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KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW
EL PATIO BUILDING

117 NORTH GUADALUPE
POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

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

JASON KELLAHIN (RETIRED 1991)

April 16, 1993

VIA FACSIMILE

505-827-5741

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

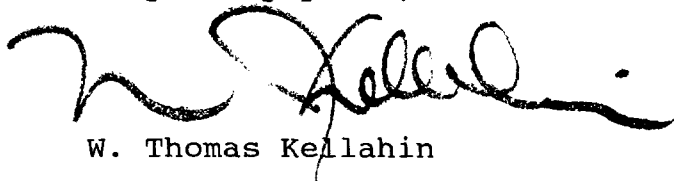
Re: NMOCD Case # 10719
Application of Anadarko Petroleum
Corporation for Directional Drilling
and Unorthodox Gas Well Surface
and Bottom Hole Locations,
Eddy County, New Mexico

Dear Mr. LeMay:

On behalf of Anadarko Petroleum Corp., I filed an application for the above referenced case which is scheduled for Examiner hearing on May 20th, 1993.

Anadarko Petroleum Corp. desires that this case be continued to the next available docket which is, June 17, 1993.

Very truly yours,



W. Thomas Kellahin

WTK/mvh

cc: Mr. Dan G. Kernaghan
Mr. William F. Carr, Esq.

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2205

SANTA FE, NEW MEXICO 87504-2205

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
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JASON KELLAHIN (RETIRED 1991)

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m 5.

April 16, 1993

VIA FACSIMILE

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

Re: NMOCD Case # 10719
Application of Anadarko Petroleum
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and Unorthodox Gas Well Surface
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Eddy County, New Mexico

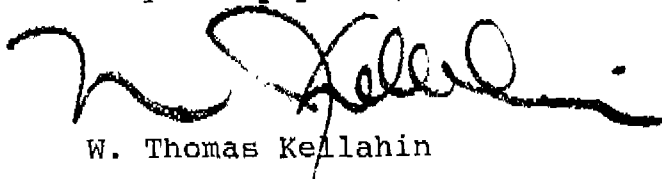
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April 22

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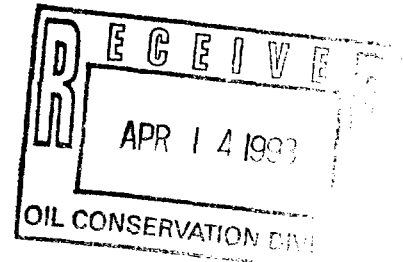

W. Thomas Kellahin

WTK/mvh

cc: Mr. Dan G. Kernaghan
Mr. William F. Carr, Esq.

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

IN THE MATTER OF THE APPLICATION
OF ANADARKO PETROLEUM CORPORATION
FOR DIRECTIONAL DRILLING AND
AN UNORTHODOX BOTTOMHOLE GAS
WELL LOCATION,
EDDY COUNTY, NEW MEXICO.



CASE NO. 10719

ENTRY OF APPEARANCE

COMES NOW CAMPBELL, CARR, BERGE & SHERIDAN, P.A., and hereby
enters its appearance in the above referenced case on behalf of Enron Oil & Gas Company.

Respectfully submitted,

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.

By: 

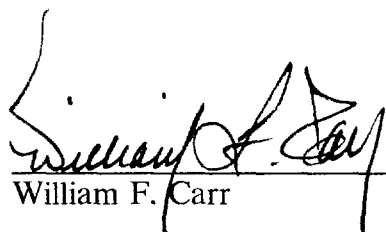
WILLIAM F. CARR
Post Office Box 2208
Santa Fe, New Mexico 87504
Telephone: (505) 988-4421

ATTORNEYS FOR ENRON OIL
& GAS COMPANY

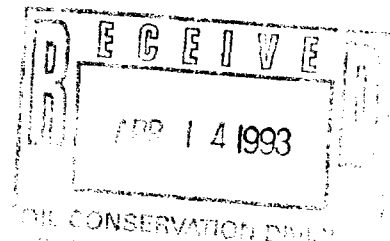
CERTIFICATE OF MAILING

I hereby certify that on this 14th day of April, 1993, I have caused to be mailed a copy of our Entry of Appearance in the above-captioned case to:

W. Thomas Kellahin, Esq.
Kellahin and Kellahin
Post Office Box 2265
Santa Fe, New Mexico 87504



William F. Carr



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

IN THE MATTER OF THE APPLICATION
OF ANADARKO PETROLEUM CORPORATION
FOR DIRECTIONAL DRILLING AND
AN UNORTHODOX BOTTOMHOLE GAS
WELL LOCATION,
EDDY COUNTY, NEW MEXICO.

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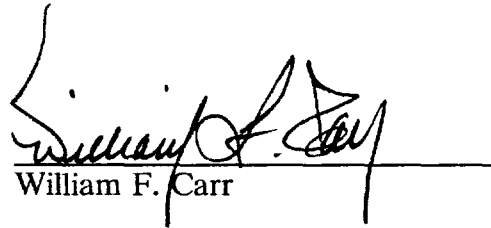
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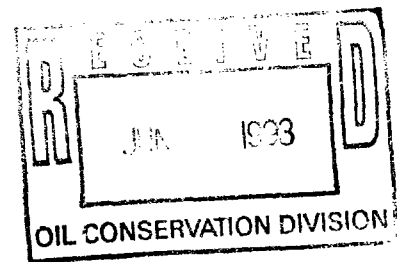
ATTORNEYS FOR ENRON OIL
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Kellahin and Kellahin
Post Office Box 2265
Santa Fe, New Mexico 87504


William F. Carr



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

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

CASE NO. 10719

APPLICATION OF ANADARKO PETROLEUM
CORPORATION FOR DIRECTIONAL DRILLING
AND AN UNORTHODOX BOTTOMHOLE GAS WELL
LOCATION, EDDY COUNTY, NEW MEXICO.

PRE-HEARING STATEMENT

This pre-hearing statement is submitted by ANADARKO
PETROLEUM CORPORATION as required by the Oil Conservation
Division.

APPEARANCE OF PARTIES

APPLICANT

Anadarko Petroleum Corporation
P. O. Box 2497
Midland, Texas 79702
Attn: Mr. Dan Kernaghan
(915) 682-1666

ATTORNEY

W. Thomas Kellahin
KELLAHIN AND KELLAHIN
P.O. Box 2265
Santa Fe, NM 87504
(505) 982-4285

Pre-Hearing Statement
Case No. 10719
Page 2

OPPOSITION OR OTHER PARTY

ATTORNEY

Enron Oil & Gas Company
Box 2267
Midland, Texas 79702

William F. Carr
P. O. Box 2208
Santa Fe, New Mexico 87504

STATEMENT OF CASE

APPLICANT

Anadarko Petroleum Corporation seeks approval to directionally drill its Power Federal Com #2 Well commencing at an unorthodox surface location 1400 feet FSL and 660 feet FEL (Unit I) in Section 26, T17S, R30E, Eddy County, New Mexico, and to bottom the well in the base of the Morrow formation at a point within a 75 foot radius bottom hole target 660 feet from South and East lines of said section 26 and dedicating the E/2 of said Section 26 to the well.

The necessity of directional drilling from the proposed surface location is topographic and will serve to avoid the surface features of a dry lake with archeological restrictions imposed by the BLM.

The proposed bottom hole location in the Morrow formation will maximize the opportunity to encounter the Morrow formation at its most favorable location in this spacing unit and to protect the spacing unit from drainage by a well operated by Enron Oil & Gas Company.

Pre-Hearing Statement
Case No. 10719
Page 3

OPPOSITION OR OTHER PARTY

Unknown

PROPOSED EVIDENCE

APPLICANT

WITNESSES	EST. TIME	EXHIBITS
Brad Miller (petroleum engineer)	30 min.	Est. 4-5
Kip Clark (geologist)	20 min.	Est 3

PROCEDURAL MATTERS

None applicable at this time.

KELLAHIN AND KELLAHIN

By: 

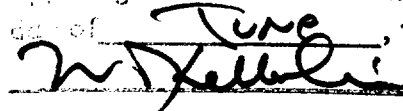
W. Thomas Kellahin

P.O. Box 2265

Santa Fe, New Mexico 87504

(505) 982-4285

I hereby certify that a true copy of the
for- going instrument was mailed to
opposing counsel of record this 15
day of June, 1993



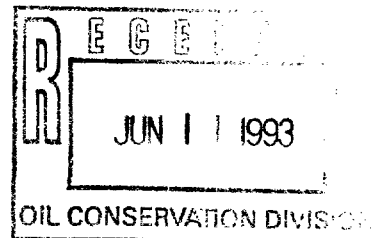
Delivered

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

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

CASE NO. 10719

APPLICATION OF ANADARKO PETROLEUM
CORPORATION FOR DIRECTIONAL
DRILLING AND AN UNORTHODOX
BOTTOMHOLE GAS WELL LOCATION,
EDDY COUNTY, NEW MEXICO.



PRE-HEARING STATEMENT

This prehearing statement is submitted by William F. Carr, as required by the Oil Conservation Division.

APPEARANCES OF PARTIES

APPLICANT

Anadarko Petroleum Corporation_____

name, address, phone and
contact person

OPPOSITION OR OTHER PARTY

Enron Oil & Gas Company
Post Office Box 2267
Midland, Texas 79702
Attn: Patrick J. Tower

(915) 686-3758_____

name, address, phone and
contact person

ATTORNEY

W. Thomas Kellahin_____
Kellahin & Kellahin_____
Post Office Box 2265_____
Santa Fe, New Mexico 87504-2265_

(505) 982-4285_____

ATTORNEY

William F. Carr
Campbell, Carr, Berge & Sheridan
Post Office Box 2208
Santa Fe, New Mexico 87504

(505) 988-4421_____

STATEMENT OF CASE

APPLICANT

OPPOSITION OR OTHER PARTY

(Please make a concise statement of the basis for opposing this application or otherwise state the position of the party filing this statement.)

Enron Oil & Gas Company operates the offsetting acreage toward which Anadarko is encroaching with its proposed unorthodox well location. Enron believes this location must be penalized to prevent uncompensated drainage from its property.

PROPOSED EVIDENCE

APPLICANT

WITNESSES
(Name and expertise)

EST. TIME

EXHIBITS

OPPOSITION

WITNESSES
(Name and expertise)

EST. TIME

EXHIBITS

Patrick J. Tower, (Landman)

10 Min.

Approximately 4

Barry Zinz, (Geologist)

10 Min.

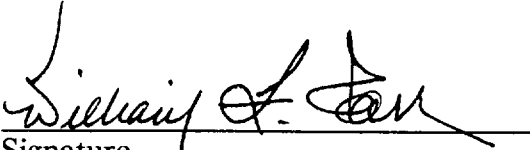
Approximately 5

Randy Cate, (Engineer)

15 Min.

Approximately 3

PROCEDURAL MATTERS


Signature

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

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

*5/21/93 DEC 7/14/93
157H/93*

CASE NO. 10719
Order No. R- *8925 7/14/93*

APPLICATION OF ANADARKO PETROLEUM
CORPORATION FOR DIRECTIONAL DRILLING
AND AN UNORTHODOX BOTTOMHOLE GAS WELL
LOCATION, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 17, 1993, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this _____ day of July, 1993, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

(2) The applicant, Anadarko Petroleum Corporation (Anadarko), seeks authority to directionally drill its proposed Power Federal Com Well No. 2 from an unorthodox surface location 1400 feet from the South line and 660 feet from the East line (Unit I) of Section 26, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, in such a manner so as to bottom said wellbore in the Cedar Lake-Morrow Gas Pool at an unorthodox bottomhole location within 75 feet of a point 660 feet from the South and East lines (Unit P) of said Section 26. The E/2 of Section 26 is to be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit for said pool.

(3) Enron Oil and Gas Company (Enron), operator of the Cedar Lake "35" Federal Com Well No. 1 located 1240 feet from the North line and 1980 feet from the East line (Unit B) of Section 35, Township 17 South, Range 30 East, NMPM, which is currently

producing from the Cedar Lake-Morrow Gas Pool, appeared at the hearing in opposition to the application.

(4) The subject well has been staked at the proposed surface location due to surface obstructions, namely the presence of a dry lake bed and archaeological sites, however, the applicant proposes to directionally drill the subject well to the proposed unorthodox bottomhole location for geologic reasons.

(4) The primary target in the subject well is what the applicant has referred to as the "Arnold Sand" which occurs in the lower portion of the Morrow formation. The "Arnold Sand" is currently being produced in the above-described Cedar Lake "35" Federal Com Well No. 1.

(5) Both Anadarko and Enron presented geologic and engineering evidence and testimony in this case.

- (6) In 1978 the applicant drilled its Power Federal Com Well No. 1-Y at a standard gas well location 2135 feet from the South line and 1650 feet from the East line (Unit J) of Section 26. The evidence and Division records indicate that this well was completed in the Cedar Lake-Morrow Gas Pool and produced from said pool until 1981 at which time it was recompleted up hole. Cumulative gas production from this well in the Morrow was approximately 137 MMCFG prior to abandonment.

(7) The geologic evidence presented by Anadarko and Enron in this case is generally in agreement that:

a) the "Arnold Sand" is a northeast to southwest trending sand member which traverses a portion of the SE/4 of Section 26, the entire N/2 of Section 35, a portion of Section 25 and a small portion of Section 34;

b) the subject reservoir is bounded on the west by a fault which traverses Sections 2 and 34 in a north-south direction;

c) the subject reservoir is relatively small in size comprising some 17,000 acre-ft., more or less; and,

d) a well at the proposed unorthodox bottomhole location should encounter a greater amount of net sand in the "Arnold Sand" member than a well drilled at a standard well location thereon.

(8) There is general disagreement between the two parties regarding the amount of productive acreage within the SE/4 of Section 26. The applicant's geologic evidence indicates 123 acres (2,631 acre-ft.) to be productive while Enron's geologic evidence indicates 74.3 acres (2,215 acre-ft.) to be productive.

(9) The geologic evidence presented does indicate that a well at the proposed unorthodox bottomhole location is geologically justified and approval of such location will afford the applicant

the opportunity to produce its just and equitable share of the gas in the Cedar Lake-Morrow Gas Pool underlying the E/2 of Section 26.

(10) Anadarko requested that no production penalty be imposed on the Power Federal Com Well No. 2.

(11) Anadarko based its request on the contention that gas reserves have been drained from its tract by the Cedar Lake "35" Federal Com Well No. 1, and that to protect its correlative rights, it should be permitted to produce its proposed Power Federal Com Well No. 2 at an unrestricted rate.

(12) The Cedar Lake "35" Federal Com Well No. 1 is located at a standard gas well location in Section 35. The well has been drilled and produced in accordance with Division Rules and Regulations.

(13) Up until this time, the applicant has not availed itself of the opportunity to recover its share of the gas reserves in the subject pool, thereby protecting its correlative rights.

(14) By drilling the Power Federal Com Well No. 2 at the proposed unorthodox gas well location, the applicant is gaining an advantage over Enron. In order to offset the advantage gained by the applicant, the subject well should be assigned a production penalty.

(15) Enron proposed that a production penalty of 85 percent or a maximum producing rate of 2,550 MCF per day be imposed on the subject well. Enron based its penalty recommendation on its estimated reservoir volume, in acre feet, underlying the SE 1/4 of Section 26 relative to total reservoir volume, or 2,215 acre ft. / 17,677 acre ft. This calculation results in a penalty of 87.47 percent; however, at the hearing, Enron testified it would agree to an 85 percent production penalty.

(16) Anadarko's engineering evidence and testimony shows that:

a) the N/2 of Section 35 and the E/2 of Section 26 initially contained some 6.3 BCFG and 2.2 BCFG, respectively, of recoverable gas reserves;

b) if produced at an unrestricted rate, the subject well should ultimately recover approximately 1.6 BCFG.

(17) Enron's engineering evidence and testimony shows that:

a) the N/2 of Section 35 and the E/2 of Section 26 initially contained some 11.9 BCFG and 2.0 BCFG, respectively, of recoverable gas reserves;

b) as of May, 1993, the Cedar Lake "35" Federal Well No. 1 has cumulatively produced approximately 3.3 BCFG; and,

c) the Power Federal Com Well No. 2, if produced at a rate or allowable as proposed by Enron, should ultimately recover some 1.8 BCFG.

(18) Anadarko expects the initial producing rate of the Power Federal Com Well No. 2 to be approximately 8.9 MMCFG per day. The Cedar Lake "35" Federal Com Well No. 1 is, according to Enron's testimony, currently capable of producing approximately 17 MMCFG per day.

(19) Although the geologic interpretations vary somewhat, both of the parties are in close ~~in~~ agreement that the E/2 of Section 26 initially contained between 2.0 and 2.2 BCF of recoverable gas reserves, and that the subject well should be allowed to recover between 1.6 and 1.8 BCFG.

(18) There is considerable difference, however, between Anadarko's and Enron's engineering evidence regarding the proper rate the subject well should be allowed to produce at in order to recover this amount of gas reserves.

(19) The engineering evidence is insufficient to establish an allowable producing rate based solely upon projected ultimate gas recovery.

(20) The Division has historically utilized various factors in calculating producing penalties including encroachment distances from a standard well location, productive acreage, drainage data, etc.

(21) The production allowable for the Power Federal Com Well No. 2 should be based upon the average of two factors: 1) deviation from a standard well location in the north/south direction; and 2) productive acreage underlying the E/2 of Section 26 (based upon average of Anadarko's & Enron's projection) relative to productive acreage underlying the N/2 of Section 35, all as shown as follows:

Factor 1= 660 feet / 1980 feet = 0.333
Factor 2= 97 acres / 300 acres = 0.3233

Average of Factors = (.3233 + .333) / 2 = .328 or
33 PERCENT ALLOWABLE FACTOR

(22) The production allowable factor should be applied to the Power Federal Com Well No. 2's ability to produce as determined by deliverability tests conducted on the well on a bi-annual basis. Said test should be conducted only after notice has been provided to the supervisor of the Artesia district office of the Division and to Enron Oil and Gas Company and a reasonable opportunity is provided to each to witness such test.

(23) Approval of the proposed directional drilling and unorthodox bottomhole location, subject to a producing allowable

factor of 33 percent, will afford the applicant the opportunity to recover its just and equitable share of the gas in the Cedar Lake-Morrow Gas Pool underlying the E/2 of Section 26, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

(24) The applicant should be required to determine the subsurface location of the kick-off point in the wellbore prior to directional drilling and should be required to conduct a directional survey during or upon completion of directional drilling operations in order to determine the bottomhole location.

(25) The applicant should be required to submit copies of the directional surveys conducted on the subject well to the Santa Fe and Artesia offices of the Division.

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

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Anadarko Petroleum Corporation, is hereby authorized to directionally drill its Power Federal Com Well No. 2 from an unorthodox surface location 1400 feet from the South line and 660 feet from the East line (Unit I) of Section 26, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, in such a manner so as to bottom said wellbore in the Cedar Lake-Morrow Gas Pool at an unorthodox bottomhole location within 75 feet of a point 660 feet from the South and East lines (Unit P) of said Section 26.

(2) The E/2 of Section 26 shall be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit for said pool.

(3) The applicant shall determine the subsurface location of the kick-off point in the wellbore prior to directional drilling and shall conduct a directional survey during or upon completion of directional drilling operations in order to determine the bottomhole location.

(4) The applicant shall submit copies of the directional surveys conducted on the subject well to the Santa Fe and Artesia offices of the Division.

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

(6) Subsequent to completing directional drilling operations, the applicant shall submit a Division Form C-102 (Acreage Dedication Plat) to the Artesia office of the Division showing the surface and bottomhole location of the Power Federal Com Well No. 2.

(7) The Power Federal Com Well No. 2 is hereby assigned a production limitation factor of 33 percent (67 percent penalty factor). This production limitation factor shall be applied against the well's ability to produce as determined by deliverability tests conducted on the well on a bi-annual basis. The deliverability tests shall be conducted after notice has been provided to the supervisor of the Artesia district office of the Division and to Enron Oil and Gas Company, and a reasonable opportunity is provided to each to witness such test.

(8) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

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OIL CONSERVATION DIVISION
RECEIVED

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

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SANTA FE, NEW MEXICO 87504-2265

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W. THOMAS KELLAHIN*

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JASON KELLAHIN (RETIRED 1991)

July 7, 1993

VIA FACSIMILE
(505) 827-5741

CAFE FILE
10719

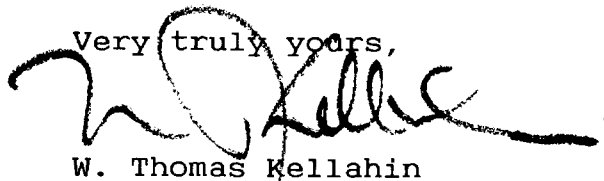
Mr. David R. Catanach
Hearing Examiner
Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Re: NMOCD Case 10719
Application of Anadarko Petroleum Corporation
for Directional Drilling and an Unorthodox
Bottomhole Location, Eddy County, New Mexico

Dear Mr. Catanach:

On behalf of Anadarko Petroleum Corporation I wish to direct your attention to the fact that the absence of a penalty in our proposed order which was submitted to you yesterday was based upon the precedent established by Division Order R-9721 entered in Case 10489. In that case, Yates Petroleum Corporation successfully argued for no penalty on an unorthodox well. The case was opposed by BHP Petroleum Inc. The two cases cannot be distinguished.

Very truly yours,



W. Thomas Kellahin

cc: William F. Carr, Esq.
cc: Anadarko Petroleum Corporation

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

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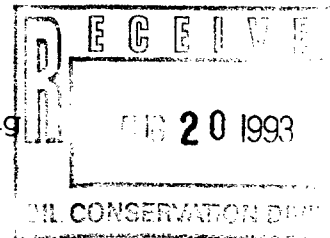
JASON KELLAHIN (RETIRED 1991)

August 20, 1993

Mr. William J. LeMay
Chairman
Oil Conservation Commission
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

HAND DELIVERED

Re: REQUEST FOR HEARING DENOVO
NMOCD CASE 10719
Order No. R-9925
Application of Anadarko Petroleum
Corporation for Directional Drilling
and an Unorthodox Bottomhole Gas
Well Location, Eddy County, N.M.



Dear Mr. LeMay:

On behalf of Anadarko Petroleum Corporation, please find enclosed our request for a Hearing DeNovo of the referenced case before the New Mexico Oil Conservation Commission.

Very truly yours,

A handwritten signature in dark ink, appearing to read "W. Thomas Kellahin".

W. Thomas Kellahin

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

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

CASE NO. 10719
Order No. R-9925


APPLICATION OF ANADARKO PETROLEUM
CORPORATION FOR DIRECTIONAL DRILLING
AND AN UNORTHODOX BOTTOMHOLE GAS WELL
LOCATION, EDDY COUNTY, NEW MEXICO.

ANADARKO PETROLEUM CORPORATION'S
REQUEST FOR A DE NOVO HEARING
BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

20 1993

Comes now ANADARKO PETROLEUM CORPORATION, a party of record before the New Mexico Oil Conservation Division in Case 10719 and adversely affected by Division Order R-9925 entered July 22, 1993, by its attorneys Kellahin & Kellahin and pursuant to Section 70-2-13 NMSA-1978, hereby requests that the New Mexico Oil Conservation Commission hold a HEARING DENOVO in this matter.

Respectfully Submitted:


W. Thomas Kellahin
Kellahin & Kellahin
P. O. Box 2265
Santa Fe, New Mexico 87501
(505) 982-4285
ATTORNEYS FOR
ANADARKO PETROLEUM CORPORATION

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

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

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

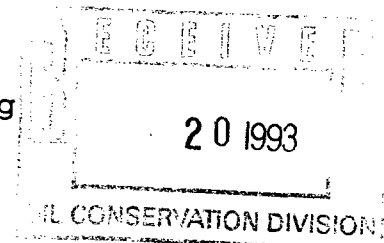
JASON KELLAHIN (RETIRED 1991)

August 20, 1993

Mr. William J. LeMay
Chairman
Oil Conservation Commission
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

HAND DELIVERED

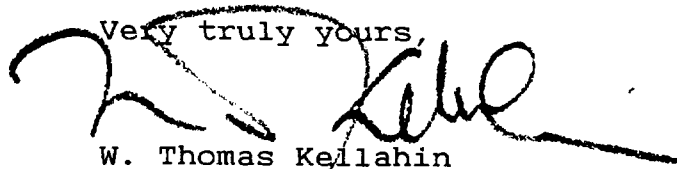
Re: REQUEST FOR HEARING DENOVO
NMOCD CASE 10719
Order No. R-9925
Application of Anadarko Petroleum
Corporation for Directional Drilling
and an Unorthodox Bottomhole Gas
Well Location, Eddy County, N.M.



Dear Mr. LeMay:

On behalf of Anadarko Petroleum Corporation, please find enclosed our request for a Hearing DeNovo of the referenced case before the New Mexico Oil Conservation Commission.

Very truly yours,



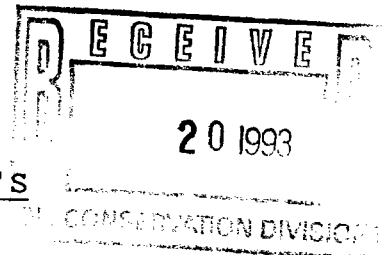
W. Thomas Kellahin

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

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

CASE NO. 10719
Order No. R-9925

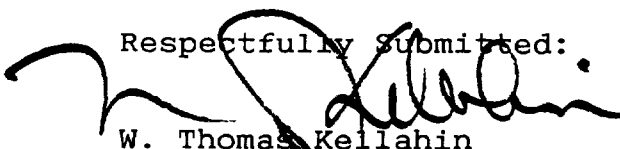
APPLICATION OF ANADARKO PETROLEUM
CORPORATION FOR DIRECTIONAL DRILLING
AND AN UNORTHODOX BOTTOMHOLE GAS WELL
LOCATION, EDDY COUNTY, NEW MEXICO.



ANADARKO PETROLEUM CORPORATION'S
REQUEST FOR A DE NOVO HEARING
BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Comes now ANADARKO PETROLEUM CORPORATION, a party of record before the New Mexico Oil Conservation Division in Case 10719 and adversely affected by Division Order R-9925 entered July 22, 1993, by its attorneys Kellahin & Kellahin and pursuant to Section 70-2-13 NMSA-1978, hereby requests that the New Mexico Oil Conservation Commission hold a HEARING DENOVO in this matter.

Respectfully Submitted:


W. Thomas Kellahin
Kellahin & Kellahin
P. O. Box 2265
Santa Fe, New Mexico 87501
(505) 982-4285
ATTORNEYS FOR
ANADARKO PETROLEUM CORPORATION

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

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

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

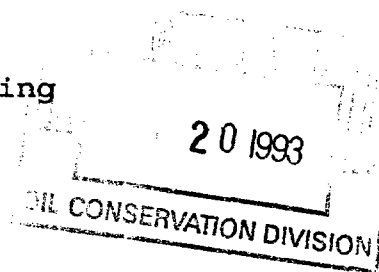
JASON KELLAHIN (RETIRED 1991)

August 20, 1993

Mr. William J. LeMay
Chairman
Oil Conservation Commission
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

HAND DELIVERED

Re: REQUEST FOR HEARING DENOVO
NMOCD CASE 10719
Order No. R-9925
Application of Anadarko Petroleum
Corporation for Directional Drilling
and an Unorthodox Bottomhole Gas
Well Location, Eddy County, N.M.



Dear Mr. LeMay:

On behalf of Anadarko Petroleum Corporation, please find enclosed our request for a Hearing DeNovo of the referenced case before the New Mexico Oil Conservation Commission.

Very truly yours,

A handwritten signature in dark ink, appearing to read "W. Thomas Kellahin". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

W. Thomas Kellahin

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

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TELEFAX (505) 982-2047

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

September 14, 1993

Mr. William J. LeMay, Chairman
Oil Conservation Commission
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

14 1993

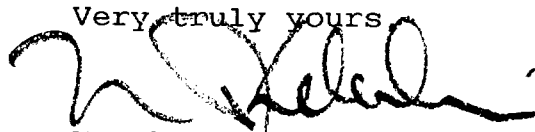
Re: NMOCD Case 10719 (DeNovo)
Application of Anadarko Petroleum
Corporation for Directional Drilling
and an Unorthodox Bottomhole Gas
Well Location, Eddy County, N.M.

Dear Mr. LeMay:

On behalf of Anadarko Petroleum Corporation, we request that this DeNovo case now set on the Commission's September 22, 1993 docket be continued until the October Commission docket.

We have obtained the concurrence of opposition counsel to this request.

Very truly yours



W. Thomas Kellahin

cc: William F. Carr, Esq.
Attorney for Enron Oil & Gas Company
cc: Anadarko Petroleum Corporation
Attn: Mr. Brad Miller (Houston)

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

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

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

October 26, 1993

27 1993

Mr. William J. LeMay, Chairman
Oil Conservation Commission
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

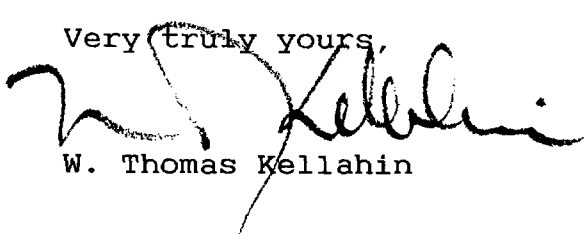
Re: NMOCD Case 10719 (DeNovo)
Application of Anadarko Petroleum
Corporation for Directional Drilling
and an Unorthodox Bottomhole Gas
Well Location, Eddy County, N.M.

Dear Mr. LeMay:

On behalf of Anadarko Petroleum Corporation, we
request that this DeNovo case now set on the Commission's
November 10, 1993 docket be continued until the January
Commission docket.

We have obtained the concurrence of opposing
counsel to this request.

Very truly yours,


W. Thomas Kellahin

cc: William F. Carr, Esq.
Attorney for Enron Oil & Gas Company
cc: Anadarko Petroleum Corporation
Attn: Mr. Brad Miller (Houston)
cc: Patrick Tower (Enron Oil & Gas Company)

OIL CONSERVATION DIVISION
RECEIVED

93 DE 14 AM 9 00



December 10, 1993

**New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088
Fax: (505) 827-5741
Attn: Bill LeMay**

**Re: Request for 4-point test
Power Federal Com #2
660' FSL & 660' FEL
Sec. 26, T 17S, R30E
Eddy County, New Mexico
Case No. 10719
Order No. R-9925**

Dear Mr. LeMay:

Pursuant to your recent conversation with Jerry Buckles, Anadarko is requesting permission to 4-point test the subject well to a sales line Tuesday December 14, 1992.

The Power Federal Com #2 was drilled as an unorthodox location Morrow test. The Morrow test was unsuccessful and the well was completed as a Strawn producer. A 2.5 hour flow test yielded 5.5 MMCFD with a condensate mist. Anadarko is now requesting a 4-point test of the Strawn.

Concerning the temporary test allowable, Anadarko has deferred this request to Counsel, Tom Kellahin, to review with your office.

Your offer to fax a response is appreciated. Please Fax to my attention at (713) 874-3571.

Very truly yours,

Brad T. Miller
Senior Reservoir Engineer

BTM/jag
BM/PFCOM2

cc: Richard Pratt
Tony Meyer
Enron Oil & Gas
Artesia Oil Commission

FAX TRANSMITTAL SHEET
OIL CONSERVATION DIVISION - FAX NO. (505) 827-5741

TO: *Brad Miller*

FR: *Bill LeMay - OCD*

PAGES w/cover: *2*

DATE: *12/13/93*

*This is your permission to 4-point
test the Power Federal Com Well No. 2.*

William J. LeMay

If there are any problems with this transmission, please call (505) 827-5806.



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

December 14, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Anadarko Petroleum Corporation
c/o Thomas Kellahin
Kellahin and Kellahin
Attorneys at Law
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Case 10719

Re: Request for Special Temporary
Production Allowable to Test the
Power Federal Com Well No. 2
(Strawn Formation) Sec. 26,
T17S, R30E, Eddy County, New Mexico

Dear Mr. Kellahin:

In answer to your letter of December 14, 1993, you are hereby authorized to test the Strawn formation in your Power Federal Com Well No. 2 for seven days at rates up to 6,000 MCF per day in order to obtain a 4-Point test. As proposed in your letter, test production may be charged against future allowable.

Please notify our Artesia office and offset operators before beginning the test. After the test is completed, please file results with this office and our Artesia office. We will then consider your request to run the reservoir limits test.

Sincerely,

WILLIAM J. LEMAY
Director

WJL/JM/fd

cc: Enron Oil and Gas Company
c/o William F. Carr
Artesia District Office

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

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

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

December 14, 1993

HAND DELIVERED

DEC 14

Mr. William J. LeMay
Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Re: Request for Special Temporary
Production Allowable to Test the
Power Federal Com # 2 Well (*Strawn Formation*)
Sec. 26, T17S, R30E
Eddy County, New Mexico

Dear Mr. LeMay,

On behalf of Anadarko Petroleum Corporation, we are requesting a Special Temporary Testing Allowable for production from the Strawn formation for a maximum period of four weeks at rates up to 6,000 MCFGPD for their Power Federal Com Well No. 2 located in Unit I of Section 26, T17S, R30E, NMPM, Eddy County, New Mexico.

This well is the subject of Division Order R-9925 (copy enclosed) which approved the directionally drilling to an unorthodox bottom hole location but subject to a penalized allowable of 33% for production from the Morrow formation. Order R-9925 is pending a hearing before the Commission. Enron Oil and Gas Company, represented by William F. Carr, was the only company appearing in opposition to Anadarko.

Anadarko elected to commence drilling the subject well while it continued to contest the Morrow production penalty. The well was uneconomic in the Morrow and Anadarko has elected to attempt to recompleate the well as a gas well in the Strawn formation.

Oil Conservation Division
December 14, 1993
Page 2

Anadarko is seeking approval from the Division Director to conduct a 4-point test on the Power Federal Com #2 into a pipeline and for a temporary allowable to test the reservoir limits since no offsetting wells have this Strawn zone present. Production testing will allow Anadarko the opportunity to collect data for a possible location exception hearing and to provide Enron with data to make a determination on the waiver of objection.

We would like to obtain and evaluate the test data before we decide whether to pursue a hearing or apply for an administrative order for an up-hole recompletion as provide in Rule 104 F.(1).

We believe that it is not appropriate to apply the Morrow production penalty to the Strawn production test. Therefore, we are proposing that any test production not be restricted by Order R-9925 BUT be authoirzed with the understanding that should Enron Oil and Gas Company exercise its right to protest the location and should the Commission ultimately impose a Strawn production penalty, then that portion of the test production in excess of the Commission imposed penalty may be charged as over production against the spacing unit and may be subject to being "made-up."

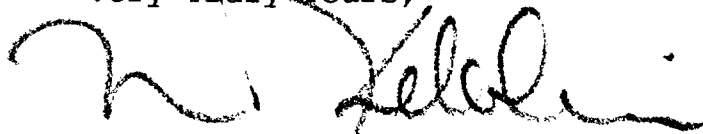
Attached is pertinent information concerning the subject well. This information consists of well test information, bottom hole location and current well status. Also, well logs for the Power Federal Com # 2 and the Enron Cedar Lake Federal N. 35-1 are provided. These are to show that the Power Federal does not have the Morrow objective and the Strawn is not present in the Enron Cedar Lake No. 35-1.

The Power Federal Com #2 is anticipated to be connected to pipeline TODAY. A 4-point test has been scheduled for today if our request is granted.

Mr. William J. LeMay
page 3
December 14, 1993

I have been in contact with Mr. Carr and have requested that he advise us if Enron has any objection to the terms and conditions of our proposed special testing allowable for this well.

Very Truly Yours,

A handwritten signature in dark ink, appearing to read 'W. Thomas Kellahin', written over a horizontal line.

W. Thomas Kellahin

WTK/mg
Enclosure

cc: w/ enclosures
hand delivered to
William F. Carr, Esq.

cc: Brad Miller and Jerry Buckles
Anadarko Petroleum Corporation

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

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

**CASE NO. 10719
Order No. R-9925**

**APPLICATION OF ANADARKO PETROLEUM
CORPORATION FOR DIRECTIONAL DRILLING
AND AN UNORTHODOX BOTTOMHOLE GAS WELL
LOCATION, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 17, 1993, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 22nd day of July, 1993, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

(2) The applicant, Anadarko Petroleum Corporation (Anadarko), seeks authority to directionally drill its proposed Power Federal Com Well No. 2 from an unorthodox surface location 1400 feet from the South line and 660 feet from the East line (Unit I) of Section 26, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, in such a manner so as to bottom said wellbore in the Cedar Lake-Morrow Gas Pool at an unorthodox bottomhole location within 75 feet of a point 660 feet from the South and East lines (Unit P) of said Section 26. The E/2 of Section 26 is to be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit for said pool.

(3) Enron Oil and Gas Company (Enron), operator of the Cedar Lake "35" Federal Com Well No. 1 located 1240 feet from the North line and 1980 feet from the East line (Unit B) of Section 35, Township 17 South, Range 30 East, NMPM, which is currently producing from the Cedar Lake-Morrow Gas Pool, appeared at the hearing in opposition to the application.

(4) The subject well has been staked at the proposed surface location due to surface obstructions, namely the presence of a dry lake bed and archaeological sites, however, the applicant proposes to directionally drill the subject well to the proposed unorthodox bottomhole location for geologic reasons.

(5) The primary target in the subject well is what the applicant has referred to as the "Arnold Sand" which occurs in the lower portion of the Morrow formation. The "Arnold Sand" is currently being produced in the above-described Cedar Lake "35" Federal Com Well No. 1.

(6) Both Anadarko and Enron presented geologic and engineering evidence and testimony in this case.

(7) In 1978 the applicant drilled its Power Federal Com Well No. 1-Y at a standard gas well location 2135 feet from the South line and 1650 feet from the East line (Unit J) of Section 26. The evidence and Division records indicate that this well was completed in the Cedar Lake-Morrow Gas Pool and produced from said pool until 1981 at which time it was recompleted up hole. Cumulative gas production from this well in the Morrow was approximately 137 MMCFG prior to abandonment.

(8) The geologic evidence presented by Anadarko and Enron in this case is generally in agreement that:

- a) the "Arnold Sand" is a northeast to southwest trending sand member which traverses a portion of the SE/4 of Section 26, the entire N/2 of Section 35, a portion of Section 25 and a small portion of Section 34;
- b) the subject reservoir is bounded on the west by a fault which traverses Sections 2 and 34 in a north-south direction;
- c) the subject reservoir is relatively small in size comprising some 17,000 acre-feet, more or less; and,
- d) a well at the proposed unorthodox bottomhole location should encounter a greater amount of net sand in the "Arnold Sand" member than a well drilled at a standard well location thereon.

(9) There is general disagreement between the two parties regarding the amount of productive acreage within the SE/4 of Section 26. The applicant's geologic evidence indicates 123 acres (2,631 acre-feet) to be productive while Enron's geologic evidence indicates 74.3 acres (2,215 acre-feet) to be productive.

(10) The geologic evidence presented does indicate that a well at the proposed unorthodox bottomhole location is geologically justified and approval of such location will afford the applicant the opportunity to produce its just and equitable share of the gas in the Cedar Lake-Morrow Gas Pool underlying the E/2 of Section 26.

(11) Anadarko requested that no production penalty be imposed on the Power Federal Com Well No. 2.

(12) Anadarko based its request on the contention that gas reserves have been drained from its tract by the Cedar Lake "35" Federal Com Well No. 1, and that to protect its correlative rights, it should be permitted to produce its proposed Power Federal Com Well No. 2 at an unrestricted rate.

(13) The Cedar Lake "35" Federal Com Well No. 1 is located at a standard gas well location in Section 35. The well has been drilled and produced in accordance with Division Rules and Regulations.

(14) Up until this time, the applicant has not availed itself of the opportunity to recover its share of the gas reserves in the subject pool, thereby protecting its correlative rights.

(15) By drilling the Power Federal Com Well No. 2 at the proposed unorthodox gas well location, the applicant is gaining an advantage over Enron. In order to offset the advantage gained by the applicant, the subject well should be assigned a production penalty.

(16) Enron proposed that a production penalty of 85 percent or a maximum producing rate of 2,550 MCF per day be imposed on the subject well. Enron based its penalty recommendation on its estimated reservoir volume, in acre feet, underlying the SE/4 of Section 26 relative to total reservoir volume, or 2,215 acre feet/17,677 acre feet. This calculation results in a penalty of 87.47 percent; however, at the hearing, Enron testified it would agree to an 85 percent production penalty.

(17) Anadarko's engineering evidence and testimony show that:

- a) the N/2 of Section 35 and the E/2 of Section 26 initially contained some 6.3 BCFG and 2.2 BCFG, respectively, of recoverable gas reserves;
- b) if produced at an unrestricted rate, the subject well should ultimately recover approximately 1.6 BCFG.

(18) Enron's engineering evidence and testimony show that:

- a) the N/2 of Section 35 and the E/2 of Section 26 initially contained some 11.9 BCFG and 2.0 BCFG, respectively, of recoverable gas reserves;
- b) as of May, 1993, the Cedar Lake "35" Federal Well No. 1 has cumulatively produced approximately 3.3 BCFG; and,
- c) the Power Federal Com Well No. 2, if produced at a rate or allowable as proposed by Enron, should ultimately recover some 1.8 BCFG.

(19) Anadarko expects the initial producing rate of the Power Federal Com Well No. 2 to be approximately 8.9 MMCFG per day. The Cedar Lake "35" Federal Com Well No. 1 is, according to Enron's testimony, currently capable of producing approximately 17 MMCFG per day.

(20) Although the geologic interpretations vary somewhat, both of the parties are in close agreement that the E/2 of Section 26 initially contained between 2.0 and 2.2 BCF of recoverable gas reserves, and that the subject well should be allowed to recover between 1.6 and 1.8 BCFG.

(21) There is considerable difference, however, between Anadarko's and Enron's engineering evidence regarding the proper rate the subject well should be allowed to produce at in order to recover this amount of gas reserves.

(22) The engineering evidence is insufficient to establish an allowable producing rate based solely upon projected ultimate gas recovery.

(23) The Division has historically utilized various factors in calculating producing penalties including encroachment distances from a standard well location, productive acreage, drainage data, etc.

(24) The production allowable for the Power Federal Com Well No. 2 should be based upon the average of two factors: 1) deviation from a standard well location in the north/south direction; and 2) productive acreage underlying the E/2 of Section 26 (based upon average of Anadarko's and Enron's projection) relative to productive acreage underlying the N/2 of Section 35, all as shown as follows:

$$\text{Factor 1} = 660 \text{ feet} / 1980 \text{ feet} = 0.333$$

$$\text{Factor 2} = 97 \text{ acres} / 300 \text{ acres} = 0.3233$$

$$\text{Average of Factors} = (.3233 + .333) / 2 = .328 \text{ or}$$

33 PERCENT ALLOWABLE FACTOR

(25) The production allowable factor should be applied to the Power Federal Com Well No. 2's ability to produce as determined by deliverability tests conducted on the well on a bi-annual basis. Said test should be conducted only after notice has been provided to the supervisor of the Artesia district office of the Division and to Enron Oil and Gas Company and a reasonable opportunity is provided to each to witness such test.

(26) Approval of the proposed directional drilling and unorthodox bottomhole location, subject to a producing allowable factor of 33 percent, will afford the applicant the opportunity to recover its just and equitable share of the gas in the Cedar Lake-Morrow Gas Pool underlying the E/2 of Section 26, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

(27) The applicant should be required to determine the subsurface location of the kick-off point in the wellbore prior to directional drilling and should be required to conduct a directional survey during or upon completion of directional drilling operations in order to determine the bottomhole location.

(28) The applicant should be required to submit copies of the directional surveys conducted on the subject well to the Santa Fe and Artesia offices of the Division.

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

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Anadarko Petroleum Corporation, is hereby authorized to directionally drill its Power Federal Com Well No. 2 from an unorthodox surface location 1400 feet from the South line and 660 feet from the East line (Unit I) of Section 26, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, in such a manner so as to bottom said wellbore in the Cedar Lake-Morrow Gas Pool at an unorthodox bottomhole location within 75 feet of a point 660 feet from the South and East lines (Unit P) of said Section 26.

(2) The E/2 of Section 26 shall be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit for said pool.

(3) The applicant shall determine the subsurface location of the kick-off point in the wellbore prior to directional drilling and shall conduct a directional survey during or upon completion of directional drilling operations in order to determine the bottomhole location.

(4) The applicant shall submit copies of the directional surveys conducted on the subject well to the Santa Fe and Artesia offices of the Division.

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

(6) Subsequent to completing directional drilling operations, the applicant shall submit a Division Form C-102 (Acreage Dedication Plat) to the Artesia office of the Division showing the surface and bottomhole location of the Power Federal Com Well No. 2.

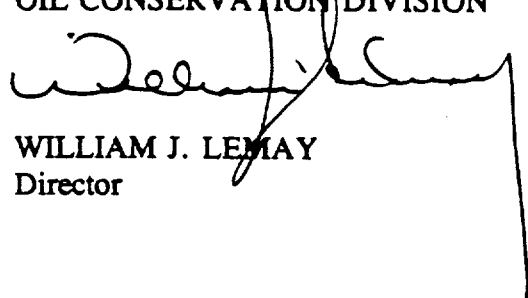
(7) The Power Federal Com Well No. 2 is hereby assigned a production limitation factor of 33 percent (67 percent penalty factor). This production limitation factor shall be applied against the well's ability to produce as determined by deliverability tests conducted on the well on a bi-annual basis. The deliverability tests shall be conducted after notice has been provided to the supervisor of the Artesia district office of the Division and to Enron Oil and Gas Company, and a reasonable opportunity is provided to each to witness such test.

CASE NO. 10719
Order No. R-9925
Page -7-

(8) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
Director

S E A L

**POWER FEDERAL COM #2
SEC 26, T 17S, R30E
EDDY COUNTY, NEW MEXICO**

Objective: Approval to conduct 4-point test and obtain a temporary test allowable. Four week test period at 6 MMCFD to test Reservoir Limits.

Background: Based on NMOCD order no. R-9925 Anadarko was approved to drill and produce gas from the Lower Morrow at an unorthodox location of 660' FSL & 660' FEL with a 33% allowable factor.

Anadarko has since drilled and tested the well as non-productive in the Morrow. The Morrow was plugged and an uphole Strawn sand was tested at 5550 MCFD at 1600 psi flowing tubing pressure for 2 hours and 30 minutes. The well was subsequently shut-in waiting on a pipeline connection.

TECHNICAL DATA:

MORROW

Location: 665' FSL & 622' FEL
Depth: 11373-11396'
Test Results: Trace of gas, SITP after 10 hours 200 psig.
Status: Plugged with CIBP @ 11351

STRAWN

Location: 869' FSL & 664' FEL
Depth: 10610-10622'
Test Results: 5500 MCFD with 1600 psi FTP on 24/64" choke.
Status: Shut-in waiting on pipeline connection

BTM/jag
BM/PFC2OBJ

Marked - C.N.C.

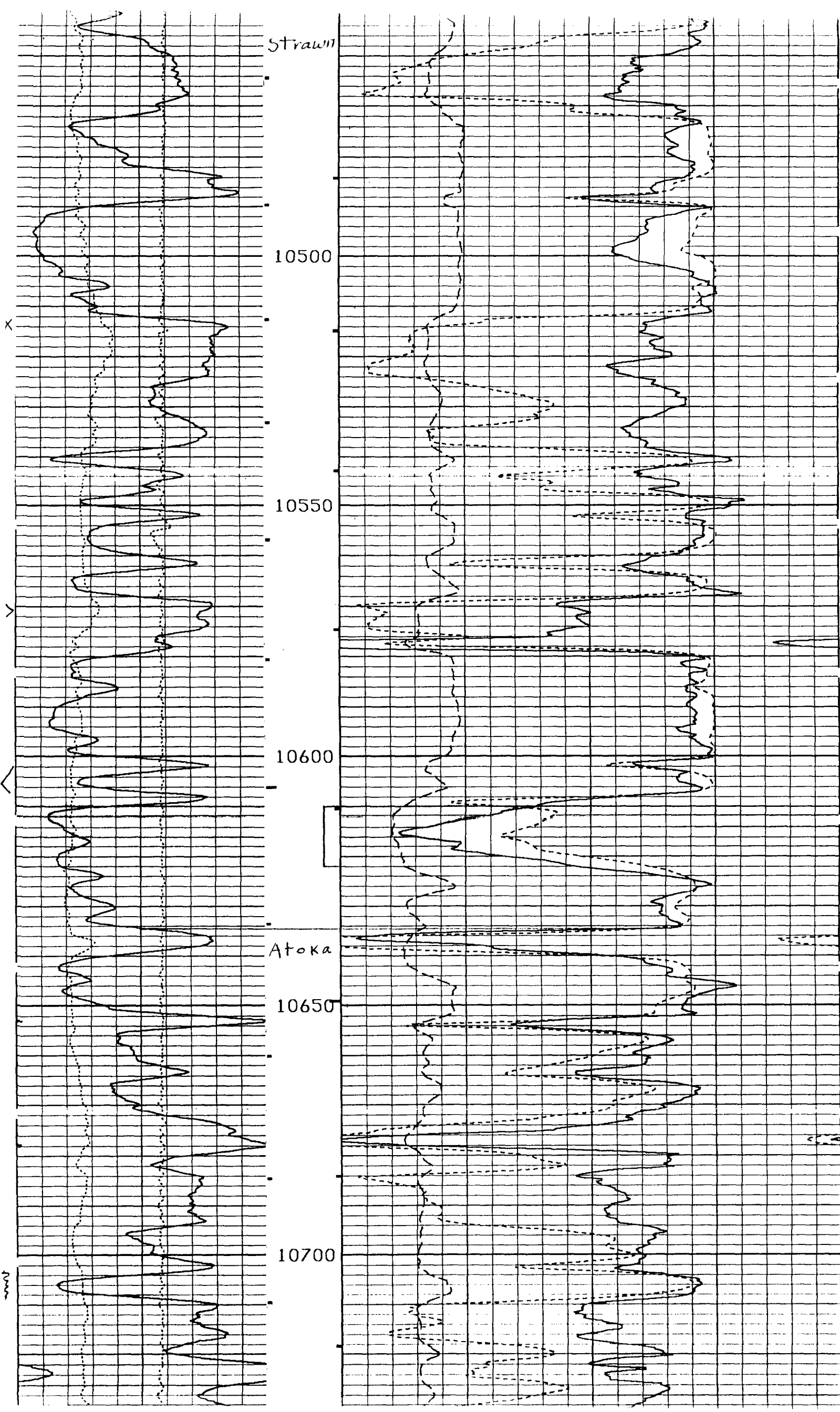


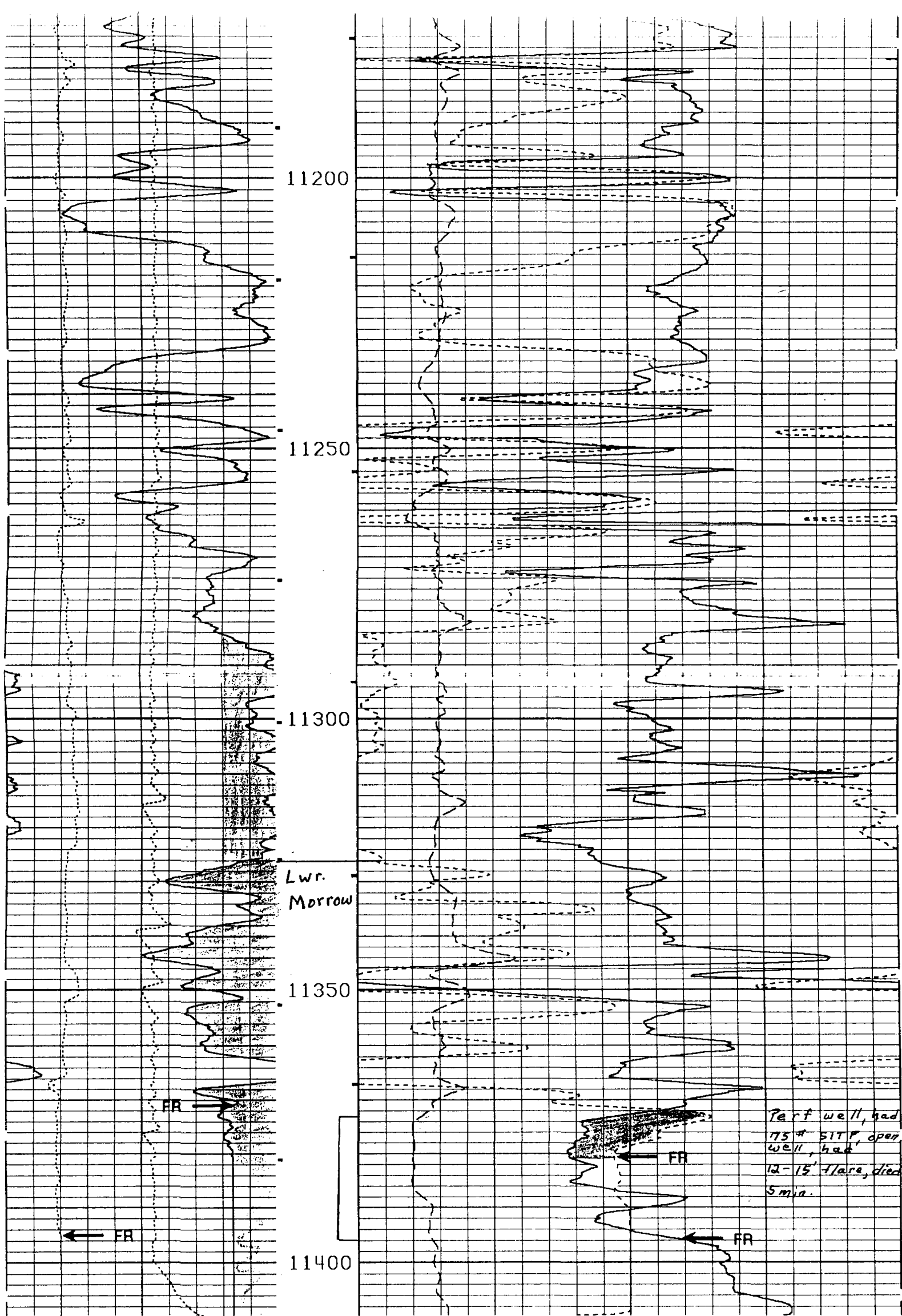
SPECTRAL DENSITY
DUAL SPACED NEUTRON

COMPANY ANADARKO PETROLEUM	
WELL	POWER FEDERAL COM. #
FIELD	CEDAR LAKE (MORROW)
COUNTY	EDDY STATE NM
COMPANY ANADARKO PETROLEUM CORPORATION	
WELL	POWER FEDERAL COM. #2
FIELD	CEDAR LAKE (MORROW)
COUNTY	EDDY STATE NM
API NO	N.A.
LOCATION	1400 FSL AND 660 FEL
DATE	10/30/93
PERMANENT DATUM	G. L. ELEV. 3544
LOG MEASURED FROM	K. B. 22 FT. ABOVE PERM DATUM
DRILLING MEASURED FROM	KELLY BUSHING
DATE	10/30/93
SECTION	26
TEMP	175
RGE	30E
OTHER SERVICES	DLL/MSFL
DEPTH-DRILLER	11530
DEPTH-LOGGER	11401
BIT. LOG INTER	11396
TOP LOG INTER	70
CASING DRILLER	9.625@3508
CASING-LOGGER	3496
BIT SIZE	7/8/5
TYPE FLUID IN HOLE	SALT MUD
DENS. : VISC.	9.4 : 32
PH : FLUID LOSS	11.0 : 5.0
SOURCE OF SAMPLE	FLOMLINE
RM @ MEAS. TEMP.	1.37 @60
RMF @ MEAS. TEMP.	0.96 @60
RMC @ MEAS. TEMP.	1.79 @60
SOURCE RMF:RMC	MEAS : MEAS
RM @ BHT	0.52 @158
TIME SINCE CIRC.	6 HRS.
TIME ON BOTTOM	1:15 A.M.
MAX. REC TEMP.	158 @ TD
EQUIP. : LOCATION	7651 : ABIL.
RECORDED BY	SCHMIDTCH
WITNESSED BY	H. HACKETT

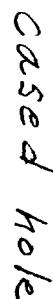
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SERVICE TICKET NO.: 551767		API SERIAL NO.:		PGM VERSION: 2.32			
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLES				RESISTIVITY SCALE CHANGES			
DATE	SAMPLE NO.	/ / :	/ / :	TYPE LOG	DEPTH	SCALE UP HOLE	SCALE DOWN HOLE
DEPTH-DRILLER							
TYPE FLUID							
IN HOLE							
DENS. : VISC							
PH : FLUID LOSS							
SOURCE OF SAMPLE				RESISTIVITY EQUIPMENT DATA			
RM @ MEAS TEMP	@	@		RUN NO	TOOL TYPE & NO	PAD TYPE	TOOL POS.
RMF @ MEAS TEMP	@	@					
RMC @ MEAS TEMP	@	@					
SOURCE: RMF:RMC	CALC. : CALC.	:					
RM @ BHT	0.52 @158	@					
RMF @ BHT	0.36 @158	@					
RMC @ BHT	0.68 @158	@					
EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
RUN NO.	ONE	RUN NO.		RUN NO.	ONE	RUN NO.	ONE
SERIAL NO.	108614	SERIAL NO.		SERIAL NO.	112318	SERIAL NO.	108779
MODEL NO.	NGRT	MODEL NO.		MODEL NO.	SDLT-A	MODEL NO.	DSNT-A
DIAMETER	3.625"	NO.OF CENT.		DIAMETER.	4.5"	DIAMETER	3.625"
DETECTOR MODEL NO.	S-1	SPACING		LOG TYPE	G/G	LOG TYPE	N/N
TYPE	SCINT			SOURCE TYPE	CS 137	SOURCE TYPE	AMBE241
LENGTH	4"	LSA [Y/N]		SERIAL NO.	SDL 062	SERIAL NO.	DSN-55
DISTANCE TO SOURCE	N.A.	FWDA [Y,N]		STRENGTH	1.5 CI	STRENGTH	19.5 CI
LOGGING DATA							
GENERAL			GAMMA	ACOUSTIC	DENSITY	NEUTRON	
RUN	DEPTH	SPEED	SCALE	SCALE	SCALE	SCALE	
NO	FROM	TO	FT/MIN	L R	L R MATRIX	L R	MATRIX
ONE	11401	70	REC.	0 150		.30 -.10	2.71 .30 -.10 LIME
REMARKS: ANNULAR HOLE VOLUME BASED ON 4.5" CASING							
HALLIBURTON ENERGY SERVICES - ABILENE DISTRICT							
FOR MORE SERVICES PLEASE CALL 915-692-5430							





TENSION			PE		See cased hole log for bottom of well.	
10000	POUNDS	0	0	10		
CALIPER			BHV		DEN POROSITY	
6	INCHES	16	>BHV>	30	PERCENT MATRIX DENSITY = 2.71	
GAMMA RAY			AHV		NEU POROSITY	
					-10	



AL SPACED
NEUTRON

706

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HALLIBURTON LOGGING SERVICES, INC. DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF LOG DATA
CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS, OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HLS
PERSONNEL OR WHICH MAY APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS
CONVERSIONS OR RECOMMENDATIONS AGREES THAT HLS IS NOT RESPONSIBLE, EXCEPT WHERE DUE TO GROSS
NEGLIGENCE OR WILLFUL MISCONDUCT FOR ANY LOSS, DAMAGE, OR EXPENSES RESULTING FROM USE THEREOF.

11300

Lwr.
MW

11400

Barnett
Shale

11500

← CABLE SPEED

← GAMMA

CCL →

← NPHI

UNDELCCL →

Petroleum Information


DENVER, COLORADO 80201

REFERENCE Y 6885R

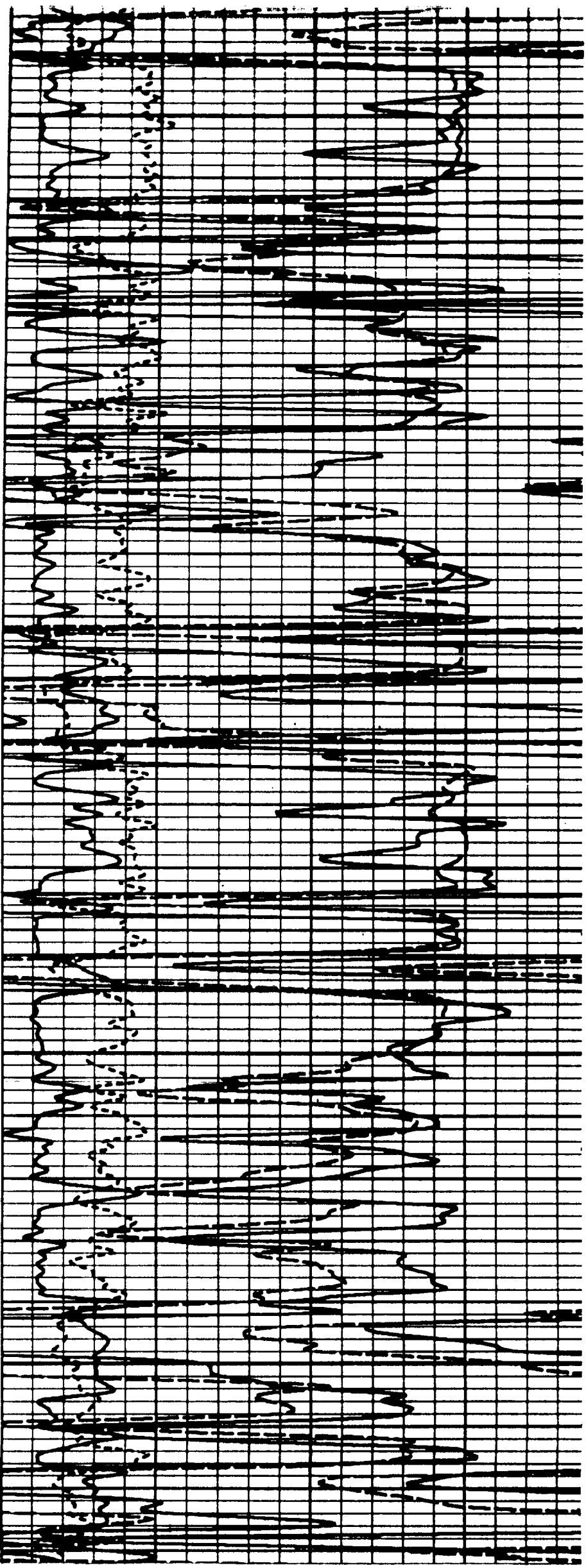
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API NO.32-015-26969.....

REPRODUCTION FOR RESALE IN WHOLE OR PART PROHIBITED

		WIRELINE SERVICES		COMPENSATED NEUTRON GAMMA RAY CALIPER	
FILE NO.	COMPANY <u>ENRON OIL AND GAS COMPANY</u>				
	WELL <u>CEDAR LAKE "35" FED. COM. NO. 1</u>				
API NO.	FIELD <u>WILDCAT (DEVONIAN)</u>				
	COUNTY <u>EDDY</u> STATE <u>NEW MEXICO</u>				
FINAL PRINT	LOCATION: 1240' FNL & 1980' FEL SEC 35 TWP 17-S RGE 30-E			OTHER SERVICES DIFL CBIL DIPLOG BHC-AC	
PERMANENT DATUM	GROUND LEVEL	ELEVATION	3548' FT.	ELEVATIONS KB 3565' DF 3564' GL 3548'	
LOG MEASURED FROM	KELLY PUSHING	17 FT. ABOVE PERMANENT DATUM			
DRILL. MEAS. FROM	KELLY PUSHING				
DATE	11-MAY-1992				
RUN	ONE				
SERVICE ORDER	94986				
DEPTH DRILLER	12,500'				
DEPTH LOGGER	12,511'				
BOTTOM LOGGED INTERVAL	12,509'				
TOP LOGGED INTERVAL	0'				
CASING - DRILLER	8 5/8" 4506'				
CASING LOGGER	4506'				
BIT SIZE	7 7/8"				
TYPE FLUID IN HOLE	GEL/ DRISPAK				
DENSITY / VISCOSITY	9.0 41				
PH / FLUID LOSS	10.0 9.0				
SOURCE OF SAMPLE	CIRCULATION TANK				
RM AT MEAS. TEMP.	1.28 075 DEG. F.				
RM AT MEAS. TEMP.	1.14 064 DEG. F.				
RM AT MEAS. TEMP.	1.47 066 DEG. F.				
SOURCE OF RM / NYC	MEASURED MEASURED				
RM AT BIT	0.58 0166 DEG. F.				
TIME SINCE CIRCULATION	7 HRS.				
LOG. REF. TEMP. DEG. F.	100 DEG. F.				
LOG. NO. / LOCATION	IN 6433 HOBBS, N.M.				
RECORDED BY	R. ECK				
INTERPRETED BY	MR. ZING, MR. STEWART				

IN MAKING INTERPRETATION
EMPLOYEES WILL GO TO
FIT OF THEIR BEST
ALL INTERPRETATIONS
ON INFERENCES FROM
MEASUREMENTS. WE
NOT GUARANTEE THE
NESS OF ANY INTE
NOT BE LIABLE OR
LOSS. COST. DAMAGE
SOEVER INCURRED
CUSTOMER RESULT
TATION MADE BY A



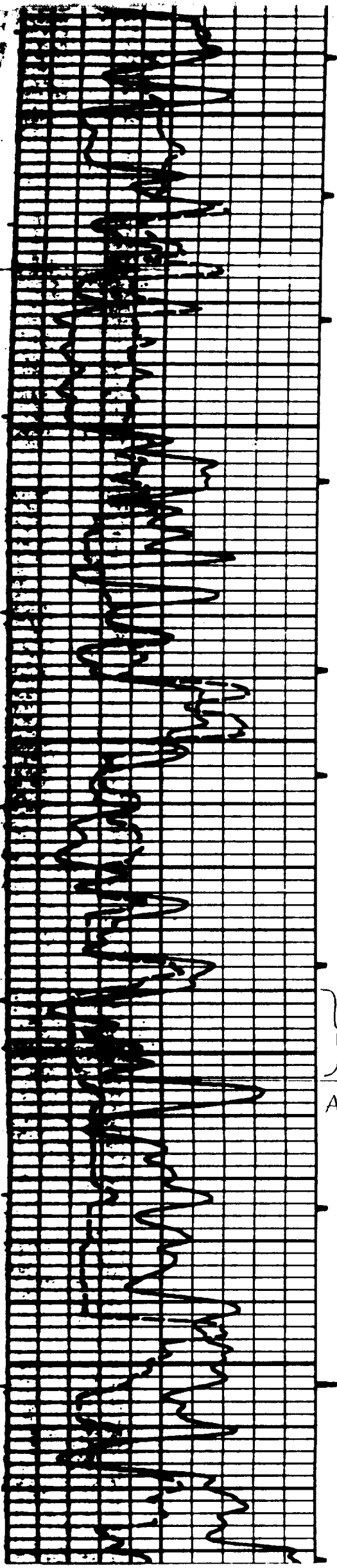
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10400

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zone

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10500

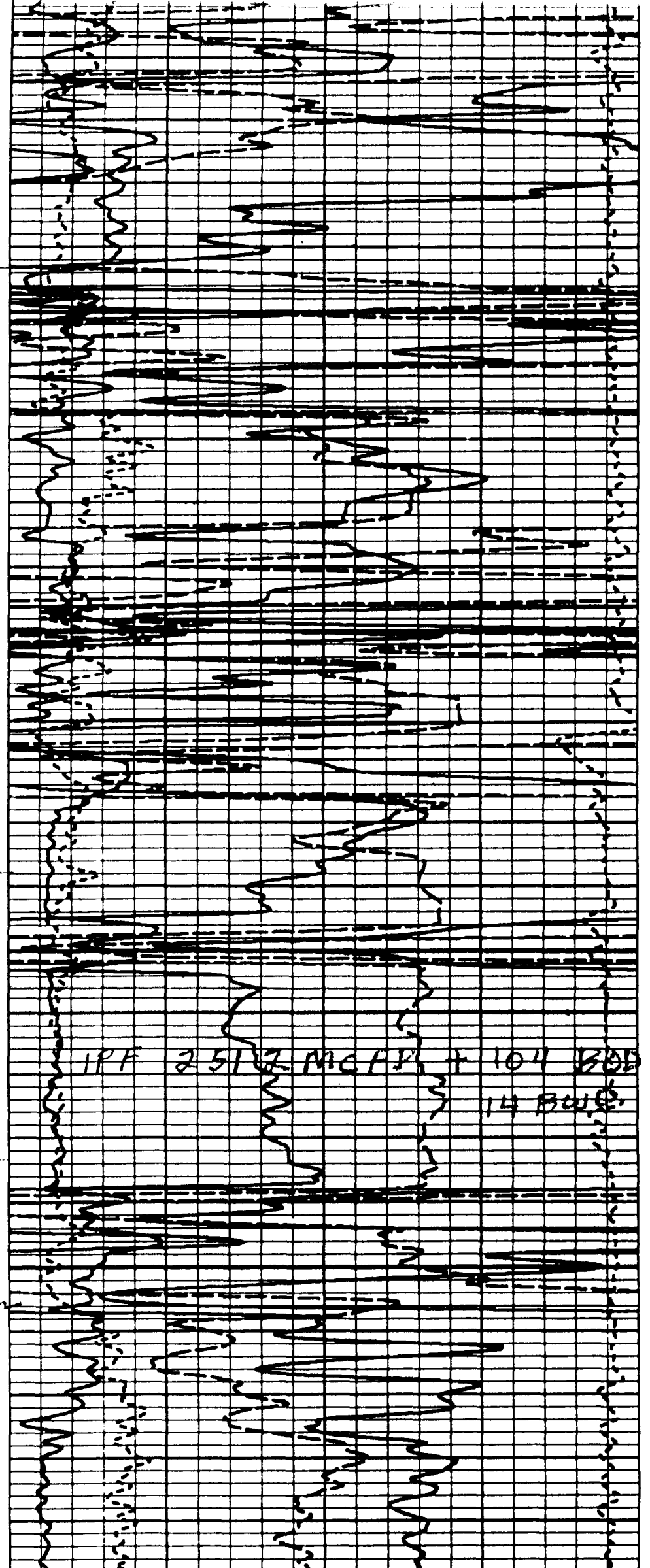
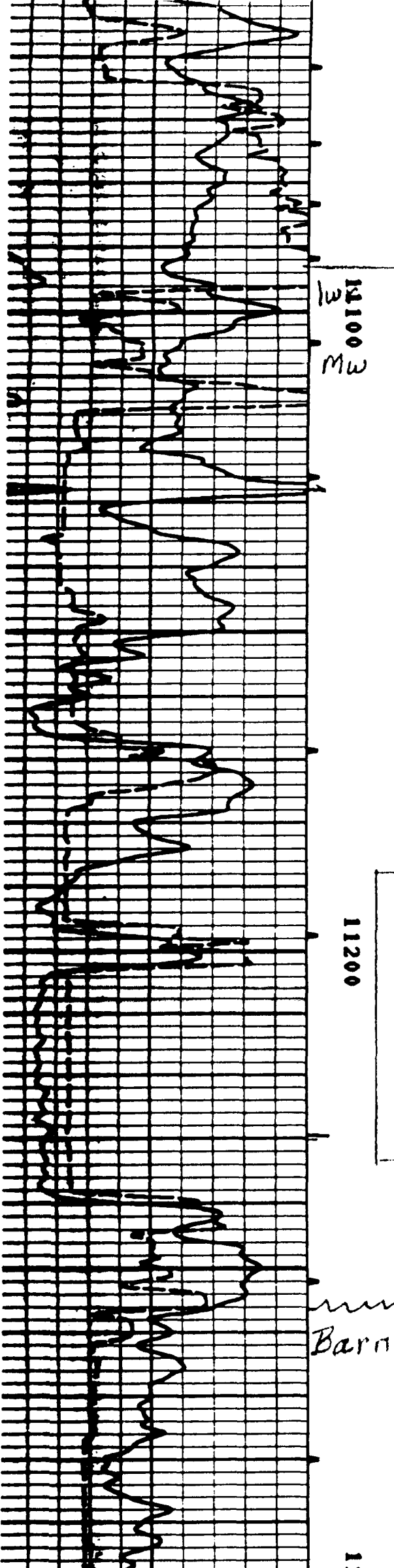


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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

December 22, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

ANITA LOCKWOOD
CABINET SECRETARY

Anadarko Petroleum Company
1300 Independence Plaza
P. O. Box 2497
Midland, Texas 79702

Case 10719

Attention: Mr. George Buehler

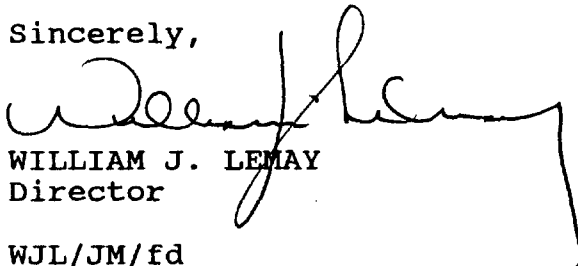
Re: Request for Allowable
Powers Federal Com Well No. 2
(Strawn Formation) Sec. 26, T17S,
R30E, Eddy County, New Mexico

Gentlemen:

This is in answer to your request for allowable for your Powers Federal Com Well No. 2. Based on the information you have submitted, the well would be an orthodox oil well location in the Strawn formation. Well test data indicates the well would receive a gas-oil ratio penalized oil allowable of 188 barrels per day. Daily gas limit would be 640 MCF. This letter will serve as temporary authorization for a 40-acre oil allowable until final action is taken.

Please conduct a 24-hour stabilized production test to better evaluate the producing capability of the well. Please notify our Artesia office prior to the test. They will help you with the OCD paper work which will be necessary to obtain the allowable assignment.

Sincerely,

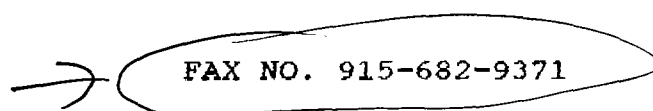

WILLIAM J. LEMAY
Director

WJL/JM/fd

cc: Thomas Kellahin,
Kellahin & Kellahin
William F. Carr,
Campbell, Carr, Berge & Sheridan
OCD - Artesia

ANADARKO PETROLEUM CORP.

1300 INDEPENDENCE PLAZA • P.O. BOX 2497 • MIDLAND, TEXAS 79702 • (915) 682-1666



FAX NO. 915-682-9371

FACSIMILE TRANSMISSION LEAD SHEET

IF THIS FACSIMILE IS NOT RECEIVED IN ITS ENTIRETY,
PLEASE CALL (915) 682-1666 IMMEDIATELY.

TO: MR LEMAYFROM: GEORGE BUEHLER

NUMBER OF SHEETS TO FOLLOW: _____

Please Note the surface location
is 1400' FSL + 660' FEL.
The well was deviated
and the bottom hole
location @ the TOP of
the STRAWN
is 870' FSL + 663' FEL
Sec 26, T 17 S, R 30 E

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator ANADARKO					Lease or Unit Name Powers Fed. Com.				
Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special					Test Date 12-15-93		Well No. 2		
Completion Date 11-17-93		Total Depth 11540		Plug Back TD 11350		Elevation		Unit Ltr. - Sec. - TWP - Rge.	
Csg. Size 4 1/2	Wt. 11.6	d 4.00	Set At 11540	Perforations: From: 10610 To: 10622		County EDDY			
Tbg. Size 2-3/8	Wt. 4.7	d 1.995	Set At 10535	Perforations: From: To:		Pool			
Type Well - Single - Bradenhead - G.G. or L.O. Multiple single					Packer Set At 10489		Formation STRAWN		
Producing Thru TBG	Reservoir Temp. °F 173	Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection PIPELINE			
L 10488	H 10488	G _g .735	% CO ₂ .20	% N ₂ 2.29	% H ₂ S	Prover	Meter Run 4.026	Taps flg.	

FLOW DATA					TUBING DATA			CASING DATA		Duration of Flow
No.	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F		
S1					2240		PKR.			
1.	4.026 X 2.0	511	.6	68	2083				1 hr.	
2.	4.026 X 2.0	562	3	88	2006				1 hr.	
3.	4.026 X 2.0	569	11.5	85	1737				1 hr.	
4.	4.026 X 2.0	593	34	75	1550				1 hr.	
5.	4.026 X 2.0	606	48	75	1180				30 min.	

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	h _w p _m	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	19.81	17.74	524.2	.9924	1.166	1.070	435
2.	19.81	41.54	575.2	.9741	1.166	1.058	989
3.	19.81	81.83	582.2	.9768	1.166	1.069	1974
4.	19.81	143.57	606.2	.9859	1.166	1.072	3505
5.	19.81	172.40	619.2	.9859	1.166	1.074	4217

P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
.78	528	1.33	.873	3.413	
.85	548	1.38	.893	54.4 @ 60	Deg
.86	545	1.37	.875	Specific Gravity Separator Gas .735	XXXXXXXXXX
.90	535	1.34	.870	Specific Gravity Flowing Fluid XXXXX	
.92	535	1.34	.867	Critical Pressure 676 PSIA	PSIA
				Critical Temperature 398 R	R

NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.94806$	2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.94806$
1.		3243.4	10519.6	727.7		
2.		3086.1	9524.0	1723.3		
3.		2835.7	8041.2	3206.1		
4.		2553.2	6518.8	4728.5		
5.		2339.6	5473.7	5773.6		

Absolute Open Flow		Mcf/d @ 15.025		Angle of Slope θ		Slope, n	
8,215				45°		1.00	

Remarks: **110 BBLs 54.4 API GRAVITY FLUID MADE DURING TEST**

Approved By Division	Conducted By: PRO WELL TESTERS	Calculated By: KS	Checked By: BM
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