	43.8	42.4	8.3	12930.0	431.0	62.8	9847.7	0.0	0.0	0.0
1987	8	27.0	1680.0	62.2	54.2	10.0	11597.0	429.5	74.4	6903.0	0.0	0.0	0.0
1987	9	30.0	2300.0	76.7	76.7	12.3	11633.0	387.8	86.0	5057.8	0.0	0.0	0.0
1987	10	31.0	2385.0	76.9	76.9	14.6	10246.0	330.5	96.3	4296.0	0.0	0.0	0.0
1987	11	24.0	1335.0	55.6	44.5	16.0	6866.0	286.1	103.1	5143.1	0.0	0.0	0.0
1987	12	25.0	1048.0	41.9	33.8	17.0	8410.0	336.4	111.5	8024.8	0.0	0.0	0.0
Subtotal		255.0	15592.0	61.1	42.7		106838.0				43.0		
1988	1	28.0	955.0	34.1	30.8	18.0	11128.0	397.4	122.7	11652.4	0.0	0.0	0.0
1988	2	17.0	823.0	48.4	28.4	18.8	5783.0	340.2	128.4	7026.7	NR	0.0	0.0
1988	3	22.0	931.0	42.3	30.0	19.7	9465.0	430.2	137.9	10166.5	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, MOTHERLODE #1. (NE 3-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOP			CUM			SCF/BBL	Month	CUM		
			BOPM	BOPPD	BOPCD	MBO	MCF/M	MCF/D			MMCF	BWPD	MBW
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1983	11	21.0	5422.0	258.2	180.7	5.4	0.0	0.0	0.0	0.0	210.0	10.0	0.2
1983	12	31.0	9825.0	316.9	316.9	15.2	0.0	0.0	0.0	0.0	60.0	1.9	0.3
Subtotal		52.0	15247.0	293.2	250.0		0.0				270.0		
1984	1	31.0	2723.0	87.8	87.8	18.0	0.0	0.0	0.0	0.0	62.0	2.0	0.3
1984	2	29.0	2440.0	84.1	84.1	20.4	0.0	0.0	0.0	0.0	58.0	2.0	0.4
1984	3	5.0	2727.0	545.4	88.0	23.1	174.0	34.8	0.2	63.8	10.0	2.0	0.4
1984	4	30.0	2447.0	81.6	81.6	25.6	1169.0	39.0	1.3	477.7	60.0	2.0	0.5
1984	5	8.0	12159.0	1519.9	392.2	37.7	5092.0	636.5	6.4	418.8	7.0	0.9	0.5
1984	6	29.0	9967.0	343.7	332.2	47.7	6962.0	240.1	13.4	698.5	60.0	2.1	0.5
1984	7	31.0	4859.0	156.7	156.7	52.6	3903.0	125.9	17.3	803.3	20.0	0.6	0.5
1984	8	31.0	4252.0	137.2	137.2	56.8	3652.0	117.8	21.0	858.9	10.0	0.3	0.6
1984	9	30.0	3578.0	119.3	119.3	60.4	3576.0	119.2	24.5	999.4	60.0	2.0	0.6
1984	10	31.0	3600.0	116.1	116.1	64.0	4138.0	133.5	28.7	1149.4	15.0	0.5	0.6
1984	11	30.0	4543.0	151.4	151.4	68.5	5400.0	180.0	34.1	1188.6	60.0	2.0	0.7
1984	12	31.0	4904.0	158.2	158.2	73.4	5929.0	191.3	40.0	1209.0	15.0	0.5	0.7
Subtotal		316.0	58199.0	184.2	159.0		39995.0				437.0		
1985	1	31.0	4073.0	131.4	131.4	77.5	5386.0	173.7	45.4	1322.4	15.0	0.5	0.7
1985	2	28.0	3854.0	137.6	137.6	81.4	3558.0	127.1	48.9	923.2	15.0	0.5	0.7
1985	3	31.0	3525.0	113.7	113.7	84.9	4052.0	130.7	53.0	1149.5	15.0	0.5	0.8
1985	4	30.0	3192.0	106.4	106.4	88.1	3561.0	118.7	56.6	1115.6	20.0	0.7	0.8
1985	5	30.0	2922.0	97.4	94.3	91.0	2819.0	94.0	59.4	964.8	15.0	0.5	0.8
1985	6	30.0	3052.0	101.7	101.7	94.1	2813.0	93.8	62.2	921.7	15.0	0.5	0.8
1985	7	31.0	2913.0	94.0	94.0	97.0	2673.0	86.2	64.9	917.6	15.0	0.5	0.8
1985	8	31.0	2754.0	88.8	88.8	99.7	2851.0	92.0	67.7	1035.2	20.0	0.6	0.8
1985	9	30.0	3051.0	101.7	101.7	102.8	3100.0	103.3	70.8	1016.1	20.0	0.7	0.9
1985	10	31.0	2741.0	88.4	88.4	105.5	2545.0	82.1	73.4	928.5	25.0	0.8	0.9
1985	11	26.0	1995.0	76.7	66.5	107.5	2749.0	105.7	76.1	1377.9	21.0	0.8	0.9
1985	12	31.0	2825.0	91.1	91.1	110.3	3558.0	114.8	79.7	1259.5	20.0	0.6	0.9
Subtotal		360.0	36897.0	102.5	101.1		39665.0				216.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, MOTHERLODE #1. (NE 3-24N-2W)

		OIL				GAS			GOR	WATER			
DAYS		CUM				CUM				CUM			
YR	MO	PRODUCED	BOPM	BOPPD	BOPCD	MBO	MCF/M	MCF/D	MMCF	SCF/BBL	Month	BWPD	MBW
1986	1	30.0	3344.0	111.5	107.9	113.7	2927.0	97.6	82.6	875.3	25.0	0.8	0.9
1986	2	27.0	3461.0	128.2	123.6	117.1	4263.0	157.9	86.9	1231.7	25.0	0.9	1.0
1986	3	30.0	8709.0	290.3	280.9	125.9	6494.0	216.5	93.3	745.7	25.0	0.8	1.0
1986	4	29.0	7464.0	257.4	248.8	133.3	8025.0	276.7	101.4	1075.2	20.0	0.7	1.0
1986	5	31.0	7778.0	250.9	250.9	141.1	13021.0	420.0	114.4	1674.1	20.0	0.6	1.0
1986	6	30.0	6666.0	222.2	222.2	147.8	8927.0	297.6	123.3	1339.2	20.0	0.7	1.1
1986	7	31.0	6312.0	203.6	203.6	154.1	12324.0	397.5	135.6	1952.5	31.0	1.0	1.1
1986	8	26.0	3109.0	119.6	100.3	157.2	4578.0	176.1	140.2	1472.5	25.0	1.0	1.1
1986	9	20.0	1217.0	60.9	40.6	158.4	5388.0	269.4	145.6	4427.3	13.0	0.7	1.1
1986	10	25.0	1808.0	72.3	58.3	160.2	8460.0	338.4	154.1	4679.2	2.0	0.1	1.1
1986	11	23.0	1798.0	78.2	59.9	162.0	6418.0	279.0	160.5	3569.5	15.0	0.7	1.1
1986	12	27.0	1548.0	57.3	49.9	163.6	6285.0	232.8	166.8	4060.1	21.0	0.8	1.2
Subtotal		329.0	53214.0	161.7	145.8		87110.0				242.0		
1987	1	29.0	1760.0	60.7	56.8	165.3	3587.0	123.7	170.4	2038.1	23.0	0.8	1.2
1987	2	27.0	1420.0	52.6	50.7	166.7	4312.0	159.7	174.7	3036.6	22.0	0.8	1.2
1987	3	26.0	1346.0	51.8	43.4	168.1	7987.0	307.2	182.7	5933.9	16.0	0.6	1.2
1987	4	23.0	1055.0	45.9	35.2	169.1	6938.0	301.7	189.6	6576.3	15.0	0.7	1.2
1987	5	31.0	942.0	30.4	30.4	170.1	5600.0	180.6	195.2	5944.8	20.0	0.6	1.3
1987	6	27.0	552.0	20.4	18.4	170.6	13693.0	507.1	208.9	24806.2	0.0	0.0	1.3
1987	7	31.0	955.0	30.8	30.8	171.6	1194.0	38.5	210.1	1250.3	0.0	0.0	1.3
1987	8	27.0	794.0	29.4	25.6	172.4	6505.0	240.9	216.6	8192.7	0.0	0.0	1.3
1987	9	8.0	224.0	28.0	7.5	172.6	2713.0	339.1	219.3	12111.6	0.0	0.0	1.3
1987	10	31.0	1445.0	46.6	46.6	174.1	12207.0	393.8	231.5	8447.8	0.0	0.0	1.3
1987	11	24.0	936.0	39.0	31.2	175.0	8627.0	359.5	240.1	9216.9	0.0	0.0	1.3
1987	12	18.0	613.0	34.1	19.8	175.6	10324.0	573.6	250.5	16841.8	0.0	0.0	1.3
Subtotal		302.0	12042.0	39.9	33.0		83687.0				96.0		
1988	1	28.0	737.0	26.3	23.8	176.3	15290.0	546.1	265.7	20746.3	0.0	0.0	1.3
1988	2	29.0	483.0	16.7	16.7	176.8	8851.0	305.2	274.6	18325.1	0.0	0.0	1.3
1988	3	31.0	0.0	0.0	0.0	176.8	9575.0	308.9	284.2	0.0	NR	0.0	1.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, MOTHERLODE #2 (SW 3-24N--2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	CUM			CUM			SCF/BBL	Month	CUM		
			BOPM	BOPPD	BOPCD	MBO	MCF/M	MCF/D			MMCF	BWP	MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5 *	0.0	1042.0	0.0	33.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	30.0	1482.0	49.4	49.4	2.5	631.0	21.0	0.6	425.8	0.0	0.0	0.0
1986	7	5.0	241.0	48.2	7.8	2.8	101.0	20.2	0.7	419.1	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0
1986	9	2.0	135.0	67.5	4.5	2.9	48.0	24.0	0.8	355.6	0.0	0.0	0.0
1986	10	27.0	4389.0	162.6	141.6	7.3	4775.0	176.9	5.6	1087.9	8.0	0.3	0.0
1986	11	19.0	3863.0	203.3	128.8	11.2	6806.0	358.2	12.4	1761.8	6.0	0.3	0.0
1986	12	18.0	1966.0	109.2	63.4	13.1	6591.0	366.2	19.0	3352.5	4.0	0.2	0.0
Subtotal		101.0	13118.0	129.9	53.5		18952.0				18.0		
1987	1	11.0	1377.0	125.2	44.4	14.5	4567.0	415.2	23.5	3316.6	4.0	0.4	0.0
1987	2	24.0	2908.0	121.2	103.9	17.4	6288.0	262.0	29.8	2162.3	11.0	0.5	0.0
1987	3	12.0	1389.0	115.8	44.8	18.8	11192.0	932.7	41.0	8057.6	4.0	0.3	0.0
1987	4	11.0	762.0	69.3	25.4	19.6	7890.0	717.3	48.9	10354.3	2.0	0.2	0.0
1987	5	11.0	710.0	64.5	22.9	20.3	7068.0	642.5	56.0	9954.9	0.0	0.0	0.0
1987	6	10.0	359.0	35.9	12.0	20.6	3484.0	348.4	59.4	9704.7	0.0	0.0	0.0
1987	7	31.0	2215.0	71.5	71.5	22.8	22935.0	739.8	82.4	10354.4	0.0	0.0	0.0
1987	8	27.0	2466.0	91.3	79.5	25.3	7546.0	279.5	89.9	3060.0	0.0	0.0	0.0
1987	9	28.0	1417.0	50.6	47.2	26.7	9565.0	341.6	99.5	6750.2	0.0	0.0	0.0
1987	10	31.0	1503.0	48.5	48.5	28.2	12758.0	411.5	112.2	8488.4	0.0	0.0	0.0
1987	11	24.0	1795.0	74.8	59.8	30.0	9543.0	397.6	121.8	5316.4	0.0	0.0	0.0
1987	12	18.0	827.0	45.9	26.7	30.8	2967.0	164.8	124.8	3587.7	0.0	0.0	0.0
Subtotal		238.0	17728.0	74.5	48.6		105803.0				21.0		
1988	1	29.0	776.0	26.8	25.0	31.6	10015.0	345.3	134.8	12905.9	0.0	0.0	0.0
1988	2	21.0	566.0	27.0	19.5	32.2	9469.0	450.9	144.2	16729.7	NR	0.0	0.0
1988	3	31.0	620.0	20.0	20.0	32.8	10318.0	332.8	154.6	16641.9	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, NATIVE SON #1. (NE 34-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1984	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	7	19.0	5927.0	311.9	191.2	5.9	0.0	0.0	0.0	0.0	38.0	2.0	0.0
1984	8	31.0	8939.0	288.4	288.4	14.9	0.0	0.0	0.0	0.0	62.0	2.0	0.1
1984	9	30.0	12683.0	422.8	422.8	27.5	48.0	1.6	0.0	3.8	10.0	0.3	0.1
1984	10	31.0	9284.0	299.5	299.5	36.8	50.0	1.6	0.1	5.4	10.0	0.3	0.1
1984	11	30.0	11944.0	398.1	398.1	48.8	48.0	1.6	0.1	4.0	0.0	0.0	0.1
1984	12	1.0	62.0	62.0	2.0	48.8	2.0	2.0	0.1	32.3	0.0	0.0	0.1
Subtotal		142.0	48839.0	343.9	265.4		148.0				120.0		
1985	1	0.0	0.0	0.0	0.0	48.8	0.0	0.0	0.1	0.0	0.0	0.0	0.1
1985	2	0.0	0.0	0.0	0.0	48.8	0.0	0.0	0.1	0.0	0.0	0.0	0.1
1985	3	4.0	1244.0	311.0	40.1	50.1	6.0	1.5	0.2	4.8	1.0	0.3	0.1
1985	4	30.0	4686.0	156.2	156.2	54.8	5004.0	166.8	5.2	1067.9	0.0	0.0	0.1
1985	5	31.0	5705.0	184.0	184.0	60.5	331.0	10.7	5.5	58.0	0.0	0.0	0.1
1985	6	28.0	12454.0	444.8	415.1	72.9	5861.0	209.3	11.4	470.6	0.0	0.0	0.1
1985	7	31.0	11381.0	367.1	367.1	84.3	5428.0	175.1	16.8	476.9	0.0	0.0	0.1
1985	8	30.0	13075.0	435.8	421.8	97.4	6039.0	201.3	22.8	461.9	0.0	0.0	0.1
1985	9	30.0	10714.0	357.1	357.1	108.1	4009.0	133.6	26.8	374.2	0.0	0.0	0.1
1985	10	31.0	11503.0	371.1	371.1	119.6	3828.0	123.5	30.7	332.8	0.0	0.0	0.1
1985	11	27.0	12575.0	465.7	419.2	132.2	4395.0	162.8	35.0	349.5	0.0	0.0	0.1
1985	12	31.0	9370.0	302.3	302.3	141.5	2514.0	81.1	37.6	268.3	0.0	0.0	0.1
Subtotal		273.0	92707.0	339.6	254.0		37415.0				1.0		
1986	1	31.0	11521.0	371.6	371.6	153.1	3623.0	116.9	41.2	314.5	0.0	0.0	0.1
1986	2	27.0	11750.0	435.2	419.6	164.8	4851.0	179.7	46.0	412.9	0.0	0.0	0.1
1986	3	31.0	11776.0	379.9	379.9	176.6	4216.0	136.0	50.3	358.0	0.0	0.0	0.1
1986	4	30.0	8636.0	287.9	287.9	185.2	2432.0	81.1	52.7	281.6	0.0	0.0	0.1
1986	5	31.0	10370.0	334.5	334.5	195.6	1912.0	61.7	54.6	184.4	0.0	0.0	0.1
1986	6	30.0	8643.0	288.1	288.1	204.2	4633.0	154.4	59.2	536.0	0.0	0.0	0.1
1986	7	31.0	7387.0	238.3	238.3	211.6	940.0	30.3	60.2	127.3	0.0	0.0	0.1
1986	8	31.0	2077.0	67.0	67.0	213.7	904.0	29.2	61.1	435.2	0.0	0.0	0.1
1986	9	12.0	2428.0	202.3	80.9	216.1	3054.0	254.5	64.1	1257.8	0.0	0.0	0.1
1986	10	28.0	4266.0	152.4	137.6	220.4	8001.0	285.8	72.1	1875.5	5.0	0.2	0.1
1986	11	22.0	3206.0	145.7	106.9	223.6	7554.0	343.4	79.7	2356.2	3.0	0.1	0.1
1986	12	21.0	3242.0	154.4	104.6	226.8	4911.0	233.9	84.6	1514.8	6.0	0.3	0.1
Subtotal		325.0	85302.0	262.5	233.7		47031.0				14.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, NATIVE SON #1. (NE 34-25N-2W)

		OIL				GAS			GDR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	NCF/M	NCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1987	1	27.0	3648.0	135.1	117.7	230.5	8133.0	301.2	92.7	2229.4	8.0	0.3	0.1
1987	2	28.0	2783.0	99.4	99.4	233.3	6784.0	242.3	99.5	2437.7	5.0	0.2	0.1
1987	3	26.0	2567.0	98.7	92.8	235.8	6710.0	258.1	106.2	2613.9	0.0	0.0	0.1
1987	4	23.0	1798.0	78.2	59.9	237.6	6914.0	300.6	113.1	3845.4	0.0	0.0	0.1
1987	5	31.0	1383.0	44.6	44.6	239.0	4552.0	146.8	117.7	3291.4	0.0	0.0	0.1
1987	6	23.0	1908.0	83.0	63.6	240.9	7200.0	313.0	124.9	3773.6	0.0	0.0	0.1
1987	7	31.0	2002.0	64.6	64.6	242.9	7865.0	253.7	132.8	3928.6	0.0	0.0	0.1
1987	8	27.0	2710.0	100.4	87.4	245.6	7948.0	294.4	140.7	2932.8	0.0	0.0	0.1
1987	9	28.0	208.0	7.4	6.9	245.9	393.0	14.0	141.1	1889.4	0.0	0.0	0.1
1987	10	31.0	846.0	27.3	27.3	246.7	1513.0	48.8	142.6	1788.4	31.0	1.0	0.2
1987	11	24.0	1522.0	63.4	50.7	248.2	4800.0	200.0	147.4	3153.7	24.0	1.0	0.2
1987	12	28.0	690.0	24.6	22.3	248.9	7470.0	266.8	154.9	10826.1	28.0	1.0	0.2
Subtotal		327.0	22065.0	67.5	60.5		70282.0				96.0		
1988	1	29.0	711.0	24.5	22.9	249.6	8140.0	280.7	163.0	11448.7	29.0	1.0	0.3
1988	2	6.0	163.0	27.2	5.6	249.8	2671.0	445.2	165.7	16386.5	6.0	1.0	0.3
1988	3	23.0	367.0	16.0	11.8	250.2	8234.0	358.0	173.9	22436.0	23.0	1.0	0.3

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, NATIVE SON #2. (SW 27-25N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	12	3.0	289.0	96.3	9.3	0.3	0.0	0.0	0.0	0.0	51.0	17.0	0.1
Subtotal		3.0	289.0	96.3	9.3		0.0				51.0		
1984	1	8.0	1066.0	133.3	34.4	1.4	0.0	0.0	0.0	0.0	65.0	8.1	0.1
1984	2	8.0	1221.0	152.6	42.1	2.6	0.0	0.0	0.0	0.0	60.0	7.5	0.2
1984	3	23.0	9701.0	421.8	312.9	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1984	4	17.0	6846.0	402.7	228.2	19.1	3795.0	223.2	3.8	554.3	0.0	0.0	0.2
1984	5	22.0	7485.0	340.2	241.5	26.6	4910.0	223.2	8.7	656.0	0.0	0.0	0.2
1984	6	13.0	3932.0	302.5	131.1	30.5	2901.0	223.2	11.6	737.8	4.0	0.3	0.2
1984	7	0.0	0.0	0.0	0.0	30.5	0.0	0.0	11.6	0.0	0.0	0.0	0.2
1984	8	18.0	9077.0	504.3	292.8	39.6	4921.0	273.4	16.5	542.1	0.0	0.0	0.2
1984	9	30.0	10634.0	354.5	354.5	50.3	8945.0	298.2	25.5	841.2	5.0	0.2	0.2
1984	10	31.0	9132.0	294.6	294.6	59.4	7290.0	235.2	32.8	798.3	5.0	0.2	0.2
1984	11	30.0	11693.0	389.8	389.8	71.1	8775.0	292.5	41.5	750.4	5.0	0.2	0.2
1984	12	31.0	11024.0	355.6	355.6	82.1	6075.0	196.0	47.6	551.1	5.0	0.2	0.2
Subtotal		231.0	81811.0	354.2	223.5		47612.0				149.0		
1985	1	31.0	12072.0	389.4	389.4	94.2	7198.0	232.2	54.8	596.3	5.0	0.2	0.2
1985	2	28.0	11924.0	425.9	425.9	106.1	8499.0	303.5	63.3	712.8	5.0	0.2	0.2
1985	3	31.0	13098.0	422.5	422.5	119.2	4492.0	144.9	67.8	343.0	5.0	0.2	0.2
1985	4	30.0	14349.0	478.3	478.3	133.5	10266.0	342.2	78.1	715.5	5.0	0.2	0.2
1985	5	31.0	15652.0	504.9	504.9	149.2	10789.0	348.0	88.9	689.3	5.0	0.2	0.2
1985	6	30.0	15620.0	520.7	520.7	164.8	11487.0	382.9	100.3	735.4	5.0	0.2	0.2
1985	7	31.0	14242.0	459.4	459.4	179.1	12436.0	401.2	112.8	873.2	5.0	0.2	0.2
1985	8	24.0	12746.0	531.1	411.2	191.8	15848.0	660.3	128.6	1243.4	5.0	0.2	0.2
1985	9	27.0	12740.0	471.9	424.7	204.5	13432.0	497.5	142.1	1054.3	5.0	0.2	0.2
1985	10	31.0	15041.0	485.2	485.2	219.6	19130.0	617.1	161.2	1271.9	5.0	0.2	0.3
1985	11	25.0	9173.0	366.9	305.8	228.8	14588.0	583.5	175.8	1590.3	8.0	0.3	0.3
1985	12	31.0	16764.0	540.8	540.8	245.5	24257.0	782.5	200.0	1447.0	5.0	0.2	0.3
Subtotal		350.0	163421.0	466.9	447.7		152422.0				63.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, NATIVE SON #2. (SW 27-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBD	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	31.0	14113.0	455.3	455.3	259.6	20600.0	664.5	220.6	1459.6	0.0	0.0	0.3
1986	2	26.0	10273.0	395.1	366.9	269.9	19870.0	764.2	240.5	1934.2	5.0	0.2	0.3
1986	3	31.0	12430.0	401.0	401.0	282.3	22383.0	722.0	262.9	1800.7	0.0	0.0	0.3
1986	4	29.0	12582.0	433.9	419.4	294.9	28422.0	980.1	291.3	2258.9	0.0	0.0	0.3
1986	5	31.0	15006.0	484.1	484.1	309.9	36244.0	1169.2	327.6	2415.3	0.0	0.0	0.3
1986	6	30.0	13199.0	440.0	440.0	323.1	37412.0	1247.1	365.0	2834.5	0.0	0.0	0.3
1986	7	31.0	13935.0	449.5	449.5	337.1	40418.0	1303.8	405.4	2900.5	0.0	0.0	0.3
1986	8	29.0	13489.0	465.1	435.1	350.5	36884.0	1271.9	442.3	2734.4	10.0	0.3	0.3
1986	9	6.0	1182.0	197.0	39.4	351.7	3214.0	535.7	445.5	2719.1	1.0	0.2	0.3
1986	10	25.0	1515.0	60.6	48.9	353.2	13121.0	524.8	458.6	8660.7	1.0	0.0	0.3
1986	11	5.0	1764.0	352.8	58.8	355.0	7276.0	1455.2	465.9	4124.7	1.0	0.2	0.3
1986	12	6.0	1671.0	278.5	53.9	356.7	5930.0	988.3	471.8	3548.8	1.0	0.2	0.3
Subtotal		280.0	111159.0	397.0	304.5		271774.0				19.0		
1987	1	5.0	1373.0	274.6	44.3	358.1	5901.0	1180.2	477.7	4297.9	1.0	0.2	0.3
1987	2	13.0	2586.0	198.9	92.4	360.6	9250.0	711.5	487.0	3577.0	2.0	0.2	0.3
1987	3	8.0	2065.0	258.1	66.6	362.7	6436.0	804.5	493.4	3116.7	1.0	0.1	0.3
1987	4	8.0	1756.0	219.5	58.5	364.5	7052.0	881.5	500.4	4015.9	2.0	0.3	0.3
1987	5	9.0	1791.0	199.0	57.8	366.3	7683.0	853.7	508.1	4289.8	0.0	0.0	0.3
1987	6	9.0	1653.0	183.7	55.1	367.9	6803.0	755.9	514.9	4115.5	0.0	0.0	0.3
1987	7	30.0	6601.0	220.0	212.9	374.5	27093.0	903.1	542.0	4104.4	0.0	0.0	0.3
1987	8	27.0	5974.0	221.3	192.7	380.5	22901.0	848.2	564.9	3833.4	0.0	0.0	0.3
1987	9	30.0	6875.0	229.2	229.2	387.4	29017.0	967.2	593.9	4220.7	0.0	0.0	0.3
1987	10	31.0	6690.0	215.8	215.8	394.0	29512.0	952.0	623.5	4411.4	31.0	1.0	0.3
1987	11	24.0	4018.0	167.4	133.9	398.1	17423.0	726.0	640.9	4336.2	24.0	1.0	0.3
1987	12	9.0	935.0	103.9	30.2	399.0	6761.0	751.2	647.6	7231.0	9.0	1.0	0.4
Subtotal		203.0	42317.0	208.5	115.9		175832.0				70.0		
1988	1	8.0	684.0	95.5	22.1	399.7	12357.0	1544.6	660.0	18065.8	8.0	1.0	0.4
1988	2	8.0	784.0	98.0	27.0	400.5	8767.0	1095.9	668.8	11182.4	8.0	1.0	0.4
1988	3	8.0	786.0	98.3	25.4	401.3	9643.0	1205.4	678.4	12268.4	8.0	1.0	0.4

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, NATIVE SON #3. (SE 33-25N-2W)

		OIL				GAS			GOR	WATER			
DAYS		CUM				CUM				CUM			
YR	MO	PRODUCED	BOPM	BOPPD	BOPCD	MBO	MCF/M	MCF/D	MMCF	SCF/BBL	Month	SWPD	MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4 *	0.0	367.0	0.0	12.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5 *	0.0	346.0	0.0	11.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	7	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	8	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	9	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	10	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	11	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	12	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	713.0	0.0	2.6		0.0				0.0		
1986	1	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	7.0	2049.0	292.7	68.3	2.8	624.0	89.1	0.6	304.5	4.0	0.6	0.0
1986	7	17.0	4665.0	274.4	150.5	7.4	12043.0	708.4	12.7	2581.6	5.0	0.3	0.0
1986	8	29.0	7248.0	249.9	233.8	14.7	16153.0	557.0	28.8	2228.6	5.0	0.2	0.0
1986	9	6.0	505.0	84.2	16.8	15.2	1904.0	317.3	30.7	3770.3	2.0	0.3	0.0
1986	10	11.0	1758.0	159.8	56.7	16.9	10413.0	946.6	41.1	5923.2	1.0	0.1	0.0
1986	11	9.0	816.0	90.7	27.2	17.8	7113.0	790.3	48.3	8716.9	1.0	0.1	0.0
1986	12	8.0	780.0	97.5	25.2	18.5	7295.0	911.9	55.5	9352.6	1.0	0.1	0.0
Subtotal		87.0	17821.0	204.8	48.8		55545.0				19.0		
1987	1	19.0	714.0	37.6	23.0	19.2	3175.0	167.1	58.7	4446.8	2.0	0.1	0.0
1987	2	12.0	724.0	60.3	25.9	20.0	4911.0	409.3	63.6	6783.1	3.0	0.3	0.0
1987	3	10.0	559.0	55.9	18.0	20.5	10725.0	1072.5	74.4	19186.0	2.0	0.2	0.0
1987	4	11.0	703.0	63.9	23.4	21.2	7711.0	701.0	82.1	10968.7	2.0	0.2	0.0
1987	5	10.0	625.0	62.5	20.2	21.9	7327.0	732.7	89.4	11723.2	1.0	0.1	0.0
1987	6	15.0	608.0	40.5	20.3	22.5	8909.0	593.9	98.3	14653.0	0.0	0.0	0.0
1987	7	26.0	1328.0	51.1	42.8	23.8	20817.0	800.7	119.1	15675.5	0.0	0.0	0.0
1987	8	27.0	1075.0	39.8	34.7	24.9	10449.0	387.0	129.6	9720.0	0.0	0.0	0.0
1987	9	29.0	863.0	29.8	28.8	25.7	7850.0	270.7	137.4	9096.2	29.0	1.0	0.1
1987	10	31.0	912.0	29.4	29.4	26.6	6729.0	217.1	144.1	7378.3	31.0	1.0	0.1
1987	11	24.0	341.0	14.2	11.4	27.0	3952.0	164.7	148.1	11589.4	24.0	1.0	0.1
1987	12	27.0	316.0	11.7	10.2	27.3	8573.0	317.5	156.7	27129.7	27.0	1.0	0.1
Subtotal		241.0	8768.0	36.4	24.0		101128.0				121.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, NATIVE SDN #3. (SE 33-25N-2W)

YR	MO	DAYS PRODUCED	OIL			GAS			GOR	WATER			
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	28.0	157.0	5.6	5.1	27.5	4159.0	148.5	160.8	24490.4	28.0	1.0	0.2
1988	2	19.0	245.0	12.9	8.4	27.7	5413.0	284.9	166.2	22093.9	19.0	1.0	0.2
1988	3	25.0	204.0	8.2	6.6	27.9	9282.0	371.3	175.5	45500.0	25.0	1.0	0.2

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, NEW HORIZON #1. (SE 2-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	3.0	289.0	96.3	9.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	30.0	264.0	8.8	8.8	0.6	1058.0	35.3	1.1	4007.6	0.0	0.0	0.0
1986	7	31.0	302.0	9.7	9.7	0.9	1207.0	38.9	2.3	3996.7	3.0	0.1	0.0
1986	8	31.0	309.0	10.0	10.0	1.2	1238.0	39.9	3.5	4006.5	5.0	0.2	0.0
1986	9	30.0	340.0	11.3	11.3	1.5	861.0	28.7	4.4	2532.4	5.0	0.2	0.0
1986	10	31.0	327.0	10.5	10.5	1.8	975.0	31.5	5.3	2981.7	5.0	0.2	0.0
1986	11	30.0	191.0	6.4	6.4	2.0	765.0	25.5	6.1	4005.2	5.0	0.2	0.0
1986	12	31.0	219.0	7.1	7.1	2.2	877.0	28.3	7.0	4004.6	5.0	0.2	0.0
Subtotal		217.0	2241.0	10.3	9.1		6981.0				28.0		
1987	1	31.0	200.0	6.5	6.5	2.4	800.0	25.8	7.8	4000.0	3.0	0.1	0.0
1987	2	27.0	169.0	6.3	6.0	2.6	675.0	25.0	8.5	3994.1	3.0	0.1	0.0
1987	3	16.0	59.0	3.7	1.9	2.7	236.0	14.8	8.7	4000.0	3.0	0.2	0.0
1987	4	28.0	88.0	3.1	2.9	2.8	354.0	12.6	9.0	4022.7	3.0	0.1	0.0
1987	5	31.0	117.0	3.8	3.8	2.9	468.0	15.1	9.5	4000.0	4.0	0.1	0.0
1987	6	27.0	135.0	5.0	4.5	3.0	836.0	31.0	10.4	6192.6	0.0	0.0	0.0
1987	7	30.0	117.0	3.9	3.8	3.1	720.0	24.0	11.1	6153.8	0.0	0.0	0.0
1987	8	31.0	161.0	5.2	5.2	3.3	1116.0	36.0	12.2	6931.7	0.0	0.0	0.0
1987	9	30.0	186.0	6.2	6.2	3.5	1184.0	39.5	13.4	6365.6	0.0	0.0	0.0
1987	10	31.0	169.0	5.5	5.5	3.6	1014.0	32.7	14.4	6000.0	31.0	1.0	0.1
1987	11	24.0	80.0	3.3	2.7	3.7	479.0	20.0	14.9	5987.5	24.0	1.0	0.1
1987	12	28.0	122.0	4.4	3.9	3.8	17.0	0.6	14.9	139.3	28.0	1.0	0.1
Subtotal		334.0	1603.0	4.8	4.4		7899.0				99.0		
1988	1	31.0	203.0	6.5	6.5	4.0	NR	0.0	14.9	0.0	31.0	1.0	0.2
1988	2	6.0	24.0	4.0	0.8	4.1	NR	0.0	14.9	0.0	6.0	1.0	0.2
1988	3	22.0	21.0	1.0	0.7	4.1	180.0	8.2	15.1	8571.4	22.0	1.0	0.2

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.



GAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, TWILIGHT ZONE #1. (SE 12-24N-2W)

		OIL				GAS			GOR	WATER			
DAYS					CUM		CUM					CUM	
YR	MO	PRODUCED	BOPM	BOPPD	BOPCD	MBG	MCF/M	MCF/D	MMCF	SCF/88L	Month	BWPD	MBW
1985	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	6	4.0	247.0	61.8	8.2	0.2	126.0	31.5	0.1	510.1	0.0	0.0	0.0
1985	7	31.0	252.0	8.1	8.1	0.5	558.0	18.0	0.7	2214.3	10.0	0.3	0.0
1985	8	24.0	178.0	7.4	5.7	0.7	394.0	16.4	1.1	2213.5	5.0	0.2	0.0
1985	9	30.0	165.0	5.5	5.5	0.8	365.0	12.2	1.4	2212.1	5.0	0.2	0.0
1985	10	31.0	162.0	5.2	5.2	1.0	359.0	11.6	1.8	2216.0	5.0	0.2	0.0
1985	11	30.0	150.0	5.0	5.0	1.2	332.0	11.1	2.1	2213.3	5.0	0.2	0.0
1985	12	31.0	139.0	4.5	4.5	1.3	308.0	9.9	2.4	2215.8	4.0	0.1	0.0
Subtotal		181.0	1293.0	7.1	6.0		2442.0				34.0		
1986	1	31.0	127.0	4.1	4.1	1.4	399.0	12.9	2.8	3141.7	4.0	0.1	0.0
1986	2	28.0	106.0	3.8	3.8	1.5	333.0	11.9	3.2	3141.5	4.0	0.1	0.0
1986	3	31.0	126.0	4.1	4.1	1.7	395.0	12.7	3.6	3134.9	4.0	0.1	0.0
1986	4	30.0	125.0	4.2	4.2	1.8	392.0	13.1	4.0	3136.0	4.0	0.1	0.0
1986	5	31.0	193.0	6.2	6.2	2.0	607.0	19.6	4.6	3145.1	4.0	0.1	0.1
1986	6	30.0	28.0	0.9	0.9	2.0	88.0	2.9	4.7	3142.9	2.0	0.1	0.1
1986	7	12.0	19.0	1.6	0.6	2.0	60.0	5.0	4.7	3157.9	2.0	0.2	0.1
1986	8	6.0	46.0	7.7	1.5	2.1	145.0	24.2	4.9	3152.2	0.0	0.0	0.1
1986	9	2.0	19.0	9.5	0.6	2.1	40.0	20.0	4.9	2105.3	0.0	0.0	0.1
1986	10	7.0	47.0	6.7	1.5	2.1	147.0	21.0	5.0	3127.7	0.0	0.0	0.1
1986	11	14.0	60.0	4.3	2.0	2.2	189.0	13.5	5.2	3150.0	0.0	0.0	0.1
1986	12	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.2	0.0	21.0	0.0	0.1
Subtotal		222.0	896.0	4.0	2.5		2795.0				45.0		
1987	1	1.0	18.0	18.0	0.6	2.2	22.0	22.0	5.3	1222.2	0.0	0.0	0.1
1987	2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0	0.0	0.1
1987	3	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0	0.0	0.1
1987	4	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0	0.0	0.1
1987	5	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0	0.0	0.1
1987	6	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0	0.0	0.1
1987	7	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0	0.0	0.1
1987	8	0.0	0.0	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0	0.0	0.1
1987	9	NR	NR	0.0	0.0	2.2	NR	0.0	5.3	0.0	NR	0.0	0.1
1987	10	NR	NR	0.0	0.0	2.2	NR	0.0	5.3	0.0	NR	0.0	0.1
1987	11	NR	NR	0.0	0.0	2.2	NR	0.0	5.3	0.0	NR	0.0	0.1
1987	12	NR	NR	0.0	0.0	2.2	NR	0.0	5.3	0.0	NR	0.0	0.1
Subtotal		1.0	18.0	18.0	0.0		22.0				0.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, TWILIGHT ZONE #1. (SE 12-24N-2W)

YR	MO	DAYS PRODUCED	OIL				GAS			GDR	WATER		
			BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1988	1	NR	NR	0.0	0.0	2.2	NR	0.0	5.3	0.0	NR	0.0	0.1
1988	2	NR	NR	0.0	0.0	2.2	NR	0.0	5.3	0.0	NR	0.0	0.1
1988	3	NR	NR	0.0	0.0	2.2	NR	0.0	5.3	0.0	NR	0.0	0.1

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, WILDFIRE #1. (SW 26-26N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MSW
1986	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		0.0	0.0	0.0	0.0		0.0				0.0		
1987	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	5	0.0	556.0	0.0	17.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	6	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	7	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	8	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	9	NR	NR	0.0	0.0	0.6	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	10	NR	NR	0.0	0.0	0.6	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	11	NR	NR	0.0	0.0	0.6	NR	0.0	0.0	0.0	NR	0.0	0.0
1987	12	NR	NR	0.0	0.0	0.6	NR	0.0	0.0	0.0	NR	0.0	0.0
Subtotal		0.0	556.0	0.0	1.5		0.0				0.0		
1988	1	NR	NR	0.0	0.0	0.6	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	2	NR	NR	0.0	0.0	0.6	NR	0.0	0.0	0.0	NR	0.0	0.0
1988	3	NR	NR	0.0	0.0	0.6	NR	0.0	0.0	0.0	NR	0.0	0.0

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOS POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, WRIGHT WAY #1. (NW 2-24N-2W)

		OIL				GAS			GOR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1983	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	11	30.0	2826.0	94.2	94.2	2.8	0.0	0.0	0.0	0.0	87.0	2.9	0.1
1983	12	31.0	3363.0	108.5	108.5	6.2	0.0	0.0	0.0	0.0	93.0	3.0	0.2
Subtotal		61.0	6189.0	101.5	101.5		0.0				180.0		
1984	1	31.0	4023.0	129.8	129.8	10.2	0.0	0.0	0.0	0.0	93.0	3.0	0.3
1984	2	29.0	3826.0	131.9	131.9	14.0	0.0	0.0	0.0	0.0	87.0	3.0	0.4
1984	3	31.0	4339.0	140.0	140.0	18.4	684.0	22.1	0.7	157.6	93.0	3.0	0.5
1984	4	30.0	4036.0	134.5	134.5	22.4	2100.0	70.0	2.8	520.3	90.0	3.0	0.5
1984	5	31.0	4041.0	130.4	130.4	26.5	2634.0	85.0	5.4	651.8	93.0	3.0	0.6
1984	6	30.0	3064.0	102.1	102.1	29.5	3160.0	105.3	8.6	1031.3	90.0	3.0	0.7
1984	7	31.0	4373.0	141.1	141.1	33.9	3777.0	121.8	12.4	863.7	93.0	3.0	0.8
1984	8	31.0	3687.0	118.9	118.9	37.6	3857.0	124.4	16.2	1046.1	93.0	3.0	0.9
1984	9	30.0	3867.0	128.9	128.9	41.4	4298.0	143.3	20.5	1111.5	29.0	1.0	0.9
1984	10	31.0	3901.0	125.8	125.8	45.3	4999.0	161.3	25.5	1281.5	10.0	0.3	1.0
1984	11	28.0	3401.0	121.5	113.4	48.7	2532.0	90.4	28.0	744.5	10.0	0.4	1.0
1984	12	31.0	4191.0	135.2	135.2	52.9	3733.0	120.4	31.8	890.7	10.0	0.3	1.0
Subtotal		364.0	46749.0	128.4	127.7		31774.0				791.0		
1985	1	31.0	2965.0	95.6	95.6	55.9	2633.0	84.9	34.4	888.0	10.0	0.3	1.0
1985	2	28.0	2745.0	98.0	98.0	58.6	3230.0	115.4	37.6	1176.7	10.0	0.4	1.0
1985	3	31.0	3283.0	105.9	105.9	61.9	2195.0	70.8	39.8	668.6	10.0	0.3	1.0
1985	4	30.0	3048.0	101.6	101.6	65.0	2070.0	69.0	41.9	679.1	15.0	0.5	1.0
1985	5	31.0	3099.0	100.0	100.0	68.1	1435.0	46.3	43.3	463.1	12.0	0.4	1.0
1985	6	30.0	2909.0	97.0	97.0	71.0	2234.0	74.5	45.6	768.0	10.0	0.3	1.0
1985	7	31.0	2853.0	92.0	92.0	73.8	2474.0	79.8	48.0	867.2	15.0	0.5	1.1
1985	8	31.0	2766.0	89.2	89.2	76.6	2456.0	79.2	50.5	887.9	20.0	0.6	1.1
1985	9	25.0	2396.0	95.8	79.9	79.0	2081.0	83.2	52.6	868.5	20.0	0.8	1.1
1985	10	31.0	3174.0	102.4	102.4	82.2	2420.0	78.1	55.0	762.4	20.0	0.6	1.1
1985	11	26.0	2055.0	79.0	68.5	84.2	1825.0	70.2	56.8	888.1	17.0	0.7	1.1
1985	12	31.0	2838.0	91.5	91.5	87.1	2830.0	91.3	59.7	997.2	20.0	0.6	1.1
Subtotal		356.0	34131.0	95.9	93.5		27883.0				179.0		

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

SAVILAN MANCOO POOL, RIO ARRIBA CO., NM  
 SUN EXPLORATION & PRODUCTION, WRIGHT WAY #1. (NW 2-24N-2W)

		OIL				GAS			GDR	WATER			
YR	MO	DAYS PRODUCED	BOPM	BOPPD	BOPCD	CUM MBO	MCF/M	MCF/D	CUM MMCF	SCF/BBL	Month	BWPD	CUM MBW
1986	1	31.0	2965.0	95.6	95.6	90.0	2442.0	78.8	62.1	823.6	30.0	1.0	1.2
1986	2	27.0	2305.0	85.4	82.3	92.3	2390.0	88.5	64.5	1036.9	18.0	0.7	1.2
1986	3	10.0	2159.0	215.9	69.6	94.5	2461.0	246.1	67.0	1139.9	20.0	2.0	1.2
1986	4	29.0	1724.0	59.4	57.5	96.2	2679.0	92.4	69.6	1553.9	20.0	0.7	1.2
1986	5	31.0	1645.0	53.1	53.1	97.9	1578.0	50.9	71.2	959.3	9.0	0.3	1.2
1986	6	30.0	1025.0	34.2	34.2	98.9	1641.0	54.7	72.8	1601.0	14.0	0.5	1.3
1986	7	24.0	863.0	36.0	27.8	99.8	2499.0	104.1	75.3	2895.7	15.0	0.6	1.3
1986	8	31.0	608.0	19.6	19.6	100.4	2757.0	88.9	78.1	4534.5	15.0	0.5	1.3
1986	9	30.0	439.0	14.6	14.6	100.8	167.0	5.6	78.3	380.4	4.0	0.1	1.3
1986	10	31.0	1564.0	50.5	50.5	102.4	3195.0	103.1	81.5	2042.8	15.0	0.5	1.3
1986	11	30.0	1905.0	63.5	63.5	104.3	2919.0	97.3	84.4	1532.3	20.0	0.7	1.3
1986	12	31.0	1349.0	43.5	43.5	105.6	2131.0	68.7	86.5	1579.7	15.0	0.5	1.3
Subtotal		335.0	18551.0	55.4	50.8		26859.0				195.0		
1987	1	30.0	1152.0	38.4	37.2	106.8	2950.0	98.3	89.5	2560.8	19.0	0.6	1.4
1987	2	23.0	646.0	28.1	23.1	107.4	3098.0	134.7	92.6	4795.7	11.0	0.5	1.4
1987	3	22.0	290.0	13.2	9.4	107.7	1871.0	85.0	94.4	6451.7	11.0	0.5	1.4
1987	4	30.0	745.0	24.8	24.8	108.5	3974.0	132.5	98.4	5334.2	15.0	0.5	1.4
1987	5	31.0	538.0	17.4	17.4	109.0	3664.0	118.2	102.1	6810.4	1.0	0.0	1.4
1987	6	27.0	350.0	13.0	11.7	109.3	3759.0	139.2	105.8	10740.0	54.0	2.0	1.5
1987	7	30.0	410.0	13.7	13.2	109.8	3408.0	113.6	109.2	8312.2	30.0	1.0	1.5
1987	8	27.0	297.0	11.0	9.6	110.0	2008.0	74.4	111.2	6760.9	27.0	1.0	1.5
1987	9	29.0	353.0	12.2	11.8	110.4	2188.0	75.4	113.4	6198.3	29.0	1.0	1.5
1987	10	31.0	302.0	9.7	9.7	110.7	2941.0	94.9	116.4	9738.4	31.0	1.0	1.6
1987	11	24.0	225.0	9.4	7.5	110.9	830.0	34.6	117.2	3688.9	30.0	1.3	1.6
1987	12	28.0	NR	0.0	0.0	110.9	25.0	0.9	117.2	0.0	28.0	1.0	1.6
Subtotal		332.0	5308.0	16.0	14.5		30716.0				286.0		
1988	1	31.0	NR	0.0	0.0	110.9	NR	0.0	117.2	0.0	31.0	1.0	1.7
1988	2	NR	NR	0.0	0.0	110.9	NR	0.0	117.2	0.0	NR	0.0	1.7
1988	3	NR	NR	ERR	0.0	110.9	238.0	0.0	117.5	0.0	NR	0.0	1.7

\* BOPPD: BARRELS PER PRODUCING DAY.

\* BOPCD: BARRELS PER CALENDAR DAY.

\* NR: NOT REPORTED.

DUGAN PRODUCTION CORP.  
EXHIBITS IN CASE NOS. 7980, 8946, 8950 AND 9111,  
BEFORE THE OIL CONSERVATION COMMISSION OF THE  
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

JUNE 13, 1988

WEST PUERTO CHIQUITO PRODUCTION STATISTICS

BEFORE THE OIL CONSERVATION COMMISSION Santa Fe, New Mexico 7980, 8946, 8950 Case No. 9111, 9112 Exhibit No. _____ Submitted by <u>DUGAN PRODUCTION CORP.</u> Hearing Date <u>JUNE 13, 1988</u>
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WEST PUERTO CHIQUITO POOL, RIO ARRIBA CD., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO PROD WELLS	WELL DAYS PROD	OIL				GAS			GOR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW
1962	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	3	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	4	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	5	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	6	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	7	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	8	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	9	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	10	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	11	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	12	2	28	1426.0	50.9	23.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		2	28	1426.0	50.9	2.0		0.0				0.0		
1963	1	2	36	1918.0	53.3	30.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	2	2	21	1011.0	48.1	18.1	2.9	222.0	10.6	0.2	219.6	0.0	0.0	0.0
1963	3	2	40	2142.0	53.6	34.5	5.1	452.0	11.3	0.7	211.0	0.0	0.0	0.0
1963	4	2	39	2520.0	64.6	42.0	7.6	681.0	17.5	1.4	270.2	0.0	0.0	0.0
1963	5	1	31	1888.0	60.9	60.9	9.5	476.0	15.4	1.8	252.1	0.0	0.0	0.0
1963	6	1	30	1892.0	63.1	63.1	11.4	477.0	15.9	2.3	252.1	0.0	0.0	0.0
1963	7	2	27	2150.0	79.6	34.7	13.5	563.0	20.9	2.9	261.9	0.0	0.0	0.0
1963	8	2	46	3458.0	75.2	55.8	17.0	949.0	20.6	3.8	274.4	0.0	0.0	0.0
1963	9	2	60	4829.0	80.5	80.5	21.8	1091.0	18.2	4.9	225.9	0.0	0.0	0.0
1963	10	2	46	4533.0	98.5	73.1	26.3	1033.0	22.5	5.9	227.9	0.0	0.0	0.0
1963	11	2	46	3724.0	81.0	62.1	30.1	897.0	19.5	6.8	240.9	0.0	0.0	0.0
1963	12	2	23	1536.0	66.8	24.8	31.6	427.0	18.6	7.3	278.0	0.0	0.0	0.0
Subtotal		22	445	31601.0	71.0	3.9		7268.0				0.0		
1964	1	3	79	16246.0	205.6	174.7	47.8	4597.0	58.2	11.9	283.0	0.0	0.0	0.0
1964	2	3	43	13799.0	320.9	164.3	61.6	4007.0	93.2	15.9	290.4	0.0	0.0	0.0
1964	3	1	14	873.0	62.4	28.2	62.5	269.0	19.2	16.1	308.1	0.0	0.0	0.0
1964	4	3	41	8146.0	198.7	90.5	70.7	2546.0	62.1	18.7	312.5	0.0	0.0	0.0
1964	5	3	75	13979.0	186.4	150.3	84.6	4362.0	58.2	23.0	312.0	0.0	0.0	0.0
1964	6	3	84	12596.0	150.0	140.0	97.2	4007.0	47.7	27.1	318.1	0.0	0.0	0.0
1964	7	3	78	14976.0	192.0	161.0	112.2	4695.0	60.2	31.8	313.5	0.0	0.0	0.0
1964	8	3	76	16959.0	223.1	182.4	129.2	6233.0	82.0	38.0	367.5	0.0	0.0	0.0
1964	9	3	88	13821.0	157.1	153.6	143.0	4975.0	56.5	43.0	360.0	0.0	0.0	0.0
1964	10	3	48	9248.0	192.7	99.4	152.2	3334.0	69.5	46.3	360.5	0.0	0.0	0.0
1964	11	4	83	18349.0	221.1	152.9	170.6	6294.0	75.8	52.6	343.0	0.0	0.0	0.0
1964	12	3	81	20143.0	248.7	216.6	190.7	6827.0	84.3	59.4	338.9	0.0	0.0	0.0
Subtotal		35	790	159135.0	201.4	12.5		52146.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL. RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GDR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1965	1	3	83.0	22550.0	271.7	242.5	213.3	7866.0	94.8	67.3	348.8	0.0	0.0	0.0
1965	2	2	52.0	21002.0	403.9	375.0	234.3	7260.0	139.6	74.5	345.7	0.0	0.0	0.0
1965	3	3	72.0	24679.0	342.8	265.4	259.0	6993.0	97.1	81.5	283.4	0.0	0.0	0.0
1965	4	4	100.0	29221.0	292.2	243.5	288.2	7215.0	72.2	88.7	246.9	0.0	0.0	0.0
1965	5	3	77.0	15492.0	201.2	166.6	303.7	4630.0	60.1	93.4	298.9	0.0	0.0	0.0
1965	6	2	13.0	3020.0	232.3	50.3	306.7	1050.0	80.8	94.4	347.7	0.0	0.0	0.0
1965	7	1	2.0	413.0	206.5	13.3	307.1	156.0	78.0	94.6	377.7	0.0	0.0	0.0
1965	8	1	28.0	13067.0	466.7	421.5	320.2	4965.0	177.3	99.5	380.0	0.0	0.0	0.0
1965	9	2	40.0	18718.0	468.0	312.0	338.9	7208.0	180.2	106.8	385.1	0.0	0.0	0.0
1965	10	2	62.0	28221.0	455.2	455.2	367.1	11010.0	177.6	117.8	390.1	0.0	0.0	0.0
1965	11	3	71.0	28070.0	395.4	311.9	395.2	10204.0	143.7	128.0	363.5	0.0	0.0	0.0
1965	12	3	93.0	34489.0	370.8	370.8	429.7	11601.0	124.7	139.6	336.4	0.0	0.0	0.0
Subtotal		29	693	238942.0	344.8	22.6		80158.0				0.0		
1966	1	3	93.0	33407.0	359.2	359.2	463.1	12850.0	138.2	152.4	384.6	0.0	0.0	0.4
1966	2	3	83.0	27013.0	325.5	321.6	490.1	10363.0	124.9	162.8	383.6	0.0	0.0	0.4
1966	3	4	108.0	32946.0	305.1	265.7	523.0	12608.0	116.7	175.4	382.7	0.0	0.0	0.4
1966	4	4	105.0	26873.0	255.9	223.9	549.9	10238.0	97.5	185.6	381.0	0.0	0.0	0.4
1966	5	4	108.0	30042.0	278.2	242.3	580.0	11459.0	106.1	197.1	381.4	0.0	0.0	0.8
1966	6	4	111.0	30559.0	275.3	254.7	610.5	11631.0	104.8	208.7	380.6	0.0	0.0	1.3
1966	7	4	118.0	28271.0	239.6	228.0	638.8	10802.0	91.5	219.5	382.1	0.0	0.0	1.5
1966	8	4	98.0	25000.0	255.1	201.6	663.8	8849.0	90.3	228.4	354.0	0.0	0.0	1.7
1966	9	4	118.0	29231.0	247.7	243.6	693.0	10662.0	90.4	239.0	364.7	0.0	0.0	1.7
1966	10	4	111.0	27029.0	243.5	218.0	720.0	9727.0	87.6	248.8	359.9	0.0	0.0	2.1
1966	11	4	114.0	26565.0	233.0	221.4	746.6	9629.0	84.5	258.4	362.5	0.0	0.0	2.1
1966	12	4	92.0	23205.0	252.2	187.1	769.8	8451.0	91.9	266.8	364.2	0.0	0.0	2.1
Subtotal		46	1259	340141.0	270.2	20.3		127269.0				0.0		
1967	1	6	139.0	30715.0	221.0	165.1	800.5	20526.0	147.7	287.4	668.3	418.0	3.0	2.1
1967	2	5	109.0	22989.0	210.9	164.2	823.5	8372.0	76.8	295.7	364.2	0.0	0.0	2.1
1967	3	5	144.0	29921.0	207.8	193.0	853.4	10892.0	75.6	306.6	364.0	0.0	0.0	2.1
1967	4	5	143.0	28564.0	199.7	190.4	882.0	10474.0	73.2	317.1	366.7	0.0	0.0	2.2
1967	5	6	165.0	30052.0	182.1	161.6	912.1	19417.0	117.7	336.5	646.1	380.0	2.3	2.5
1967	6	6	169.0	29258.0	173.1	162.5	941.3	21879.0	129.5	356.4	747.8	458.0	2.7	2.9
1967	7	6	180.0	28856.0	160.3	155.1	970.2	19676.0	109.3	378.1	681.9	286.0	1.6	3.0
1967	8	7	161.0	28910.0	179.6	133.2	999.1	21558.0	133.9	399.6	745.7	154.0	1.0	3.1
1967	9	6	136.0	29461.0	216.6	163.7	1028.5	9997.0	73.5	409.6	339.3	0.0	0.0	3.1
1967	10	7	200.0	35753.0	178.8	164.8	1064.3	20798.0	104.0	430.4	581.7	390.0	2.0	3.2
1967	11	8	167.0	28338.0	169.7	118.1	1092.6	15659.0	93.8	446.1	552.6	36.0	0.2	3.3
1967	12	6	154.0	24972.0	162.2	134.3	1117.6	10043.0	65.2	456.1	402.2	0.0	0.0	3.5
Subtotal		73	1867	347789.0	196.3	13.1		189291.0				2122.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.



WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL				GAS			GOR	WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1968	1	8	194.0	35410.0	182.5	142.8	1153.0	15246.0	78.6	471.4	430.6	0.0	0.0	3.6
1968	2	7	153.0	33247.0	217.3	169.6	1186.3	13625.0	89.1	485.0	409.8	0.0	0.0	3.6
1968	3	7	166.0	33783.0	203.5	155.7	1220.0	13815.0	83.2	498.8	408.9	0.0	0.0	3.6
1968	4	8	204.0	36994.0	181.3	154.1	1257.0	20951.0	102.7	519.8	566.3	84.0	0.4	3.8
1968	5	8	228.0	35734.0	156.7	144.1	1292.8	22876.0	100.3	542.6	640.2	309.0	1.4	4.3
1968	6	8	207.0	33025.0	159.5	137.6	1325.8	18177.0	87.8	560.8	550.4	432.0	2.1	4.5
1968	7	8	224.0	34664.0	154.8	139.8	1360.5	18570.0	82.9	579.4	535.7	38.0	0.2	4.9
1968	8	8	212.0	30122.0	142.1	121.5	1390.6	13213.0	62.3	592.6	438.6	94.0	0.4	5.3
1968	9	8	211.0	31510.0	149.3	131.3	1422.1	16354.0	77.5	609.0	519.0	0.0	0.0	5.7
1968	10	7	165.0	30367.0	184.0	139.9	1452.5	11872.0	72.0	620.8	391.0	117.0	0.7	5.7
1968	11	7	182.0	28267.0	155.3	134.6	1480.7	12225.0	67.2	633.1	432.5	121.0	0.7	5.9
1968	12	8	198.0	33386.0	168.6	134.6	1514.1	15972.0	80.7	649.0	478.4	191.0	1.0	6.0
Subtotal		92	2344	396511.0	169.2	11.8		192896.0				1386.0		
1969	1	8	175.0	33663.0	192.4	135.7	1547.8	15957.0	91.2	665.0	474.0	50.0	0.3	6.1
1969	2	7	152.0	40637.0	267.3	200.2	1588.4	21623.0	142.3	686.6	532.1	8.0	0.1	6.2
1969	3	6	121.0	43419.0	358.8	233.4	1631.8	17263.0	142.7	703.9	397.6	0.0	0.0	6.2
1969	4	7	179.0	42074.0	235.1	200.4	1673.9	18739.0	104.7	722.6	445.4	282.0	1.6	6.2
1969	5	8	210.0	47008.0	223.8	189.5	1720.9	21828.0	103.9	744.4	464.3	471.0	2.2	6.5
1969	6	8	216.0	45979.0	212.9	191.6	1766.9	21578.0	99.9	766.0	469.3	184.0	0.9	6.7
1969	7	8	221.0	51525.0	233.1	207.8	1818.4	22098.0	100.0	788.1	428.9	405.0	1.8	6.8
1969	8	6	163.0	38439.0	235.8	206.7	1856.9	17226.0	105.7	805.3	448.1	441.0	2.7	6.9
1969	9	5	137.0	42009.0	306.6	280.1	1898.9	16396.0	119.7	821.7	390.3	353.0	2.6	7.0
1969	10	5	140.0	44936.0	321.0	289.9	1943.8	16780.0	119.9	838.5	373.4	48.0	0.3	7.2
1969	11	7	151.0	40964.0	271.3	195.1	1984.8	17960.0	118.9	856.5	436.4	131.0	0.9	7.3
1969	12	8	200.0	49269.0	246.3	198.7	2034.0	22660.0	113.3	879.1	459.9	86.0	0.4	7.5
Subtotal		83	2065	519922.0	251.8	17.1		230108.0				2459.0		
1970	1	8	200.0	56334.0	281.7	227.2	2090.4	23698.0	118.5	902.8	420.7	154.0	0.8	7.6
1970	2	8	172.0	47427.0	275.7	211.7	2137.8	18898.0	109.9	921.7	398.5	83.0	0.5	7.6
1970	3	8	206.0	60817.0	295.2	245.2	2198.6	25602.0	124.3	947.3	421.0	0.0	0.0	7.7
1970	4	9	226.0	60053.0	265.7	222.4	2258.7	25671.0	113.6	973.0	427.5	0.0	0.0	8.1
1970	5	9	237.0	61104.0	257.8	219.0	2319.8	23260.0	98.1	996.3	380.7	275.0	1.2	8.5
1970	6	8	216.0	59284.0	274.5	247.0	2379.1	29707.0	137.5	1026.0	501.1	244.0	1.1	8.9
1970	7	8	220.0	58981.0	268.1	237.8	2438.0	27914.0	126.9	1053.9	473.3	114.0	0.5	9.0
1970	8	9	223.0	66292.0	297.3	237.6	2504.3	27775.0	124.6	1081.7	419.0	57.0	0.3	9.0
1970	9	8	221.0	68536.0	310.1	285.6	2572.9	25807.0	116.8	1107.5	376.5	74.0	0.3	9.0
1970	10	8	228.0	65950.0	289.3	265.9	2638.8	25891.0	113.6	1133.4	392.6	257.0	1.1	9.0
1970	11	8	187.0	61016.0	326.3	254.2	2699.8	22483.0	120.2	1155.8	368.5	90.0	0.5	9.1
1970	12	8	216.0	66324.0	307.1	267.4	2766.2	25445.0	117.8	1181.3	383.6	219.0	1.0	9.1
Subtotal		99	2552	732118.0	286.9	20.3		230025.0				1567.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PRODD	OIL				GAS			GOR		WATER	
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1971	1	8	197.0	66491.0	337.5	268.1	2832.7	24983.0	126.8	1206.3	375.7	54.0	0.3	9.1
1971	2	9	213.0	51508.0	241.8	204.4	2884.2	22223.0	104.3	1228.5	431.4	44.0	0.2	9.1
1971	3	9	232.0	64748.0	279.1	232.1	2948.9	29013.0	125.1	1257.5	448.1	71.0	0.3	9.2
1971	4	9	223.0	58332.0	261.6	216.0	3007.2	24331.0	109.1	1281.8	417.1	373.0	1.7	9.6
1971	5	9	245.0	63683.0	259.9	228.3	3070.9	22088.0	90.2	1303.9	346.8	390.0	1.6	9.9
1971	6	7	204.0	60426.0	296.2	287.7	3131.3	21588.0	105.8	1325.5	357.3	436.0	2.1	10.4
1971	7	8	196.0	67347.0	343.6	271.6	3198.7	25440.0	129.8	1351.0	377.7	117.0	0.6	10.9
1971	8	9	210.0	64817.0	308.7	232.3	3263.5	23726.0	113.0	1374.7	366.0	4.0	0.0	11.2
1971	9	10	242.0	61299.0	253.3	204.3	3324.8	22204.0	91.8	1396.9	362.2	5.0	0.0	11.6
1971	10	10	244.0	68228.0	279.6	220.1	3393.0	24414.0	100.1	1421.3	357.8	11.0	0.0	11.8
1971	11	9	238.0	69764.0	293.1	258.4	3462.8	24181.0	101.6	1445.5	346.6	12.0	0.1	11.8
1971	12	10	257.0	72930.0	283.8	235.3	3535.7	25955.0	101.0	1471.4	355.9	8.0	0.0	11.8
Subtotal	107	2701	769573.0		284.9	19.7		290146.0				1525.0		
1972	1	9	249.0	73793.0	296.4	264.5	3609.5	25726.0	103.3	1497.2	348.6	7.0	0.0	12.0
1972	2	10	236.0	62916.0	266.6	224.7	3672.4	23121.0	98.0	1520.3	367.5	9.0	0.0	12.0
1972	3	10	282.0	64237.0	227.8	207.2	3736.7	24562.0	87.1	1544.8	382.4	150.0	0.5	12.0
1972	4	10	294.0	62897.0	213.9	209.7	3799.6	21144.0	71.9	1566.0	336.2	395.0	1.3	12.0
1972	5	10	286.0	55961.0	195.7	180.5	3855.5	42099.0	147.2	1608.1	752.3	324.0	1.1	12.2
1972	6	9	251.0	46374.0	184.8	171.8	3901.9	26231.0	104.5	1634.3	565.6	466.0	1.9	12.8
1972	7	9	267.0	47313.0	177.2	169.6	3949.2	25436.0	95.3	1659.8	537.6	447.0	1.7	13.6
1972	8	9	276.0	46047.0	166.8	165.0	3995.3	24816.0	89.9	1684.6	538.9	390.0	1.4	14.0
1972	9	9	254.0	45011.0	177.2	166.7	4040.3	24001.0	94.5	1708.6	533.2	380.0	1.5	14.5
1972	10	9	226.0	45490.0	201.3	163.0	4085.8	24479.0	108.3	1733.0	538.1	144.0	0.6	14.9
1972	11	8	196.0	42220.0	215.4	175.9	4128.0	21435.0	109.4	1754.5	507.7	3.0	0.0	15.1
1972	12	9	248.0	45901.0	185.1	164.5	4173.9	23086.0	93.1	1777.6	503.0	30.0	0.1	15.2
Subtotal	111	3065	638160.0		208.2	15.8		306136.0				2745.0		
1973	1	9	274.0	46201.0	168.6	165.6	4220.1	25133.0	91.7	1802.7	544.0	152.0	0.6	15.2
1973	2	9	227.0	41117.0	181.1	163.2	4261.2	21661.0	95.4	1824.4	526.8	69.0	0.3	15.3
1973	3	8	187.0	41719.0	223.1	168.2	4302.9	35237.0	188.4	1859.6	844.6	0.0	0.0	15.6
1973	4	8	185.0	40636.0	219.7	169.3	4343.6	37410.0	202.2	1897.0	920.6	0.0	0.0	16.0
1973	5	9	244.0	47475.0	194.6	170.2	4391.0	47967.0	196.6	1945.0	1010.4	171.0	0.7	16.0
1973	6	9	266.0	42224.0	158.7	156.4	4433.3	39994.0	150.4	1985.0	947.2	587.0	2.2	16.8
1973	7	10	274.0	42585.0	155.4	137.4	4475.8	45338.0	165.5	2030.3	1064.6	807.0	2.9	17.5
1973	8	10	297.0	43102.0	145.1	139.0	4519.0	47726.0	160.7	2078.0	1107.3	381.0	1.3	18.4
1973	9	10	288.0	42259.0	146.7	140.9	4561.2	43204.0	150.0	2121.2	1022.4	510.0	1.8	18.5
1973	10	10	289.0	43991.0	152.2	141.9	4605.2	49778.0	172.2	2171.0	1131.5	390.0	1.3	18.5
1973	11	9	259.0	39863.0	153.9	147.6	4645.1	46333.0	178.9	2217.4	1162.3	192.0	0.7	18.6
1973	12	9	262.0	40394.0	154.2	144.8	4685.5	47260.0	180.4	2264.6	1170.0	119.0	0.5	18.7
Subtotal	110	3052	511566.0		167.6	12.7		487041.0				3378.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIGUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

		OIL						GAS			GOR	WATER		
YR	MO	NO WELLS	WELL PROD DAYS	AVE		CUM	MBO	MCF/M	AVE		SCF/BBL	Month	AVE	
				BOPM	BOPPD				BOPCD	MBO			MCF/D	MCF
1974	1	9	230.0	39997.0	173.9	143.4	4725.5	48085.0	209.1	2312.7	1202.2	33.0	0.1	18.7
1974	2	9	234.0	37862.0	161.8	145.1	4763.3	45942.0	196.3	2358.6	1213.4	128.0	0.5	18.7
1974	3	9	232.0	40256.0	173.5	144.3	4803.6	48620.0	209.6	2407.3	1207.8	272.0	1.2	18.7
1974	4	9	257.0	41912.0	163.1	155.2	4845.5	49290.0	191.8	2456.5	1176.0	373.0	1.5	18.8
1974	5	10	256.0	39342.0	153.7	126.9	4884.8	42172.0	164.7	2498.7	1071.9	56.0	0.2	19.1
1974	6	10	285.0	38056.0	133.5	126.9	4922.9	38754.0	136.0	2537.5	1018.3	725.0	2.5	19.4
1974	7	10	295.0	37372.0	126.7	120.6	4960.3	50031.0	169.6	2587.5	1338.7	738.0	2.5	19.6
1974	8	10	297.0	35998.0	121.2	116.1	4996.3	48671.0	163.9	2636.2	1352.0	854.0	2.9	20.0
1974	9	10	272.0	34194.0	125.7	114.0	5030.4	47110.0	173.2	2683.3	1377.7	144.0	0.5	20.4
1974	10	9	227.0	32319.0	142.4	115.8	5062.8	45697.0	201.3	2729.0	1413.9	12.0	0.1	20.9
1974	11	8	187.0	29753.0	159.1	124.0	5092.5	42573.0	227.7	2771.6	1430.9	116.0	0.6	21.1
1974	12	8	204.0	31631.0	155.1	127.5	5124.2	47241.0	231.6	2818.8	1493.5	25.0	0.1	21.1
Subtotal		111	2976	438692.0	147.4	10.8		554186.0				3476.0		
1975	1	8	210.0	30472.0	145.1	122.9	5154.6	44054.0	209.8	2862.9	1445.7	26.0	0.1	21.2
1975	2	8	197.0	27289.0	138.5	121.8	5181.9	40766.0	206.9	2903.6	1493.9	21.0	0.1	21.2
1975	3	6	156.0	27266.0	174.8	146.6	5209.2	42502.0	272.4	2946.1	1558.8	5.0	0.0	21.4
1975	4	8	178.0	28297.0	159.0	117.9	5237.5	47343.0	266.0	2993.5	1673.1	91.0	0.5	21.4
1975	5	8	227.0	29116.0	128.3	117.4	5266.6	50632.0	223.0	3044.1	1739.0	305.0	1.3	21.5
1975	6	7	210.0	27417.0	130.6	130.6	5294.0	44019.0	209.6	3088.1	1605.5	334.0	1.6	22.3
1975	7	7	209.0	27349.0	130.9	126.0	5321.4	44369.0	212.3	3132.5	1622.3	146.0	0.7	22.8
1975	8	7	211.0	27020.0	128.1	124.5	5348.4	44097.0	209.0	3176.6	1632.0	437.0	2.1	22.9
1975	9	6	173.0	23297.0	134.7	129.4	5371.7	41267.0	238.5	3217.8	1771.3	401.0	2.3	23.1
1975	10	6	186.0	26372.0	141.8	141.8	5398.0	44589.0	239.7	3262.4	1690.8	458.0	2.5	23.1
1975	11	6	163.0	24066.0	147.6	133.7	5422.1	41534.0	254.8	3304.0	1725.8	251.0	1.5	23.1
1975	12	6	155.0	23914.0	154.3	128.6	5446.0	39828.0	257.0	3343.8	1665.5	15.0	0.1	23.1
Subtotal		83	2275	321875.0	141.5	10.6		525000.0				2490.0		
1976	1	6	157.0	24456.0	155.8	131.5	5470.5	41232.0	262.6	3385.0	1686.0	21.0	0.1	23.1
1976	2	6	148.0	23112.0	156.2	137.6	5493.6	39151.0	264.5	3424.2	1694.0	57.0	0.4	23.1
1976	3	6	172.0	26991.0	156.9	145.1	5520.6	46246.0	268.9	3470.4	1713.4	221.0	1.3	23.6
1976	4	6	146.0	23314.0	159.7	129.5	5543.9	41444.0	283.9	3511.9	1777.6	0.0	0.0	23.8
1976	5	7	186.0	27337.0	147.0	126.0	5571.2	48105.0	258.6	3560.0	1759.7	90.0	0.5	24.0
1976	6	9	236.0	26008.0	110.2	96.3	5597.2	40622.0	172.1	3600.6	1561.9	758.0	3.2	24.2
1976	7	9	274.0	28378.0	103.6	101.7	5625.6	45185.0	164.9	3645.8	1592.3	481.0	1.8	24.5
1976	8	9	255.0	27183.0	106.6	97.4	5652.8	42541.0	166.8	3688.3	1565.0	155.0	0.6	24.9
1976	9	9	239.0	25383.0	106.2	94.0	5678.2	39761.0	166.4	3728.1	1566.4	132.0	0.6	25.3
1976	10	9	233.0	26199.0	112.4	93.9	5704.4	37488.0	160.9	3765.6	1430.9	0.0	0.0	25.8
1976	11	9	234.0	24963.0	106.7	92.5	5729.3	36990.0	158.1	3802.6	1481.8	0.0	0.0	25.9
1976	12	9	235.0	26328.0	112.0	94.4	5755.7	43216.0	183.9	3845.8	1641.4	0.0	0.0	26.0
Subtotal		94	2515	309652.0	123.1	9.0		501981.0				1915.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIGUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1977	1	9	245.0	26892.0	109.8	96.4	5782.6	42294.0	172.6	3888.1	1572.7	0.0	0.0	27.9
1977	2	9	243.0	25009.0	102.9	99.2	5807.6	41949.0	172.6	3930.0	1677.4	0.0	0.0	28.6
1977	3	9	268.0	27479.0	102.5	98.5	5835.1	42747.0	159.5	3972.8	1555.6	572.0	2.1	28.6
1977	4	9	264.0	28204.0	106.8	104.5	5863.3	47792.0	181.0	4020.6	1694.5	183.0	0.7	29.1
1977	5	9	270.0	27907.0	103.4	100.0	5891.2	44944.0	166.5	4065.5	1610.5	151.0	0.6	29.7
1977	6	9	257.0	26242.0	102.1	97.2	5917.4	40256.0	156.6	4105.8	1534.0	260.0	1.0	30.3
1977	7	9	258.0	27629.0	107.1	99.0	5945.0	43089.0	167.0	4148.8	1559.6	319.0	1.2	31.1
1977	8	9	279.0	25943.0	93.0	93.0	5971.0	44027.0	157.8	4192.9	1697.1	311.0	1.1	31.2
1977	9	9	266.0	23934.0	90.0	88.6	5994.9	40658.0	152.8	4233.5	1698.8	471.0	1.8	31.5
1977	10	9	277.0	25824.0	93.2	92.6	6020.7	44779.0	161.7	4278.3	1734.0	421.0	1.5	31.6
1977	11	10	275.0	24812.0	90.2	82.7	6045.6	43500.0	158.2	4321.8	1753.2	121.0	0.4	31.7
1977	12	12	303.0	25283.0	83.4	68.0	6070.8	43781.0	144.5	4365.6	1731.6	163.0	0.5	31.8
Subtotal		112	3205	315158.0	98.3	7.7		519816.0				2972.0		
1978	1	12	317.0	23931.0	75.5	64.3	6094.8	49315.0	155.6	4414.9	2060.7	1821.0	5.7	31.8
1978	2	12	261.0	20015.0	76.7	59.6	6114.8	39525.0	151.4	4454.4	1974.8	705.0	2.7	32.0
1978	3	12	192.0	20126.0	104.8	54.1	6134.9	41621.0	216.8	4496.1	2068.0	75.0	0.4	32.1
1978	4	12	274.0	20792.0	75.9	57.8	6155.7	38995.0	142.3	4535.0	1875.5	444.0	1.6	32.1
1978	5	11	288.0	22263.0	77.3	65.3	6178.0	54404.0	188.9	4589.5	2443.7	583.0	2.0	32.3
1978	6	11	287.0	21202.0	73.9	64.2	6199.2	51056.0	177.9	4640.5	2408.1	678.0	2.4	32.4
1978	7	11	304	23330.0	76.7	68.4	6222.5	57473.0	189.1	4698.0	2463.5	715.0	2.4	32.4
1978	8	11	247.0	20241.0	81.9	59.4	6242.7	53555.0	216.8	4751.5	2645.9	156.0	0.6	32.6
1978	9	11	285.0	20935.0	73.5	63.4	6263.7	56386.0	197.8	4807.9	2693.4	255.0	0.9	32.8
1978	10	12	277.0	21821.0	78.8	58.7	6285.5	57509.0	207.6	4865.4	2635.5	161.0	0.6	32.8
1978	11	12	267.0	27489.0	103.0	76.4	6313.0	52881.0	198.1	4918.3	1923.7	121.0	0.5	32.8
1978	12	12	278.0	19972.0	71.8	53.7	6333.0	49568.0	178.3	4967.9	2481.9	45.0	0.2	32.8
Subtotal		139	3277	262117.0	80.0	5.2		602288.0				5759.0		
1979	1	12	236.0	18767.0	79.5	50.4	6351.7	45966.0	194.8	5013.8	2449.3	33.0	0.1	32.8
1979	2	12	256.0	19086.0	74.6	54.8	6370.8	45007.0	175.8	5058.9	2358.1	155.0	0.6	32.8
1979	3	11	239.0	19345.0	80.9	56.7	6390.2	47945.0	200.6	5106.8	2478.4	134.0	0.6	32.9
1979	4	11	219.0	18133.0	82.8	54.9	6408.3	45860.0	209.4	5152.7	2529.1	16.0	0.1	32.9
1979	5	12	277.0	21246.0	76.7	57.1	6429.5	51008.0	184.1	5203.7	2400.8	217.0	0.8	32.8
1979	6	12	259.0	19088.0	73.7	53.0	6448.6	45044.0	173.9	5248.7	2359.8	49.0	0.2	32.8
1979	7	12	306.0	20693.0	67.6	55.6	6469.3	50862.0	166.2	5299.6	2457.9	52.0	0.2	32.8
1979	8	12	308.0	21453.0	69.7	57.7	6490.8	50467.0	163.9	5350.0	2352.4	165.0	0.5	33.0
1979	9	12	307.0	21021.0	68.5	58.4	6511.8	52286.0	170.3	5402.3	2487.3	165.0	0.5	33.5
1979	10	11	267.0	20702.0	77.5	60.7	6532.5	47123.0	176.5	5449.4	2276.3	10.0	0.0	34.1
1979	11	11	256.0	18982.0	74.1	57.5	6551.5	22871.0	89.3	5472.3	1204.9	0.0	0.0	34.6
1979	12	11	272.0	20515.0	75.4	60.2	6572.0	46038.0	169.3	5518.4	2244.1	0.0	0.0	35.2
Subtotal		139	3202	239031.0	74.7	4.7		550477.0				996.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1980	1	11	236.0	19395.0	82.2	56.9	6591.4	38890.0	164.8	5557.2	2005.2	0.0	0.0	35.7
1980	2	10	195.0	17077.0	87.6	61.0	6608.5	34544.0	177.1	5591.8	2022.8	0.0	0.0	36.1
1980	3	8	142.0	18375.0	129.4	74.1	6626.8	40139.0	282.7	5631.9	2184.4	0.0	0.0	36.2
1980	4	11	237.0	19508.0	82.3	59.1	6646.3	39194.0	165.4	5671.1	2009.1	0.0	0.0	36.7
1980	5	12	272.0	20418.0	75.1	54.9	6666.8	40652.0	149.5	5711.8	1991.0	0.0	0.0	37.0
1980	6	12	289.0	20225.0	70.0	56.2	6687.0	43823.0	151.6	5755.6	2166.8	40.0	0.1	37.1
1980	7	12	300.0	20156.0	67.2	54.2	6707.1	42985.0	143.3	5798.6	2132.6	7.0	0.0	37.6
1980	8	12	280.0	20991.0	75.0	56.4	6728.1	45638.0	163.0	5844.2	2174.2	134.0	0.5	38.0
1980	9	12	299.0	19594.0	65.5	54.4	6747.7	42630.0	142.6	5886.9	2175.7	546.0	1.8	38.1
1980	10	12	306.0	20291.0	66.3	54.5	6768.0	16999.0	55.6	5903.9	837.8	600.0	2.0	38.2
1980	11	12	301.0	20127.0	66.9	55.9	6788.1	37050.0	123.1	5940.9	1840.8	519.0	1.7	38.7
1980	12	12	305.0	20442.0	67.0	55.0	6808.6	43708.0	143.3	5984.6	2138.1	609.0	2.0	39.0
Subtotal		136	3162	236599.0	74.8	4.8		466252.0				2455.0		
1981	1	12	302.0	20383.0	67.5	54.8	6829.0	43628.0	144.5	6028.2	2140.4	442.0	1.5	39.2
1981	2	12	286.0	19292.0	67.5	57.4	6848.3	37885.0	132.5	6066.1	1963.8	423.0	1.5	39.2
1981	3	11	200.0	17987.0	89.9	52.7	6866.2	43700.0	218.5	6109.8	2429.5	98.0	0.5	39.2
1981	4	12	285.0	19972.0	70.1	55.5	6886.2	45203.0	158.6	6155.0	2263.3	534.0	1.9	39.2
1981	5	12	279.0	19914.0	71.4	53.5	6906.1	49078.0	175.9	6204.1	2464.5	256.0	0.9	39.2
1981	6	12	266.0	19624.0	73.8	54.5	6925.8	45524.0	171.1	6249.6	2319.8	75.0	0.3	39.3
1981	7	12	296.0	20779.0	70.2	55.9	6946.5	47996.0	162.1	6297.6	2309.8	554.0	1.9	39.3
1981	8	11	296.0	20540.0	69.4	60.2	6967.1	50149.0	169.4	6347.8	2441.5	414.0	1.4	39.9
1981	9	12	254.0	19296.0	76.0	53.6	6986.4	42316.0	166.6	6390.1	2193.0	29.0	0.1	40.4
1981	10	12	317.0	20154.0	63.6	54.2	7006.5	46092.0	145.4	6436.2	2287.0	96.0	0.3	40.9
1981	11	12	320.0	19959.0	62.4	55.4	7026.5	43228.0	135.1	6479.4	2165.8	495.0	1.5	41.1
1981	12	12	321.0	19977.0	62.2	53.7	7046.5	40712.0	126.8	6520.1	2037.9	352.0	1.1	41.2
Subtotal		142	3422	237877.0	69.5	4.6		535511.0				3768.0		
1982	1	12	286.0	19590.0	68.5	52.7	7066.0	46404.0	162.3	6566.5	2368.8	164.0	0.6	41.2
1982	2	12	232.0	17111.0	73.8	50.9	7083.2	41781.0	180.1	6608.3	2441.8	44.0	0.2	41.6
1982	3	12	196.0	17836.0	91.0	47.9	7101.0	41745.0	213.0	6650.1	2340.5	0.0	0.0	41.6
1982	4	12	250.0	18457.0	73.8	51.3	7119.5	43210.0	172.8	6693.3	2341.1	0.0	0.0	41.6
1982	5	12	256.0	19071.0	74.5	51.3	7138.5	42795.0	167.2	6736.1	2244.0	0.0	0.0	41.7
1982	6	11	246.0	19240.0	78.2	58.3	7157.8	43786.0	178.0	6779.8	2275.8	92.0	0.4	41.8
1982	7	11	281.0	19229.0	68.4	56.4	7177.0	45203.0	160.9	6825.0	2350.8	0.0	0.0	42.1
1982	8	12	319.0	20313.0	63.7	54.6	7197.3	45909.0	143.9	6871.0	2260.1	544.0	1.7	42.3
1982	9	12	300.0	18386.0	61.3	51.1	7215.7	43490.0	145.0	6914.4	2365.4	543.0	1.8	42.4
1982	10	12	315.0	20538.0	65.2	55.2	7236.2	46265.0	146.9	6960.7	2252.7	464.0	1.5	42.4
1982	11	12	280.0	18286.0	65.3	50.8	7254.5	39323.0	140.4	7000.0	2150.4	261.0	0.9	42.4
1982	12	12	250.0	19238.0	77.0	51.7	7273.8	45489.0	182.0	7045.5	2364.5	81.0	0.3	42.4
Subtotal		142	3211	227295.0	70.8	4.4		525400.0				2193.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1983	1	12	291.0	19244.0	66.1	51.7	7293.0	43811.0	150.6	7089.3	2276.6	40.0	0.1	42.5
1983	2	12	242.0	15929.0	65.8	47.4	7308.9	37474.0	154.9	7126.8	2352.6	339.0	1.4	42.5
1983	3	12	182.0	16440.0	90.3	44.2	7325.4	39421.0	216.6	7166.2	2397.9	0.0	0.0	42.6
1983	4	12	214.0	17872.0	83.5	49.6	7343.2	41666.0	194.7	7207.9	2331.4	49.0	0.2	42.8
1983	5	13	339.0	20468.0	60.4	50.8	7363.7	44940.0	132.6	7252.8	2195.6	80.0	0.2	43.4
1983	6	12	272.0	18225.0	67.0	50.6	7381.9	40158.0	147.6	7293.0	2203.5	60.0	0.2	43.9
1983	7	13	305.0	18746.0	61.5	46.5	7400.7	41600.0	136.4	7334.6	2219.1	335.0	1.1	44.3
1983	8	12	280.0	18724.0	66.9	50.3	7419.4	41347.0	147.7	7375.9	2208.2	236.0	0.8	44.6
1983	9	12	301.0	18115.0	60.2	50.3	7437.5	41910.0	139.2	7417.8	2313.6	10.0	0.0	44.6
1983	10	13	319.0	21056.0	66.0	52.2	7458.6	46713.0	146.4	7464.6	2218.5	0.0	0.0	44.7
1983	11	13	304.0	18933.0	62.3	48.5	7477.5	37275.0	122.6	7501.8	1968.8	0.0	0.0	44.7
1983	12	13	273.0	18703.0	68.5	46.4	7496.2	38698.0	141.8	7540.5	2069.1	0.0	0.0	44.7
Subtotal		149	3322	222455.0	67.0	4.1		495013.0				1149.0		
1984	1	13	287.0	19615.0	68.3	48.7	7515.8	39632.0	138.1	7580.2	2020.5	99.0	0.3	44.7
1984	2	13	246.0	17098.0	69.5	45.4	7532.9	35237.0	143.2	7615.4	2060.9	0.0	0.0	44.7
1984	3	13	246.0	18546.0	75.4	46.0	7551.5	38245.0	155.5	7653.6	2062.2	134.0	0.5	44.7
1984	4	13	271.0	18312.0	67.6	47.0	7569.8	38174.0	140.9	7691.8	2084.6	197.0	0.7	44.8
1984	5	13	339.0	20007.0	59.0	49.6	7589.8	37410.0	110.4	7729.2	1869.8	619.0	1.8	44.8
1984	6	13	338.0	19299.0	57.1	49.5	7609.1	37403.0	110.7	7766.6	1938.1	475.0	1.4	45.2
1984	7	13	358.0	19950.0	55.7	49.5	7629.0	44953.0	125.6	7811.6	2253.3	397.0	1.1	45.3
1984	8	13	318.0	18089.0	56.9	44.9	7647.1	41533.0	130.6	7853.1	2296.0	329.0	1.0	45.3
1984	9	13	277.0	17397.0	62.8	44.6	7664.5	41384.0	149.4	7894.5	2378.8	24.0	0.1	45.3
1984	10	12	207.0	17069.0	82.5	45.9	7681.6	42500.0	205.3	7937.0	2489.9	89.0	0.4	45.7
1984	11	12	244.0	16522.0	67.7	45.9	7698.1	40402.0	165.6	7977.4	2445.3	0.0	0.0	45.7
1984	12	13	289.0	18946.0	65.2	46.8	7717.0	44603.0	154.3	8022.0	2366.7	20.0	0.1	45.7
Subtotal		154	3420	220750.0	64.5	3.9		481476.0				2383.0		
1985	1	14	256.0	20992.0	82.0	48.4	7738.0	44499.0	173.8	8066.5	2119.8	0.0	0.0	45.7
1985	2	14	236.0	30015.0	127.2	76.6	7768.0	50993.0	216.1	8117.5	1698.9	0.0	0.0	45.7
1985	3	15	296.0	31925.0	107.9	68.7	7799.9	52544.0	177.5	8170.0	1645.9	0.0	0.0	45.7
1985	4	15	317.0	32370.0	102.1	71.9	7832.3	49317.0	155.6	8219.4	1523.5	32.0	0.1	45.7
1985	5	17	397.0	34470.0	86.8	65.4	7866.7	42369.0	106.7	8261.7	1229.2	70.0	0.2	45.7
1985	6	17	458	32184.0	70.3	63.1	7898.9	38013.0	83.0	8299.7	1181.1	395.0	0.9	45.8
1985	7	17	449.0	35398.0	78.8	67.2	7934.3	43595.0	97.1	8343.3	1231.6	36.0	0.1	46.4
1985	8	17	403.0	31215.0	77.5	59.2	7965.5	32467.0	80.6	8375.8	1040.1	3.0	0.0	46.4
1985	9	17	360.0	31596.0	87.8	62.0	7997.1	31830.0	88.4	8407.6	1007.4	0.0	0.0	46.7
1985	10	16	421.0	32178.0	76.4	64.9	8029.3	23538.0	55.9	8431.2	731.5	460.0	1.1	46.8
1985	11	15	312.0	29874.0	95.8	66.4	8059.2	20765.0	66.6	8451.9	695.1	5.0	0.0	46.9
1985	12	16	300.0	29568.0	98.6	59.6	8088.7	19911.0	66.4	8471.9	673.4	10.0	0.0	47.0
Subtotal		190	4205	371785.0	88.4	5.4		449841.0				1011.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL PLUS JICARILLA TOTAL.

YR	MO	NO WELL		OIL				GAS			GOR	WATER		
		PROD	DAYS	AVE BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1986	1	16	337	30264.0	89.8	61.0	8119.0	13793.0	40.9	8485.6	455.8	0.0	0.0	47.0
1986	2	17	324	39354.0	121.5	82.7	8158.4	20233.0	62.4	8505.8	514.1	0.0	0.0	47.0
1986	3	18	397	61705.0	155.4	110.6	8220.1	36057.0	90.8	8541.9	584.3	0.0	0.0	47.0
1986	4	18	361	59844.0	165.8	110.8	8279.9	35165.0	97.4	8577.1	587.6	0.0	0.0	47.0
1986	5	20	429	70005.0	163.2	112.9	8349.9	42010.0	97.9	8619.1	600.1	0.0	0.0	47.0
1986	6	18	380	85896.0	226.0	159.1	8435.8	79777.0	209.9	8698.8	928.8	56.0	0.1	47.0
1986	7	20	487	90090.0	185.0	145.3	8525.9	82680.0	169.8	8781.5	917.7	617.0	1.3	47.0
1986	8	19	360	69239.0	192.3	117.6	8595.1	63414.0	176.2	8844.9	915.9	5.0	0.0	47.0
1986	9	20	362	71764.0	198.2	119.6	8666.9	69279.0	191.4	8914.2	965.4	230.0	0.6	47.0
1986	10	20	519	87367.0	168.3	140.9	8754.3	95315.0	183.7	9009.5	1091.0	175.0	0.3	47.0
1986	11	20	441	76132.0	172.6	126.9	8830.4	75488.0	171.2	9085.0	991.5	73.0	0.2	47.0
1986	12	20	438	77990.0	178.1	125.8	8908.4	84499.0	192.9	9169.5	1083.5	67.0	0.2	47.0
Subtotal		226	4835	819650.0	169.5	9.9		697710.0				1223.0		
1987	1	16	337	30264.0	89.8	61.0	8938.6	13793.0	40.9	9183.3	455.8	0.0	0.0	47.0
1987	2	17	324	39354.0	121.5	82.7	8978.0	20233.0	62.4	9203.5	514.1	0.0	0.0	47.0
1987	3	18	397	61705.0	155.4	110.6	9039.7	36057.0	90.8	9239.6	584.3	0.0	0.0	47.0
1987	4	18	361	59844.0	165.8	110.8	9099.6	35165.0	97.4	9274.8	587.6	32.0	0.1	47.0
1987	5	20	429	70005.0	163.2	112.9	9169.6	42010.0	97.9	9316.8	600.1	70.0	0.2	47.1
1987	6	18	380	85896.0	226.0	159.1	9255.5	79777.0	209.9	9396.6	928.8	395.0	1.0	47.5
1987	7	20	487	90090.0	185.0	145.3	9345.5	82680.0	169.8	9479.2	917.7	36.0	0.1	47.5
1987	8	19	360	69239.0	192.3	117.6	9414.8	63414.0	176.2	9542.6	915.9	3.0	0.0	47.5
1987	9	20	362	71764.0	198.2	119.6	9486.5	69279.0	191.4	9611.9	965.4	0.0	0.0	47.1
1987	10	20	519	87367.0	168.3	140.9	9573.9	95315.0	183.7	9707.2	1091.0	460.0	0.9	47.5
1987	11	20	441	76132.0	172.6	126.9	9650.0	75488.0	171.2	9782.7	991.5	5.0	0.0	47.5
1987	12	20	438	77990.0	178.1	125.8	9728.0	84499.0	192.9	9867.2	1083.5	10.0	0.0	47.5
Subtotal		226	4835	819650.0	169.5	9.9		697710.0				1011.0		
1988	1	21	374	50390.0	134.7	77.4	9778.4	125522.0	335.6	9992.7	2491.0	0.0	0.0	47.5
1988	2	18	239	51581.0	215.8	102.3	9830.0	101486.0	424.6	10094.2	1967.5	0.0	0.0	47.5
1988	3	19	332	59292.0	178.6	100.7	9889.3	143197.0	431.3	10237.4	2415.1	162.0	0.5	47.7
1988	4	24	465	63309.0	136.1	87.9	9952.6	246075.0	529.2	10483.5	3886.9	150.0	0.3	47.9

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL				GAS			GOR		WATER	
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1962	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	3	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	4	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	5	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	6	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	7	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	8	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	9	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	10	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	11	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	12	2	28	1426.0	50.9	23.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		2	28	1426.0	50.9	23.0		0.0				0.0		
1963	1	2	36	1918.0	53.3	30.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	2	2	21	1011.0	48.1	18.1	2.9	222.0	10.6	0.2	219.6	0.0	0.0	0.0
1963	3	2	40	2142.0	53.6	34.5	5.1	452.0	11.3	0.7	211.0	0.0	0.0	0.0
1963	4	2	39	2520.0	64.6	42.0	7.6	681.0	17.5	1.4	270.2	0.0	0.0	0.0
1963	5	1	31	1888.0	60.9	60.9	9.5	476.0	15.4	1.8	252.1	0.0	0.0	0.0
1963	6	1	30	1892.0	63.1	63.1	11.4	477.0	15.9	2.3	252.1	0.0	0.0	0.0
1963	7	2	27	2150.0	79.6	34.7	13.5	563.0	20.9	2.9	261.9	0.0	0.0	0.0
1963	8	2	46	3458.0	75.2	55.8	17.0	949.0	20.6	3.8	274.4	0.0	0.0	0.0
1963	9	2	60	4829.0	80.5	80.5	21.8	1091.0	18.2	4.9	225.9	0.0	0.0	0.0
1963	10	2	46	4533.0	98.5	73.1	26.3	1033.0	22.5	5.9	227.9	0.0	0.0	0.0
1963	11	2	46	3724.0	81.0	62.1	30.1	897.0	19.5	6.8	240.9	0.0	0.0	0.0
1963	12	2	23	1536.0	66.8	24.8	31.6	427.0	18.6	7.3	278.0	0.0	0.0	0.0
Subtotal		22	445	31601.0	71.0	3.9		7268.0				0.0		
1964	1	3	79	16246.0	205.6	174.7	47.8	4597.0	58.2	11.9	283.0	0.0	0.0	0.0
1964	2	3	43	13799.0	320.9	164.3	61.6	4007.0	93.2	15.9	290.4	0.0	0.0	0.0
1964	3	1	14	873.0	62.4	28.2	62.5	269.0	19.2	16.1	308.1	0.0	0.0	0.0
1964	4	3	41	8146.0	198.7	90.5	70.7	2546.0	62.1	18.7	312.5	0.0	0.0	0.0
1964	5	3	75	13979.0	186.4	150.3	84.6	4362.0	58.2	23.0	312.0	0.0	0.0	0.0
1964	6	3	84	12596.0	150.0	140.0	97.2	4007.0	47.7	27.1	318.1	0.0	0.0	0.0
1964	7	3	78	14976.0	192.0	161.0	112.2	4695.0	60.2	31.8	313.5	0.0	0.0	0.0
1964	8	3	76	16959.0	223.1	182.4	129.2	6233.0	82.0	38.0	367.5	0.0	0.0	0.0
1964	9	3	88	13821.0	157.1	153.6	143.0	4975.0	56.5	43.0	360.0	0.0	0.0	0.0
1964	10	3	48	9248.0	192.7	99.4	152.2	3334.0	69.5	46.3	360.5	0.0	0.0	0.0
1964	11	4	83	18349.0	221.1	152.9	170.6	6294.0	75.8	52.6	343.0	0.0	0.0	0.0
1964	12	3	81	20143.0	248.7	216.6	190.7	6827.0	84.3	59.4	338.9	0.0	0.0	0.0
Subtotal		35	790	159135.0	201.4	12.5		52146.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.



WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GDR	WATER			
				AVE BOPM	AVE BOPPD	CUM MBO	AVE MCF/M	CUM MCF/D	MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW	
1965	1	3	83	22550.0	271.7	242.5	213.3	7866.0	94.8	67.3	348.8	0.0	0.0	0.0
1965	2	2	52	21002.0	403.9	375.0	234.3	7260.0	139.6	74.5	345.7	0.0	0.0	0.0
1965	3	3	72	24679.0	342.8	265.4	259.0	6993.0	97.1	81.5	283.4	0.0	0.0	0.0
1965	4	4	100	29221.0	292.2	243.5	288.2	7215.0	72.2	88.7	246.9	0.0	0.0	0.0
1965	5	3	77	15492.0	201.2	166.6	303.7	4630.0	60.1	93.4	298.9	0.0	0.0	0.0
1965	6	2	13	3020.0	232.3	50.3	306.7	1050.0	80.8	94.4	347.7	0.0	0.0	0.0
1965	7	1	2	413.0	206.5	13.3	307.1	156.0	78.0	94.6	377.7	0.0	0.0	0.0
1965	8	1	28	13067.0	466.7	421.5	320.2	4965.0	177.3	99.5	380.0	0.0	0.0	0.0
1965	9	2	40	18718.0	468.0	312.0	338.9	7208.0	180.2	106.8	385.1	0.0	0.0	0.0
1965	10	2	62	28221.0	455.2	455.2	367.1	11010.0	177.6	117.8	390.1	0.0	0.0	0.0
1965	11	3	71	28070.0	395.4	311.9	395.2	10204.0	143.7	128.0	363.5	0.0	0.0	0.0
1965	12	3	93	34489.0	370.8	370.8	429.7	11601.0	124.7	139.6	336.4	0.0	0.0	0.0
Subtotal		29	693	238942.0	344.8	22.6		80158.0				0.0		
1966	1	3	93	33407.0	359.2	359.2	463.1	12850.0	138.2	152.4	384.6	0.0	0.0	0.0
1966	2	3	83	27013.0	325.5	321.6	490.1	10363.0	124.9	162.8	383.6	0.0	0.0	0.0
1966	3	4	108	32946.0	305.1	265.7	523.0	12608.0	116.7	175.4	382.7	0.0	0.0	0.0
1966	4	4	105	26873.0	255.9	223.9	549.9	10238.0	97.5	185.6	381.0	0.0	0.0	0.0
1966	5	4	108	30042.0	278.2	242.3	580.0	11459.0	106.1	197.1	381.4	0.0	0.0	0.0
1966	6	4	111	30559.0	275.3	254.7	610.5	11631.0	104.8	208.7	380.6	0.0	0.0	0.0
1966	7	4	118	28271.0	239.6	228.0	638.8	10802.0	91.5	219.5	382.1	0.0	0.0	0.0
1966	8	4	98	25000.0	255.1	201.6	663.8	8849.0	90.3	228.4	354.0	0.0	0.0	0.0
1966	9	4	118	29231.0	247.7	243.6	693.0	10662.0	90.4	239.0	364.7	0.0	0.0	0.0
1966	10	4	111	27029.0	243.5	218.0	720.0	9727.0	87.6	248.8	359.9	0.0	0.0	0.0
1966	11	4	114	26565.0	233.0	221.4	746.6	9629.0	84.5	258.4	362.5	0.0	0.0	0.0
1966	12	4	92	23205.0	252.2	187.1	769.8	8451.0	91.9	266.8	364.2	0.0	0.0	0.0
Subtotal		46	1259	340141.0	270.2	20.3		127269.0				0.0		
1967	1	5	117	29408.0	251.4	189.7	799.2	10724.0	91.7	277.6	364.7	0.0	0.0	0.0
1967	2	5	109	22989.0	210.9	164.2	822.2	8372.0	76.8	285.9	364.2	0.0	0.0	0.0
1967	3	5	144	29921.0	207.8	193.0	852.1	10892.0	75.6	296.8	364.0	0.0	0.0	0.0
1967	4	5	143	28564.0	199.7	190.4	880.7	10474.0	73.2	307.3	366.7	0.0	0.0	0.0
1967	5	5	147	28877.0	196.4	186.3	909.6	10605.0	72.1	317.9	367.2	0.0	0.0	0.0
1967	6	5	139	27695.0	199.2	184.6	937.3	10157.0	73.1	328.1	366.7	0.0	0.0	0.0
1967	7	5	149	27590.0	185.2	178.0	964.9	10181.0	68.3	338.2	369.0	0.0	0.0	0.0
1967	8	6	138	27549.0	199.6	148.1	992.4	10633.0	77.1	348.9	386.0	0.0	0.0	0.0
1967	9	6	136	29461.0	216.6	163.7	1021.9	9997.0	73.5	358.9	339.3	0.0	0.0	0.0
1967	10	6	184	34766.0	188.9	186.9	1056.6	12875.0	70.0	371.8	370.3	0.0	0.0	0.0
1967	11	7	161	28022.0	174.0	133.4	1084.7	13123.0	81.5	384.9	468.3	0.0	0.0	0.0
1967	12	6	154	24972.0	162.2	134.3	1109.6	10043.0	65.2	394.9	402.2	0.0	0.0	0.0
Subtotal		66	1721	339814.0	197.5	14.1		128076.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				AVE BOPM	AVE BOPPD	CUM MBD	AVE MCF/M	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW		
1968	1	7	192	35282.0	183.8	162.6	1144.9	14219.0	74.1	409.1	403.0	0.0	0.0	0.0
1968	2	6	151	33156.0	219.6	197.4	1178.1	12895.0	85.4	422.0	388.9	0.0	0.0	0.0
1968	3	6	164	33707.0	205.5	181.2	1211.8	13205.0	80.5	435.2	391.8	0.0	0.0	0.0
1968	4	7	196	36217.0	184.8	172.5	1248.0	14716.0	75.1	450.0	406.3	0.0	0.0	0.0
1968	5	7	207	34631.0	167.3	159.6	1282.6	14022.0	67.7	464.0	404.9	0.0	0.0	0.0
1968	6	7	182	32323.0	177.6	153.9	1314.9	12542.0	68.9	476.5	388.0	0.0	0.0	0.0
1968	7	7	214	34117.0	159.4	157.2	1349.1	14179.0	66.3	490.7	415.6	0.0	0.0	0.0
1968	8	7	206	29644.0	143.9	136.6	1378.7	10942.0	53.1	501.6	369.1	0.0	0.0	0.0
1968	9	7	191	30687.0	160.7	146.1	1409.4	12445.0	65.2	514.1	405.5	0.0	0.0	0.0
1968	10	6	157	29749.0	189.5	159.9	1439.1	9816.0	62.5	523.9	330.0	0.0	0.0	0.0
1968	11	6	172	27635.0	160.7	153.5	1466.8	9223.0	53.6	533.1	333.7	0.0	0.0	0.0
1968	12	7	183	32793.0	179.2	151.1	1499.6	13146.0	71.8	546.3	400.9	0.0	0.0	0.0
Subtotal		80	2215	389941.0	176.0	13.4		151350.0				0.0		
1969	1	7	168	33383.0	198.7	153.8	1533.0	14627.0	87.1	560.9	438.2	0.0	0.0	0.0
1969	2	6	151	40602.0	268.9	241.7	1573.6	21457.0	142.1	582.4	528.5	0.0	0.0	0.0
1969	3	5	120	43391.0	361.6	279.9	1617.0	17130.0	142.8	599.5	394.8	0.0	0.0	0.0
1969	4	6	166	41548.0	250.3	230.8	1658.5	16241.0	97.8	615.7	390.9	0.0	0.0	0.0
1969	5	7	184	45868.0	249.3	211.4	1704.4	16413.0	89.2	632.1	357.8	0.0	0.0	0.0
1969	6	7	188	45002.0	239.4	214.3	1749.4	17094.0	90.9	649.2	379.8	0.0	0.0	0.0
1969	7	7	192	50686.0	264.0	233.6	1800.1	18113.0	94.3	667.3	357.4	0.0	0.0	0.0
1969	8	5	137	37355.0	272.7	241.0	1837.4	13540.0	98.8	680.9	362.5	0.0	0.0	0.0
1969	9	4	110	41074.0	373.4	342.3	1878.5	13217.0	120.2	694.1	321.8	0.0	0.0	0.0
1969	10	4	119	44325.0	372.5	357.5	1922.8	14703.0	123.6	708.8	331.7	0.0	0.0	0.0
1969	11	6	133	39946.0	300.3	221.9	1962.8	14499.0	109.0	723.3	363.0	0.0	0.0	0.0
1969	12	7	191	48818.0	255.6	225.0	2011.6	21127.0	110.6	744.4	432.8	0.0	0.0	0.0
Subtotal		71	1859	511998.0	275.4	19.8		198161.0				0.0		
1970	1	7	189	55925.0	295.9	257.7	2067.5	22307.0	118.0	766.7	398.9	0.0	0.0	0.0
1970	2	7	153	46905.0	306.6	239.3	2114.4	17123.0	111.9	783.9	365.1	0.0	0.0	0.0
1970	3	7	205	60782.0	296.5	280.1	2175.2	25483.0	124.3	809.3	419.3	0.0	0.0	0.0
1970	4	8	225	60016.0	266.7	250.1	2235.2	25545.0	113.5	834.9	425.6	0.0	0.0	0.0
1970	5	8	223	60196.0	269.9	242.7	2295.4	20173.0	90.5	855.1	335.1	0.0	0.0	0.0
1970	6	7	194	57806.0	298.0	275.3	2353.2	24682.0	127.2	879.7	427.0	0.0	0.0	0.0
1970	7	7	205	57883.0	282.4	266.7	2411.1	24181.0	118.0	903.9	417.8	0.0	0.0	0.0
1970	8	8	212	65452.0	308.7	263.9	2476.5	25373.0	119.7	929.3	387.7	0.0	0.0	0.0
1970	9	7	206	67499.0	327.7	321.4	2544.0	22841.0	110.9	952.1	338.4	0.0	0.0	0.0
1970	10	7	211	64642.0	306.4	297.9	2608.7	22151.0	105.0	974.3	342.7	0.0	0.0	0.0
1970	11	7	180	60324.0	335.1	287.3	2669.0	20504.0	113.9	994.8	339.9	0.0	0.0	0.0
1970	12	7	203	65389.0	322.1	301.3	2734.4	22771.0	112.2	1017.6	348.2	0.0	0.0	0.0
Subtotal		87	2406	722819.0	300.4	22.8		273134.0				0.0		

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\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR		WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW
1971	1	7	195	66292.0	340.0	305.5	2800.7	24414.0	125.2	1042.0	368.3	0.0	0.0	0.0
1971	2	8	210	51180.0	243.7	228.5	2851.9	21285.0	101.4	1063.3	415.9	0.0	0.0	0.0
1971	3	8	222	63687.0	286.9	256.8	2915.6	25979.0	117.0	1089.2	407.9	0.0	0.0	0.0
1971	4	8	203	57210.0	281.8	238.4	2972.8	21122.0	104.0	1110.4	369.2	0.0	0.0	0.0
1971	5	8	217	62473.0	287.9	251.9	3035.2	18627.0	85.8	1129.0	298.2	0.0	0.0	0.0
1971	6	6	174	59356.0	341.1	329.8	3094.6	18528.0	106.5	1147.5	312.2	0.0	0.0	0.0
1971	7	7	184	66811.0	363.1	307.9	3161.4	23907.0	129.9	1171.4	357.8	0.0	0.0	0.0
1971	8	8	209	64796.0	310.0	261.3	3226.2	23665.0	113.2	1195.1	365.2	0.0	0.0	0.0
1971	9	9	241	61281.0	254.3	227.0	3287.5	22153.0	91.9	1217.2	361.5	0.0	0.0	0.0
1971	10	9	242	68201.0	281.8	244.4	3355.7	24337.0	100.6	1241.6	356.8	0.0	0.0	0.0
1971	11	8	236	69743.0	295.5	290.6	3425.4	24121.0	102.2	1265.7	345.9	0.0	0.0	0.0
1971	12	9	256	72918.0	284.8	261.4	3498.3	25921.0	101.3	1291.6	355.5	0.0	0.0	0.0
Subtotal		95	2589	763948.0	295.1	22.0		274059.0				0.0		
1972	1	8	248	73785.0	297.5	297.5	3572.1	25723.0	103.7	1317.3	348.6	0.0	0.0	0.0
1972	2	9	234	62899.0	268.8	249.6	3635.0	23072.0	98.6	1340.4	366.8	0.0	0.0	0.0
1972	3	9	268	63416.0	236.6	227.3	3698.4	22214.0	82.9	1362.6	350.3	0.0	0.0	0.0
1972	4	9	266	60662.0	225.8	222.5	3758.5	17657.0	66.4	1380.3	294.0	0.0	0.0	0.0
1972	5	9	256	53583.0	209.3	192.1	3812.1	39174.0	153.0	1419.5	731.1	0.0	0.0	0.0
1972	6	8	221	44450.0	201.1	185.2	3856.5	23865.0	108.0	1443.3	536.9	0.0	0.0	0.0
1972	7	8	236	45738.0	193.8	184.4	3902.3	23499.0	99.6	1466.8	513.8	0.0	0.0	0.0
1972	8	8	247	44124.0	178.6	177.9	3946.4	21931.0	88.8	1488.8	497.0	0.0	0.0	0.0
1972	9	8	225	42723.0	189.9	178.0	3989.1	20569.0	91.4	1509.3	481.5	0.0	0.0	0.0
1972	10	8	210	43942.0	209.2	177.2	4033.1	22157.0	105.5	1531.5	504.2	0.0	0.0	0.0
1972	11	7	195	42204.0	216.4	201.0	4075.3	21411.0	109.8	1552.9	507.3	0.0	0.0	0.0
1972	12	8	229	43945.0	191.9	177.2	4119.2	20152.0	88.0	1573.0	458.6	0.0	0.0	0.0
Subtotal		99	2835	620871.0	219.0	17.2		281424.0				0.0		
1973	1	8	245	43598.0	178.0	175.8	4162.8	21228.0	86.6	1594.3	486.9	0.0	0.0	0.0
1973	2	8	208	39692.0	190.8	177.2	4202.5	19523.0	93.9	1613.8	491.9	0.0	0.0	0.0
1973	3	7	186	41664.0	224.0	192.0	4244.2	35155.0	189.0	1649.0	843.8	0.0	0.0	0.0
1973	4	7	184	40615.0	220.7	193.4	4284.8	37378.0	203.1	1686.3	920.3	0.0	0.0	0.0
1973	5	8	224	45606.0	203.6	183.9	4330.4	45163.0	201.6	1731.5	990.3	0.0	0.0	0.0
1973	6	8	236	40226.0	170.4	167.6	4370.6	36997.0	156.8	1768.5	919.7	0.0	0.0	0.0
1973	7	9	243	41045.0	168.9	147.1	4411.7	43028.0	177.1	1811.5	1048.3	0.0	0.0	0.0
1973	8	9	271	41277.0	152.3	147.9	4452.9	44076.0	162.6	1855.6	1067.8	0.0	0.0	0.0
1973	9	9	264	40417.0	153.1	149.7	4493.3	39520.0	149.7	1895.1	977.8	0.0	0.0	0.0
1973	10	9	258	41401.0	160.5	148.4	4534.8	44598.0	172.9	1939.7	1077.2	0.0	0.0	0.0
1973	11	8	233	39044.0	167.6	162.7	4573.8	44695.0	191.8	1984.4	1144.7	0.0	0.0	0.0
1973	12	8	245	39876.0	162.8	160.8	4613.7	46224.0	188.7	2030.6	1159.2	0.0	0.0	0.0
Subtotal		98	2797	494461.0	176.8	13.8		457585.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR		WATER		
				AVE BOPM	AVE BOPPD	CUM MBO	AVE MCF/M	CUM MCF/D	SCF/BBL	Month	AVE BMPD	CUM MBW		
1974	1	8	222	39165.0	176.4	157.9	4652.8	46247.0	208.3	2076.9	1180.8	0.0	0.0	0.0
1974	2	8	213	36056.0	169.3	161.0	4688.9	42330.0	198.7	2119.2	1174.0	0.0	0.0	0.0
1974	3	8	228	39939.0	175.2	161.0	4728.8	47986.0	210.5	2167.2	1201.5	0.0	0.0	0.0
1974	4	8	240	40492.0	168.7	168.7	4769.3	46450.0	193.5	2213.6	1147.1	0.0	0.0	0.0
1974	5	9	252	38992.0	154.7	139.8	4808.3	41472.0	164.6	2255.1	1063.6	0.0	0.0	0.0
1974	6	9	263	36301.0	138.0	134.4	4844.6	35244.0	134.0	2290.4	970.9	0.0	0.0	0.0
1974	7	9	264	35893.0	136.0	128.6	4880.5	47073.0	178.3	2337.4	1311.5	0.0	0.0	0.0
1974	8	9	268	34978.0	130.5	125.4	4915.5	46631.0	174.0	2384.1	1333.2	0.0	0.0	0.0
1974	9	9	256	32893.0	128.5	121.8	4948.4	44508.0	173.9	2428.6	1353.1	0.0	0.0	0.0
1974	10	8	226	32281.0	142.8	130.2	4980.7	45621.0	201.9	2474.2	1413.2	0.0	0.0	0.0
1974	11	7	177	28791.0	162.7	137.1	5009.5	40649.0	229.7	2514.8	1411.9	0.0	0.0	0.0
1974	12	7	201	31203.0	155.2	143.8	5040.7	46385.0	230.8	2561.2	1486.6	0.0	0.0	0.0
Subtotal		99	2810	426984.0	152.0	11.8		530596.0				0.0		
1975	1	7	209	30457.0	145.7	140.4	5071.1	44024.0	210.6	2605.2	1445.4	0.0	0.0	0.0
1975	2	7	196	27277.0	139.2	139.2	5098.4	40742.0	207.9	2646.0	1493.6	0.0	0.0	0.0
1975	3	5	155	27259.0	175.9	175.9	5125.6	42488.0	274.1	2688.5	1558.7	0.0	0.0	0.0
1975	4	7	170	27330.0	160.8	130.1	5153.0	45409.0	267.1	2733.9	1661.5	0.0	0.0	0.0
1975	5	7	206	27264.0	132.3	125.6	5180.2	46932.0	227.8	2780.8	1721.4	0.0	0.0	0.0
1975	6	6	180	24841.0	138.0	138.0	5205.1	38867.0	215.9	2819.7	1564.6	0.0	0.0	0.0
1975	7	6	186	25457.0	136.9	136.9	5230.5	40585.0	218.2	2860.3	1594.3	0.0	0.0	0.0
1975	8	6	182	25127.0	138.1	135.1	5255.7	40311.0	221.5	2900.6	1604.3	0.0	0.0	0.0
1975	9	5	146	21661.0	148.4	144.4	5277.3	37995.0	260.2	2938.6	1754.1	0.0	0.0	0.0
1975	10	5	155	24457.0	157.8	157.8	5301.8	40899.0	263.9	2979.5	1672.3	0.0	0.0	0.0
1975	11	5	149	23221.0	155.8	154.8	5325.0	39844.0	267.4	3019.3	1715.9	0.0	0.0	0.0
1975	12	5	154	23851.0	154.9	153.9	5348.9	39702.0	257.8	3059.0	1664.6	0.0	0.0	0.0
Subtotal		71	2088	308202.0	147.6	11.9		497798.0				0.0		
1976	1	5	155	24330.0	157.0	157.0	5373.2	40980.0	264.4	3100.0	1684.3	0.0	0.0	0.0
1976	2	5	145	22891.0	157.9	163.5	5396.1	38709.0	267.0	3138.7	1691.0	0.0	0.0	0.0
1976	3	5	155	25303.0	163.2	163.2	5421.4	42870.0	276.6	3181.6	1694.3	0.0	0.0	0.0
1976	4	5	144	23205.0	161.1	154.7	5444.6	41226.0	286.3	3222.8	1776.6	0.0	0.0	0.0
1976	5	6	162	24803.0	153.1	133.3	5469.4	43037.0	265.7	3265.8	1735.2	0.0	0.0	0.0
1976	6	8	206	24428.0	118.6	101.8	5493.8	37462.0	181.9	3303.3	1533.6	0.0	0.0	0.0
1976	7	8	244	26497.0	108.6	106.8	5520.3	41423.0	169.8	3344.7	1563.3	0.0	0.0	0.0
1976	8	8	245	26527.0	108.3	107.0	5546.8	41229.0	168.3	3386.0	1554.2	0.0	0.0	0.0
1976	9	8	227	24714.0	108.9	103.0	5571.6	38423.0	169.3	3424.4	1554.7	0.0	0.0	0.0
1976	10	8	232	26174.0	112.8	105.5	5597.7	37438.0	161.4	3461.8	1430.4	0.0	0.0	0.0
1976	11	8	233	24955.0	107.1	104.0	5622.7	36974.0	158.7	3498.8	1481.6	0.0	0.0	0.0
1976	12	8	234	26309.0	112.4	106.1	5649.0	43178.0	184.5	3542.0	1641.2	0.0	0.0	0.0
Subtotal		82	2382	300136.0	126.0	10.0		482949.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO PRDD	WELL DAYS PROD	OIL			GAS			GOR	WATER			
				AVE BOPM	AVE BOPPD	CUM MBO	AVE MCF/M	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW		
1977	1	8	240	26475.0	110.3	106.8	5675.5	41460.0	172.8	3583.4	1566.0	0.0	0.0	0.0
1977	2	8	222	23129.0	104.2	103.3	5698.6	38189.0	172.0	3621.6	1651.1	0.0	0.0	0.0
1977	3	8	246	25682.0	104.4	103.6	5724.3	39153.0	159.2	3660.8	1524.5	0.0	0.0	0.0
1977	4	8	237	25895.0	109.3	107.9	5750.2	43174.0	182.2	3703.9	1667.3	0.0	0.0	0.0
1977	5	8	243	26010.0	107.0	104.9	5776.2	41150.0	169.3	3745.1	1582.1	0.0	0.0	0.0
1977	6	8	235	25083.0	106.7	104.5	5801.3	37938.0	161.4	3783.0	1512.5	0.0	0.0	0.0
1977	7	8	246	26730.0	108.7	107.8	5828.0	41291.0	167.8	3824.3	1544.7	0.0	0.0	0.0
1977	8	8	248	24162.0	97.4	97.4	5852.2	40465.0	163.2	3864.8	1674.7	0.0	0.0	0.0
1977	9	8	240	22383.0	93.3	93.3	5874.5	37556.0	156.5	3902.3	1677.9	0.0	0.0	0.0
1977	10	8	246	23592.0	95.9	95.1	5898.1	42173.0	171.4	3944.5	1787.6	0.0	0.0	0.0
1977	11	8	240	23078.0	96.2	96.2	5921.2	40275.0	167.8	3984.8	1745.2	0.0	0.0	0.0
1977	12	8	242	22850.0	94.4	92.1	5944.1	39816.0	164.5	4024.6	1742.5	0.0	0.0	0.0
Subtotal		96	2885	295069.0	102.3	8.4		482640.0				0.0		
1978	1	8	239	22186.0	92.8	89.5	5966.2	46468.0	194.4	4071.1	2094.5	0.0	0.0	0.0
1978	2	8	224	19465.0	86.9	86.9	5985.7	38780.0	173.1	4109.9	1992.3	0.0	0.0	0.0
1978	3	8	160	19805.0	123.8	79.9	6005.5	40991.0	256.2	4150.9	2069.7	0.0	0.0	0.0
1978	4	8	212	19461.0	91.8	81.1	6025.0	37526.0	177.0	4188.4	1928.3	0.0	0.0	0.0
1978	5	7	201	20379.0	101.4	93.9	6045.4	50983.0	253.6	4239.4	2501.7	0.0	0.0	0.0
1978	6	7	208	19267.0	92.6	91.7	6064.6	48436.0	232.9	4287.8	2513.9	0.0	0.0	0.0
1978	7	7	189	19385.0	102.6	89.3	6084.0	51808.0	274.1	4339.6	2672.6	0.0	0.0	0.0
1978	8	7	187	19049.0	101.9	87.8	6103.1	52184.0	279.1	4391.8	2739.5	0.0	0.0	0.0
1978	9	7	210	19037.0	90.7	90.7	6122.1	53287.0	253.7	4445.1	2799.1	0.0	0.0	0.0
1978	10	8	227	20571.0	90.6	82.9	6142.7	56130.0	247.3	4501.2	2728.6	0.0	0.0	0.0
1978	11	8	229	19004.0	83.0	79.2	6161.7	50890.0	222.2	4552.1	2677.9	0.0	0.0	0.0
1978	12	8	247	19303.0	78.1	77.8	6181.0	49112.0	198.8	4601.2	2544.3	0.0	0.0	0.0
Subtotal		91	2533	236912.0	93.5	7.1		576595.0				0.0		
1979	1	8	209	18401.0	88.0	74.2	6199.4	45541.0	217.9	4646.7	2474.9	0.0	0.0	0.0
1979	2	8	200	16981.0	84.9	75.8	6216.4	42885.0	214.4	4689.6	2525.5	0.0	0.0	0.0
1979	3	7	204	18311.0	89.8	84.4	6234.7	46578.0	228.3	4736.2	2543.7	0.0	0.0	0.0
1979	4	7	193	17609.0	91.2	83.9	6252.3	45237.0	234.4	4781.4	2569.0	0.0	0.0	0.0
1979	5	8	218	18412.0	84.5	74.2	6270.7	47403.0	217.4	4828.9	2574.6	0.0	0.0	0.0
1979	6	8	212	17762.0	83.8	74.0	6288.5	43419.0	204.8	4872.3	2444.5	0.0	0.0	0.0
1979	7	8	244	18426.0	75.5	74.3	6306.9	48834.0	200.1	4921.1	2650.3	0.0	0.0	0.0
1979	8	8	246	18601.0	75.6	75.0	6325.5	47310.0	192.3	4968.4	2543.4	0.0	0.0	0.0
1979	9	8	234	17733.0	75.8	73.9	6343.2	44629.0	190.7	5013.0	2516.7	0.0	0.0	0.0
1979	10	8	238	19294.0	81.1	77.8	6362.5	46000.0	193.3	5059.0	2384.2	0.0	0.0	0.0
1979	11	8	240	18281.0	76.2	76.2	6380.8	22194.0	92.5	5081.2	1214.0	0.0	0.0	0.0
1979	12	8	241	19042.0	79.0	76.8	6399.8	45410.0	188.4	5126.6	2384.7	0.0	0.0	0.0
Subtotal		94	2679	218853.0	81.7	6.4		525440.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS		GOR		WATER			
				AVE BOPM	AVE BOPPD	CUM MBO	AVE MCF/M	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW		
1980	1	8	210	18594.0	88.5	75.0	6418.4	37608.0	179.1	5164.3	2022.6	0.0	0.0	0.0
1980	2	7	190	16870.0	88.8	86.1	6435.3	34209.0	180.0	5198.5	2027.8	0.0	0.0	0.0
1980	3	5	137	18276.0	133.4	117.9	6453.6	39992.0	291.9	5238.5	2188.2	0.0	0.0	0.0
1980	4	8	216	18829.0	87.2	78.5	6472.4	38005.0	175.9	5276.5	2018.4	0.0	0.0	0.0
1980	5	8	239	19284.0	80.7	77.8	6491.7	38701.0	161.9	5315.2	2006.9	0.0	0.0	0.0
1980	6	8	237	18522.0	78.2	77.2	6510.2	41243.0	174.0	5356.4	2226.7	0.0	0.0	0.0
1980	7	8	241	18460.0	76.6	74.4	6528.7	40664.0	168.7	5397.1	2202.8	0.0	0.0	0.0
1980	8	8	239	19202.0	80.3	77.4	6547.9	43210.0	180.8	5440.3	2250.3	0.0	0.0	0.0
1980	9	8	239	18123.0	75.8	75.5	6566.0	40504.0	169.5	5480.8	2235.0	0.0	0.0	0.0
1980	10	8	248	19124.0	77.1	77.1	6585.1	14584.0	58.8	5495.4	762.6	0.0	0.0	0.0
1980	11	8	233	18121.0	77.8	75.5	6603.2	33949.0	145.7	5529.3	1873.5	0.0	0.0	0.0
1980	12	8	232	18333.0	79.0	73.9	6621.6	40514.0	174.6	5569.8	2209.9	0.0	0.0	0.0
Subtotal		92	2661	221738.0	83.3	6.6		443183.0				0.0		
1981	1	8	226	18244.0	80.7	73.6	6639.8	40160.0	177.7	5610.0	2201.3	0.0	0.0	0.0
1981	2	8	222	17492.0	78.8	78.1	6657.3	35135.0	158.3	5645.1	2008.6	0.0	0.0	0.0
1981	3	8	188	17640.0	93.8	71.1	6674.9	43140.0	229.5	5688.3	2445.6	0.0	0.0	0.0
1981	4	8	215	17958.0	83.1	74.4	6692.8	41671.0	193.8	5729.9	2333.5	0.0	0.0	0.0
1981	5	8	210	18316.0	87.2	73.9	6711.1	46373.0	220.8	5776.3	2531.8	0.0	0.0	0.0
1981	6	8	236	18627.0	78.9	77.6	6729.7	43947.0	186.2	5820.3	2359.3	0.0	0.0	0.0
1981	7	8	242	19084.0	78.9	77.0	6748.8	45515.0	188.1	5865.8	2385.0	0.0	0.0	0.0
1981	8	7	205	18541.0	90.4	85.4	6767.4	47056.0	229.5	5912.8	2537.9	0.0	0.0	0.0
1981	9	8	201	17724.0	88.2	73.9	6785.1	40017.0	199.1	5952.8	2257.8	0.0	0.0	0.0
1981	10	8	248	18381.0	74.1	74.1	6803.5	43401.0	175.0	5996.2	2361.2	0.0	0.0	0.0
1981	11	8	235	17767.0	75.6	74.0	6821.2	39821.0	169.5	6036.1	2241.3	0.0	0.0	0.0
1981	12	8	231	17772.0	76.9	71.7	6839.0	37199.0	161.0	6073.3	2093.1	0.0	0.0	0.0
Subtotal		95	2659	217446.0	81.8	6.3		503435.0				0.0		
1982	1	8	228	18096.0	79.4	73.0	6857.1	44214.0	193.9	6117.5	2443.3	0.0	0.0	0.0
1982	2	8	223	16820.0	75.4	75.1	6873.9	41346.0	185.4	6158.8	2458.1	0.0	0.0	0.0
1982	3	8	192	17737.0	92.4	71.5	6891.7	41564.0	216.5	6200.4	2343.4	0.0	0.0	0.0
1982	4	8	239	17958.0	75.1	74.8	6909.6	42563.0	178.1	6243.0	2370.1	0.0	0.0	0.0
1982	5	8	240	18429.0	76.8	74.3	6928.1	41981.0	174.9	6284.9	2278.0	0.0	0.0	0.0
1982	6	7	203	17294.0	85.2	82.4	6945.3	41196.0	202.9	6326.1	2382.1	0.0	0.0	0.0
1982	7	7	217	17665.0	81.4	81.4	6963.0	42792.0	197.2	6368.9	2422.4	0.0	0.0	0.0
1982	8	8	241	18159.0	75.3	73.2	6981.2	42355.0	175.7	6411.3	2332.5	0.0	0.0	0.0
1982	9	8	214	16572.0	77.4	69.1	6997.7	40488.0	189.2	6451.8	2443.2	0.0	0.0	0.0
1982	10	8	229	18609.0	81.3	75.0	7016.4	42929.0	187.5	6494.7	2306.9	0.0	0.0	0.0
1982	11	8	223	16779.0	75.2	69.9	7033.1	37052.0	166.2	6531.7	2208.2	0.0	0.0	0.0
1982	12	8	228	18186.0	79.8	73.3	7051.3	43725.0	191.8	6575.5	2404.3	0.0	0.0	0.0
Subtotal		94	2677	212304.0	79.3	6.2		502205.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIGUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA OJITOS UNIT TOTAL.

YR	MO	NO PROD WELLS	WELL DAYS PROD	OIL			GAS			GOR	WATER			
				AVE BOPM	AVE BOPPD	CUM MBO	AVE MCF/M	CUM MCF/D	MMCF	SCF/BBL	Month	AVE BMPD	CUM MBW	
1983	1	8	241	17845.0	74.0	72.0	7069.2	41467.0	172.1	6616.9	2323.7	0.0	0.0	0.0
1983	2	8	205	15460.0	75.4	69.0	7084.6	36424.0	177.7	6653.4	2356.0	0.0	0.0	0.0
1983	3	8	178	16399.0	92.1	66.1	7101.0	39353.0	221.1	6692.7	2399.7	0.0	0.0	0.0
1983	4	8	201	17301.0	86.1	72.1	7118.3	40643.0	202.2	6733.4	2349.2	0.0	0.0	0.0
1983	5	9	249	18212.0	73.1	65.3	7136.5	41089.0	165.0	6774.4	2256.1	0.0	0.0	0.0
1983	6	8	220	16728.0	76.0	69.7	7153.3	37973.0	172.6	6812.4	2270.0	0.0	0.0	0.0
1983	7	9	246	17510.0	71.2	62.8	7170.8	39441.0	160.3	6851.9	2252.5	0.0	0.0	0.0
1983	8	8	246	17548.0	71.3	70.8	7188.3	39232.0	159.5	6891.1	2235.7	0.0	0.0	0.0
1983	9	8	239	16499.0	69.0	68.7	7204.8	39459.0	165.1	6930.6	2391.6	0.0	0.0	0.0
1983	10	9	255	19313.0	75.7	69.2	7224.1	44228.0	173.4	6974.8	2290.1	0.0	0.0	0.0
1983	11	9	257	18007.0	70.1	66.7	7242.1	35936.0	139.8	7010.7	1995.7	0.0	0.0	0.0
1983	12	9	254	18164.0	71.5	65.1	7260.3	37960.0	149.4	7048.7	2089.8	0.0	0.0	0.0
Subtotal		101	2791	208986.0	74.9	5.7		473205.0				0.0		
1984	1	9	249	18191.0	73.1	65.2	7278.5	37592.0	151.0	7086.3	2066.5	0.0	0.0	0.0
1984	2	9	236	16776.0	71.1	66.6	7295.3	34845.0	147.6	7121.1	2077.1	0.0	0.0	0.0
1984	3	9	228	17957.0	78.8	64.4	7313.2	37175.0	163.0	7158.3	2070.2	0.0	0.0	0.0
1984	4	9	245	17749.0	72.4	65.7	7331.0	37324.0	152.3	7195.6	2102.9	0.0	0.0	0.0
1984	5	9	270	18158.0	67.3	65.1	7349.1	34857.0	129.1	7230.5	1919.6	0.0	0.0	0.0
1984	6	9	270	17928.0	66.4	66.4	7367.1	35390.0	131.1	7265.9	1974.0	0.0	0.0	0.0
1984	7	9	279	18535.0	66.4	66.4	7385.6	42641.0	152.8	7308.5	2300.6	0.0	0.0	0.0
1984	8	9	267	17509.0	65.6	62.8	7403.1	40265.0	150.8	7348.8	2299.7	0.0	0.0	0.0
1984	9	9	242	16987.0	70.2	62.9	7420.1	40793.0	168.6	7389.6	2401.4	0.0	0.0	0.0
1984	10	8	202	17034.0	84.3	68.7	7437.1	42415.0	210.0	7432.0	2490.0	0.0	0.0	0.0
1984	11	8	221	16471.0	74.5	68.6	7453.6	40276.0	182.2	7472.2	2445.3	0.0	0.0	0.0
1984	12	9	253	18242.0	72.1	65.4	7471.8	43763.0	173.0	7516.0	2399.0	0.0	0.0	0.0
Subtotal		106	2962	211537.0	71.4	5.5		467336.0				0.0		
1985	1	10	247	20839.0	84.4	67.2	7492.7	44300.0	179.4	7560.3	2125.8	0.0	0.0	0.0
1985	2	10	231	29988.0	129.8	107.1	7522.7	50961.0	220.6	7611.3	1699.4	0.0	0.0	0.0
1985	3	11	292	31917.0	109.3	93.6	7554.6	52532.0	179.9	7663.8	1645.9	0.0	0.0	0.0
1985	4	11	306	32335.0	105.7	98.0	7586.9	49282.0	161.1	7713.1	1524.1	0.0	0.0	0.0
1985	5	13	355	33401.0	94.1	82.9	7620.3	40694.0	114.6	7753.8	1218.3	0.0	0.0	0.0
1985	6	13	354	30293.0	85.6	77.7	7650.6	35081.0	99.1	7788.9	1158.1	0.0	0.0	0.0
1985	7	13	390	34228.0	87.8	84.9	7684.8	42068.0	107.9	7830.9	1229.1	0.0	0.0	0.0
1985	8	13	351	30170.0	86.0	74.9	7715.0	31051.0	88.5	7862.0	1029.2	0.0	0.0	0.0
1985	9	13	336	31309.0	93.2	80.3	7746.3	31405.0	93.5	7893.4	1003.1	0.0	0.0	0.0
1985	10	12	333	29953.0	89.9	80.5	7776.3	20375.0	61.2	7913.8	680.2	0.0	0.0	0.0
1985	11	11	294	29408.0	100.0	89.1	7805.7	19833.0	67.5	7933.6	674.4	0.0	0.0	0.0
1985	12	12	275	28781.0	104.7	77.4	7834.5	18341.0	66.7	7951.9	637.3	0.0	0.0	0.0
Subtotal		142	3764	362622.0	96.3	7.0		435923.0				0.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO MANCOS POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. CANADA DJITOS UNIT TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				AVE BOPM	AVE BOPPD	CUM MBO	AVE MCF/M	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW		
1986	1	12	308	29328.0	95.2	78.8	7863.8	13660.0	44.4	7965.6	465.8	0.0	0.0	0.0
1986	2	13	303	38810.0	128.1	106.6	7902.6	19576.0	64.6	7985.2	504.4	0.0	0.0	0.0
1986	3	14	364	61044.0	167.7	140.7	7963.6	35237.0	96.8	8020.4	577.2	0.0	0.0	0.0
1986	4	14	330	59511.0	180.3	141.7	8023.2	34674.0	105.1	8055.1	582.6	0.0	0.0	0.0
1986	5	16	378	69166.0	183.0	139.4	8092.3	40874.0	108.1	8096.0	591.0	0.0	0.0	0.0
1986	6	14	337	84933.0	252.0	202.2	8177.3	78512.0	233.0	8174.5	924.4	0.0	0.0	0.0
1986	7	16	424	88732.0	209.3	178.9	8266.0	80561.0	190.0	8255.0	907.9	0.0	0.0	0.0
1986	8	15	289	68263.0	236.2	146.8	8334.2	61835.0	214.0	8316.9	905.8	0.0	0.0	0.0
1986	9	16	339	71198.0	210.0	148.3	8405.4	68284.0	201.4	8385.1	959.1	0.0	0.0	0.0
1986	10	16	480	86579.0	180.4	174.6	8492.0	93613.0	195.0	8478.8	1081.2	0.0	0.0	0.0
1986	11	16	394	75445.0	191.5	157.2	8567.5	74381.0	188.8	8553.1	985.9	0.0	0.0	0.0
1986	12	16	428	77739.0	181.6	156.7	8645.2	84078.0	196.4	8637.2	1081.5	0.0	0.0	0.0
Subtotal		178	4374	810748.0	185.4	12.5		685285.0				0.0		
1987	1	17	370	75631.0	204.4	143.5	8720.8	80050.0	216.4	8717.3	1058.4	0.0	0.0	0.0
1987	2	15	284	31306.0	110.2	74.5	8752.1	39978.0	140.8	8757.2	1277.0	0.0	0.0	0.0
1987	3	12	249	42617.0	171.2	114.6	8794.8	52340.0	210.2	8809.6	1228.1	0.0	0.0	0.0
1987	4	12	226	38438.0	170.1	106.8	8833.2	50852.0	225.0	8860.4	1323.0	0.0	0.0	0.0
1987	5	13	270	35613.0	131.9	88.4	8868.8	37293.0	138.1	8897.7	1047.2	0.0	0.0	0.0
1987	6	14	306	67372.0	220.2	160.4	8936.2	109611.0	358.2	9007.3	1627.0	0.0	0.0	0.0
1987	7	17	383	79644.0	207.9	151.1	9015.8	171736.0	448.4	9179.1	2156.3	0.0	0.0	0.0
1987	8	17	367	100155.0	272.9	190.0	9116.0	229491.0	625.3	9408.6	2291.4	0.0	0.0	0.0
1987	9	21	438	118842.0	271.3	188.6	9234.8	231839.0	529.3	9640.4	1950.8	0.0	0.0	0.0
1987	10	15	343	102873.0	299.9	221.2	9337.7	188156.0	548.6	9828.6	1829.0	0.0	0.0	0.0
1987	11	16	256	60365.0	235.8	125.8	9398.1	163817.0	639.9	9992.4	2713.8	0.0	0.0	0.0
1987	12	19	319	61396.0	192.5	104.2	9459.5	131058.0	410.8	10123.4	2134.6	0.0	0.0	0.0
Subtotal		188	3811	814252.0	213.7	11.9		1486221.0				0.0		
1988	1	17	366	50356.0	137.6	95.6	9509.8	125457.0	342.8	10248.9	2491.4	0.0	0.0	0.0
1988	2	14	231	51362.0	222.3	131.0	9561.2	101115.0	437.7	10350.0	1968.7	0.0	0.0	0.0
1988	3	15	311	58957.0	189.6	126.8	9620.1	142456.0	458.1	10492.5	2416.3	0.0	0.0	0.0
1988	4	20	439	62753.0	142.9	104.6	9682.9	244815.0	557.7	10737.3	3901.2	0.0	0.0	0.0

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.



WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1967	1	1	22.0	1307.0	59.4	42.2	1.3	9802.0	445.5	9.8	7499.6	418.0	19.0	0.4
1967	2	0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	9.8	0.0	0.0	0.0	0.4
1967	3	0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	9.8	0.0	0.0	0.0	0.4
1967	4	0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	9.8	0.0	0.0	0.0	0.4
1967	5	1	18.0	1175.0	65.3	37.9	2.5	8812.0	489.6	18.6	7499.6	380.0	21.1	0.8
1967	6	1	30.0	1563.0	52.1	52.1	4.0	11722.0	390.7	30.3	7499.7	458.0	15.3	1.3
1967	7	1	31.0	1266.0	40.8	40.8	5.3	9495.0	306.3	39.8	7500.0	286.0	9.2	1.5
1967	8	1	23.0	1361.0	59.2	43.9	6.7	10925.0	475.0	50.8	8027.2	154.0	6.7	1.7
1967	9	0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	50.8	0.0	0.0	0.0	1.7
1967	10	1	16.0	987.0	61.7	31.8	7.7	7923.0	495.2	58.7	8027.4	390.0	24.4	2.1
1967	11	1	6.0	316.0	52.7	10.5	8.0	2536.0	422.7	61.2	8025.3	36.0	6.0	2.1
1967	12	0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	61.2	0.0	0.0	0.0	2.1
Subtotal		7	146	7975.0	54.6	3.1		61215.0				2122.0		
1968	1	1	2.0	128.0	64.0	4.1	8.1	1027.0	513.5	62.2	8023.4	0.0	0.0	2.1
1968	2	1	2.0	91.0	45.5	3.3	8.2	730.0	365.0	63.0	8022.0	0.0	0.0	2.1
1968	3	1	2.0	76.0	38.0	2.5	8.3	610.0	305.0	63.6	8026.3	0.0	0.0	2.1
1968	4	1	8.0	777.0	97.1	25.9	9.0	6235.0	779.4	69.8	8024.5	84.0	10.5	2.2
1968	5	1	21.0	1103.0	52.5	35.6	10.1	8854.0	421.6	78.7	8027.2	309.0	14.7	2.5
1968	6	1	25.0	702.0	28.1	23.4	10.9	5635.0	225.4	84.3	8027.1	432.0	17.3	2.9
1968	7	1	10.0	547.0	54.7	17.6	11.4	4391.0	439.1	88.7	8027.4	38.0	3.8	3.0
1968	8	1	6.0	478.0	79.7	15.4	11.9	2271.0	378.5	91.0	4751.0	94.0	15.7	3.1
1968	9	1	20.0	823.0	41.2	27.4	12.7	3909.0	195.5	94.9	4749.7	0.0	0.0	3.1
1968	10	1	8.0	618.0	77.3	19.9	13.3	2056.0	257.0	96.9	3326.9	117.0	14.6	3.2
1968	11	1	10.0	632.0	63.2	21.1	14.0	3002.0	300.2	99.9	4750.0	121.0	12.1	3.3
1968	12	1	15.0	595.0	39.7	19.2	14.5	2826.0	188.4	102.8	4749.6	191.0	12.7	3.5
Subtotal		12	129	6570.0	50.9	1.5		41546.0				1386.0		
1969	1	1	7.0	280.0	40.0	9.0	14.8	1330.0	190.0	104.1	4750.0	50.0	7.1	3.6
1969	2	1	1.0	35.0	35.0	1.2	14.9	166.0	166.0	104.3	4742.9	8.0	8.0	3.6
1969	3	1	1.0	28.0	28.0	0.9	14.9	133.0	133.0	104.4	4750.0	0.0	0.0	3.6
1969	4	1	13.0	526.0	40.5	17.5	15.4	2498.0	192.2	106.9	4749.0	282.0	21.7	3.8
1969	5	1	26.0	1140.0	43.8	36.8	16.6	5415.0	208.3	112.3	4750.0	471.0	18.1	4.3
1969	6	1	28.0	977.0	34.9	32.6	17.5	4484.0	160.1	116.8	4589.6	184.0	6.6	4.5
1969	7	1	29.0	839.0	28.9	27.1	18.4	3985.0	137.4	120.8	4749.7	405.0	14.0	4.9
1969	8	1	26.0	1084.0	41.7	35.0	19.5	3686.0	141.8	124.5	3400.4	441.0	17.0	5.3
1969	9	1	27.0	935.0	34.6	31.2	20.4	3179.0	117.7	127.6	3400.0	353.0	13.1	5.7
1969	10	1	21.0	611.0	29.1	19.7	21.0	2077.0	98.9	129.7	3399.3	48.0	2.3	5.7
1969	11	1	18.0	1018.0	56.6	33.9	22.0	3461.0	192.3	133.2	3399.8	131.0	7.3	5.9
1969	12	1	9.0	451.0	50.1	14.5	22.5	1533.0	170.3	134.7	3399.1	86.0	9.6	6.0
Subtotal		12	206	7924.0	38.5	1.8		31947.0				2459.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1970	1	1	11.0	409.0	37.2	13.2	22.9	1391.0	126.5	136.1	3401.0	154.0	14.0	6.1
1970	2	1	19.0	522.0	27.5	18.6	23.4	1775.0	93.4	137.9	3400.4	83.0	4.4	6.2
1970	3	1	1.0	35.0	35.0	1.1	23.4	119.0	119.0	138.0	3400.0	0.0	0.0	6.2
1970	4	1	1.0	37.0	37.0	1.2	23.5	126.0	126.0	138.1	3405.4	0.0	0.0	6.2
1970	5	1	14.0	908.0	64.9	29.3	24.4	3087.0	220.5	141.2	3399.8	275.0	19.6	6.5
1970	6	1	22.0	1478.0	67.2	49.3	25.9	5025.0	228.4	146.2	3399.9	244.0	11.1	6.7
1970	7	1	15.0	1098.0	73.2	35.4	27.0	3733.0	248.9	150.0	3399.8	114.0	7.6	6.8
1970	8	1	11.0	840.0	76.4	27.1	27.8	2402.0	218.4	152.4	2859.5	57.0	5.2	6.9
1970	9	1	15.0	1037.0	69.1	34.6	28.8	2966.0	197.7	155.3	2860.2	74.0	4.9	7.0
1970	10	1	17.0	1308.0	76.9	42.2	30.1	3740.0	220.0	159.1	2859.3	257.0	15.1	7.2
1970	11	1	7.0	692.0	98.9	23.1	30.8	1979.0	282.7	161.1	2859.8	90.0	12.9	7.3
1970	12	1	13.0	935.0	71.9	30.2	31.8	2674.0	205.7	163.7	2859.9	219.0	16.8	7.5
Subtotal		12	146	9299.0	63.7	2.1		29017.0				1567.0		
1971	1	1	2.0	199.0	99.5	6.4	32.0	569.0	284.5	164.3	2859.3	54.0	27.0	7.6
1971	2	1	3.0	328.0	109.3	11.7	32.3	938.0	312.7	165.2	2859.8	44.0	14.7	7.6
1971	3	1	10.0	1061.0	106.1	34.2	33.4	3034.0	303.4	168.3	2859.6	71.0	7.1	7.7
1971	4	1	20.0	1122.0	56.1	37.4	34.5	3209.0	160.5	171.5	2860.1	373.0	18.7	8.1
1971	5	1	28.0	1210.0	43.2	39.0	35.7	3461.0	123.6	174.9	2860.3	390.0	13.9	8.5
1971	6	1	30.0	1070.0	35.7	35.7	36.8	3060.0	102.0	178.0	2859.8	436.0	14.5	8.9
1971	7	1	12.0	536.0	44.7	17.3	37.3	1533.0	127.8	179.5	2860.1	117.0	9.8	9.0
1971	8	1	1.0	21.0	21.0	0.7	37.3	61.0	61.0	179.6	2904.8	4.0	4.0	9.0
1971	9	1	1.0	18.0	18.0	0.6	37.3	51.0	51.0	179.6	2833.3	5.0	5.0	9.0
1971	10	1	2.0	27.0	13.5	0.9	37.4	77.0	38.5	179.7	2851.9	11.0	5.5	9.0
1971	11	1	2.0	21.0	10.5	0.7	37.4	60.0	30.0	179.8	2857.1	12.0	6.0	9.1
1971	12	1	1.0	12.0	12.0	0.4	37.4	34.0	34.0	179.8	2833.3	8.0	8.0	9.1
Subtotal		12	112	5625.0	50.2	1.3		16087.0				1525.0		
1972	1	1	1.0	8.0	8.0	0.3	37.4	3.0	3.0	179.8	375.0	7.0	7.0	9.1
1972	2	1	2.0	17.0	8.5	0.6	37.4	49.0	24.5	179.9	2882.4	9.0	4.5	9.1
1972	3	1	14.0	821.0	58.6	26.5	38.2	2348.0	167.7	182.2	2859.9	150.0	10.7	9.2
1972	4	1	28.0	2835.0	101.3	94.5	41.1	3487.0	124.5	185.7	1230.0	395.0	14.1	9.6
1972	5	1	30.0	2378.0	79.3	76.7	43.5	2925.0	97.5	188.6	1230.0	324.0	10.8	9.9
1972	6	1	30.0	1924.0	64.1	64.1	45.4	2366.0	78.9	191.0	1229.7	466.0	15.5	10.4
1972	7	1	31.0	1575.0	50.8	50.8	47.0	1937.0	62.5	192.9	1229.8	447.0	14.4	10.9
1972	8	1	29.0	1923.0	66.3	62.0	48.9	2885.0	99.5	195.8	1500.3	390.0	13.4	11.2
1972	9	1	29.0	2288.0	78.9	76.3	51.2	3432.0	118.3	199.2	1500.0	380.0	13.1	11.6
1972	10	1	16.0	1548.0	96.8	49.9	52.7	2322.0	145.1	201.6	1500.0	144.0	9.0	11.8
1972	11	1	1.0	16.0	16.0	0.5	52.7	24.0	24.0	201.6	1500.0	3.0	3.0	11.8
1972	12	1	19.0	1956.0	102.9	63.1	54.7	2934.0	154.4	204.5	1500.0	30.0	1.6	11.8
Subtotal		12	230	17289.0	75.2	3.9		24712.0				2745.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIGUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PRODD DAYS PROD	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1973	1	1	29.0	2603.0	89.8	84.0	57.3	3905.0	134.7	208.4	1500.2	152.0	5.2	12.0
1973	2	1	19.0	1425.0	75.0	50.9	58.7	2138.0	112.5	210.6	1500.4	69.0	3.6	12.0
1973	3	1	1.0	55.0	55.0	1.8	58.8	82.0	82.0	210.6	1490.9	0.0	0.0	12.0
1973	4	1	1.0	21.0	21.0	0.7	58.8	32.0	32.0	210.7	1523.8	0.0	0.0	12.0
1973	5	1	20.0	1869.0	93.5	60.3	60.7	2804.0	140.2	213.5	1500.3	171.0	8.6	12.2
1973	6	1	30.0	1998.0	66.6	66.6	62.7	2997.0	99.9	216.5	1500.0	587.0	19.6	12.8
1973	7	1	31.0	1540.0	49.7	49.7	64.2	2310.0	74.5	218.8	1500.0	807.0	26.0	13.6
1973	8	1	26.0	1825.0	70.2	58.9	66.0	3650.0	140.4	222.4	2000.0	381.0	14.7	14.0
1973	9	1	24.0	1842.0	76.8	61.4	67.9	3684.0	153.5	226.1	2000.0	510.0	21.3	14.5
1973	10	1	31.0	2590.0	83.5	83.5	70.5	5180.0	167.1	231.3	2000.0	390.0	12.6	14.9
1973	11	1	26.0	819.0	31.5	27.3	71.3	1638.0	63.0	232.9	2000.0	192.0	7.4	15.1
1973	12	1	17.0	518.0	30.5	16.7	71.8	1036.0	60.9	234.0	2000.0	119.0	7.0	15.2
Subtotal	12	255	17105.0	67.1	3.9			29456.0				3378.0		
1974	1	1	8.0	832.0	104.0	26.8	72.6	1838.0	229.8	235.8	2209.1	33.0	4.1	15.2
1974	2	1	21.0	1806.0	86.0	62.3	74.4	3612.0	172.0	239.4	2000.0	128.0	6.1	15.3
1974	3	1	4.0	317.0	79.3	10.2	74.7	634.0	158.5	240.1	2000.0	272.0	68.0	15.6
1974	4	1	17.0	1420.0	83.5	47.3	76.2	2840.0	167.1	242.9	2000.0	373.0	21.9	16.0
1974	5	1	4.0	350.0	87.5	11.3	76.5	700.0	175.0	243.6	2000.0	56.0	14.0	16.0
1974	6	1	22.0	1755.0	79.8	58.5	78.3	3510.0	159.5	247.1	2000.0	725.0	33.0	16.8
1974	7	1	31.0	1479.0	47.7	47.7	79.7	2958.0	95.4	250.1	2000.0	738.0	23.8	17.5
1974	8	1	29.0	1020.0	35.2	32.9	80.8	2040.0	70.3	252.1	2000.0	854.0	29.4	18.4
1974	9	1	16.0	1301.0	81.3	43.4	82.1	2602.0	162.6	254.7	2000.0	144.0	9.0	18.5
1974	10	1	1.0	38.0	38.0	1.2	82.1	76.0	76.0	254.8	2000.0	12.0	12.0	18.5
1974	11	1	10.0	962.0	96.2	32.1	83.1	1924.0	192.4	256.7	2000.0	116.0	11.6	18.6
1974	12	1	3.0	428.0	142.7	13.8	83.5	856.0	285.3	257.6	2000.0	25.0	8.3	18.7
Subtotal	12	166	11708.0	70.5	2.7			23590.0				3476.0		
1975	1	1	1.0	15.0	15.0	0.5	83.5	30.0	30.0	257.6	2000.0	26.0	26.0	18.7
1975	2	1	1.0	12.0	12.0	0.4	83.5	24.0	24.0	257.6	2000.0	21.0	21.0	18.7
1975	3	1	1.0	7.0	7.0	0.2	83.5	14.0	14.0	257.6	2000.0	5.0	5.0	18.7
1975	4	1	8.0	967.0	120.9	32.2	84.5	1934.0	241.8	259.6	2000.0	91.0	11.4	18.8
1975	5	1	21.0	1852.0	88.2	59.7	86.3	3700.0	176.2	263.3	1997.8	305.0	14.5	19.1
1975	6	1	30.0	2576.0	85.9	85.9	88.9	5152.0	171.7	268.4	2000.0	334.0	11.1	19.4
1975	7	1	23.0	1892.0	82.3	61.0	90.8	3784.0	164.5	272.2	2000.0	146.0	6.3	19.6
1975	8	1	29.0	1893.0	65.3	61.1	92.7	3786.0	130.6	276.0	2000.0	437.0	15.1	20.0
1975	9	1	27.0	1636.0	60.6	54.5	94.3	3272.0	121.2	279.3	2000.0	401.0	14.9	20.4
1975	10	1	31.0	1915.0	61.8	61.8	96.3	3690.0	119.0	283.0	1926.9	458.0	14.8	20.9
1975	11	1	14.0	845.0	60.4	28.2	97.1	1690.0	120.7	284.6	2000.0	251.0	17.9	21.1
1975	12	1	1.0	63.0	63.0	2.0	97.2	126.0	126.0	284.8	2000.0	15.0	15.0	21.1
Subtotal	12	187	13673.0	73.1	3.1			27202.0				2490.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR		WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
				-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1976	1	1	2.0	126.0	63.0	4.1	97.3	252.0	126.0	285.0	2000.0	21.0	10.5	21.2
1976	2	1	3.0	221.0	73.7	7.9	97.5	442.0	147.3	285.5	2000.0	57.0	19.0	21.2
1976	3	1	17.0	1698.0	99.3	54.5	99.2	3376.0	198.6	288.8	2000.0	221.0	13.0	21.4
1976	4	1	2.0	109.0	54.5	3.6	99.3	218.0	109.0	289.1	2000.0	0.0	0.0	21.4
1976	5	1	24.0	2534.0	105.6	81.7	101.8	5068.0	211.2	294.1	2000.0	90.0	3.8	21.5
1976	6	1	30.0	1580.0	52.7	52.7	103.4	3160.0	105.3	297.3	2000.0	758.0	25.3	22.3
1976	7	1	30.0	1881.0	62.7	60.7	105.3	3762.0	125.4	301.0	2000.0	481.0	16.0	22.8
1976	8	1	10.0	656.0	65.6	21.2	106.0	1312.0	131.2	302.4	2000.0	155.0	15.5	22.9
1976	9	1	12.0	669.0	55.8	22.3	106.6	1338.0	111.5	303.7	2000.0	132.0	11.0	23.1
1976	10	1	1.0	25.0	25.0	0.8	106.7	50.0	50.0	303.8	2000.0	0.0	0.0	23.1
1976	11	1	1.0	8.0	8.0	0.3	106.7	16.0	16.0	303.8	2000.0	0.0	0.0	23.1
1976	12	1	1.0	19.0	19.0	0.6	106.7	38.0	38.0	303.8	2000.0	0.0	0.0	23.1
Subtotal		12	133	9516.0	71.5	2.2		19032.0				1915.0		
1977	1	1	5.0	417.0	83.4	13.5	107.1	834.0	166.8	304.6	2000.0	0.0	0.0	23.1
1977	2	1	21.0	1880.0	89.5	67.1	109.0	3760.0	179.0	308.4	2000.0	0.0	0.0	23.1
1977	3	1	22.0	1797.0	81.7	58.0	110.8	3594.0	163.4	312.0	2000.0	572.0	26.0	23.6
1977	4	1	27.0	2309.0	85.5	77.0	113.1	4618.0	171.0	316.6	2000.0	183.0	6.8	23.8
1977	5	1	27.0	1897.0	70.3	61.2	115.0	3794.0	140.5	320.4	2000.0	151.0	5.6	24.0
1977	6	1	22.0	1159.0	52.7	38.6	116.1	2318.0	105.4	322.7	2000.0	260.0	11.8	24.2
1977	7	1	12.0	899.0	74.9	29.0	117.0	1798.0	149.8	324.5	2000.0	319.0	26.6	24.5
1977	8	1	31.0	1781.0	57.5	57.5	118.8	3562.0	114.9	328.1	2000.0	311.0	10.0	24.9
1977	9	1	26.0	1551.0	59.7	51.7	120.4	3102.0	119.3	331.2	2000.0	471.0	18.1	25.3
1977	10	1	31.0	2232.0	72.0	72.0	122.6	2606.0	84.1	333.8	1167.6	421.0	13.6	25.8
1977	11	2	35.0	1734.0	49.5	28.9	124.3	3225.0	92.1	337.0	1859.9	121.0	3.5	25.9
1977	12	4	61.0	2433.0	39.9	19.6	126.8	3965.0	65.0	341.0	1629.7	163.0	2.7	26.0
Subtotal		16	320	20089.0	62.8	3.4		37176.0				2972.0		
1978	1	4	78.0	1745.0	22.4	14.1	128.5	2847.0	36.5	343.8	1631.5	1821.0	23.3	27.9
1978	2	4	37.0	550.0	14.9	4.9	129.1	745.0	20.1	344.6	1354.5	705.0	19.1	28.6
1978	3	4	32.0	321.0	10.0	2.6	129.4	630.0	19.7	345.2	1962.6	75.0	2.3	28.6
1978	4	4	62.0	1331.0	21.5	11.1	130.7	1469.0	23.7	346.7	1103.7	444.0	7.2	29.1
1978	5	4	87.0	1884.0	21.7	15.2	132.6	3421.0	39.3	350.1	1815.8	583.0	6.7	29.7
1978	6	4	79.0	1935.0	24.5	16.1	134.5	2620.0	33.2	352.7	1354.0	678.0	8.6	30.3
1978	7	4	115	3945.0	34.3	31.8	138.5	5665.0	49.3	358.4	1436.0	715.0	6.2	31.1
1978	8	4	60.0	1192.0	19.9	9.6	139.7	1371.0	22.9	359.7	1150.2	156.0	2.6	31.2
1978	9	4	75.0	1898.0	25.3	15.8	141.6	3099.0	41.3	362.8	1632.8	255.0	3.4	31.5
1978	10	4	50.0	1250.0	25.0	10.1	142.8	1379.0	27.6	364.2	1103.2	161.0	3.2	31.6
1978	11	4	38.0	8485.0	223.3	70.7	151.3	1991.0	52.4	366.2	234.6	121.0	3.2	31.7
1978	12	4	31.0	669.0	21.6	5.4	152.0	456.0	14.7	366.7	681.6	45.0	1.5	31.8
Subtotal		48	744	25205.0	33.9	1.4		25693.0				5759.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1979	1	4	27.0	366.0	13.6	3.0	152.3	425.0	15.7	367.1	1161.2	33.0	1.2	31.8
1979	2	4	56.0	2105.0	37.6	18.1	154.4	2122.0	37.9	369.2	1008.1	155.0	2.8	32.0
1979	3	4	35.0	1034.0	29.5	8.3	155.5	1367.0	39.1	370.6	1322.1	134.0	3.8	32.1
1979	4	4	26.0	524.0	20.2	4.4	156.0	623.0	24.0	371.2	1188.9	16.0	0.6	32.1
1979	5	4	59.0	2834.0	48.0	22.9	158.8	3605.0	61.1	374.8	1272.1	217.0	3.7	32.3
1979	6	4	47.0	1326.0	28.2	11.1	160.2	1625.0	34.6	376.4	1225.5	49.0	1.0	32.4
1979	7	4	62.0	2267.0	36.6	18.3	162.4	2028.0	32.7	378.5	894.6	52.0	0.8	32.4
1979	8	4	62.0	2852.0	46.0	23.0	165.3	3157.0	50.9	381.6	1106.9	165.0	2.7	32.6
1979	9	4	73.0	3288.0	45.0	27.4	168.6	7657.0	104.9	389.3	2328.8	165.0	2.3	32.8
1979	10	3	29.0	1408.0	48.6	15.1	170.0	1123.0	38.7	390.4	797.6	10.0	0.3	32.8
1979	11	3	16.0	701.0	43.8	7.8	170.7	677.0	42.3	391.1	965.8	0.0	0.0	32.8
1979	12	3	31.0	1473.0	47.5	15.8	172.2	628.0	20.3	391.7	426.3	0.0	0.0	32.8
Subtotal		45	523	20178.0	38.6	1.2		25037.0				996.0		
1980	1	3	26.0	801.0	30.8	8.6	173.0	1282.0	49.3	393.0	1600.5	0.0	0.0	32.8
1980	2	3	5.0	207.0	41.4	2.5	173.2	335.0	67.0	393.3	1618.4	0.0	0.0	32.8
1980	3	3	5.0	99.0	19.8	1.1	173.3	147.0	29.4	393.5	1484.8	0.0	0.0	32.8
1980	4	3	21.0	679.0	32.3	7.5	173.9	1189.0	56.6	394.7	1751.1	0.0	0.0	32.8
1980	5	4	33.0	1134.0	34.4	9.1	175.1	1951.0	59.1	396.6	1720.5	0.0	0.0	32.8
1980	6	4	52.0	1703.0	32.8	14.2	176.8	2580.0	49.6	399.2	1515.0	40.0	0.8	32.8
1980	7	4	59.0	1696.0	28.7	13.7	178.5	2321.0	39.3	401.5	1368.5	7.0	0.1	32.8
1980	8	4	41.0	1789.0	43.6	14.4	180.3	2428.0	59.2	403.9	1357.2	134.0	3.3	33.0
1980	9	4	60.0	1471.0	24.5	12.3	181.7	2126.0	35.4	406.1	1445.3	546.0	9.1	33.5
1980	10	4	58.0	1167.0	20.1	9.4	182.9	2415.0	41.6	408.5	2069.4	600.0	10.3	34.1
1980	11	4	68.0	2006.0	29.5	16.7	184.9	3101.0	45.6	411.6	1545.9	519.0	7.6	34.6
1980	12	4	73.0	2109.0	28.9	17.0	187.0	3194.0	43.8	414.8	1514.5	609.0	8.3	35.2
Subtotal		44	501	14861.0	29.7	0.9		23069.0				2455.0		
1981	1	4	76.0	2139.0	28.1	17.3	189.2	3468.0	45.6	418.2	1621.3	442.0	5.8	35.7
1981	2	4	64.0	1800.0	28.1	16.1	191.0	2750.0	43.0	421.0	1527.8	423.0	6.6	36.1
1981	3	3	12.0	347.0	28.9	3.7	191.3	560.0	46.7	421.6	1613.8	98.0	8.2	36.2
1981	4	4	70.0	2114.0	30.2	17.6	193.4	3532.0	50.5	425.1	1670.8	534.0	7.6	36.7
1981	5	4	69.0	1598.0	23.2	12.9	195.0	2705.0	39.2	427.8	1692.7	256.0	3.7	37.0
1981	6	4	30.0	997.0	33.2	8.3	196.0	1577.0	52.6	429.4	1581.7	75.0	2.5	37.1
1981	7	4	54.0	1695.0	31.4	13.7	197.7	2481.0	45.9	431.9	1463.7	554.0	10.3	37.6
1981	8	4	91.0	1999.0	22.0	16.1	199.7	3093.0	34.0	434.9	1547.3	414.0	4.5	38.0
1981	9	4	53.0	1572.0	29.7	13.1	201.3	2299.0	43.4	437.2	1462.5	29.0	0.5	38.1
1981	10	4	69.0	1773.0	25.7	14.3	203.1	2691.0	39.0	439.9	1517.8	96.0	1.4	38.2
1981	11	4	85.0	2192.0	25.8	18.3	205.2	3407.0	40.1	443.3	1554.3	495.0	5.8	38.7
1981	12	4	90.0	2205.0	24.5	17.8	207.4	3513.0	39.0	446.9	1593.2	352.0	3.9	39.0
Subtotal		47	763	20431.0	26.8	1.2		32076.0				3768.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1982	1	4	58.0	1494.0	25.8	12.0	208.9	2190.0	37.8	449.0	1465.9	164.0	2.8	39.2
1982	2	4	9.0	291.0	32.3	2.6	209.2	435.0	48.3	449.5	1494.8	44.0	4.9	39.2
1982	3	4	4.0	99.0	24.8	0.8	209.3	181.0	45.3	449.7	1828.3	0.0	0.0	39.2
1982	4	4	11.0	499.0	45.4	4.2	209.8	647.0	58.8	450.3	1296.6	0.0	0.0	39.2
1982	5	4	16.0	642.0	40.1	5.2	210.5	814.0	50.9	451.1	1267.9	0.0	0.0	39.2
1982	6	4	43.0	1946.0	45.3	16.2	212.4	2590.0	60.2	453.7	1330.9	92.0	2.1	39.3
1982	7	4	64.0	1564.0	24.4	12.6	214.0	2411.0	37.7	456.1	1541.6	0.0	0.0	39.3
1982	8	4	78.0	2154.0	27.6	17.4	216.1	3554.0	45.6	459.7	1650.0	544.0	7.0	39.9
1982	9	4	86.0	1814.0	21.1	15.1	218.0	3002.0	34.9	462.7	1654.9	543.0	6.3	40.4
1982	10	4	86.0	1929.0	22.4	15.6	219.9	3336.0	38.8	466.0	1729.4	464.0	5.4	40.9
1982	11	4	57.0	1507.0	26.4	12.6	221.4	2271.0	39.8	468.3	1507.0	261.0	4.6	41.1
1982	12	4	22.0	1052.0	47.8	8.5	222.4	1764.0	80.2	470.0	1676.8	81.0	3.7	41.2
Subtotal		48	534	14991.0	28.1	0.9		23195.0				2193.0		
1983	1	4	50.0	1399.0	28.0	11.3	223.8	2344.0	46.9	472.4	1675.5	40.0	0.8	41.2
1983	2	4	37.0	469.0	12.7	4.2	224.3	1050.0	28.4	473.4	2238.8	339.0	9.2	41.6
1983	3	4	4.0	41.0	10.3	0.3	224.3	68.0	17.0	473.5	1658.5	0.0	0.0	41.6
1983	4	4	13.0	571.0	43.9	4.8	224.9	1023.0	78.7	474.5	1791.6	49.0	3.8	41.6
1983	5	4	90.0	2256.0	25.1	18.2	227.2	3851.0	42.8	478.4	1707.0	80.0	0.9	41.7
1983	6	4	52.0	1497.0	28.8	12.5	228.7	2185.0	42.0	480.6	1459.6	60.0	1.2	41.8
1983	7	4	59.0	1236.0	20.9	10.0	229.9	2159.0	36.6	482.7	1746.8	335.0	5.7	42.1
1983	8	4	34.0	1176.0	34.6	9.5	231.1	2115.0	62.2	484.8	1798.5	236.0	6.9	42.3
1983	9	4	62.0	1616.0	26.1	13.5	232.7	2451.0	39.5	487.3	1516.7	10.0	0.2	42.4
1983	10	4	64.0	1743.0	27.2	14.1	234.4	2485.0	38.8	489.8	1425.7	0.0	0.0	42.4
1983	11	4	47.0	926.0	19.7	7.7	235.4	1339.0	28.5	491.1	1446.0	0.0	0.0	42.4
1983	12	4	19.0	539.0	28.4	4.3	235.9	738.0	38.8	491.9	1369.2	0.0	0.0	42.4
Subtotal		48	531	13469.0	25.4	0.8		21808.0				1149.0		
1984	1	4	38.0	1424.0	37.5	11.5	237.3	2040.0	53.7	493.9	1432.6	99.0	2.6	42.5
1984	2	4	10.0	322.0	32.2	2.8	237.7	392.0	39.2	494.3	1217.4	0.0	0.0	42.5
1984	3	4	18.0	589.0	32.7	4.8	238.2	1070.0	59.4	495.4	1816.6	134.0	7.4	42.6
1984	4	4	26.0	563.0	21.7	4.7	238.8	850.0	32.7	496.2	1509.8	197.0	7.6	42.8
1984	5	4	69.0	1849.0	26.8	14.9	240.7	2553.0	37.0	498.8	1380.7	619.0	9.0	43.4
1984	6	4	68.0	1371.0	20.2	11.4	242.0	2013.0	29.6	500.8	1468.3	475.0	7.0	43.9
1984	7	4	79.0	1415.0	17.9	11.4	243.4	2312.0	29.3	503.1	1633.9	397.0	5.0	44.3
1984	8	4	51.0	580.0	11.4	4.7	244.0	1268.0	24.9	504.4	2186.2	329.0	6.5	44.6
1984	9	4	35.0	410.0	11.7	3.4	244.4	591.0	16.9	504.9	1441.5	24.0	0.7	44.6
1984	10	4	5.0	35.0	7.0	0.3	244.5	85.0	17.0	505.0	2428.6	89.0	17.8	44.7
1984	11	4	23.0	51.0	2.2	0.4	244.5	126.0	5.5	505.2	2470.6	0.0	0.0	44.7
1984	12	4	36.0	604.0	16.8	4.9	245.1	840.0	23.3	506.0	1390.7	20.0	0.6	44.7
Subtotal		48	458	9213.0	20.1	0.5		14140.0				2383.0		

\* BOPPD: BARRELS PER WELL PER PRODUCING DAY.

\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.

WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR		WATER		
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBO	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1985	1	4	9.0	153.0	17.0	1.2	245.3	199.0	22.1	506.2	1300.7	0.0	0.0	44.7
1985	2	4	5.0	27.0	5.4	0.2	245.3	32.0	6.4	506.2	1185.2	0.0	0.0	44.7
1985	3	4	4.0	8.0	2.0	0.1	245.3	12.0	3.0	506.2	1500.0	0.0	0.0	44.7
1985	4	4	11.0	35.0	3.2	0.3	245.3	35.0	3.2	506.3	1000.0	32.0	2.9	44.8
1985	5	4	42.0	1069.0	25.5	8.6	246.4	1675.0	39.9	508.0	1566.9	70.0	1.7	44.8
1985	6	4	104	1891.0	18.2	15.8	248.3	2932.0	28.2	510.9	1550.5	395.0	3.8	45.2
1985	7	4	59.0	1170.0	19.8	9.4	249.5	1527.0	25.9	512.4	1305.1	36.0	0.6	45.3
1985	8	4	52.0	1045.0	20.1	8.4	250.5	1416.0	27.2	513.8	1355.0	3.0	0.1	45.3
1985	9	4	24.0	287.0	12.0	2.4	250.8	425.0	17.7	514.3	1480.8	0.0	0.0	45.3
1985	10	4	88.0	2225.0	25.3	17.9	253.0	3163.0	35.9	517.4	1421.6	460.0	5.2	45.7
1985	11	4	18.0	466.0	25.9	3.9	253.5	932.0	51.8	518.3	2000.0	5.0	0.3	45.7
1985	12	4	25.0	787.0	31.5	6.3	254.3	1570.0	62.8	519.9	1994.9	10.0	0.4	45.7
Subtotal		48	441	9163.0	20.8	0.5		13918.0				1011.0		
1986	1	4	29.0	936.0	32.3	7.5	255.2	133.0	4.6	520.0	142.1	0.0	0.0	45.7
1986	2	4	21.0	544.0	25.9	4.9	255.8	657.0	31.3	520.7	1207.7	0.0	0.0	45.7
1986	3	4	33.0	661.0	20.0	5.3	256.4	820.0	24.8	521.5	1240.5	0.0	0.0	45.7
1986	4	4	31.0	333.0	10.7	2.8	256.8	491.0	15.8	522.0	1474.5	0.0	0.0	45.7
1986	5	4	51.0	839.0	16.5	6.8	257.6	1136.0	22.3	523.2	1354.0	0.0	0.0	45.7
1986	6	4	43.0	963.0	22.4	8.0	258.6	1265.0	29.4	524.4	1313.6	56.0	1.3	45.8
1986	7	4	63.0	1358.0	21.6	11.0	259.9	2119.0	33.6	526.5	1560.4	617.0	9.8	46.4
1986	8	4	71.0	976.0	13.7	7.9	260.9	1579.0	22.2	528.1	1617.8	5.0	0.1	46.4
1986	9	4	23.0	566.0	24.6	4.7	261.5	995.0	43.3	529.1	1758.0	230.0	10.0	46.7
1986	10	4	39.0	788.0	20.2	6.4	262.2	1702.0	43.6	530.8	2159.9	175.0	4.5	46.8
1986	11	4	47.0	687.0	14.6	5.7	262.9	1107.0	23.6	531.9	1611.4	73.0	1.6	46.9
1986	12	4	10.0	251.0	25.1	2.0	263.2	421.0	42.1	532.3	1677.3	67.0	6.7	47.0
Subtotal		48	461	8902.0	19.3	0.5		12425.0				1223.0		
1987	1	4	14.0	249.0	17.8	2.0	263.4	420.0	30.0	532.8	1686.7	70.0	5.0	47.0
1987	2	4	6.0	16.0	2.7	0.1	263.5	24.0	4.0	532.8	1500.0	4.0	0.7	47.0
1987	3	4	5.0	10.0	2.0	0.1	263.5	14.0	2.8	532.8	1400.0	3.0	0.6	47.0
1987	4	4	8.0	23.0	2.9	0.2	263.5	37.0	4.6	532.8	1608.7	5.0	0.6	47.1
1987	5	4	51.0	1297.0	25.4	10.5	264.8	2017.0	39.5	534.9	1555.1	360.0	7.1	47.4
1987	6	4	62.0	1104.0	17.8	9.2	265.9	1708.0	27.5	536.6	1547.1	450.0	7.3	47.9
1987	7	4	60.0	821.0	13.7	6.6	266.7	1572.0	26.2	538.1	1914.7	285.0	4.8	48.1
1987	8	4	35.0	629.0	18.0	5.1	267.3	1204.0	34.4	539.3	1914.1	102.0	2.9	48.3
1987	9	4	31.0	518.0	16.7	4.3	267.9	1177.0	38.0	540.5	2272.2	125.0	4.0	48.4
1987	10	4	31.0	896.0	28.9	7.2	268.7	1440.0	46.5	542.0	1607.1	58.0	1.9	48.4
1987	11	4	27.0	811.0	30.0	6.8	269.6	1488.0	55.1	543.4	1834.8	140.0	5.2	48.6
1987	12	4	34.0	1312.0	38.6	10.6	270.9	2273.0	66.9	545.7	1732.5	0.0	0.0	48.6
Subtotal		48	364	7686.0	21.1	0.4		13374.0				1602.0		

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WEST PUERTO CHIQUITO POOL, RIO ARRIBA CO., NM  
 BENSON-MONTIN-GREER DRILLING CORP. JICARILLA TOTAL.

YR	MO	NO WELLS	WELL PROD DAYS	OIL			GAS			GOR	WATER			
				BOPM	AVE BOPPD	AVE BOPCD	CUM MBD	MCF/M	AVE MCF/D	CUM MMCF	SCF/BBL	Month	AVE BWPD	CUM MBW
1988	1	4	8.0	34.0	4.3	0.3	270.9	65.0	8.1	545.8	1911.8	0.0	0.0	48.6
1988	2	4	8.0	219.0	27.4	2.0	271.1	371.0	46.4	546.2	1694.1	0.0	0.0	48.6
1988	3	4	21.0	335.0	16.0	2.7	271.5	741.0	35.3	546.9	2211.9	162.0	7.7	48.7
1988	4	4	26.0	556.0	21.4	4.6	272.0	1260.0	48.5	548.2	2266.2	150.0	5.8	48.9

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\* BOPCD: BARRELS PER WELL PER CALENDAR DAY.